A framework for e-Learning support to language lecturers at a university of technology

by

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Thesis submitted in fulfilment of the requirements for the degree

Doctor of Technology: Informatics

in the Faculty of Informatics and Design

at the Cape Peninsula University of Technology

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Wellington

March 2019

DECLARATION

I, Sanet Cox, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed Date

ABSTRACT

This study explored the perceptions and expectations that language lecturers have of e-Learning support. E-Learning has promised to enhance teaching and learning practices and yet it has not been optimally implemented. In the current complex context of Higher education in South Africa all lecturers are confronted with challenges. Language lecturers however have added strain being tasked with preparing students from the demanding, multi-cultural and multi-lingual context to communicate academically in the language of learning and teaching across all subject areas.

Universities, in line with expectations from the White Paper on e-Education (South Africa. Department of Education, 2004), require lecturers to use a Learning Management System (LMS) during academic activity even though some lecturers are reluctant, for various reasons, to do so. Lecturer support has been identified as one way in which to promote smooth and optimal e-Learning uptake. Support is a service and for that reason the service delivery industry was consulted to find possible service quality solutions in aid of the assistance for lecturers.

Teaching is a highly complex activity where pedagogy is significant in the incorporation of technology, which is what the TPACK (Technological Pedagogical and Content Knowledge) framework underscores. This framework represents the complexity of introducing technology to teaching, considering pedagogy, coupled with CALL (computer assisted language learning), which is a contemporary research domain. To aid the lecturer in introducing TPACK a qualified and trained support service is key.

The insights and perspectives of an extensive literature review about the complex context of higher education in South Africa, language lecturers, e-Learning and support as a service are presented. The rationale for the inclusion of attention to service delivery with specific focus to perceptions and expectations is investigated and key issues related to language lecturers' perceptions and expectations of LMS support are explored. This study identifies relevant elements of a support service for technology to optimise the teaching practice of language lecturers in a complex environment of higher education. The discrepancy between intended use of LMS and actual use thereof is addressed, while a framework of gaps regarding LMS support within a university of technology in South Africa was developed.

This framework can assist with optimal support and ultimately contribute to the vision for higher education in South Africa as set out by the Department of Higher Education and Training in their White Paper on post-school Education and Training (2013) calling for transformation.

OPSOMMING

Hierdie studie ondersoek die persepsies en die verwagtinge wat taalkommunikasiedosente het rakende die ondersteuning van e-leer. Die gebruik van e-leer het die belofte van vernuwing en verbetering van onderrigpraktyke ingehou, maar is tot dusver nog nie optimaal benut nie. Die konteks van hoër onderwys in Suid-Afrika is tans besonders kompleks en plaas alle dosente onder druk. Die uitdaging waarmee die taalkommunikasiedosent egter te kampe het, is uniek, aangesien dit hulle besondere taak binne die universiteit is, om studente uit multikulturele en veeltalige omgewings by te staan om in die voorgeskrewe taal van onderrig binne verskillende vakgebiede op ‘n akademiese vlak te kommunikeer.

Die Witskrif vir e-leer stel dit duidelik dat daar van dosente verwag word om ‘n leerbestuurstelsel vir die inkorporering van tegnologie in hulle onderrig te gebruik. Tog is daar dosente wat nie gretig is om dit te gebruik nie; dus is dosentondersteuning geïdentifiseer as een area waar e-leergebruik aangemoedig behoort te word. Omdat e-leerondersteuning ‘n diens is, is daar by die diensleweringsbedryf moontlike oplossings ondersoek. ‘n Gewilde raamwerk genaamd die gap model (Parasuraman, Zeithaml en Berry, 1985:44) het as teoretiese besinning gedien.

Onderrig is ‘n ingewikkelde handeling waar pedagogie ‘n integrale rol speel en veral met die inkorporering van tegnologie, soos deur die raamwerk vir Tegnologiese Pedagogiese en Inhoudelike Kennis (TPIK) voorgestel word. Hierdie raamwerk verteenwoordig die ingewikkeldheid van tegnologie in onderrig waar pedagogie oorweeg word, en tesame met rekenaargesteunde taalonderrig is dit ‘n eietydse navorsingsdomein. ‘n Effektiewe ondersteuningstelsel is nodig om dosente in die opneem van e-leer en TPIK by te staan.

‘n Uitgebreide literatuuroorsig oor die kompleksiteit van hoër onderwys in Suid-Afrika, taaldosente, e-leer en ondersteuning het insig en perspektief verskaf terwyl die diensleweringsbedryf aandag op die persepsies en verwagtinge van e-leerondersteuning as ‘n diens gevestig het. Sleutelkonsepte rakende die taalkommunikasiedosent se verwagtinge en persepsies is ondersoek waaruit toepaslike elemente vir diensverskaffers van e-leerondersteuning bepaal is om sodoende die onderrigpraktyk van dosente in die komplekse landskap van hoër onderwys te verbeter. Die teenstrydigheid tussen die bedoeling of verwagting om e-

leer te gebruik en die werklike gebruik daarvan in praktyk is ondersoek waaruit ‘n raamwerk wat gapings aandui oor e-leerondersteuning binne ‘n universiteit vir tegnologie in Suid-Afrika ontwikkel is.

Hierdie raamwerk kan ‘n bydrae lewer om optimale e-leergebruik vir taaldosente te bewerkstellig wat uiteindelik sal bydra tot die visie van hoër onderwys in Suid-Afrika. Die Departement van Onderwys en Opvoeding identifiseer herskepping van onderrigmetodes in die Witskrif vir Naskoolse Onderwys en Opleiding (2013).

ACKNOWLEDGEMENTS

I wish to thank:

- Professor Andy Bytheway and his wife Ann for the initial ideas and support
- Professor Retha de la Harpe for encouraging me to work hard, for supporting me and for teaching me
- Doctor André Steenkamp for years of friendship and support, for being strict and for believing in me
- Mr Chris Dumas for all the chats, the understanding, the encouragement and mostly for starting me on this path
- Mrs Joanne Arendse, an amazing, helpful, kind and devoted librarian, who deserves the highest recognition and heart felt thank you
- Dr Chris Hattingh, my inspirational HOD, for believing in me and for allowing me the time to pursue this endeavor
- Dr Matthew Curr for your patient and thorough proof reading, and for being encouraging and kind in your approach

- **Glenn**, for helping with endless time and space, hopefully your wife will have her personality back again soon
- Anlize, for encouraging me and believing in me, and for providing your house as quiet haven, for work, for coffee and for good wine
- My running buddies, for never allowing me to lose my sense of humor, for all the early morning runs, complaints and laughs which carried me through exceptionally tough times
- Amanda and Elma, for coffee, for shoulders to cry on and for never giving up on me

- My mother, Mara, a remarkable lady; and my family, who never doubted me
- And of course, Lara!

I thank God for His grace and for giving me the strength to persevere far beyond my own capacity. *In Your light we see light*.

The financial assistance of the Department of Higher Education and Training (DHET) towards this research is acknowledged. Opinions expressed in this thesis and the conclusions arrived at, are those of the author, and are not necessarily to be attributed to the Department of Higher Education and Training.

DEDICATION

I dedicate this to Grace and Lizzy, to show you that hard work is worthwhile, that you can do most things in life that you set out to do, and that you are infinitely stronger than you think you are. Life is not too serious, always maintain balance and a healthy dose of laughter.

To Glenn for embarking on life's journey with me and for always being there.

I love you.

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CHAPTER ONE

Background

Fundamentally e-Learning is about learning and not about technology.

Harvey and Beards

1.1 Motivation for the study

In many universities in South Africa, it has been shown that students lack literacy skills necessary for reading textbooks, comprehending abstract concepts and setting out their own work clearly in assignments and examinations (Howie et al., 2012; Jansen, 2015; BusinessTech, 2016a; BusinessTech, 2016b; Qobo, 2017). E-Learning has the potential to bring about change and enhance teaching practice but the power of this tool is not being fully realised (Zellweger, 2006; Bozalek et al., 2013; Uppal et al., 2017). Few language lecturers use mandated Learning Management Systems (LMSs), to deliver e-Learning optimally (Brown & Gachago, 2013; Mohammadi, 2015). Of the many factors that cause this neglect of LMS, lecturer support and training have been identified (Govindasamy, 2002; Spender & Stewart, 2002; Stiles &Yorke, 2004; De Freitas & Oliver, 2005; Czerniewicz, 2007; Brown & Gachago, 2013) as crucial areas that need to be addressed for the success of e-Learning.

In the complex environment of tertiary education, technology can make lecturing more effective and improve literacy skills (Madiba, 2007; Czerniewicz & Brown, 2009; Stoltenkamp & Kasuto, 2009; Bozalek et al., 20123; Nye, 2015). Both elements, better lecturing and greater literacy, increase pass rates. For lecturers to deploy technology effectively, they have to be trained and supported by a qualified technology unit. In order to determine the nature of technology support needed in a tertiary learning environment, it was necessary, as a first step in this research investigation, to examine the service delivery industry; by adopting the gap model (*cf.*2.3) as a theoretical framework to establish the design of measuring instruments. The gap model provided a lens through which to observe aspects of support that influence a lecturer's use of LMS: there is a perceptible misalignment between LMS support provided and the specific needs of an average language lecturer.

The aim of this study was to determine which factors define the level of support provided versus the support needed by language lecturers who employ complex pedagogical tools in a complex environment.

The following section provides a theoretical context for the study and unpacks five theoretical constructs: the (1) student, (2) language lecturer, (3) LMS, (4) support function, and (5) the complex context of a typical South African university of technology (UoT). The various interconnections between these elements were explored. Because the context as backdrop to the study was interwoven with the other concepts, it is deliberated upon first in the following section.

1.1.1 Problem statement

E-Learning has the potential to enhance teaching and learning practices yet it is not being used optimally, or in some cases neglected altogether. The higher educational context in South Africa is particularly complex; characterised by low literacy levels of students, poverty, multi-lingualism and student protests. Although all lecturers are confronted with these challenges, language lecturers face the added strain of preparing students who speak different languages to communicate on an academic level in the language of learning and teaching across all subject areas. Added to the demands of multilingualism, language lecturers are mandated by the university to use LMS in their lecturing approach. Many lecturers are reluctant to do so and for various reasons. Lecturer support was identified as one way in which to assist e-Learning uptake. Support is a service and for that reason literature about the service delivery industry was consulted to find possible service quality solutions to aid language lecturers.

1.2 The context

In order to comprehend a lecturer's needs, it is necessary to understand the complex and challenging educative realities faced by an average lecturer at a South African university today. The needs of the student should be the lecturer's point of departure for designing an appropriate curriculum. First, students comprise a complex educational environment which includes the setting of the institution within the current South Africa. Second, a lecturer is teaching in an institution that expects her/him to make use of technology; something with which many lecturers are not necessarily comfortable. The context is sketched here and elaborated upon in Chapter 2 where the literature regarding these themes and theories are discussed more fully.

1.2.1 The complex educational environment of a student in South Africa today

The South African educational environment affects students in certain distinct ways.

The main factors that characterise this challenging educational environment are:

- Low literacy levels
- Poverty
- A combination of elements from the developed and developing worlds
- Multi-lingual environment
- Student protests
- All of these factors obstruct ready access to technology

Literacy levels in South Africa are a concern. The 2016 international Progress in International Reading Literature Study (PIRLS) repeats the findings of the 2012 reports (Howie, et al., 2012:20) that literacy levels of South African students are lower than those in most other countries, stating that South Africa was “the lowest performing country out of 50 countries in the PIRLS 2016 study” (Howie, et al., 2017:11). This study tested the reading comprehension levels of learners worldwide and paints a bleak picture of reading levels in South Africa; despite the fact that South African learners wrote a pre-PIRLS test which was easier than the test for other countries. Learners, especially those tested in African languages, tested markedly lower on the international standard. Nkosi (2012), reporting on PIRLS, stated that the overall performance of South African pupils, with specific reference to languages, Mathematics and Science was “rock bottom” of the study ranking. PIRLS indicates that South African grade five pupils did not possess basic skills required for reading at an equivalent international grade four level. Because that specific study took place in 2011, learners tested then should currently (2017) be in grade 11, which means that the student intake at universities in 2019 will be registering these students this year, in 2018. The results of the PIRLS report from 2011 was thus particularly indicative of the background of the current student in the university system. The 2017 PIRLS report (Howie, et al., 2017), however, confirms that the problem was ongoing. South African lecturers are confronted with low literacy levels among students while language lecturers specifically have to address the issue of students who fall well below tertiary level literacy.

Poverty is a reality in South Africa (Business Dictionary, 2017), which in effect means that many students cannot afford to attend university. This country is “a dual economy with one of the highest inequality rates in the world; perpetuating both inequality and exclusion” (The World Bank in South Africa, 2017). In a dual economy,

there exist sectors that are technically advanced as well as sectors that are severely underdeveloped technologically. A large part of the country functions at subsistence level (Business Dictionary, 2017). Universities in South Africa reflect a wide spectrum of tertiary level institutions: some compete on a world-class level and are on par with advanced countries; while other institutions are rated far lower in terms of research standards and demand far less from students. Universities of Technology are regarded as access universities, which means that their typical students do not necessarily have the financial means to support themselves during their studies. This influences their access to technology; a factor that lecturers need to bear in mind.

The economic polarities in South Africa are evident on an operational level; in many cases there is an uncomfortable combination of elements from developed and developing countries at play (The World Bank, 2017). At many UoTs, teaching and research duties are strained by this admixture of elements from a developed world university and other elements from a developing country. LMS support function is geared towards a developed context; whereas the needs of lecturers are linked to a developing context. The student profile at many South African universities today reflects these same inequalities between privileged and underprivileged students. Such wide differences between social and economic classes make it more difficult to employ technology in a uniform or systematic manner. The fact that today's students are drawn from such widely differing backgrounds has to be taken into account if LMS support is to fulfil its function.

South Africa is a multi-cultural country; known as a rainbow nation with eleven official languages: Afrikaans, English, Ndebele, Northern Sotho, Sotho, Swazi, Tsonga, Tswana, Venda, Xhosa and Zulu. The three dominant official languages in the Western Cape are Afrikaans, English and Xhosa. In 2016 Cape Peninsula University of Technology (CPUT) had a student enrolment number of 34845: of which 62.8% were Black, 26.2% Coloured, 10% White and 1% Indian (refer to Figure 1.1). A sizeable contingent of students was drawn from other countries in Africa (mostly the DRC, Angola and Zimbabwe) and speak home languages other than the eleven official languages. These foreign students account for 6.7% of the 2016 enrolments (Cape Peninsula University of Technology, 2008d). The student often speaks one language and the lecturer speaks another language; while the language of instruction may be a third language. As long as English is the language of instruction at a

university such as CPUT, it may be assumed that the majority of students are receiving tuition in a language other than their mother tongue.

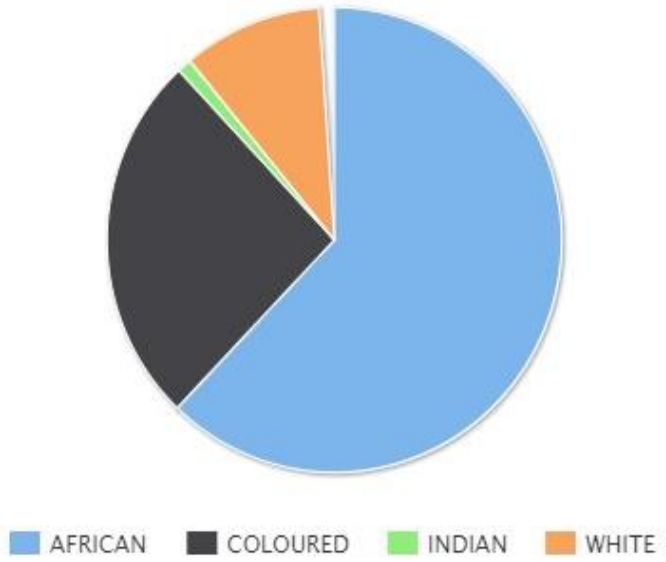

Figure 1.1 CPUT 2016 enrolments by group (Cape Peninsula University of Technology, 2008d)

This multi-lingual teaching situation creates difficulties for all South African lecturers and especially for language lecturers whose task it is to equip students to communicate at an academic level throughout various subject areas. There is considerable debate among scholars concerning the benefits and challenges of teaching and learning in mother tongue. Chapter 2 provides an in-depth review of this debate.

The tension created by conflicting elements from developed countries and developing countries in a tertiary South African situation has escalated over recent years: coupled with political pressure in South Africa, this growing has resulted in ongoing student protest action across the country since 2015; known as the "#FeesMustFall" movement. This wave of anti-colonial action and conscientisation among students across the country originated from a growing awareness of the effects of colonial and apartheid rule upon the country's intellectual landscape. This awakening sense of social injustices resulting from structural inequalities from the past was exacerbated by what was widely perceived to be government's indifference to the plight of many black students; whose only hope of breaking out of cycles of poverty imposed on their parents was the hope raised by tertiary education. (Munusamy, 2015). Davids and Waghid (2016) report routine protesting from as early as 1994 by students from poorer institutions such as CPUT, Fort Hare University and

the Tshwane University of Technology. Protests were against rising fees and the cost of higher education. Davids and Waghid (2016) maintain that as historically black universities, there was not much coverage of these events; only when protests at historically white universities started, did the movement elicit international media coverage. The higher education climate, especially since 2015, reached breaking point. Government refused to meet students half way. Students from poor backgrounds are traumatised by the prospect of increased fees and frequently express their desperation through violence on campuses; interrupting classes, tests, assignments, momentum in learning and, most of all, examinations at the end of each year. Police and security have been called in which adds to tension between staff and students.

With severe interruptions to classes, LMS has become a valuable and valued mode of communication between lecturer and student. Privileged students are able to take advantage of LMS because they have access to e-mail; whereas poor students often lack 24-hour access to computers and the Internet. Libraries, where students were able to access technology, have had to close at times. All current students and lecturers are regularly confronted with this predicament; which further underlines social injustices in a country that is worlds apart.

1.2.2 The complex environment of the language lecturer

The language lecturer, specifically those dealing with the teaching of language communication, in South Africa faces many challenges; especially given the complexity of the student profile and the wide economic and social discrepancies. The purpose of the language lecturer is to raise the literacy levels of students; not necessarily to impart subject knowledge, which is the responsibility of individual subject tutors and lecturers. The primary goal of a language lecturer is to teach communication and skills; not to impart content knowledge. Language lecturers need to be sensitive to inequalities that affect students from privileged and underprivileged backgrounds, and especially those who are receiving their tuition in a language other than their mother tongue. For this purpose, language instructors need to structure their teaching in accord with the severe discrepancies among students' backgrounds. Language lecturers have to teach at different levels across faculties: their sole purpose being to advance all students from the educational position at which they truly are, to a position of parity with their peers.

In addition to the complex environment and the heavy responsibilities of teaching what are various levels of competency in one room at the same time, language lecturers need to address these issues using LMS; which is a sophisticated pedagogical tool. Primarily, lecturers are teachers and are not necessarily familiar with, or inclined to deploy technology; they are often teachers who are prone to sustain lecturing of the kind they received at university. Such 'lecturers of habit' are in effect victims of their own past instruction and inertia, their resistance to embrace change. Hartman et al. (2007:62) raise this point:

> ... most faculty members did not seek careers in the academy because of a strong love of technology or a propensity for adapting to rapid change; yet they now find themselves facing not only the inexorable advance of technology into their personal and professional lives but also the presence in their classrooms of technology-savvy Net Generation students.

Lecturers, however, cannot avoid new technology or avoid changing methods of tuition; particularly when new methods of tuition may improve their own performance. For their own benefit and their students' good, language lecturers have to respond constructively to the mandate of academic institutions such as CPUT; to use LMS to meet the needs and expectations of their students who live in a technology-driven world. Technology ought to be used as part of a holistic teaching approach; it should be neither the sole focus nor an obstacle in a classroom but should enhance teaching (Harvey & Beards, 2004; South Africa. Department of Education, 2004:19; Cronje, 2007). Uhomoibhi (2006:7) indicates that the practical value of e-Learning is found in a lecturer's "ability to deploy its attributes to train the right people to gain the right knowledge and skills at the right time", referring to optimal pedagogy. Uhomoibhi indicates that the roles of staff members are constantly changing, and that such alteration needs to be recognised and acknowledged (2006:8). The latter argument increases the complexity of the lecturer's teaching context; which has to be considered by the support technology unit.

1.2.3 Learning Management System as complex pedagogical tool

The language lecturer's task is specific and has to be achieved with the aid of LMS which exists to aid lecturers in their endeavour. But LMS often creates problems; especially when the lecturer is learning how to use it. Rooted in pedagogical theory, LMS has the potential to assist the lecturer in lightening the workload. Sustainability of usage is key. Given the complex environment of the lecturer's work, LMS can help in fulfilling at least some part of the institutional vision. LMS, which in the case of

CPUT is Blackboard, is a system used by universities to deliver and manage e-Learning. A broad discussion is provided in Chapter 2 (*cf*. 2.2.3).

LMS offers an array of features; including educational tools on the one hand and practical structures on the other. Educational features range from information sharing and communication to interactive tools including teaching and assessments, and social media, making it a complex pedagogical tool. Though lecturers often use only a select number of tools, many are unaware of the vast range of possibilities that LMS provides. Language instructors may not know how to exploit these aspects in their pedagogy or are resistant to technological innovation generally. LMS provides practical opportunities such as student access, enhancement of teaching practice and reducing costs (Wang et al., 2013:146).

The challenge of implementing LMS is to bring these various aspects and relations together; remembering that lecturers are at different levels of competence just as the students they teach may be. There are many different types of technology user just as there are different kinds of academic endeavour to consider. All of these disparate elements contribute to the intricacy of the already complex LMS tool.

1.2.4 Learning Management System support

The academic environment of students affect all lecturers as is described in Section 2.2.1, and therefore language lecturers as well. They have a very specific task in the university that has to be achieved using a multifaceted tool. Bearing in mind the various complexities of the student, the language lecturer and LMS, the focus was on how the language lecturer could best be supported. This study examined in what ways language lecturers need to use technology in their teaching.

Lecturer support for the use of e-Learning is a service which can be viewed from the perspective of the service delivery industry. Service management issues are addressed by the frequently-cited gap model (Parasuraman et al., 1985) which has its origin in the 1980’s and has been prevalent in the service delivery industry over the decades. The gap model remains current because it has recently been applied to the e-Learning and HEI environment (*cf*. 2.3.2). In 2017 (Uppal, et al., 2017) a quality model for student perception of e-Learning systems was implemented. It differs from this study in that this investigation focuses upon perceptions of language lecturers.

The gap model recognises and organises shortcomings in the understanding of service delivery between the consumer (in this case the language lecturer) and the

service provider (in this case LMS support unit). The gap model offers foundational ideas for this study and is a popular framework to determine customer satisfaction. Five gaps (between consumer and service provider) have been identified to meet the expectations of the customer experience. These gaps can be closed through attention from management; resulting in improved productivity and competitive advantage. Proponents of this model claim that “quality service sustains customers’ confidence” (Berry, et al., 1994:32). The researcher argues that a quality LMS support gap model between LMS support provider and lecturer should inspire academic endeavour; raising the literacy skills of students in South Africa. Lecturers’ expectations, and their perceptions of support delivered, need to be aligned with those of LMS support service for e-Learning to be used as mandated by universities such as CPUT. This research project investigated the extent and nature of the support that language lecturers need; specifically, during e-Learning adoption, for it to be successful.

For clarity the researcher distinguishes between two types of support namely the support that is discussed in this context, which entails lecturer support in their application of e-Learning and LMS. This refers to lecturers using LMS and needing training and pedagogical support. It is not to be confused with the other type of support, namely technical support, which involves technical and Computer and Telecommunications Services (CTS) related concerns with specific reference to infrastructure, passwords, hardware and software problems that lecturers may incur.

1.3 The background

After clarifying the five main theoretical concepts of this study (student, language lecturer, LMS, the support function, and the context), a background for the investigation is illustrated in the following section.

The vision for higher education (HE) in South Africa is set out by the Department of Higher Education and Training (DHET) in their White Paper on post-school Education and Training (2013); calling for transformation. Government, through policies, endeavours to develop South Africa and to improve the economic, social and cultural life of its people. They therefore appeal to HE Institutions (HEIs) to provide high quality education, meeting the needs of learners and contributing to the development of thinking citizens who can function effectively: “The Department will also encourage all universities to expand online and blended learning as a way to offer niche

programmes" (South Africa. Department of Higher Education, 2013:XVI). Accordingly, the vision of CPUT is "To be at the heart of technology education and innovation in Africa" (Cape Peninsula University of Technology, 2008a), which accentuates the use of e-Learning in teaching and learning. Optimal use of e-Learning can contribute to attaining the goals set out in these visions. Providing adequate LMS support to lecturers is a key aspect. The Centre for Innovative Educational Technology (CIET) states that: "e-Learning at CPUT is seen as a blended learning process. Academics facilitate the learning process by applying various methods or modes of teaching. The traditional face-to-face classroom activity is enhanced with asynchronous activities using ICTs" (Cape Peninsula University of Technology, 2008b).

1.3.1 Learning Management System support concerns

Support for LMS has emerged as problematic; hampering successful use of e-Learning internationally and even more so locally; due to the added challenges of a dual economy, as explained in Section 1.2, which describes South Africa as a country that manifests strong elements from both developed and developing countries. In Ireland, Uhomoibhi mentions quality training and support for lecturers as a priority of e-Learning; adding that the "availability of strong institutional support is crucial for e-Learning deployment and success" (Uhomoibhi, 2006:5). The importance of a substantial lecturer support system is confirmed throughout the research field internationaly (Govindasamy, 2002; Spender & Stewart, 2002; Stiles & Yorke, 2004; Zellweger, 2006), and locally (Czerniewicz, 2007; Stoltenkamp & Kasuto, 2009; Brown & Gachago, 2013; Gachago et al., 2013; Bytheway et al., 2017).

1.3.1.1 Internationally

Zellweger (2006), from the University of St Gallen, claims that implementation of e-Learning at institutions of higher education in Switzerland has been made more difficult than anticipated. She identifies insufficient faculty motivation as one of the barriers and encourages support and intervention strategies as a possible solution; given that lecturers themselves highlighted a lack of support for e-Learning. Zellweger suggests that a sound support process should form part of a clearly-articulated e-Learning support strategy. Other international studies (Govindasamy,

2002; Spender & Stewart, 2002; Stiles &Yorke, 2004; De Freitas & Oliver, 2005) affirm the significance of staff support in the successful adoption of e-Learning.

Staff support holds monetary consequences that need to be considered. The cost of staff training and support is significant in the total cost of ownership (TCO) model. Training is key: “Teacher training and continued, on-going relevant professional development is essential if benefits from investments in ICTs are to be maximised” (The World Bank, 2017). The World Bank emphasises that teacher training is an area in which under-investment was common and negatively influenced investments. Govindasamy (2002:287) reiterates that, “success is crucial because an unsuccessful effort to implement e-Learning will be clearly reflected in terms of the return of investment”. Govindasamy links successful e-Learning implementation to the importance of fundamental pedagogical principles in teaching and learning activities. He posits that not just anybody should be trained. Only when the right person, with the right skills, is trained at the right time “can e-Learning yield a justifiable return on investment considering the costs incurred in implementing e-Learning” (Govindasamy, 2002:288). The “right person” refers to all lecturers, and in this instance, specifically to a language lecturer who has a specific task in the UoT (*cf*. 1.2.2) and needs to achieve his goals with the aid of an LMS. The “right time” refers to the present time in the current South African context. From a managerial point of view, it is important to consider the amount of investment needed. De Freitas and Oliver (2005:95) point out the cost of “additional technical and pedagogical support” as well as “additional training extra staffing costs and extra hardware/software costs”.

1.3.1.2 In South Africa

Given the complex social and economic nature of the educational environment, the South African government has endeavoured, through policy, to address a diverse and challenging range of educational issues. Government has adopted a comprehensive approach to teaching; with a new curriculum supported by the White Paper on e-Education: “This White Paper represents a new framework for the collaboration of Government and the private sector in the provision of ICTs in education” (South Africa. Department of Education, 2004:6). Government intended “to turn our schools into centres of quality learning and teaching for the twenty-first century” (South Africa. Department of Education, 2004:17). In her foreword, the then Minister of Education, Naledi Pandor, raised the hope of creating optimal availability and use of ICTs in an attempt to create better access to quality education. In an

address Pandor (2007) referred to ICT as the key to 21st Century teaching and learning; affirming South Africa's commitment to ICT in education. Minister Pandor emphasised the relevance of ongoing professional support for teachers which she considered imperative for the success of e-Learning. The view of the current (2017) Minister of Basic Education, Angie Motshekga, is in accordance with this initiative: she states that government is committed to improving education through, *inter alia*, e-Education (South Africa. Department of Basic Education, 2010). Blade Nzimandi, Minister of Higher Education and Training, shares this vision for South Africa, as is detailed in the White Paper on post-school Education and Training (2013). With such ministerial emphasis upon delivering learning with the aid of e-Learning, the question arises of how capable organizations, in particular HEIs, and individuals, are to adopt e-Learning, and what other challenges emerge.

The South African White Paper on e-Education acknowledges the ongoing costs of maintaining technology; with reference to the TCO model mentioned above, and stipulating teacher development and technical support; which it states "are enormous" (South Africa. Department of Education, 2004:35). As an example of what has happened in South African education, the Western Cape Education Department (2005) planned to use ICT in schools to deliver and support curriculum, to help raise levels of teaching and learning in disadvantaged schools and to educate and support educators.

They implemented the following e-Learning improvement strategies:

- The Khanya Technology in Education Project developed and implemented ways of using ICT to improve teaching and learning in schools.
- The Dassie Project developed and implemented ways of improving teaching and learning in Further Education and Training colleges.
- The Telecommunications Project linked almost all schools in the province to the Internet.
- WCED Online provided web-based information and services to learners, parents, teachers, school administrators and partners in education.
- The e-Curriculum project developed innovative ways of using ICTs for curriculum development, delivery and support (Western Cape Education Department, 2005).

Bytheway et al. (2010:10) maintain that integration of ICTs in schools has been unsuccessful; partly because "the successful adoption of ICTs in primary schools is not an operational issue, but a strategic one. Strategies for teaching and learning with ICTs are largely absent". Because of this shortfall, their project, entitled MELISSA (Measuring e-Learning impact in schools in South Africa), aimed (through

a curriculum based on a progressive, staged, understanding of ICTs in the classroom) to support teachers in the use of e-Learning.

1.3.1.3 Universities of Technology in South Africa

Given the strategic changes caused by e-Learning, the role of staff support, in terms of LMS use and training, is crucial to research at this time; when cost pressures and constraints are bearing down upon Deans and Heads of Departments. Investment of time, money and effort into e-Learning has ostensibly been made and it is now time to reap the benefits that derive from successful strategic change.

The issue of management change in organisations needs to be considered as a feature of Universities of Technology in particular. De Freitas and Oliver (2005:83) state that: “there is a relationship between e-Learning policy and organisational change and development”. They maintain that resistance to change is inevitable and that “opportunities for collaboration and discussion are consistently identified as being helpful within the change process”. De Freitas and Oliver indicate that an appropriate managerial approach to implementation and the scale of adoption of e-Learning should be considered. Within change management, there needs to be a focus upon support as an operational function.

1.3.2 Lack of support for e-Learning

Czerniewicz (2007:97) identifies many barriers to successful e-Learning and states that:

> ...with improved support for the infrastructure and basic training in ICTs for staff and students, (it) would be an important first step in bringing these institutions to a position where they could explore e-Learning further.

Successful implementation of e-Learning at the University of the Free State credits support for lecturers as a part of the whole approach (Czerniewicz, 2007:92). Similarly, the University of Stellenbosch (as one of the most robust examples of comprehensive e-Learning universities) encourages recalcitrant staff members to include technology into their teaching; by expecting a minimum amount of n e-Learning for which staff memebrs receive support from the Centre for Teaching and Learning. Czerniewicz states that: “There is a need to make staff more aware of the facilities available in LMS and of ways to promote deep learning” (Czerniewicz, 2007:93). Brown and Gachago (2013:9) identify lack of institutional engagement as one of the chief obstacles to successful implementation of e-Learning; mentioning

that use of ICTs is driven by individual passion and is not necessarily well supported by universities. Brown and Gachago indicate that there needs to be institutional commitment; with governance structures and strategic plans in place.

At the University of the Witwatersrand, lack of staff support is identified as a reason for poor progress in e-Learning. “With such limited back-up, staff have found it time-consuming to learn how to manage WebCT, and there is no support for or recognition of this work”. They state that, in spite of this, there is an increasing number of staff members opting to use LMS, needing initial training (Czerniewicz, 2007:94). Czerniewicz classifies the “model of e-Learning delivery established by the University of the Witwatersrand as reflective of the starting point for the development of ICT infrastructures for learning in many South African institutions” (2007:94). She names as examples the University of Limpopo, the Central University of Technology, the University of Zululand, the Vaal University of Technology and the University of Fort Hare, where good support for lecturers, amongst other factors, is highlighted as imperative to success.

In 2008, the Higher Education Quality Committee (HEQC) conducted an audit of the University of the Western Cape (UWC) and found that there were both lecturers using e-Learning successfully as well as “staff (who) remain sceptical, untrained or relatively unaware of the uses of e-Learning and the work of the e-Learning Development and Support Unit”. They suggest setting clearer benchmarks which may assist in assessing returns upon financial investment in e-Learning and ask whether it is not necessary to re-conceptualise e-Learning for staff and students (Higher Education Quality Committee, 2008:13). Brown and Gachago (2013) mention that lack of knowledge and skill of the lecturer is often the driving force behind neglect of ICT.

1.3.2.1 Anecdotal evidence locally

Technical support is critical to successful implementation of e-Learning: without the necessary ongoing support, e-Learning is likely to be ineffective. One of the most important barriers to the success of e-Learning is staff inertia, staff resistance and lack of staff training; contributing to the “death” of e-Learning (Cronje, 2007).

During MELISSA interviews with teachers in primary schools in Cape Town, it emerged that teachers were grateful for training in ICTs because it gave them confidence in the use of ICTs; resulting in daily use (Bytheway et al., 2010).

Teachers interviewed in this research project emphasise the importance of, and continued need for, quality support (Bladergroen et al., 2012:112). Though support is highlighted as one of the reasons for the success of e-Learning, it points to an overarching managerial concern that Bytheway et al. refer to: “the successful adoption of ICTs in primary schools is not an operational issue, but a strategic one. Strategies for teaching and learning with ICTs are largely absent” (Bytheway et al., 2010:10).

At CPUT, the importance of lecturer support is recognised at a managerial level as fundamental; as is the case in the previously mentioned institutions. They are unambiguous in their vision for the CIET; where it is indicated that: “The primary aim of CIET is to support the academic project in the effective use of educational technology for learning and teaching” (Cape Peninsula University of Technology, 2008b). They endeavour to maintain a sustainable support service and become proactive through innovation.

Previous research at CPUT has addressed the use of e-Learning for additional language teaching; where continued on campus support was highlighted as pivotal to success of e-Learning (Cox, 2008:85). The following distressing quotation by a CPUT lecturer in the Education Faculty is found in a report on lecturer feedback about curriculum development: “I've actually learnt not to rely on CPUT for any support - particularly (ironically) in terms of technology” (Faculty of Education and Social Sciences, 2009). This quotation emphasises the need for reliable and apt staff support, and it warrants investment of time and effort in understanding the extent of the problem, and the need to explore possible solutions.

1.4 Research questions

The aim of this study was to obtain an understanding of what type of support lecturers require to use pedagogical tools integrated with suitable technology in a complex and challenging educational environment teaching the instructional language to students, including those with a different home language. This study embraced two research questions:

1. What are the relevant elements of an e-Learning support service to language lecturers in a complex higher education environment where technology facilitates pedagogy?

2. How should LMS support services for language lecturers address the gap between the intended and actual use of technologies to enhance language teaching practices in a complex higher education environment?

The sub-questions below further guided the investigation:

1. What are the issues around the intended use of LMS versus its use in practice?
2. What are language lecturers' perceptions and expectations of LMS support?
3. Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?
4. What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

1.5 Research objectives

The objectives of the research were:

- to identify perceptions and expectations of language lecturers regarding LMS support
- to identify perceptions and expectations of the support staff regarding LMS support
- to identify possible gaps between perceptions and expectations of language lecturers and those of the LMS support staff
- to develop a reliable grasp of the level of support provided
- to identify possible alignment options of perceptions and expectations of language lecturers (as LMS users) and support staff so that e-Learning may be utilised optimally

This research aims, through the design of an LMS support gap framework, to contribute to the existing domain of knowledge regarding LMS support. The research questions were used to achieve these objectives which are reviewed in the final chapter of the thesis. An LMS support gap model, between LMS support provider and language lecture, is presented with possible solutions to overcome these gaps.

1.6 Research methodology

The gap model (Parasuraman et al., 1985) is discussed in Section 1.2.4 and elaborated upon in Chapter 2 (*cf*. 2.3). This gap model was deployed as theoretical framework underpinning the research and allowing it to inform specifically the design of data collection instruments. The study is located within an interpretivist philosophy. In agreement with Saunders et al. (2012:137), as researcher I prefer to understand differences between humans in their roles as social actors within a specific context rather than other philosophies of pragmatism, realism or positivism which frame my thinking and decisions. Within this worldview perspective, the study is focused upon language lecturers and their perceptions and expectations of LMS support within the unique context of a UoT in the Western Cape in South Africa. In terms of the theatre

metaphor that Saunders et al. (2003:137) uses to describe this philosophy, the language lecturer is the “actor” interpreting his/her social role within the UoT which may be regarded as the “stage of life” on which LMS support takes place. As researcher, I adopted an empathetic stance towards this unique “theatre”; continually striving to enter the world of the research subjects and to understand their domain from their unique perspectives. I was particularly interested in concurrence of a particular set of circumstances and individuals at a specific time.

The research approach was inductive using a single case study where the perceptions and expectations of individuals in the specific context of LMS support at a UoT, was investigated to generate a new framework.

In keeping with the interpretivist philosophy, a single case study was used to gain an in-depth and rich understanding of the specific real-life context: qualitative data collection methods were used to glean data. A questionnaire and semi-structured interviews were employed to collect data from language lecturers: semi-structured interviews were conducted, with LMS support staff and management.

1.7 Definition of terms

The following key concepts, in order of appearance in this study, are used throughout the dissertation and are explained briefly. Some concepts are complex in nature and receive considerable attention in Chapter 2.

E-Learning is a broad term referring loosely to any learning that takes place through electronic format. This term can be used as part of face-to-face teaching or for distance learning. It is a popular method of curriculum delivery in the latter context but in this study, was referred to as Information and Computer Technologies (ICTs) used in a holistic classroom approach as part of teaching.

LMS is an abbreviation for learning management system, which is used to deliver e-Learning. The institutional LMS for the institution in this case study is Blackboard.

*LMS suppo*rt refers to the support provided by the e-Learning centre of an institution. It encompasses training and assistance in the use of LMS. It is not to be confused with technical support which refers to technical matters such as infrastructure, passwords or computer access.

Language lecturers generally refer to lecturers who teach pure languages. For the purposes of this study, however, lecturers who taught language-related subjects and communication formed the focus. There were English, IsiXhosa, Afrikaans and Communication lecturers as well as language coordinators across various faculties who took part in this study; this term was used to encompass all of these.

Perceptions refer to what people observe, and experience as fact. It is a complex matter where the point of departure is that perception for an individual is real and experienced as fact. What people perceive and what is real differ from one person to the next.

Expectations are anticipated from LMS support service; both from the viewpoint of language lecturer as well as LMS service provider.

Gap model refers to a well-known and respected service delivery model from 1985, designed by Parasuraman, Zeithaml and Berry (1985). It identifies five quality gaps between the consumer and service provider. Section 2.3 elaborates upon the gap model which is deployed as a theoretical framework underpinning the data collection instruments for this study.

TPACK framework (Mishra & Koehler, 2006) is a framework for educational technology that is explained in Section 2.2.3.2. The abbreviation stands for Technological Pedagogical and Content Knowledge. The researcher used this framework as theoretical lens for data analysis.

Complex environment constitutes an academic environment central to this study. In South Africa, there is a unique combination of political, social and economic factors that distinctively define the learning environment of the student, the lecturer and processes of higher education. These various contexts are intricately interlinked.

#FeesMustFall refers to student protest action which affected South African universities from 2015 to 2017. It has caused chaos on campuses and led to interruptions of classes.

University of Technology (UoT) is a university of higher education which offers “technological career directed educational programmes” with emphasis on “innovative problem solving research and engages with government/ business/industry with communities as end users” (SAStudy, 2019).

CIET is an acronym for the Centre for Innovative Educational Technology. This is the e-Learning support function for the university in this case study, delivering support to lecturers in the uptake of LMS and the pedagogical application of the tool.

CTS refers to the Computer and Telecommunications Services. This is the support function for technical services of the university in this case study.

1.8 Organisation of the study

The aim of this chapter is to introduce the study, explain what will be done and provide reasons for conducting it. The background as motivation for the study illustrated the unique and complex setting within which the investigation took place. In addition, it introduced key theoretical constructs, and presented the research question and sub-questions as well as the design and methodology.

Chapter 2 presents the literature review; deliberating on theoretical constructs which are introduced in Chapter 1. The first section focuses on e-Learning, positioning LMS and the language lecturer in the context of the UoT in South Africa with specific reference to the complex environment of the student. It provides an overview of learning theories; specifically learning theories of e-Learning in language teaching. It is important to ensure that e-Learning practices are pedagogically grounded and provide the researcher with an understanding of quality teaching practice with reference to the TPACK framework. The second part of Chapter 2 reviews literature related to the service delivery industry. First, it presents a discussion of LMS support as a service to the language lecturer and then it reviews the service delivery industry with specific focus upon the gap model as popular framework and as the theoretical underpinning for this study. The chapter brings together parallels between e-Learning support and the service delivery industry.

Chapter 3 describes the research design and methodology of the study; centred on the model of a research onion by Saunders et al. (2012:128). It systematically presents the rationale for using an interpretivist philosophy; with an inductive approach and a qualitative case study method. Chapter 3 provides an overview of the data collection procedures; emphasising the process of qualitative data analysis. Finally, it addresses the issues related to trustworthiness and ethics.

Chapter 4 provides a detailed and systematic account of the qualitative data from the empirical world. It presents a discussion on the findings of the theoretical constructs

which were introduced in Chapter 1 and reviewed in Chapter 2. First, it outlines the complex context by setting the scene during which data collection took place. It then describes the process of data analysis and methodical theme development after which the findings are logically presented according to these themes. Each theme is presented first by the data gathered from language lecturers and then by the data from LMS support staff.

Chapter 5 provides a discussion of the findings and compares them with the conclusions regarding the theoretical constructs that were deliberated upon in Chapter 2.

The conclusion to this investigation is provided in Chapter 6 which synthesises the results from Chapter 5 in order to address the research questions, and to present a new framework for LMS support within a UoT in South Africa. In addition, the chapter describes the contributions of the study, and it presents recommendations based on the findings. Finally, it identifies opportunities for future research.

In the following chapter, the literature regarding e-Learning, language lecturers, LMS support and the service delivery industry is reviewed within the complex educational context of South Africa.

CHAPTER TWO

Literature Review

Perceptions, justified or not, are facts.

Robert Heller

2.1 Introduction

The aim of this chapter is to present a literature review of the theoretical constructs set out in Chapter 1, and to introduce the theoretical frameworks which are described and contextualised in Sections 2.2.3.2 and 2.3.2. These frameworks contributed to the design of the investigation and contributed in the analysis of data. Chapter two provides the conceptual outline (Figure 2.2) for the study and systematically combines the five key constructs that were introduced in the first chapter: (1) the student, (2) the language lecturer, (3) LMS, (4) LMS support function, and (5) the complex educational environment. Specific reference is made to perceptions of support quality throughout the chapter.

This study focused upon language lecturers' perceptions and expectations of LMS support service. The conceptual map in Figure 2.1 shows that the relevant literature is divided into two main segments: the five role players involved in e-Learning delivery and the service delivery industry. The two entities are merged with appropriate sub-sections that elaborate on the themes from Chapter 1, and which will be connected with the themes developed in Chapters 4 and 5. Section 2.2.1 illustrates the complex educational context of South African higher education as the backdrop for the study, as well as provides an overview of learning theories. Attention is paid to the learning theories of e-Learning and language teaching, ensuring pedagogically grounded practice. Section 2.3 presents a review of the literature that deals with the service delivery industry specifically, emphasising perceptions (as a reflection of an individual's experience of fact) of quality support. The quality of support services and the perceived gaps between the expectations of the language lecturer using LMS and the e-Learning support available to them in practice are discussed.

Section 2.4 provides a summary of the focal findings from the literature, which will be compared in Chapter 5 with the empirical findings from this study.

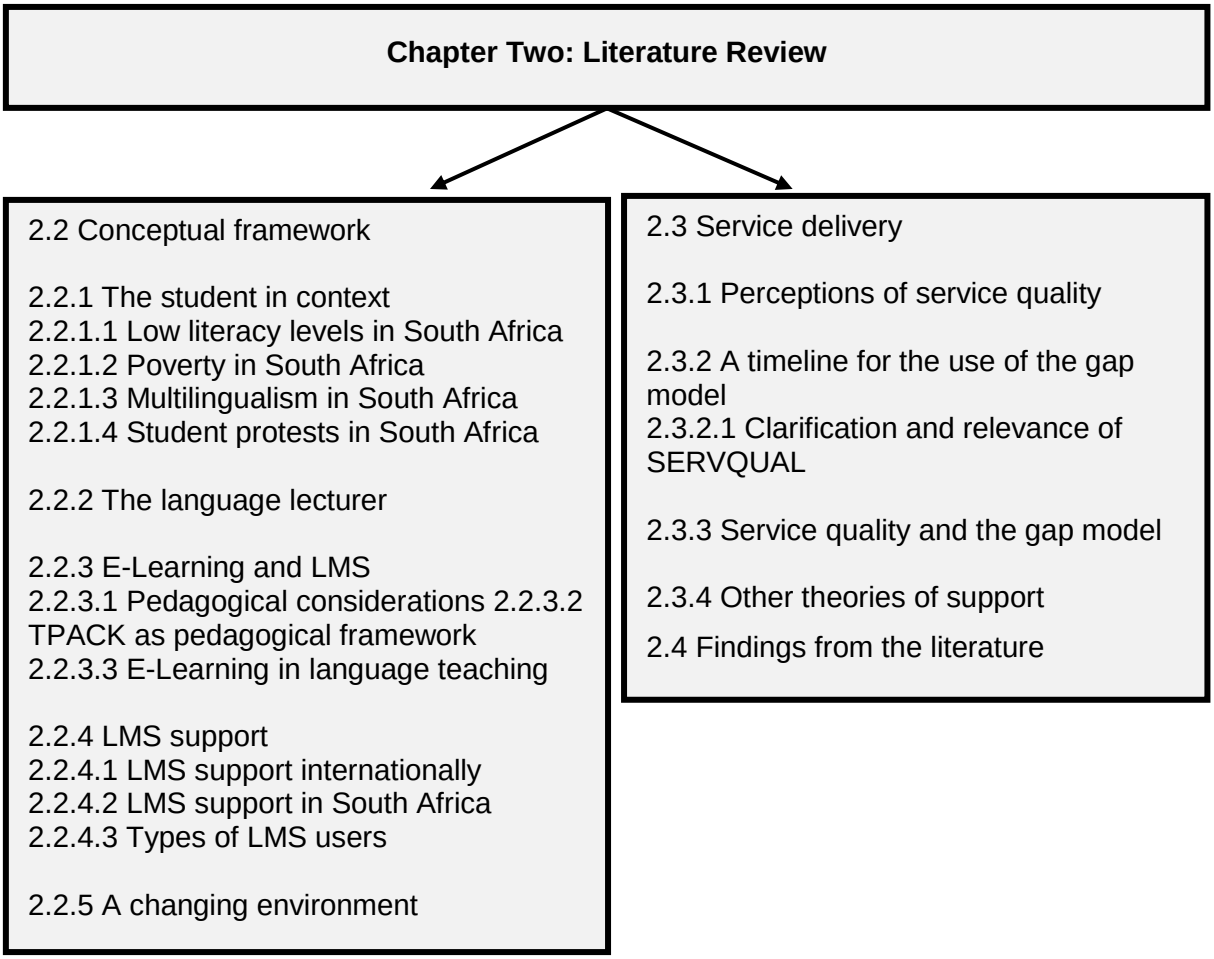

Figure 2.1 Conceptual map of Chapter 2

2.2 Conceptual framework

Five key concepts are introduced in Chapter 1: the student, the language lecturer, LMS, LMS support function and the complex educational environment, illustrated in Figure 2.2 as depicted by the researcher. These theoretical constructs were identified by the researcher as central to the study and are discussed in the paragraphs that follow. From these theoretical constructs, questionnaires were designed and data emerged, which were analysed and found to reveal various themes. Those themes are discussed and concluded in Chapter 5 and then reciprocated back to these theoretical constructs.

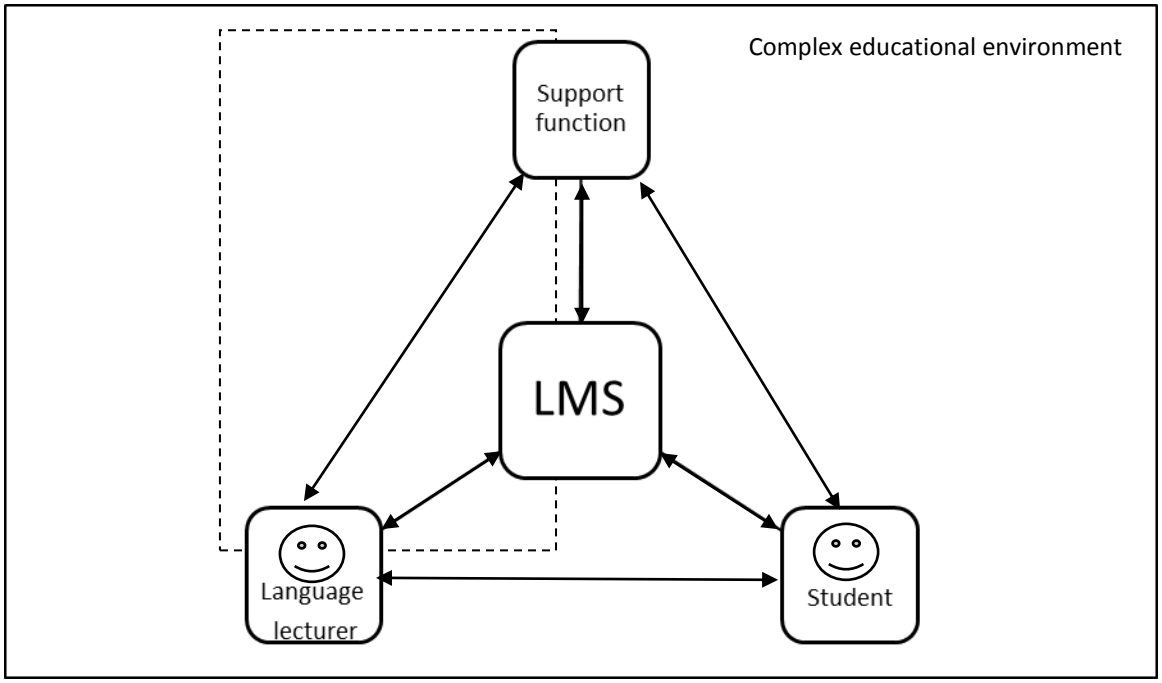

Figure 2.2: Conceptualisation of the study

The five significant concepts, or role players, in this study are depicted in Figure 2.2. They are: (1) the student, (2) the language lecturer, (3) LMS, (4) LMS support function within (5) the complex environment of a UoT in South Africa. When language lecturers are involved in academic activity with students they are encouraged by the institution to include the use of LMS. There are various factors affecting interaction between each of these entities which in turn affects the other relations. All of these interactions are described in the following section. Because the context is interwoven with each theoretical construct, it is discussed together with each construct. First, the student in context is deliberated upon because s/he is the recipient of the education from the university, and as such the teaching and learning approach, and subsequent pedagogy should be centred upon the interests and advantage of the student. Language lecturers, as the focus of this study, are then discussed as they have specific needs within this environment and are confronted by the needs of their students and the demands placed upon them by the institution. Language lecturers have an additional responsibility to address literacy and issues that arise from the multilingual educational context in South Africa. LMS as a method of e-Learning delivery is discussed as a complex pedagogical tool which should assist lecturers in their field of endeavour but often causes strain. Support function is unpacked from the perspective of the service delivery industry. The changing environment is

discussed as a theoretical construct and as a backdrop entwined with the other concepts.

The stippled line in Figure 2.2 indicates the narrowed down emphasis for this study; illustrating that the focus area did not stand in isolation but was affected by the other factors and the context.

2.2.1 The student in context

Students in South Africa are diverse in a uniquely ethnographic and historical way: lecturers need to consider this diversity in their lecturing approach for their teaching to be effective. Bozalek et al. (2013:419,420) acknowledge the challenges posed by the diversity of the South African student population. For this reason, the typical features of a current South African student are illustrated below.

Chapter 1 presents the background and context of the typical student in South Africa with the following specific characteristics:

1. Literacy levels of students are varied and in most instances challengingly low.
2. Poverty in South Africa implies that many students can afford neither the tuition nor the living costs of being students, despite recent changes in the funding structures.
3. Students are multi-cultural and multilingual.
4. Student protest action.

The issues that are forthcoming from each of these characteristics are discussed in the following section:

2.2.1.1 Low literacy levels in South Africa

The PIRLS report (Howie, et al., 2017), which is a programme that deals with the study of international reading literacy, indicates alarmingly low literacy levels for a large contingent of South African students. Recently, BusinessTech (2016b) confirmed this finding; reporting that South Africa is ranked one of the most illiterate countries in the world, with a standing of 56 overall out of 61 countries tested. What made this study particularly compelling and authoritative is that it analysed larger trends of a nation rather than merely their reading ability. It reports on “literate behaviour” of the general public. The study considered five categories as indicators of the literate health of a country: libraries, newspapers, education inputs and outputs, and, of particular interest here, computer availability. In the latter category, South Africa ranked 56th overall with a middle ranking of 37th and 38th respectively for

education inputs and outputs. The other countries that were low in overall ranking were all “developing nations from Africa and central Asia”; while nations from Europe and Asia were placed higher overall. The Scandinavian region including Finland, Norway and Iceland ranked at the top. However, the situation does show some improvement: the adult literacy rate (age 15 and up) in South Africa has steadily been increasing at a 1.09% rate per annum between 2007 and 2015 (Knoema, 2017); suggesting that attempts at improving literacy have been effective. This modicum of improvement reflects a somewhat positive trend in South Africa.

Several major reports concur that the South African education system is weak (Frempong, et al., 2013; Baloyi & Isaacs, 2015; BusinessTech 2016a; BusinessTech, 2016b; Qobo, 2017). Angie Motshekga, the Minister of Basic Education, is reported by BusinessTech to have used the words “crisis” and “national catastrophe” when referring to the 2015 matriculation pass rate (BusinessTech, 2016a). CNN chooses the phrase “woefully inadequate” (Baloyi & Isaacs, 2015) to describe the primary and secondary education system in South Africa. Reference is made to the drastic and untenable economic and social inequalities between schools which offer excellent education versus the disastrous situation at schools that are deprived of resources. This inexcusable disparity in South Africa between those who have and those who do not is constantly widening. The political, cultural, linguistic and economic contexts of the country have to be taken into consideration when examining the education system. The relation between education and the socio-economic structure is reciprocal. Addressing the inadequacies in the education system necessarily improves the economy by contributing towards a more empowered and capable work force (Baloyi & Isaacs, 2015), which in turn positively affects the social and education environment.

South Africa has, through policy, attempted to address the concerns discussed in Chapter 1. Policy reflects an awareness at least, and a willingness by the Departments of Education to address the discrepancies and to attempt transformation of the current systems. Some of the reports mentioned indicate the deficiencies in the education system, while others (Coetzee, 2013; Cook, 2013; Jansen, 2013; Jansen, 2015; Martin, et al., 2015; My broadband, 2015; Bozzoli, 2015; Qobo, 2017) offer possible solutions. These solutions all include transformation through various avenues with radical interventions in the education system and revolutionising teaching amongst others; incorporating technology tools to improve

teaching and learning. South Africa has dropped in its rankings on educational platforms and on the World Economic Forum where the ICT rankings are dismal (My broadband, 2015). The poor quality of ICT-infrastructure in South Africa results in limited international bandwidth. A change in attitude and practical approach by the government is a frequently suggested solution; where policy is put in place and action is taken to follow through; resulting in real transformation (Jansen, 2015). Bozzoli (2015) refers to the importance of government involvement as the ultimate solution to the education problem, specifically with reference to the problems with which universities are confronted.

Universities have minimum admission requirements and screen applications accordingly, yet the overall low standard of education in the country will necessarily reflect the academic abilities of their students. Students who successfully apply to university are in most cases today inevitably drawn from the context of a weak education system and an environment of inferior literate behaviour.

2.2.1.2 Poverty in South Africa

It is clear that the South African economy has a stark effect upon the type of student produced. Being a country of parallel economies, very rich and very poor, as described in Section 1.2.1, the inequality in the country affects the students it produces. South Africa is a middle income country with well-developed first-world features including a stock exchange that is the largest in Africa, and among the top 20 in the world: yet it is a country plagued by poverty, unemployment and inequality; among the highest in the world (Baloyi & Isaacs, 2015; Central Intelligence Agency, 2017). Baloyi and Isaacs report that inequality has disturbingly increased in the past few years (2015). There are many factors hindering progress; from unstable electricity supplies, causing blackouts in many parts of the country as recently as 2015, to structural constraints such as skills shortages and regular work stoppages due to strike action in many industries and widespread corruption causing bankruptcy in large state sectors. Politically, there is pressure on government regarding the education system; to provide basic services in the low-income areas. The Central Intelligence Agency (CIA) (2017) mentions the contentious issues of providing affordable university-level education and the “political infighting among South Africa’s ruling party” (Central Intelligence Agency, 2017) causing tension on all levels of society.

Low literacy levels and poverty among a large group of the population as well as challenges created by multi-lingualism amalgamate in creating further inequities and challenges, as explained in the next section.

2.2.1.3 Multilingualism in South Africa

A unique feature of South Africa is that it is a multi-cultural and multi-lingual country with eleven official languages. The average university student is multilingual and receives tuition in a language other than his or her mother tongue (Marnewick, 2015). This demand creates many challenges; for finding a balance between the language of instruction (which is generally English) and the home language of the student (Desai, 2012; Coetzee, 2013; Cook, 2013). Many university students are drawn from an environment in which they were already disadvantaged at primary school level; as explained in the preceding sections. Mother tongue education is a contentious issue which elicits polarised opinions. African language speaking learners in South Africa receive mother tongue education for the first three years only and then the system switches to English. Learners are severely disadvantaged and culturally conflicted as a result. Many of the teachers at these schools are unqualified to teach in English because it is not necessarily their mother tongue, and because it takes up to six years for children to learn a language completely (Cook, 2013; Marnewick, 2015). Learners, after three years of mother tongue education, do not obtain a strong foundation in their own first language. The additional language, which in South Africa is mostly English, should be introduced gradually as a co-teaching medium. Sound foundations can then be laid from which additional languages can be taught (Marnewick, 2015). Jansen, however, is of the opinion that indigenous languages in South Africa are poorly taught (Jansen, 2013). He posits that “simply learning in your mother tongue is absolutely no guarantee of improved learning gains in school” (Jansen, 2013). His suggests the long-term solution is addressing the quality of teaching and stability in schools. He proposes developing English for teachers and learners, instituting it as language of instruction from the beginning of the school career; eliminating poor mother tongue instruction in the foundation years. Institutions, such as PRAESA (Project for the Study of Alternative Education in South Africa) work with adults, specifically attempting to inspire and motivate literacy learning and development through curricula. They aim to transform the way in which adults engage with children in educational settings (PRAESA, 2017).

The issue of the language of instruction is rooted at a primary school level and forms the basis for learners going through the schooling system. Many young learners drop out of school (Govender, 2016) and perpetuate the vicious cycle of unemployment and poverty in the country. Other learners go into the higher education system where lecturers are confronted with the fundamental issues stemming from conflicting language issues that arise at primary school level.

It is the task of the language lecturer in the university to address the result of the diverse education that students have received. They are challenged to teach academic communication and language for academic purposes.

Universities are confronted with managerial and political turmoil in South Africa; causing serious tension between students, the universities and government. The problems, if correctly addressed by government, are avoidable and should be addressed as such (Jansen, 2015; Bozzoli, 2015; Davis, 2016). Professor Jonathan Jansen, renowned expert in education, is quoted to say that it is “fairly difficult running a university in the context of a divided past” (Davis, 2016). Bozzoli (2015) sketches the situation of thriving public universities where state funding is the anchor. In South Africa that anchor is missing because the Government subsidy is “extremely low in absolute terms, by world standards” (Bozzoli, 2015) despite recent promises of first-year subsidy based on parents’ means. Bozzoli goes further; confirming that even in comparison to international emerging economies, South African university funding is ethically indefensible and socially deplorable. Investment in higher education is lower than that in the rest of Africa. There is added pressure upon universities. There are rapidly increasing student numbers: many of whom are from poor backgrounds. This predicament increases pressure upon the National Student Financial Aid Scheme (NSFAS). Government funding provides little support for infrastructure development; causing many problems regarding maintenance of buildings and teaching and research infrastructure.

2.2.1.4 Student protests in South Africa

The critical factors mentioned above have led to increased tension and ultimately to student protest action from 2015-2017: known as #FeesMustFall. This liberation movement has resulted in a surprising announcement by the then president of South Africa in December 2017 that the government will support free higher education through a subsidised scheme for households that earn R350,000 or less annually

(Areff & Spies, 2017). However, the details of the implementation were not clear. In 2018 all new qualifying first year students from poor and working class families classified as from poor or working class families were allowed to register. Sokanyile reported last year that although university managements are committed to finding solutions to try and resolve issues, there are breakdowns in talks and continued protests (Sokanyile, 2017). Student protests resulted in violence and severe class disruptions throughout campuses in 2017.

#FeesMustFall officially started in 2015 with a march in Pretoria at the Union Buildings where students demanded the right to quality, accessible education (Baloyi & Isaacs, 2015). Their demands included a call for decolonization and transformation of higher education institutions, the insourcing of vulnerable workers at universities, and the release of classmates who had been arrested at the time. It soon emerged that protests were centred upon two main legitimate concerns dealt with in this research: racism at previously white institutions, and the demand for free education for the poor (Baloyi & Isaacs, 2015; Fihlani, 2015; Draper, 2016; Hauser, 2016; Henderson, 2017). The challenges of racial inequity have not been addressed as had been promised by the new government from 1994. In fact, as is shown in this research, the wealth gap is steadily increasing. Education is one area in which the playing field between black and white people is not level. Some universities have become more elite in their student body and politically polarised as a result. Politically, this tendency is fuelled by the blame on government and the lack of presidential intervention; causing great disruptions in South Africa.

It was reported that not all students involved in protests displayed disruptive behaviour. Most students protested peacefully and attended gatherings to negotiate solutions (Draper, 2016). In some cases, however, police involvement became necessary (Hauser, 2016); creating serious disruptions of the academic programme on campuses.

The unique and complex environment of a student in higher education in South Africa is a result of the intertwined workings of the social, economic, cultural and linguistic factors listed and discussed above. The issues created by multi-lingualism and low literacy levels affect one other, and combined with poverty, political pressure and student protests, seem to be spiralling out of control. Lecturers are confronted with these realities: although they cannot solve the country’s problems they need to address these issues as best they can. This concurrence of problematic issues bears

heavily upon the language lecturer who has a crucial role to play in raising the verbal and written academic skills of students from disadvantaged backgrounds.

2.2.2 The language lecturer

The complex context of the South African student, as argued in the preceding section, directly affects language lecturers, who are required to make adjustments to their lecturing approach. Bozalek et al. (2013) identify the integration of technology into the curriculum as one way of responding to the current demands in the South African context; stating “responding to these challenges, while maintaining quality of throughput, requires a re-think of curriculum delivery” (Bozalek et al., 2013:420). Bozalek et al. are of the opinion, however, that the results and uptake of these technologies have been varied and not successful in all instances. Though all lecturers are confronted with the student in a complex environment, the language lecturer has an added responsibility having to prepare the student for academic communication in the language of instruction across subject fields. Because of the background of the student there are unique issues created specifically by multi-lingualism, poverty, poor schooling, lack of funding, accommodation and nutrition and low literacy levels at home which condition the language lecturer’s undertaking.

The term *Language lecturers* generally refers specifically to lecturers who teach the subject of language and grammar. For this study, however, the term *Language lecturers* was used to refer to all lecturers who teach language-related subjects including English, IsiXhosa, Afrikaans and Communication; as well as language co-ordinators. The term was used to encompass all of these lecturers and not in the traditional sense which refers to a lecturer who teaches a language, grammar and/or literature as a main subject.

The language lecturer, in this broader sense, has various responsibilities within the university; with the primary objective of preparing the student for academic communication in English, as the Language of Learning and Teaching (LoLT) in various faculties and in different subjects. Such language lecturers impart specific skills that are needed in all subjects, and that assist students in becoming a part of a functional society after graduation. Effective teaching under any circumstances throughout subjects, is based on communication; the goal is to develop the skills that students require to communicate with their peers and lecturers in English at an academic level. The expectation of language lecturers in universities is to assist in

the implementation of the language policy of that university; which generally entails integration of multi-lingualism in academic activities, to provide students with excellent language support in various faculties and departments. Language lecturers have to contribute to multi-lingual teaching, learning and research development (Cape Peninsula University of Technology, 2008c; University of the Western Cape, 2013).

The responsibility of language lecturers does not stop at the university: language lecturers bear a social responsibility towards the community. Confronted with students from a complex socio-economic environment of historical deprivation language lecturers need to be aware of the history of the liberation movement, current injustices and organisations which are committed to righting wrongs of the past. Language lecturers have to assist and support students, ultimately developing and transforming students into thinking citizens, who function effectively as part of society, as called for by the DHET (*cf*. 1.3).

Lecturers need to bear in mind the burdens of an unjust past and a challenging present borne by students: colonialism, apartheid, job reservation, segregated schools and forced removals to mention a few of the excesses of white social engineering. It is not surprising then that there is a general lowering of morale, as Bozzoli (2015) adds; given the dated teaching and research infrastructure and expectation of increased research output placed on learners by government.

In the current situation technology is an important consideration because it is often integrated in teaching. In addition to the complex context of the student, and the dedicated task of the language lecturer within the institution, lecturers face the mandate to use LMS by the university. Integrating LMS into daily lecturing and tutorials is something that few lecturers are necessarily motivated to do (Govindasamy, 2002; Zellweger, 2006; Bitner et al., 2010; Mohammadi, 2015:371). Few language lecturers have sufficient knowledge about integrating technology into their teaching to regard technology of social media, the web and virtual teaching as a given (Brown & Gachago, 2013; Debbagh & Jones, 2015; Turgut, 2017; Voogt & McKenney, 2017). Employees in all business fields of a certain age tend to be hesitant in accepting and integrating technology into their work; which may possibly stem from their insecurity and reluctance to embrace change. Technology is perceived among the generation of the 1990's as being less human and wanting in contact, which "many believe it is detrimental purely from a quality of life and human

relationship perspective" (Bitner et al., 2010:202). This being true in the corporate world, it is more so the case with lecturers and their intricate relations with their students, where they are not necessarily able, or want to use technology in teaching (Hartman et al., 2007:62).

LMS and the infrastructure surrounding its use has to be reliable for lecturers to want to use it, and to sustain a lively interaction between lecturer and student. Islam blames a lack of technical quality in LMS as a reason for dissatisfaction among users (Islam, 2014:257). If users are reluctant and demotivated to use the technology because of their fears and concerns, then conversely they should be positively affected with affirmative interactions with LMS. Their motivation may come from positive experiences in the initial stages of LMS use. Mohammadi (2015:359) reports that e-Learning has a positive impact upon both lecturers and students because it "positively affects the duration of their attention, learning and training tenacity, and their attitudes toward collaboration and interaction". Positive experiences often lead to increased use of technology. Cross argues that learning takes place when one is outside of one's comfort zone, exposed to new things and that "the "Best practice" of them all is to treat learners like customers" (Cross, 2004:110). Lecturers, as the recipients of the e-Learning support service, in this situation, are the customers.

Together with the growing use of e-Learning by lecturers and students, there is a demand by both parties involved for its increased deployment. Given the significance of the language lecturer's function in the multi-lingual and multi-cultural campus society of a typical South African university today, it is imperative that they use and develop LMS optimally; necessitating the need for, and the subsequent focus upon, support.

2.2.3 E-Learning and Learning Management System

The terms *e-Learning* and the *Learning Management System (LMS),* referred to by some as the *Learner Management System*, as a complex pedagogical tool in the virtual learning environment, are clarified in this section. The use of e-Learning in language teaching and pedagogy is discussed; followed by a discussion of changing environments. LMS support function is subsequently clarified in Section 2.2.4 with reference to the service delivery industry.

The complex environment of the student and the language lecturer specifically is clarified in the previous section. Since awareness of context plays a major role in

understanding how to implement LMS effectively, the purpose of Blackboard in education is to facilitate change; assisting learners, lecturers and institutions in a "complex and changing environment" (Blackboard, 2017a). 21st century lecturers have to understand the continually evolving and dynamic world of the learner. Blackboard is particularly well suited to this purpose as a highly developed e-Learning tool which helps to meet specific needs of the educational landscape; making LMS a flexible, appropriate and affordable solution to many fast-changing settings.

The rapid growth of 21st century technology and the dissemination of social media devices among students has re-shaped teaching and learning, learning design and pedagogy (Uppal et al., 2017:3). Policy documents of the DBE and DHET policies, including the White Paper for post-school Education and Training (South Africa. Department of Higher Education, 2013:18) reflect the impulse for transformation; by which different components are integrated to improve the quality and diversity of post-school education and training in South Africa. The versatile, imaginative and constructive use of information and communication technology is one way to bring about transformation in teaching and learning (South Africa. Department of Higher Education, 2013:53). E-Learning is an extensive term with many different aspects such as blended learning and emerging technologies. The following section delineates the essential features of e-Learning. E-Learning comprises a broad spectrum of understanding: the most basic descriptions include: (i) "learning activities based on any electronic format" (Teachnology, 2010), (ii) accounting for the "e" in "e-Learning", it is computer and internet based (Collins English Dictionary, n.d.; Dictionary.com, 2017), while Stockley (2006) describes it as (iii):

> the delivery of a learning, training or education program by electronic means. E-Learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.

Definitions such as these may be too wide-ranging and vague for research purposes although such basic, working definitions do lay out valid parameters such as use of numerous electronic devices, mobile phones or tablets, video recording or photography. Primary definitions may include the use of CD-ROMs or DVDs. E-Learning is not delineated to a classroom environment but can refer to the vast field of distance learning. Clarity is necessary when defining e-Learning in a specific

context; for example, e-LearningNC, North Carolina Education Department, defines e-Learning as:

> courses that are specifically delivered via the Internet to somewhere other than the classroom where the professor is teaching. It is not a course delivered via a DVD or CD-ROM, video tape or over a television channel. It is interactive in that you can also communicate with your teachers, professor or other students in your class (United Sates of America. North Carolina Education Cabinet and Office of the Governor, 2016).

Basic or primary definitions of e-Learning have to be elaborated upon to take account of recent developments such as interactivity; which Online Learning Consortium (2015) defines as a relation with indistinct lines between teacher or organisation and learner: “blurred traditional relationships, removing geography as a defining element in the student-institution relationship” (Online Learning Consortium, 2015). For the purpose of this study, e-Learning in conjunction with face-to-face teaching, was investigated.

Given the wide range of inclusions and subtleties involved in describing e-Learning worldwide, it is viable to look at the parameters that are stated locally in the White Paper on e-Education where e-Learning is defined as:

> e-Learning is flexible learning using ICT resources, tools and applications, focussing on:
>
> - accessing information,
> - interaction among teachers, learners and the online environment,
> - collaborative learning, and
> - production of materials, resources and learning experiences.
>
> e-Learning may involve the use of Internet, CD-ROM, software other media and telecommunications (South Africa. Department of Education, 2004:15).

This definition encompasses the essential features of e-Learning in its wider, applied sense. The White Paper for post-school education and training reflected in 2013 that the goals set out by the Department of Education have not yet been achieved: they state that ICT access was “extremely uneven, making it impossible for education and other providers to fully harness the potential of using ICT to support teaching and learning” (South Africa. Department of Education, 2013:53).

Other terms recently used for the comprehensive use of e-Learning include “blended learning” and “online learning” with reference to “emerging technologies”, which all refer to a larger vision of technology-enhanced learning; aptly described by Veletsianos who proposes “education that provides experiences and opportunities

that can be more fulfilling, meaningful, inspiring and aesthetically appealing than those afforded by traditional designs" (Veletsianos, 2011:41). He suggests transformation in online and blended education with an emphasis upon the reciprocal connection between technology and pedagogy; where the two entities symbiotically sculpt and mould one another (Veletsianos, 2011:42).

To avoid confusion between the terms e-Learning and LMS, a description of LMS, as vehicle of e-Learning delivery, is provided first. LMS is a software application tool, providing structure, "to keep all the strings together" (Badenhorst, 2006:5) in managing, tracking and delivering of teaching and learning. This definition brings the complexity of the tool to the fore; indicating that LMS is a teaching or learning tool which incorporates the administrative tasks of teachers, and acts as a communication device ensuring effective interaction between student and lecturer, as well as among students. In line with the vision of a symbiotic relation between technology and pedagogy LMS is designed to support student learning using various presentation, assessment, communication and management tools in a virtual learning environment. Examples of LMSs are: WebCT, Blackboard and dotLRN (Ellis & Calvo, 2007:61) while other popular systems include Moodle, Edmodo, SumTotal Systems, Skillsoft and Cornerstone (Ferriman, 2016). Gavriushenko et al. (2015) emphasise the enhanced learning environment created by LMS, noting that "LMS helps in developing new opportunities in the learning domain" and that "teaching methods can be individual for each learner" (Gavriushenko et al., 2015:299). They maintain that intelligent tools for LMSs render LMS relevant to the user; creating an innovative learning process in a real-life context.

There are many advantages in using LMS because it enables a variety of educational activities, making it a complex pedagogical tool which can be used in the execution of administrative tasks and to support students with special competencies. Bearing in mind the integral characteristic of interactivity, LMS enables collaborative communication among users, and individually for students to search for and discover knowledge, leading to personalised learning. LMS is immediate and permits physical mobility of educational activities, promotes self-organised and self-directed learning. In the hands of a well-trained teacher LMS can be an effective tool for delivering a lesson (Mohammadi, 2015:359). With reference to the activities that language lecturers perform (*cf*. 2.2.2) LMS can potentially meet their requirements, however,

lecturers may not be aware of all the functionalities offered by Blackboard as an example of LMS (Bousbahi & Alrazgan, 2015).

A key characteristic of e-Learning is interaction, regardless of whether e-Learning refers to distance learning or where it is utilised as part of a holistic classroom approach. In this study, however, e-Learning was discussed in the latter context where it is not intended to replace face-to-face teaching. The relation between learner and teacher is foregrounded: e-Learning should enhance the traditional relations between each party. The White Paper on e-Education explicitly states:

> While e-Learning will not replace teachers, it will enhance the quality and reach of their teaching and reduce the time spent on administrative chores. In introducing e-Learning, we must make sure that we balance it with other teaching and learning methods. E-Learning should recognise that its value is linked to its suitability to individual learning and teaching styles and strategies (South Africa. Department of Education, 2004:19).

Established and recognised definitions acknowledge that e-Learning improves the quality of learning by providing students with access to a wide range of resources and services. LMS constitutes a "dynamic and immediate learning environment through the use of the Internet" (Mohammadi, 2015:359). Aiming to improve learning quality, well-trained and effective teachers integrate ICT into their classroom approach (Khan, 2014:21), to create an active learning experience for students. Resistant teachers have to adapt to change (Badenhorst, 2006). The South African tertiary educational context is replete with opportunities for renewal, envisaged transformation and change: the country requires teachers who are up to date with current methods and the latest thinking on pedagogy.

Teachers are no longer providers of information: they are facilitators in a complex construction of knowledge. Freire asserts that "knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (Freire, 2005:72). As such, teachers can affect the kind of transformation as called for in the White Paper for post-school Education and Training (*cf*. 1.3). Change is needed because the traditional classroom with face-to-face teaching as predominant method is ineffective and because in the 21stcentury higher education finds itself in new, promising and exhilarating circumstances (Badenhorst, 2006:1). A dynamic blend of methods, including e-Learning, creates an enhanced learning atmosphere which matches the students' daily environment: "The inputs they receive are fast, colourful

and full of movement. Presenting them in class with a monotonous speech will not keep their attention and learning will be impeded" (Badenhorst, 2006:2). Teachers who aim to transform education should aspire to learning that changes the ways in which learners act in the world; engaging them in the processes which encourage them to talk about what they are learning (Veletsianos, 2011:45). E-Learning engages learners digitally; it affords different, individual learning styles, and enables the teacher to flip the classroom for the optimal use of time. Online learning allows the teacher time to work with students one-on-one or in smaller groups outside the parameters of the actual physical lecture hall (Blackboard, 2017a). The traditional advantages of tutorial groups which were once erased under pressure of cost at many mainstream universities have been successfully re-instituted by means of e-Learning.

Blended learning "combines online and face-to-face learning and engages learners" (Blackboard, 2017b) in vital new form of the learning process; providing a natural transition for students who are no longer passive in receiving information but actively involved in the construction of knowledge while they collaborate with other students in a real-world environment. Freire describes the notion as "people do not exist apart from the world (Freire, 2005:85), in fact he refers to the "here and now" of the context in which learning is submerged. Ellis and Calvo concur that blended learning entails a mix of e-Learning and face-to-face learning "in which coherence across the two contexts from a student perspective is achieved by focusing on the same intended learning outcomes" (Ellis & Calvo, 2007:61). Friesen, however, provides a current composite definition of blended learning with a focus upon the relations which bring e-Learning and the teacher-learner together; stating that it "designates the range of possibilities presented by combining Internet and digital media with established classroom forms that require the physical co-presence of teacher and students" (Friesen, 2012). Pappas (2016) includes blended learning, together with mobile learning and informal learning, to form Obsidian Learning's distributed learning approach. Obsidian is a leading company that develops interactive and engaging learning programmes; designing and developing methods and tools delivered in classroom training and in businesses such as Fortune 500 firms (Elearning Industry, 2017). Pappas agrees that blended learning combines instructor-led training and e-Learning and adds "other learning activities outside the classroom (such as pre-work or on-the-job mentoring)" (Pappas, 2016:1). Many scholars (Badenhorst, 2006; Ellis

and Calvo, 2007; Veletsianos, 2011; Friesen, 2012; Mohammadi, 2015; Pappas, 2016) agree that blended learning is transformative, engaging and enhancing, bringing real life experiences to learning. The adoption of e-Learning has to be facilitated and encouraged. E-Learning is a way to provide opportunities for this transformation while at the same time augmenting pedagogical practise.

2.2.3.1 Pedagogical considerations with e-Learning

The important advantages of e-Learning include interactivity, affordability, relevance to the socio-economic contexts of 21st century students, tutorial format, immediacy, enhancement of lecturing and constructivist priorities which are al rooted in pedagogy. Pedagogy is fundamental to teaching with technology. Today's teachers have to transform the educational landscape and make up for the historical deficits and social injustices of the past. LMS is crucial in doing so. Teachers who respect the requirements of transformation and appreciate the multiple challenges facing learners and students today do not need to become technology experts in order to realise much of the potential of LMS. Teachers can exploit many of the advantages of LMS strategies by applying a multi-faceted technology tool in their teaching approach and being aware of constructivist pedagogy as a point of departure which dovetails with the underpinning liberal philosophy of the educational community of the post-1994 South Africa. Govindasamy (2002), posits that, during the early development of e-Learning, "one of the most crucial prerequisites of successful implementation of e-Learning is the need for careful consideration of the underlying pedagogy" (Govindasamy, 2002:287). Harvey and Beards (2004:354) concur, stating that "fundamentally e-learning is about learning and not about technology" and warning that a process driven by technology is unlikely to succeed if it does not take into account culture and practice of education. The focus of e-Learning should fall upon the needs of the learner (*cf*. 2.2.1). Locally, Cronje agrees that "technology should not be the driving force behind learning. Learning should be" (Cronje, 2007). The same pedagogical principles that are used in traditional classroom delivery methods apply to e-Learning, however, these principles need to adapt to the rapid changes in technology and need to form the basis for inclusion of LMS components (Govindasamy, 2002:288). Learning theory remains the foundation of effective pedagogy and should form the basis of vibrant and relevant teaching methods.

The foremost basic learning theories are summarised by Saengsook (2006) as:

1. Behaviourism, which "concentrates on the study of behaviour that can be observed and changed, in the sense that it can be affected by a given stimulus."
2. Cognitive Psychology recognises "that learning involves the acquisition and reorganisation of knowledge, as well as advanced organisational skills activated through the human recognition process, thereby enabling individuals to store information by themselves."
3. Constructivism is the belief that people construct knowledge actively during interaction with their environments "according to their own individual preferences based on the perception of experiences within a matrix. Knowledge can also be gained from the sharing of multiple perspectives through collaborative learning" (Saengsook, 2006). Furthermore: "In the learning process, constructivism emphasises the setting-up of an appropriate learning environment which will encourage learners to construct knowledge by themselves."

LMSs have to be designed synchronously with these underpinning learning theories and guided by a "social constructionist pedagogy" (MoodleDocs, 2012) which combines the related concepts: constructivism, constructionism and social constructivism. Constructivism involves a learner who responds actively to the immediate environment:

> Everything you read, see, hear, feel and touch is tested against your prior knowledge and if it is viable within your mental world, may form new knowledge you carry with you. Knowledge is strengthened if you can use it successfully in your wider environment (MoodleDocs, 2012).

Proponents of constructivism emphasise the trustworthiness of individual interpretation in the learning. Book learning, rote learning or straightforward memorisation are the direct opposite of constructivist learning. Constructivist education highlights the active engagement of learners in building up or co-constructing knowledge with the aid of the classroom or lecture hall educator. In old-fashioned modes of memorisation learners are passive receivers of information. Freire (2005) terms such ingestion of facts as *banking*. Constructivist priorities constitute the cornerstone of post-1994 education in South Africa which reacted vigorously against colonial and apartheid systems that emphasised the unreflective and unquestioning acceptance of politically-biased knowledge that endorsed white supremacy.

Social constructivism is an extension of constructivism into social contexts, "wherein groups construct knowledge with one another, collaboratively creating a small culture of shared artefacts with shared meanings". This collaborative, mutually accountable process creates a learning culture with many levels where "the group as a whole will

help shape how each person behaves within that group" (MoodleDocs, 2012). There is a need to study language teaching in specific contexts where Horlescu (2017) argues that the TPACK framework needs to include ecological perspectives on language and language learning as an activity in the world while Voogt and McKenney (2017) argue that the effects of technologies used in teaching need to be considered within the natural educational setting. Swallow and Olofson (2017) found that the factors of a unique and specific context influence the interactions between the context and the knowledge development and instruction.

Finally, the idea of "connected and separate" looks into what drives individuals within a discussion: separate behaviour is when the person maintains objectivity and fact; defending own ideas with logic, while connected behaviour seeks empathy, subjectively listening and questioning for understanding of another's perspective. Constructed behaviour, conversely, straddles both approaches enabling choice between the two, within a specific situation. MoodleDocs (2012) concludes that their philosophy acknowledges the consideration of these matters in learning experiences from the learner's point of view, rather than that of a teacher merely supplying information.

Whichever e-Learning implementation tool or LMS is used within a South African context, it incorporates constructivist pedagogical principles which contribute to a blended classroom environment in which the student's individual construction and assimilation of knowledge is validated. These principles need to be considered to support the lecturers in utilising LMS in their context of teaching. Bozalek et al. (2013:434) find that e-Learning, emerging technologies specifically, enhance pedagogical practice.

2.2.3.2 TPACK as pedagogical framework

It is established (*cf*. Section 2.2.3.1) that pedagogy is fundamental to the use of e-Learning (Govindasamy, 2002; Harvey & Beards, 2004; Cronje 2007; MoodleDocs, 2012; Bozalek et al., 2013) and that many teachers, although not technology enthusiasts nor experts in the domain, can deploy aspects of LMS to great advantage in their daily tuition. Chapelle refers to the importance of teachers (language specific in her context) being able to "know how to use technology and to understand why they are doing so" (Chapelle, 2008:589). Many teachers, however, "do not have the technology knowledge, skills, and experiences that are necessary to

teach students properly" (Matherson et al., 2014:46) resist learning new strategies or are fearful of ridicule for not changing with the times.

Koehler and Mishra, acknowledging the importance of pedagogical substance in the application of technology, developed a framework for integrating technology into the existing framework of Pedagogical Content Knowledge (PCK) creating the Technological Pedagogical Content Knowledge, "originally TPCK, now known as TPACK, or technology, pedagogy, and content knowledge", for ease of pronunciation of the acronym (Koehler & Mishra, 2009:60). Mishra and Koehler proposed the conceptual framework of TPACK building on Shulman's "pedagogical content knowledge" (2006:1017). Mishra and Koehler (2006:1020) describe the historical phenomenon of teacher training, building on the thoughts of Shulman (1987), as two domains namely the knowledge of content on the one side which is independent from the other, namely the knowledge of pedagogy. These two knowledge domains were illustrated by Mishra and Koehler (2006:1020) using two separate circles. Shulman initially described the consequences of such separate approaches to teacher education producing either a focus on content or on pedagogy, he therefor refers to the notion of pedagogical content knowledge reflecting an integral relationship between the two domains. Shulman suggests that "it represents the blending of content and pedagogy into an understanding" of various teaching elements (Shulman, 1987:8). Mishra and Koehler, introduced technology "as a way to support and enhance the strategies already being used in the classroom" (Koehler et al., 2014:106). The argument is that teachers apply the various knowledges identified by PCK and then start incorporating the use of technology, enhancing and building upon what they are already doing.

The TPACK framework was designed to assist with the sensitive and considerate integration of technology into teaching from a democratic and constructivist perspective (Koehler & Mishra, 2009). It cannot be assumed that teachers naturally know how to apply technology to teaching therefore it needs to be integrated and supported. Koehler et al. (2014:101) reveal that "teachers often lack the knowledge to successfully integrate technology in their teaching and their attempts tend to be limited in scope, variety and depth". It is necessary to take cognisance of the TPACK framework in this study because it acknowledges the complex context of knowledges and specifically of technology in teaching and sheds light on this domain. The researcher did not apply TPACK as a framework to the study but chose to consider it

as a conceptual lens when investigating the pedagogical grounding of e-Learning and the use of LMS which is considered a holistic teaching approach rather than an isolated instrument of technology. The authors of the framework acknowledge the need for support of teachers when integrating technology into teaching (Mishra & Koehler, 2006).

It is a framework for educational technology "addressing the complex, multifaceted, and situated nature of this knowledge" (Mishra & Koehler, 2006:1017). Mishra and Koehler argue the development of a complex, situated form of knowledge which is termed TPACK where an understanding of various knowledges by teachers are expected. There needs to be an understanding of connectedness between the knowledges: content, pedagogy, and technology, and how they "interact with one another to produce effective teaching" (Koehler, et al., 2014:101).

TPACK is embedded in the effective pedagogical uses of technology: "In doing so, we posit the complex roles of, and interplay among, three main components of learning environments: content, pedagogy, and technology" (Mishra & Koehler, 2006:1017). In their paper Mishra and Koehler discuss how technology is used in context as opposed to technology in isolation. Matherson et al. (2014:46) are of the opinion that without this framework, teachers were left to their own devices developing and designing their own technology-inclusive lessons. What distinguishes TPACK from other technology integration approaches is that it focuses "on content-specific pedagogies as opposed to general pedagogies" (Koehler et al., 2014:108). Yuksel and Yasin state that TPACK "provides teachers with more sensible and creative choices in the use of technology in their classrooms" (Yuksel & Yasin, 2014:27).

TPACK, as represented in Figure 2.3, specifies that the three major interrelated knowledge components to good teaching with technology are content, pedagogy and technology as well as the interactions among them. These three sections provide various relations in terms of quality in educational technology integration (Mishra & Koehler, 2006).

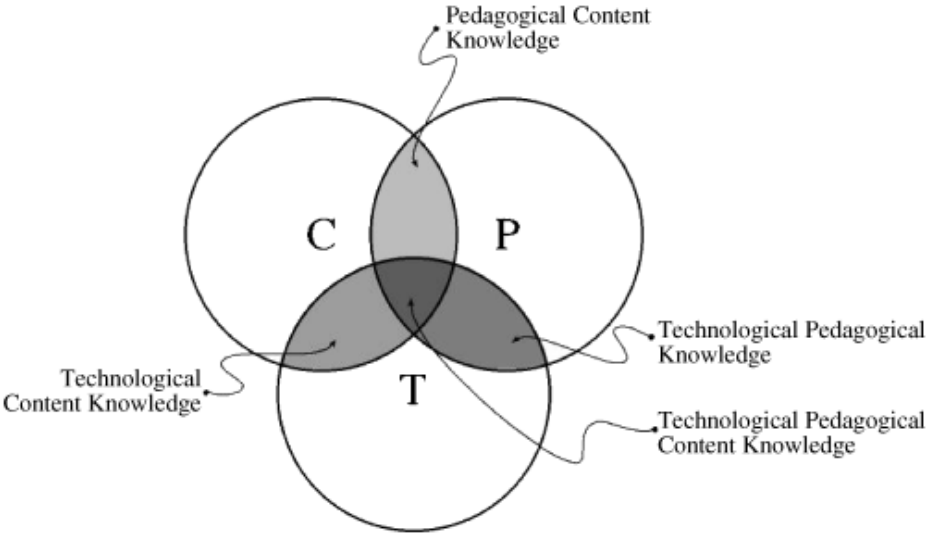

Figure 2.3: The TPACK framework and its knowledge components (Mishra & Koehler, 2006:1025)

The essence of TPACK is the understanding that "teaching is a highly complex activity that draws on many kinds of knowledge" (Mishra & Koehler, 2006:1020). They highlight the "relationship between technology and teaching (which) can transform the conceptualization and the practice of teacher education, teacher training and teachers' professional development" (Mishra & Koehler, 2006:1020). Orlikowski (1992) similarly emphasises the importance of interaction with the reference to the dual nature of technology where they further examine the relation between technology and organisations "providing insight into the limits and opportunities of human choice, technology development and use, and organizational design" (1992:398). Ultimately the integration of technology with pedagogy and content in language teaching is essential where technology, pedagogical and content knowledge is embedded in teaching to transform teaching practices (Benson & Ward, 2013; Turgut, 2017; Voogt & McKenney, 2017).

Koehler et al. (2014:101) report that TPACK had been tested and applied extensively in various situations. In language teaching, English as a Foreign Language (EFL) specifically, Wu and Wang (2015) found that language teachers need more knowledge regarding the technology aspect of TPACK. There are insufficient opportunities for teachers to acquire this knowledge which should be incorporated into teacher education programs. Student teachers need to be taught how to employ technology to create real interactions: "educators of teachers need to bring elements such as meaningfulness, creativity and autonomy into teacher education courses" (Wu & Wang, 2015:532). TPACK focuses on content-specific pedagogies (Koehler,

et al., 2014:108), making it applicable specifically to language teaching. No matter how well teachers know about different technologies it will not necessarily result in an automatic ability to utilise it in teaching (Turgut, 2017).

The aim of the TPACK framework model is to create awareness (and assistance with implementation) that technology should be incorporated into teaching with careful consideration of pedagogy, and content knowledge. TPACK should be supported, assisting teachers to integrate pedagogy, content and technology in their teaching practices: it cannot be assumed that teachers naturally are able to apply it to teaching. TPACK considers the application of technology to teaching: it does not specify language teaching yet the basic principles of the TPACK framework are applicable to language teaching. Lecturers need a framework to assist in the incorporation of technology in pedagogy and support for their use of it. The following section considers the use of technology with language teaching.

2.2.3.3 E-Learning in language teaching

The use of e-Learning specifically for language teaching is known as computer-assisted language learning (CALL) and originated in the 1960s with the 1980s supporting the term CALL (Davies, 2008). Other collective terms used are TELL (Technology-enhanced Language Learning); TESOL (Teaching English as a Second or Other Language); or EFL (English Foreign Language). CALL or TELL are approaches in which the computer is used as an aid to language teaching and learning. Systems such as CALL or TELL are explained in broader terms by Levy (1997:1) as “the search for, and study of, applications of the computer in language teaching and learning”. Chapelle (2008) acknowledges the innovative opportunities afforded by technology for language learning yet cautions that it creates a challenge for language teachers who need to understand the various options that CALL presents. Chapelle concludes that it is a challenge “worth tackling in view of the opportunities afforded by new language learning tasks” (Chapelle, 2008:586). Marek and Wu (2014) recommend that the design of the overall pedagogy needs to consider many factors of which the integration of technology is one. They further argue that student motivation is an important instinctive acceptance consideration rather than considering it as a matter of logic. Language development does not necessarily follow a linear path but could occur in fluctuated phases (Hohenberger & Peltzer-Karpf, 2009).

Pedagogy is fundamental in the use of e-Learning as is the case with CALL (Chapelle, 2008). A concise overview of the learning theories underscoring CALL follows. Theories of e-Learning, referred to in Section 2.2.3.2, and for CALL, overlap: so that the same theories of behaviourism and constructivism are mentioned; with specific reference to language teaching.

Behaviorism has been noted as the initial influence of CALL in the 1970 and 1980s; with much focus on providing learners with the opportunities to practise grammar. Vygotsky in Sociocultural Theory posits the term *Zone of Proximal Development* to describe learning as a social event in which learning does not take place in isolation but rather through interaction with others. Tasks are set slightly beyond their abilities (Levy & Stockwell, 2006) so that learners interact with each other, whether through the computer, or between the learners. The computer is at the heart of CALL; linking interactivity as an integral part of e-Learning with CALL.

Constructivism postulates that learners construct their own knowledge or meaning during a learning experience (Stockley, 2006). CALL expects learner involvement and collaboration during the whole learning process, as is the instance with all subject areas.

Language lecturers have to be competent in CALL to attain an effective level of implementation of language education. Chapelle (2008:588) mentions the “profound implications for the knowledge required of a language teacher” that technology brings to teaching. Chapelle refers to the rapidly changing domain of technology in teaching as a new landscape that has to be navigated by language teachers, who need to use the technology and to understand why they are doing so. The e-Learning support service correspondingly should be of high quality to assist in reaching these goals: “teachers need education directly focused on technology for language education if they are to help their learners benefit from technology” (Chapelle, 2008:589). Chapelle extends her concern; stating that teacher education is a driving force behind CALL research; emphasising the importance of updated teacher education and the desire to understand developments in pedagogy through technology. The CALL competency can therefore be considered as situated within the TPACK framework where language teachers should be able to select technologies based on their affordances integrated with sound pedagogical strategies to achieve language teaching objectives (Tai, 2015:130). Keengwe and Kang (2012), focusing on the integration of TPACK in additional English language teaching, postulate the

interrelationship of the three knowledge domains: content components (curriculum), pedagogical components in additional language teaching (communicative and task-based approaches), and technological components (choosing suitable tools). Debbagh and Jones (2015) further the ideal of TPACK incorporation to teaching, positing that TPACK displaces the mere provision of pedagogical uses of new technologies but that it provides a conceptual framework explaining the incorporation of technology on a fundamental level of knowledge components by current teachers for the contemporary classroom.

Language teachers should have experience and develop expertise in the meaningful utilisation of technology in their teaching practices to be able to integrate their technology knowledge with the pedagogical and content knowledge needed to teach language rather than to use technology in superficial and low-level habits (Köse, 2016; Turgut, 2017). Technology knowledge should lead to transforming teaching rather than using technology to enhance teaching (Turgut, 2017). Often teachers have access to technologies without a clear idea about these could be utilised in their teaching (Garrett, 2009).

The technology standards for language teachers (TESOL standards) provide guidelines as four goals (Healy et al., 2008; Debbagh & Jones, 2015): 1) language teachers should acquire and maintain knowledge and skills about suitable technology use for professional purposes; 2) pedagogical knowledge and skills to be integrated with technology to enhance language teaching; 3) language teachers need to apply technology for record-keeping, assessment and feedback purposes; 4) language teachers should be efficient by using technology to improve communication, collaboration as part of their teaching practices. Debbagh and Jones (2015) additionally indicate that for technology to be integrated in language teaching the following should be considered: how technology can be used to represent linguistic and cultural aspects relevant to the language; to draw from socio-constructivist philosophies to develop language and cultural competence; how technology could be used to address problems experienced by the learners by considering their previous knowledge; how new technologies can be used to advances present language knowledge. They apply the different TPACK dimensions to language knowledge needs and argue that though understanding the interplay between pedagogy, content and technology language teachers can utilise the technology based on their understanding to what extend the representation of linguistic and cultural concepts

can facilitate the acquisition of the language. Content knowledge components in a language curriculum refers to the language skills and culture; pedagogical components to the communicative and task-based learning approaches; and selecting appropriate technology tools for technology components in language teaching (Keengwe & Kang, 2012).

There seems to be a lack of consensus on the definition of the technology knowledge component (Willermark, 2017) that may be too vague and not always designed specifically for language teaching (Garrett, 2009). Language teachers need support to guide them with their language teaching to be able to integrate technology in their teaching (Keengwe & Kang, 2012) to apply technologies in a pedagogical meaningful manner (Voogt & McKenney, 2017). This confirms the views of McGill and Klobas (2009) that a consideration for task-technology fit is better than focusing on the adoption of LMS per se.

The TPACK framework represents the complexity of introducing technology to teaching, considering pedagogy, coupled with CALL, which is a contemporary research domain. To aid the lecturer in introducing TPACK a qualified and trained support service is key.

2.2.4 Learning Management System support

A focus upon the management of LMS support is important as Stoltenkamp and Kasuto (2009) explain that the starting point of effective implementation of e-Learning training, support, development and marketing should be the current e-Learning support structure which should not be the end-point. Successful implementation of e-Learning relies upon many factors and depends to a large extent upon sound institutional support for its successful use (Govindasamy, 2002:289; Bozalek et al., 2013:420; Gavriushenko et al., 2015:304; Uppal et al., 2017:1). Heller specifies “where direction, support and encouragement are lacking, so is focus” (Heller, 2006), indicating further that management should value customers and employees: doing so results in continued and continuous success.

Lecturers in a complex environment, with complex tasks, are confronted with changing roles because of their environment, their students and the way in which teaching has changed under the effects e-Learning (Marshall, 2008:2; Wagner et al., 2008:26). This tendency is not limited to education: all domains of human work, routines and practices have been altered by e-Learning (Mishra & Koehler

2006:1017). When teachers embrace technology and deploy it intelligently, they are no longer instructors, but educators who “assume the role of content experts, instructional designers, graphic artists, media producers, programmers and instructors. No wonder they resist any attempt to implement e-Learning!” (Govindasamy, 2002:292). For lecturers to make the transition into their new roles, they need to be “amply enabled” as well as have “time to transform” (Govindasamy, 2002:292), responsibilities that are at the axis point of the support function.

Higher education institutions (HEIs) expect lecturers to use e-Learning by way of an LMS in the delivery of their curriculum (South Africa. Department of Higher Education, 2013). Mishra & Koehler (2006) ask the question of why education has lagged behind the changes in presentation of teaching and learning enabled by implementation of technology. Successful application of e-Learning is crucial “because an unsuccessful effort to implement e-Learning will be clearly reflected in terms of the return of investment” (Govindasamy, 2002:287). Staff support comprises a major factor in the successful implementation of e-Learning; one that is emphasised internationally as well as locally. The following section explains the significance of increasing the mandate to use LMSs in higher education as well as staff support internationally and locally in South Africa.

2.2.4.1 Learning Management System support internationally

During recent years there has been an increased use of LMSs in academic activities in higher education around the world as Gavriushenko et al. (2015) observe. Gavriushenko et al. explain that “LMS meets the requirements of society, while taking into account monetary and time costs” (Gavriushenko et al., 2015:298). Pirani (2004) mentions that “the use of technology in education … has become a standard component in many courses” and adds that it is easier to use. Qualified and trained support and instructor training have to be provided to staff members.

The importance of staff support in e-Learning is emphasised internationally. In Northern Ireland, Uhomoibhi identifies “good quality training and support packages for practitioners” as a priority in order to achieve their goal of implementing e-Learning (Uhomoibhi, 2006:5). Uhomoibhi repeatedly refers to the importance of providing faculty support to achieve successful implementation of e-Learning. He indicates that: “The availability of strong institutional support is crucial for e-Learning deployment and success”. In agreement with this, Zellweger (2006), from the

University of St Gallen, claims that the implementation of e-Learning at institutions of higher education in Switzerland has been more difficult than anticipated. Zellweger identifies insufficient faculty motivation as one of the barriers and encourages support and intervention strategies as a possible solution; given that academics themselves highlight a lack of support for e-Learning. Zellweger suggests a sound support process as part of a clearly articulated e-Learning support strategy.

Staff support has monetary consequences that need to be considered (Govindasamy, 2002; De Freitas & Oliver, 2005; Marshall, 2008; Islam, 2014; Bytheway et al., 2017). The cost of staff training and support is significant in the total cost of an ownership (TCO) model. Stodnick and Rogers report a change in the very vocabulary of new forms of technologically supported education, where words formerly used in business disciplines only, such as “value-added and competitive advantage” are frequently used in the field of education today (Stodnick & Rogers, 2008:115). Such neologisms draw together the service delivery industry and education in their study of classroom experiences. Such convergences of previously separate disciplines, such a business and education, suggest fresh attitudes in higher education institutions which are increasingly being managed professionally rather than traditionally. Educational institutions, like businesses, constantly need to improve their quality of service and achieve ever higher levels of customer satisfaction; which both lead to increased customer loyalty and a decrease in budget deficits; attracting new students. In education this means that students are more likely to stay to complete their studies, are less likely to drop out and provide a positive image of the institution which eventually results further in higher independently assessed ratings (Stodnick & Rogers, 2008:116).

Training of staff members is key: “teacher training and continued, on-going relevant professional development is essential if benefits from investments in ICTs are to be maximised” (The World Bank, 2001). The World Bank emphasises that teacher training is an area in which under-investment is common and influences investment negatively. Many researchers (Marshall, 2008; Islam, 2014) identify key factors or important pre-requisites to the successful implementation or adoption of e-Learning and the effect that it has upon investment. Marshall narrows the support down to pedagogical elements combined with professional support as well as technical support needed for teaching staff.

Other studies (Spender & Stewart, 2002; Hitch & MacBrayne, 2003; Stiles & Yorke, 2004; Marshall, 2008; Islam, 2014; Mohammadi, 2015) affirm the significance of staff support in the successful implementation of e-Learning. Islam (2014:255) recognises two relevant categories of service issues: (a) training, prior to use, and (b) support, which should be readily available at the time that the user needs it. Marshall (2008:8) identifies pedagogical and professional development and technical support in using technologies as critical. It is more than just the ability to use technology and the focus should be on transforming learning and teaching practice (Turgut, 2017). Teachers need mentoring and professional learning programs in addition to the need for support (Northcote et al., 2015) and their reflections need to be considered to determine their training needs (Turgut, 2017). Teachers need to be able to trouble-shoot technology problems to increase their technological knowledge (Köse, 2016). The teachers' personal and professional competencies and how these relate to their pedagogical contexts are important considerations for support services (Haines, 2016).

IT infrastructures are important to facilitate e-Learning and to improve service quality besides Alsabawy et al. (2016) indicate that there are few studies that consider IT infrastructure services in e-Learning success even though they have such an impact on the quality of e-Learning services. They argue that the investment in IT infrastructures need to be increased to support the performance of e-Learning systems. Supportive IT infrastructures should be an institutional priority (Northcote et al., 2015) and could be considered as a fourth component to the pedagogy, content and technology components of the TPACK framework (Garrett, 2009). The integration of technology in e-Learning needs to be addressed on institutional level in related policies (Sulaimani et al., 2017) with a clear distinction for language teaching to support academic programmes in addition to e-Learning as a teaching mode.

In South Africa, corresponding research indicates that staff support is a prerequisite to successful e-Learning implementation (Czerniewicz, 2007; Stoltenkamp & Kasuto, 2009; Brown & Gachago, 2013).

2.2.4.2 Learning Management System support in South Africa

The review of the background (*cf*. 1.3) reveals a complex environment and a context of strategic change, in various avenues and at different levels. The world is finding that e-Learning does not necessarily deliver the expected benefits in all cases

(Bozalek et al., 2013:420; Uppal et al., 2017:1). The national context in South Africa is replete with opportunities for meaningful transformation and change. In tertiary education in South Africa there are urgent socio-economic crises which call for the relief offered by efficient and effective education (*cf*. 2.2.1). E-Learning provides one way to achieve social justice and restitution, but implementation and integration of technological innovation into academic practice has proved problematic. There is a need for strong support for academic staff tasked with achieving this implementation and integration.

Czerniewicz (2007:97) identifies many barriers to the success of e-Learning in HEIs in South Africa: she claims that "... with improved support for the infrastructure and basic training in ICTs for staff and students, (it) would be an important first step in bringing these institutions to a position where they could explore e-Learning further". Successful implementation of e-Learning at the University of the Free State credits support for lecturers as a part of the whole initiative (2007:92). The University of Stellenbosch is one of the strongest examples of comprehensive e-Learning universities and encourages staff, who have been resistant to include technology in their teaching, by expecting a minimum presence of e-Learning. Staff members receive support from the Centre for Teaching and Learning. Czerniewicz points out that: "There is a need to make staff more aware of the facilities available in LMS and of ways to promote deep learning" (Czerniewicz, 2007:93). With reference to the observed reluctance of many lecturers to learn how to use LMS (*cf*. 2.2.2), the converse is true for lecturers who are avid disciples of LMS.

Brown and Gachago (2013:9) identify lack of institutional engagement as one of the chief obstacles to successful implementation of e-Learning. Brown and Gachago cite instances of enthusiastic and committed use of ICTs yet not necessarily well supported by universities. Brown and Gachago indicate that there needs to be institutional engagement; with governance structures and strategic plans in place linked to managerial concerns. Gachago et al. (2013:101) suggest that the success of e-Learning relies heavily upon the attitude of lecturers. Gachago et al. believe that lecturers need proper training, exposure and support before being ready to embrace and adopt technology into their daily tuition practice.

At the University of the Witwatersrand (Czerniewicz, 2007) lack of staff support is identified as a reason for poor progress in e-Learning: "With such limited back-up, staff have found it time-consuming to learn how to manage WebCT, and there is no

support for, or recognition of, this work. It is stated that, in spite of this, there is an increasing amount of staff opting to use WebCT; needing much initial training" (Czerniewicz, 2007:94). Czerniewicz classifies the "model of e-Learning delivery established by Wits is reflective of the starting point for the development of ICT infrastructures for learning in many South African institutions" (2007:94). Czerniewicz names the University of Limpopo, the Central University of Technology, the University of Zululand, the Vaal University of Technology and the University of Fort Hare, where good support for lecturers, amongst other factors, are noted as elements that are imperative for success.

In 2008 the Higher Education Quality Committee (HEQC) conducted an audit of the University of the Western Cape (UWC) and found that there were both lecturers using e-Learning successfully as well as those who stay sceptical, untrained or oblivious of the uses of e-Learning and the support offered by the e-Learning Development and Support Unit:

> The HEQC suggest setting clearer benchmarks which would assist in assessing the returns on financial investment in e-Learning as well as whether it is necessary to re-conceptualise e-Learning for staff and students (Higher Education Quality Committee, 2008:13).

Brown and Gachago (2013) cite lack of knowledge and skill of the lecturer as factors that hinder adoption of ICT strategies.

At UWC, Stoltenkamp and Kasuto (2009:53) remind us that it is "critical that e-Learning be seen as part of the normal, traditional teaching-and-learning environment of the institution". For the success of e-Learning they had embarked on an "e-Learning awareness campaign" which sets out through various strategies to encourage staff, who do not use e-Learning, to become familiar with it. One of the six identified strategies is "Continuous Training and Support for a changing organisational culture" (Stoltenkamp & Kasuto, 2009:43).

Support for lecturers in their use of e-Learning is a distinct requirement. In order for the investment that is made in e-Learning to be profitable, the institution needs to enable, train and support staff effectively so that they can optimally employ this multi-faceted pedagogical tool. Support is not a small sub-section of an institution, working in isolation but directly under the university management and forms an integral part of the university.

In addition to focusing upon systems development, in the case of LMSs, support staff need:

> to pay attention to factors that are important form users' perspectives, and consider the significance of human and social factors. Factors such as subjective norms, lifestyle adaptability, perceived risk, and perceived joy which relate to users' role from an individual and social perspective are of high consequence, therefore IS (Information Systems) experts must plan to fortify them (Mohammadi, 2015:372).

Given that support is a service, the focus of discussion in the following section moves to the service delivery industry where this human factor, as Mohammadi points out, is a service which is scrutinised with specific reference to perceptions and expectations.

2.2.4.3 Types of Learning Management System users

The necessity for LMS support has been identified and discussed in Section 2.2.4, with reference to both international and local studies. In any service industry it is necessary to take into account the type of user that is being catered for, in order to provide optimal service. This business principle is affirmed by Mohammadi (2015:372) who recognises the importance of appreciating human and social factors. Rogers (2003:241) explains that individuals in a social system innovate new methods and strategies which are gradually adopted by the mainstream citizens over a period of time. Mohammadi suggests adopting categories which classify members of a community based upon their similar degrees of inventiveness and innovation. A short discussion of technology user types and adoption types follows.

Rogers (2003:247) identifies five types of academics who emerge when confronted with the promise or threat of incorporating technology into their daily tuition practice. Using types as conceptualisations in research serves as a functional framework for synthesis of research findings. Individual technology users are categorised according to their inventiveness within the social system of teaching: the innovators, early adopters, early majority, late majority and laggards.

In the context of this research the term *innovation* refers to an individual language lecturer's willingness and readiness to adopt new ideas relatively earlier than other members of a system: such readiness is an indicator or social marker of flexibility; a willingness to undertake behavioural change (Rogers, 2003:242). **Innovators** are social leaders, progressive individuals, with advanced technical skills who draw attention to a labour-saving technique or mechanism or newly-discovered way of thinking within a given organisation which is eventually recognised and finally

adopted by less innovative colleagues or those who are resistant or fearful of change. Such leaders or innovators within community of practice are referred to as “venturesome” individuals (Rogers, 2003:245) who are willing to take risks and eager to try new ideas. The social system is both reliant upon and frequently suspicious of the innovator to bring forth new ideas, money-saving devices or military hardware which places one nation at an advantage over another. **Early adopters** are those individuals who may not invent new devices or identify fresh ways of thinking themselves but who are quick and able to adopt a new system such as e-Learning. Early adopters frequently represent a more recognised main part of a particular community of practice than innovators. Enthusiasm and success is often what motivates the early and late majority of academics to adopt e-Learning who are described as “the individual to check with before using a new idea” (Rogers, 2003:249). They serve as role models: being not too advanced for the average individual to follow and perceived with respect by their peers as successful and discrete users of new ideas. By adopting a new idea early, primary or early adopters reduce uncertainty, resistance and suspicion concerning a new idea, device or way of doing or thinking. **Early majority** lecturers adopt technology innovation more slowly than the innovators and the early adopters. They are deliberate in their adoption and do so just before the average member of the social system; providing pivotal interconnectedness in the network of use. Because early majority users deliberate carefully for some time prior to adopting a new idea, their innovation-decision period is relatively long. Rogers describes such early majority users as following “with deliberate willingness in adopting innovations, but seldom lead” (Rogers, 2003:249).

The **late majority** academic adopts the innovation even more slowly than the average technology user and adoption is generally born from economic necessity and an increasing workload pressure. Late majority users tend to be sceptical and cautious when adopting new technology, doing so after the majority has implemented it and only when observing the benefits of the innovation. The late majority are necessarily persuaded to use the new idea through pressure from peers that motivate use. It is the **laggards** who are unwilling to let go of traditional beliefs and practices and who tend to be suspicious of innovations and change. They are the last group of academics to adopt new technology and often have an aversion to change. Their lack of enthusiasm generally often stems from intellectual inertia, ignorance and temperamental suspicion; the past being their point of reference. Laggards make

decisions based on tradition and what was done previously. This behaviour considerably slows down the pace of the innovation-decision process. The laggard finally adopts an innovation when the innovators are already using newer ideas.

When considering ICT support for language lecturers, the different types of users identified by Rogers need to be taken into account and supported accordingly. Bozalek et al. (2013:422) applied Rogers' categories in the investigation of managing and supporting issues regarding e-Learning. Bozalek et al. considered managing change process, making ICT relevant to the corresponding context of this study. Being able to identify potential innovators at one end of the user spectrum and laggards at the other assists change agents in allowing them to "use different strategies with each sub-audience" (Rogers, 1995:242). In the service industry, Bitner et al. (2010:202) mention the "dark side of technology" with reference to employees who are overtly recalcitrant or reluctant to accept and integrate technology into their work due to ignorance, job insecurity and reluctance to embrace change. Laggards often characterise technological innovators as individuals who lack or eschew human contact. Bitner et al. conclude that new models and frameworks need to accommodate the influences of technologies upon service delivery: recognising the different categories of recipients and users. This study investigated services and perceptions of quality services, and not technology per se; enquiry into other technology acceptance models falls outside the scope of this research.

2.2.5 A changing environment

In Section 2.2.1 reference was made to the complex multi-context of universities of technology in South Africa and the context of the student and lecturer; with specific positioning of a changing environment. These changes are caused by various elements such as the change that technology advances bring to teaching. Language lecturers are confronted daily with such changes. "Learning technologies have the opportunity to play a growing role to enhance and supplement strained educational systems" (Nye, 2015:177). To reap the benefits of e-Learning, language lecturers need to be cognisant of their changing socio-economic conditions when using LMS. Language lecturers need to be assisted by a highly qualified and accessible support service. Bozalek et al. emphasise the importance of such support service which has to be decisively managed: "leaders need to purposefully create an enabling environment by giving recognition to and communicating with change agents, and

developing policies that will encourage institutional-wide engagement with emerging technologies" (Bozalek et al., 2013:419).

Management, in creating an enabling user environment, has to consider the effect of change, both in the context and that caused by technology. The rapidly changing nature of both the academic research field and the general environment of education affect successful implementation of e-Learning in teaching. There is considerable research available regarding the influence of change management in the success of e-Learning implementation (Argyris, 2002; Govindasamy, 2002; De Freitas & Oliver, 2005; Sharpe et al., 2006; Wagner et al., 2008; Islam, 2014) especially within the unique and changing context of South Africa (Madiba, 2007; Czerniewicz & Brown, 2009; Stoltenkamp & Kasuto, 2009; Bozalek et al., 2013). But there is little research into the way in which information in education is managed. Bytheway et al. (2017) point out that this paucity of research material and data is problematic from strategic and operational perspectives. Bytheway et al. identify "intransigence, organisational capability, reliance on external sources, cultural differences and a general unwillingness to accept change" (Bytheway et al., 2017:694) as the realities with which management are faced contributing to failure and causing "real problems". This identification of possible factors of resistance confirms something noted by other leading researchers (Czerniewicz & Brown, 2009; Stoltenkamp & Kasuto, 2009; Islam, 2014) in terms of implementation of technology: that is the importance of attitude. Attitudes of both management and lecturers are involved: management's approach to driving the initiative has a binding impact upon organisational culture within the institution which in turn impacts upon lecturers' attitudes and use. Stoltenkamp and Kasuto (2009) agree that the process entails sensitive management of the changing environment: leaders need to respect the sensibilities and fears of colleagues. Kasuto acknowledges that a non-coercive approach creates a positive culture and buy-in by academics; while Madiba (2007) proposes that managerial concern is key as is the way in which staff are supported. These observations confirm the significance of the respective attitudes of lecturer and support unit at an institution of tertiary education. Institutional constraints, as pointed out by Bozalek et al. (2013:434), influence the willingness of lecturers and their ability to adopt technologies.

The complex arena of technology in education, and in the South African context specifically, needs to be understood for effective management. Czerniewicz and

Brown (2009) highlight the relations between policy, use and organisational culture within a given context. Policies need to support, enable and sustain an innovative learning culture. Argyris (2002) refers to double-loop learning which, set amidst rapidly-changing and uncertain contexts, involves critical reflection within organisations concerning goals, beliefs, values, conceptual frameworks and strategies; resulting in modification of governing values leading to a change in action. Considering the focus upon relations and change at a managerial level, Bytheway (2017) proposes a reference model affording education managers a focus "on a more strategic approach to their management challenges" (Bytheway, 2017:856). Bytheway posits that good management has to deal with change and complexity although it is a difficult task. He found that information management in education could be improved upon and provides the following three points of advice:

> Firstly, Bytheway recognises the complex and constantly changing domain of information management and believes that it can be managed by understanding the value chain linking technology investments with educational benefits (Bytheway, 2017:865).
>
> Secondly, he emphasises understanding the link between the logic of investment to that of intended benefits and points out four crucial aspects for consideration: that technology should effectively enable systems, which really needs to contribute to teaching and learning, and experienced as improvement as well as having a meaningful contribution to the strategic objectives (Bytheway, 2017:866).
>
> Thirdly, crucial differences in perceptions and attitudes in "teachers, learners, administrators and others about technologies, the systems, the practice of education and the benefits that are sought" are revealed, which can be acknowledged and managed through stakeholder analysis.

Practical suggestions made by Islam (2014:249) for support staff focus upon a managerial approach by which designers and support team should develop tactics appropriate, relevant and of value to the user; both for optimal satisfaction and to retain users as satisfied clients. Islam proposes that developers should find new and innovative, imaginative ways to build a system that is satisfying to users. Pedagogy in the use of LMS (*cf*. 2.2.3.1) is fundamental and correlates with the idea of continual development of the system. Both technical and pedagogical design is of the essence

to achieve optimal use and user satisfaction. Management should ensure advanced training for users: at the beginning and post-adoption; keeping users abreast of developments. Lastly Islam (2014:258) suggests the support team need to sustain support of high quality service by responding in time, appropriately and politely when they are called upon by language lecturers. Academic support staff should be cooperative and friendly. Failing to support LMS users optimally may lead to dissatisfaction which in turn leads to discontinued use.

Successful information management in education relies upon coherent and lucid formulation of strategies at appropriate levels; resulting in the benefit of the student as ultimate recipient of the technology. Teachers, administrators and management have to meet the expectations and needs of students; by imparting “waves of managed change” (Bytheway et al., 2017:698). Lee et al. (2016:1202) with reference to the service delivery industry encourage managers to be understanding and cognisant of the specific attributes that affect service quality; to be able to improve and to enhance customer satisfaction in a specific context.

Harvey and Beards warn against the danger of e-Learning becoming dominated by the views of “producers” rather than “customers”; producing unsuccessful e-Learning practice (Harvey & Beards, 2004:359). Lack of a clear strategy combining e-Learning with business needs is pointed out by Cronje; asserting that management tends to “ignore, or even oppose learning, [which] is not peculiar to universities” (Cronje, 2007). Wagner et al. (2008) are of the opinion that all participants in the implementation of e-Learning are responsible for its successful implementation. Wagner et al. refer to the evolving environment of higher education which prompts continual re-examination of the way in which education is delivered and the importance of all stakeholders to work together in a united goal to implement technology successfully. This is an endeavour that management needs to organise.

In the following section support as a service is discussed from the perspective of the service delivery industry.

2.3 Service delivery

Support for LMS use in e-Learning is a service rendered by the support unit of an academic institution; with the lecturer as recipient of the service. Quality support should ultimately lead to optimal use of LMS which in turn should benefit lecturers, students and the university; especially when considering the heavy investments made in any tertiary establishment. The lecturer, as beneficiary of the service, has specific expectations and perceptions of the service; while the support unit has its own expectations and perceptions of the service that they offer. These perceptions and expectations need to be aligned to establish a quality support function. In an attempt to achieve this alignment, the service delivery industry is approached for guidelines. Extensive research regarding perceptions of quality of service in this domain and across industries has been conducted.

2.3.1 Perceptions of service quality

Service quality is a measure of how well the delivery of a service matches customer expectation. The primary goal of a service is to meet or exceed customer expectation. Delivering quality service means conforming to customer expectation on a consistent basis (Lewis & Booms, cited by Parasuraman et al., 1985:42).

E-Learning as a service in higher education has been investigated by Uppal et al. (2017). Their focus is upon distance learning and the service is considered from the viewpoint of the student: the findings regarding perceptions of services are noteworthy. Uppal et al. maintain that quality of service "is a subjective term, which means different things to different stakeholders" (Uppal et al., 2017:3) and that the success of e-Learning is reliant upon users' positive perception of quality support; resulting in the possible intention to reuse it. If lecturers perceive of support service positively, they are more likely to reuse it; ultimately leading to successful implementation of e-Learning.

In the service delivery industry, perception of a service is focal because perception is a reflection of an individual's experience of a reality. This phenomenon is aptly defined by Faganel as a "global judgement, or attitude, relating to the superiority of the service" (Faganel, 2010:213). Heller places perception in the business realm:

> Perceptions justified or not, are facts. If that's how workers feel about their companies, the attitude will affect their performance and, as noted the perceived levels of customer service, and thus profitability (Heller, 2006:4).

There are ample quotations, anonymous and named, supporting this notion with the overall statements being: “perception is reality”, “perception and reality are two different things”, “reality is based on perception” and “perception is real even when it is not reality”. These quotations reflect a general indication of perception; while it is fundamentally described as central to epistemology, the theory of knowledge. Perception at the root of empirical knowledge is grounded in “how we see, hear, touch, smell and taste the world around us” (O’Brien, n.d.). The latter definition provides qualitative characteristics applicable to this study.

What is clear in terms of perception is that an individual’s experience is perceived subjectively: another person’s perception of the same reality may differ; rendering a different perception of reality. An individual’s perception of quality service is what is important in the service delivery domain.

There is a particularly successful and widespread framework used in managing service quality which focuses in particular upon the perceptions of services rendered to the customer. Because of its dominance in this field and the continued popularity in the academe, throughout various research domains, the researcher has chosen to use this theoretical lens. This framework, known as the gap model, has evolved since its origin in the 1980’s (Parasuraman et al., 1985:44) to current 2017 applications (Uppal et al., 2017); where it is applied to e-Learning support services.

In the following section, the development and contemporary application of gap model theory is revealed with a focus upon perceptions of quality services.

2.3.2. A timeline for the use of the gap model

A timeline for the study of quality service delivery by Parasuraman, et al. (1985) is presented before clarifying the gap model. The gap model originated with marketing academics in 1985. It has been applied to various domains since its inception because competitive strategies such as service quality, service innovation, and customer focus in organisations have become increasingly important; rendering this a relevant framework across industries. This integrative and foundational framework was developed to identify gaps in perceptions and expectations between the service provider and the customer; for the improvement of service quality. Perception, being a reflection of one individual’s experience of reality was important to this study; where perceptions of LMS support services were determined. The point of departure for Parasuraman et al. was that services are intangible and that quality is elusive and

indistinct; unlike products, making quality difficult to measure (Parasuraman et al., 1985:41).Their work gained popularity because of its relevance across academic disciplines; being widely cited and implemented for different functions within organisations; including the hospitality industry with hotels, tourism and restaurants, banks and even to hospitals, where patient and workers' satisfaction was measured in terms of their experiences of the hospital services. The model is beneficial to a range of entities and has recently become useful in other domains such as information systems, e-Learning and even education. Bitner et al. (2010:198) lauds the gap model: "a hallmark of the model is that it captures the cross-functionality inherent in service management". Table 2.1, summarises the application, progress and evolution of the gap model during the past three decades within the academic world.

Table 2.1: Timeline for the use of the gap model

TIME LINE	CONTRIBUTIONS	RELEVANCE	KNOWN GAPS	AUTHORS
1985	Design of gap model.	Seminal research in service delivery. Identification of five gaps.	It is developed for the service delivery industry and needs to be tested in other domains.	Parasuraman, A., Zeithaml, V.A.& Berry, L.L.
1988	SERVQUAL is a measuring instrument used to assess customer perceptions of service quality in service and retailing organisations.	The gap model forms a part of the conceptual foundation for this scale.	It is a quantitative instrument which needs to be applied to various domains.	Parasuraman, A., Zeithaml, V.A. & Berry, L.L.
1988	An extended model of service quality developed providing theoretical constructs for the gap model and indicating how SERVQUAL can be used to measure the gaps.	They provide factors potentially affecting the magnitude and direction of four of the gaps (on the marketer's side).		Zeithaml, V.A., Berry, L.L. & Parasuraman, A.
1996	This study examined the applicability of SERVQUAL in a university environment. Measuring student perceptions of university-level	Cuthbert pioneered research of using SERVQUAL in education.	The study concluded that SERVQUAL is inappropriate to measuring university service quality. It examined service from the perspective of the student, and	Cuthbert, P.

	service quality.		not from the lecturer, nor did it consider technology.	
2000	This paper replicates Cuthbert's study using SERVQUAL to measure the perceptions of business and management students in an HEI	It is relevant because it validates SERVQUAL as a measuring instrument in HE in a more modern context.	It does not reflect the perspective of the lecturer nor does it take into consideration e-Learning.	Oldfield, B. & Baron, S.
2003	Students' perceptions of service quality in computer laboratories is are measured using SERVQUAL.	Though it measures the service in a computer laboratory, and not the technology it does bring technology into the research field.	It does not look at e-Learning support as a service. It only measures perceived service quality from the perspective of students.	Hughey, D., Chawla,S. & Kahn, Z.
2004	SERVQUAL is used to measure students' perceptions of service quality in HE in India.	This study is relevant as it applies SERVQUAL in a university context, confirming its contemporary functionality.	It focuses on an HEI in India while not observing technology nor the lecturer's perspective.	Sahney, S. Banwet, D. & Karunes, S.
2005	A critical appraisal of various service quality models. This is a literature review.	This article compares different service quality models and highlights the gap model and SERQUAL as foundation for some other models. It also points out the process of delivery of services from conventional to IT-based services.	This is a comparative literature study of different models for quality in the service delivery industry and therefor does not necessarily apply to that of LMS support in an HEI.	Seth, N., Deshmukh, S.G. & Vrat, P.
2008	SERVQUAL is used to measure quality of classroom experience in a traditional setting, validating the instrument in a different domain.	The measuring instrument is applied to an educational setting, making it innovative and more relevant to my study. SERVQUAL is validated as a reliable measuring instrument.	The focus here is on the student's perspective of classroom practice. It does not look at e-Learning, nor at the perspective of the lecturer.	Stodnick, M. & Rogers, P.
2009	Examines specifically the gap model and other service quality models.	In 2009 in the service industry dealing with service quality is still the most problematic	This study is brought into the higher education field but not to LMS support service. They	Urban, W.

		challenge. This study brings the gap model and service delivery into the HE field.	emphasise the need to analyse specific quality gaps within individual organisations, beginning from customers' expectations and customers' complaints.	.
2010	It provides a general overview of the gap model and demonstrates how key features of the model have changed and evolved because of the technologies.	This is a very relevant study. It looks at how the introduction of technology has influenced the service delivery industry bringing the study into the domain of e-Learning. It demonstrates that the gap model is adaptable to changing environments and that it should be a fundamental framework for service science.	It does not look at education and the perceptions and expectations of lecturers. It is situated in business.	Bitner, M.J., Zeithaml, V.A., & Gremler, D.D.
2010	The combined use of SERVQUAL and SERVPERF in measuring quality of services in an HEI.	It is relevant because it shows the use of the service delivery industry's measuring tools in an HEI. It confirms that the understanding of service quality can be different for different stakeholders in an organisation.	This study investigates measuring quality and the perceptions thereof by students and staff and not at LMS support as a service.	Faganel, A.
2010	This is an inquiry about service quality models. They add components and additional gaps to the existing models, and apply SERVQUAL.	The gap model is acknowledged as "the most well-known model" in the service delivery industry. They recognise the importance of public and private sectors in business and service industries. They evaluate the	It is not applicable to the education domain nor to e-Learning.	Shahin, A & Samea, M.

		gap model and validate its use in modern contexts.		
2011	This study applies the gap model and uses the SERVQUAL Questionnaire in the hotel industry.	Modern use of the gap model indicates its significance.	This study is delineated only to the hotel industry. Future research should include motivation and satisfaction of employees in the service industry.	Blešić, I., Ivkov-Džigurski, A., Dragin, A, Ivanović, L & Pantelić, M.
2011	This study flows from research in 2008 by Stodnick and Rogers. The quality of e-Learning as a service is measured from the perspective of students in distance learning. The gap model, using SERVQUAL is applied.	The measuring instrument is applied to an educational setting, and to e-Learning specifically making it very relevant to my study.	The study is focused on distance learning and not on using e-Learning as part of face-to-face teaching. It measures quality of service from the perspective of the student as end user and not from the lecturer's perspective.	Udo, G.J., Kallol, K.B. & Kirs, P.J.
2013	Gaps or shortcomings in terms of expectations and perceptions are derived between the user and the health service offered.	Current review of assessing quality in services using the gap model. The necessity of improvement of the existing models of evaluation, and the importance of measuring user satisfaction in health industries is stressed.	It is focused on the domain of health services and not on education or technology use.	Pena, M.M., Silva, E.M.S., Tronchin, D.M.R. & Melleiro, M.M.
2014	It assesses the validity and reliability of SERVQUAL and SERVPERF.	Recent use of SERVQUAL.	It measures service quality in an energy company in Portugal. Thus it is not relevant to the South African educational context with e-Learning support.	Machado, M.A., Ribeiro, A. & Basto, M.
2014	Quantitative study using SERVQUAL to measure Gap 5 from the gap model. Students' and staff's expectations and perceptions of service quality is	The author uses the gap model. The relevance is that service quality is measured in a UoT in South Africa.	This study does not look at e-Learning support as a service.	Green, P.

	measured.			
2015	The study used SERVQUAL to determine gaps and to measure service quality in the commercial banking industry in Pakistan.	The contemporary use of the gap model with SERVQUAL. There is emphasis on the importance of the client's perceptions and expectations of a service.	It is not about e-Learning nor in the domain of education. It is relevant to the banking industry in Pakistan. This is a quantitative study.	Qadri, U.A.
2015	Measuring service quality in China's hospitality and tourism industry. This is a literature review.	It shows contemporary use, and the evolution of the theories and trends that underpin the service delivery industry.	This study takes place in China, thus it is not necessarily applicable to the South African context. It is also focused on the hospitality and tourism industry, and is then not relevant to e-Learning nor to education. It compares various studies, some of which refer to the gap model. It does not analyse the gap model directly.	Tsang, N.K.F., Lee, Y.L. & Qu, H.
2016	They propose a revised gap model to evaluate and improve service quality in the Taiwanese hotel industry.	Modern use of the gap model in context of service delivery showing that the model is still relevant.	Small sample of small- and medium-sized hotels in Taipei only. There should be an attempt to collect data from different industries. Future studies should apply a qualitative design to obtain an in depth understanding of the perceptions of customers in relation to those of managers and employees.	Lee, Y., Wang, Y., Chien, C., Wu, C. Lu, S., Tsai, S. & Dong, W.
2017	Extension of SERVQUAL into an e-Learning quality model for student perception of quality for e-Learning systems.	SERVQUAL is made applicable to e-Learning in a very current context of HEI. Perception of ELQ (e-Learning quality) must consider SERVQUAL. Growing need to	It focuses on students' perceptions of e-Learning, and not of lecturers' perceptions of e-Learning support. It deals with online studies as opposed to e-Learning as part	Uppal, M.A., Samnan, A. & Gulliver, S.R.

understand, and explicitly consider both tangible and intangible education needs.	of classroom practice. Data collected from one domain (business) within one geographical location (Pakistan).

The gap model was first imported into the education domain by Cuthbert (1996) in the 1990's who examined the applicability of SERVQUAL to measure gaps in student perceptions of service quality at university level. Subsequently, many researchers (Oldfield & Baron, 2000; Hughey et al., 2003; Sahney et al., 2004; Stodnick & Rogers, 2008; Udo et al., 2011; Uppal et al., 2017) followed suit; investigating various aspects of the gap model in an educational environment. Cuthbert's findings were that SERVQUAL as measuring tool in a university was inappropriate but other researchers found ways to use it optimally. Stodnick and Rogers (2008:127) were pioneers; being the first to deploy SERVQUAL in a traditional classroom setting and finding that it is indeed a reliable scale. The research undertaken by Udo et al. (2011) flowed from the work of Stodnick and Rogers (2008) with even more innovative application; assessing the quality of e-Learning as a service from the perspective of the student in a classroom environment.

Another study of interest, as indicated in Table 2.1, is that of Green (2014) which introduced the gap model to the realm of a UoT in South Africa; measuring perceptions and expectations of both students and staff. Green investigates general services within the institution and does not, however, consider the classroom set up or e-Learning. Their study validates the measuring tool in an HEI in South Africa.

The most relevant research referring to the gap model, is the recent study conducted by Uppal, et al. (2017). Uppal et al. measured students' perceptions of the service quality of the e-Learning system and pointed out the importance of such research; especially in areas affected by poor infrastructure and band width (Uppal et al., 2017:2). The context in their study in Pakistan is similar to that in South Africa.

2.3.2.1 Clarification and relevance of SERVQUAL

The authors of the gap model developed a psychometric scale in 1988, known as SERVQUAL (Parasuraman et al., 1988) which is used as a measuring instrument to determine the dimensions of quality; specifically, one of the identified gaps in the gap

model. The relevance of SERVQUAL to this study lay in that although it is a quantitative tool, researchers using this instrument bring the gap model, as conceptual foundation for SERVQUAL, into a contemporary setting. For this reason, the gap model is included in Table 2.1. Where this study endeavoured qualitatively to investigate the perceptions of support services for LMS and to determine gaps in terms of perceptions of service between the language lecturer and LMS support service, SERVQUAL on the contrary aims quantitatively to measure the quality of a particular gap. Researchers have used SERVQUAL because of a need for competitive advantage in different industries. Faganel (2010:213) explains that:

> measuring quality of their services is therefore an important task of those institutions that give feedback on the dimensions of quality that need to be taken care of and offers institutions the possibility to gain significant competitive advantage in knowledge market.

The application and development of the gap model, with the added clarification of SERVQUAL is discussed above. A description of quality services and what the gap model entails follows below.

2.3.3 Service quality and the gap model

The gap model of service quality, stems from the eighties as formative research by Parasuraman, Zeithaml and Berry (1985) in the service delivery industry. Their research comprises an authoritative framework to determine customer-satisfaction: five gaps have been identified to meet the expectations of the customer experience. These gaps can be closed through attention from management.

The quality of a service is difficult to determine because it is intangible nature; which is different from an object which can be bought and sold. Zeithaml et al. (1988) maintain that services are performances, not objects and are as such not easily measured. Parasuraman et al. (1985) reason that when purchasing goods there are concrete indications of quality such as style, colour and label. Yet none of these material indicators is present when purchasing services. This distinction between observable characteristics of objects and imperceptible qualities of services makes it difficult to measure the quality of a service. There is a useful comparison between consumer expectations with actual service delivered, where the client determines the gap. The service provider estimates the performance of employees. Figure 2.4 depicts the full gap model as it originally appeared in the Journal of Marketing (Parasuraman et al., 1985:44), while Figure 2.5 describes the gaps in words (Bitner,

et al., 2010:200). At the core of the model lies the Customer Gap which is the difference between customer expectations and perceptions of the service as it is actually delivered. Closing the gap is the ultimate goal of the service provider; by meeting or exceeding customer expectations. In this endeavour, the customer's perceptions of the quality of service is the determining factor.

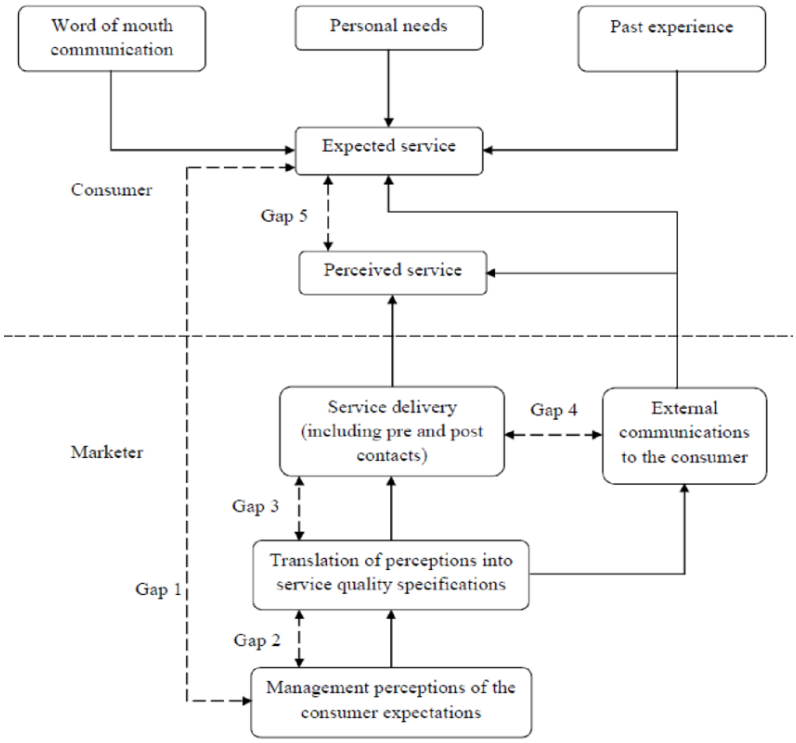

Figure 2.4: Gap model of service quality (Parasuraman et al., 1985:44)

- **Customer Gap**
  - the difference between customer expectations and perceptions
- **Gap 1: The Listening Gap**
  - not knowing what customers expect
- **Gap 2: The Design and Standards Gap**
  - not having the right service designs and standards
- **Gap 3: The Service Performance Gap**
  - not delivering to service standards
- **Gap 4: The Communication Gap**
  - not matching performance to promises

Figure 2.5: Gap Model of Service Quality in Words (Bitner et al., 2010:200)

An understanding of the nature of service quality and how it is achieved in organisations is essential before its applicability to the field of education can be assessed. Parasuraman et al. (1985) identified five gaps in service delivery, which is summarised in the following paragraph.

Four gaps on the service provider's side and one on the side of the consumer may be observed. All five gaps are presented in Table 2.2 as described by Bitner et al. (2010). Bitner et al. provide an overview of the gap model and demonstrate how key aspects from that model have evolved and changed due to technological advances. Bitner et al. investigated the gaps, and did not, as did other researchers, including Uppal et al. (2017), measure these gaps. Their description of the gaps is included in Table 2.2 because other recent researchers did not provide such descriptors.

Table 2.2: Gaps described by Bitner et al. (2010:200) comparative to that of Parasuraman et al. (1985)

Gaps by Parasuraman, et al., 1985	Gaps described by Bitner et al., 2010
Gap 1: a difference between consumer's actual expectations and management's perceptions of consumer expectations	**Customer gap**: a difference between customer expectations and perceptions
Gap 2: a difference between management perceptions of consumer expectations and service quality specifications	**The listening gap**: not knowing what customers expect
Gap 3: a difference between service quality specifications and the service actually delivered	**The design and standards gap**: not having the right service designs and standards
Gap 4: a difference between service delivery and what is communicated about the service to consumers	**The service performance gap**: not delivering the service standards
Gap 5: There is a difference between consumer expectations and their perceptions of actual service delivery	**The communication gap**: not matching performance to promises

Quality service delivery has specific benefits, such as productivity and competitive advantage. The potential benefits of using ICTs by an academic institution need to guide the design of service delivery. Parasuraman et al. affirm that "quality service sustains customers' endeavour" (Parasuraman et al., 1985:42). It might be expected, or hoped, then that quality e-Learning support services will sustain academic endeavour.

The influence of technology in services is investigated by Bitner et al. (2010), who report that "technology has profoundly changed the nature of services" (Bitner et al., 2010:200); referring to internet-based companies such as Amazon and e-Bay offering new services for customers while other companies have developed new services based on information technology. This research project investigates perceptions of support service provided to language lecturers at an institution of technology. The

relevance of the gap model to other domains, including technology, is that it affords new opportunities and various ways to consider and apply services.

2.3.4 Other theories of support

In a widespread study of service quality in America, Berry et al. (1994) identified ten lessons for improving service quality. These lessons are significant in the delivery and subsequent support of e-Learning. Berry et al. affirm that "quality service sustains customers' confidence" (Berry et al., 1994:32). Academics' confidence is similarly gained through sustained and reliable support service. The first lesson is *Listening*; which directly impacts upon the other nine lessons. Quality is defined by the customer: in this case the academic. The second lesson, *Reliability*, is identified as the most important feature in judging service quality. Berry et al. state that "Reliability is the core of quality service". Reliable support is integral to an individual wanting to implement e-Learning.

The other lessons may be summarised as follows:

> Lesson Three: *Basic Servi*ce, where the customer expects fundamentals such as performance.
>
> Lesson Four: *Service Design*. Design flaws in any part of a service system can reduce quality.
>
> Lesson Five: *Recovery*. When a problem occurs in a company there should be a recovery plan in place.
>
> Lesson Six: *Surprising Customers*. This lesson deals with excellence and giving the customer more than is expected.
>
> Lesson Seven: *Fair Play*. Customers expect service companies to treat them fairly.
>
> Lesson Eight: Teamwork. Service work is often challenging and taxing. The presence of service "teammates" is an important dynamic in maintaining servers' motivation to serve.
>
> Lesson Nine: *Employee Research*. The performer of the task should be consulted in the planning of the task.
>
> Lesson Ten: *Servant Leadership*. Servant leaders serve the servers, inspiring and enabling them to achieve.

E-Learning support service presents difficulties which need to be well managed within an organisation. Parasuraman, et al. (1985) identify ten distinct dimensions to service quality, which they condense to five in 1988 in their paper presenting SERVQUAL.

The five dimensions and the descriptions the authors list appear below (Parasuraman et al., 1988:23):

- Tangibles: physical facilities, equipment, and appearance of personnel;
- Reliability: ability to perform in the promised service dependably and accurately;
- Responsiveness: willingness to help customers and provide prompt service;
- Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence; and
- Empathy: caring, individualised attention the firm provides its customers.

Smit (2004:8) claims that successful implementation of Information Systems (IS) cannot "be realized if the system is not used effectively, no matter how good the organisation is in supplying IS services". This perception resonates with the early work of Berry et al. (1994:44) in which they identified "teamwork, employee research, and servant leadership [as] critical factors in an organisation's emotional readiness to deliver quality service". Delivering excellent service is a winning strategy. Quality service sustains customers' confidence and is essential for a competitive advantage (Berry et al., 1994).

Support of e-Learning is a service to academic staff; just as staff in all industries need support to be productive. Academic staff members need support in their adoption and use of e-Learning.

Heller (2006) argues that success (in business) lies in the choice of objectives and measures which chart progress towards a goal. Heller discusses the importance of customer service and employee attitudes in business; Heller considers that satisfaction refers to the "totality of (positive) thoughts and emotions about the organisation, as experienced by everybody who buys from it, works for it, (and) supplies it" (Heller, 2006:1). The Times 100 (2011) agrees by defining customer service as "an overall description of the desired relationship between the producer and the customer". All businesses are essentially service businesses because increasingly staff perform service functions and service has become a "competitive weapon" in a company (Heller, 2006:2).

"Products are tangible things, while services are intangible things like a taxi journey, a hair-cut, or advice on insurance" (The Times 100, 2011). The question in the measurement of success in service delivery, is what "best" means; which criteria to use and from which perspective customer satisfaction is measured. Heller warns that "if you are employing the wrong yardstick your measurements will be useless" (Heller, 2006:2). He notes that use of terms such as "very satisfied, satisfied, neutral,

dissatisfied, or very dissatisfied" are fluid in meaning. Heller identifies the customer as the crucial person in registering "properly measured satisfaction" and importantly indicates that perception is fact.

A powerful image is provided by Heller (2006:4) with which to conclude the field of service delivery:

> In business as in sport, the score when that whistle blows, is what matters - at that moment. But other games, other seasons, other financial years and other business cycles lie ahead. The great management doesn't just focus on the winning game in hand: its focus looks beyond to discover the next game, and to make sure, to the fullest extent of human powers, of winning again - and again.

2.4 Findings from the literature

The literature indicates that, given the complex nature of the higher educational environment in South Africa, language lecturers need optimal support in their use of LMS during delivery of curriculum. Lecturers require student interaction. The service delivery industry points to discrepancies between perceptions and expectations of quality services; between the service provider and that of the receiver of the service.

The complexity of the higher educational environment includes students who are drawn from widely disparate schools in South Africa. Low literacy levels, poverty and multi-lingualism in South Africa present grave challenge to many learners, students and teachers. Language lecturers have to address these issues in their endeavour to equip students with the vocabulary, grammar and confidence to use academic discourse and that in a volatile environment. The academic institution expects lecturers to use LMS for communication with students, and for course delivery. Not all students and lecturers are equally au fait with the use of technology; creating tension in this regard. The literature indicates that this tension, coupled with a perceived lack of quality institutional support, has resulted in LMS not being used optimally both internationally and locally. The local complex environment, adds an additional dimension to the tension.

Table 2.3 summarises the findings regarding the theoretical constructs from the literature. The table is followed by a summary of the findings regarding service quality.

Table 2.3: Literature findings regarding theoretical constructs

THEORETICAL CONSTRUCT	WHAT THE LITERATURE INDICATES
THE STUDENT	The student was not the focus of the study, though he or she is pivotal in the conceptualisation of this investigation because all the elements are centred on the student. The literature provided a deep context and situated the student as recipient of the academic activity provided by the UoT and with which the lecturer is faced. Therefore, the following was a given: The South African student comes from a schooling system known for low literacy rates, though there are different levels of educational standards to which different learners are exposed. Many South African students come from areas of extreme poverty, though here too there is a variety of student, with many who come from middle to high income areas. South Africa is a multilingual nation and so are the students. Lecturers are confronted with students who possibly speak different languages than that in which they were educated. Ongoing student protests have influenced the student's environment causing disruptions.
THE LANGUAGE LECTURER	Given the complex environment of the student, all lecturers have a challenge. The language lecturer, however is tasked to equip students with the ability to communicate on an academic level within a difficult environment. Lecturers are additionally expected to use LMS, which may be challenging especially given a complex environment, with complex tasks and changing roles with which they are faced. Language lecturers need more knowledge regarding the application of technology in academic activity. Lecturers who are up to date with pedagogical knowledge and technological knowledge are much needed. Lecturers need knowledge to teach language rather than to use technology in a superficial way.
LMS	Lecturers are expected to use LMS during academic activity. LMS is a complex tool with which all users are not necessarily comfortable. It poses a large variety of options and possibilities that has the potential to make a lecturer's task easier and to enhance classroom practice. Pedagogy plays a fundamental role in the use of LMS. The TPACK model emphasises the importance of different types of knowledge, namely *technology*, *pedagogy* and *content* knowledge and their underlying interactions with each other as key to successful implementation of technology in teaching. CALL has brought special attention to the application of technology to language teaching, emphasising the importance of lecturers needing adequate knowledge and understanding of the use of technology. E-Learning is not about technology, it is about learning and as such the application in context and not in isolation is key. Appropriate technology is key. A consideration for task-technology fit is better than focusing on the adoption of LMS alone. Lecturers

	should be able to select technologies based on their affordances integrated with sound pedagogical strategies to achieve language teaching objectives.
LMS SUPPORT FUNCTION	LMS support has been identified internationally and locally as an important aspect to the successful implementation of e-Learning. Often the lack of knowledge and skill of the lecturer is the driving force behind the use of technology while simultaneously hindering its use. Without adequate support lecturers have at times failed to use LMS optimally. It cannot be assumed that teachers naturally know how to apply technology to teaching therefore it should be taught and supported. Teachers need mentoring and professional learning programs in addition to the need for support. Adequate support is a managerial concern where management have to drive the initiative and incorporate opportunities to acquire the knowledge into teacher education programs. Different types of LMS users ought to be considered when providing LMS support.
THE COMPLEX ENVIRONMENT	The unique and complex educational environment of higher education in South Africa is constantly changing and needs to be acknowledged and prioritised by management. Management of technology specifically is important where a partnership between the designers and support team, and the user is imperative.

The literature additionally indicates that the service delivery industry has identified areas that should be addressed in order for service quality to be improved. Services are not tangible and therefore are difficult to measure. With specific reference to perceptions and expectations of services, quality can be improved by addressing the discrepancies, or gaps, between the service provider and the user of the service. Perceptions of quality comprise an important consideration underscored by the notion of perception being fact. The gap model from the service delivery industry is sufficient to be used as a theoretical framework for this study; looking at perceptions and expectations of LMS support by language lecturers.

2.5 Conclusion

This chapter situates the study within the relevant current literature related to LMS support from the perspective of the language lecturer. The central concepts in the use of e-Learning are presented and discussed: the student, the language lecturer, LMS and LMS support function. This chapter demonstrates the importance of LMS support as a service and juxtaposed it to the service delivery industry; with a focus upon perceptions and expectations of services. Chapter Two began with a discussion of the concepts; illustrating the rich and unique context. The complex educational

environment of higher education in South Africa was emphasised as a backdrop to the study. Subsequently, the focus was drawn to the service delivery industry where perceptions of service quality were emphasised. The belief that perception is fact, was discussed as a point of departure in service delivery. It was concluded that a customer's perception of quality service is crucial to the success of a business.

The gap model, with special focus on perceptions of services, served as theoretical framework to this study specifically with design of data collection instruments. The gap model was discussed and contextualised; illustrating its applicability to modern higher education and the perceptions of support for the use of e-Learning. Management should be concerned with the delivery of LMS support as a service to achieve optimal e-Learning use and to reap the benefits that it promises.

The following chapter presents the research design and methodology used to investigate the perceptions and expectations that language lecturers have of LMS support function. It provides the methods and reasons for using a qualitative design.

CHAPTER THREE

Methodology

3.1 Introduction

The previous chapter provided a theoretical background for this research investigation. This chapter explains the process that was followed in conducting the research; clarifying and substantiating the reasoning behind the chosen methodology. The research is outlined with the data collection methods. The general *modus operandi* of the researcher are described.

The methods used to investigate the nature of support for LMS utilisation, in terms of perceptions and expectations by LMS user, are described. LMS is a complex pedagogical tool deployed in a teaching environment: in this study its use by language lecturers was considered. The gaps that exist between the perceptions and expectations of the support provider and LMS user (language lecturer) are the particular focus of this work. Research methodology is the scientific technique chosen for conducting a specific investigation: it refers to the general approach for conducting the research used to broaden the knowledge base concerning the topic (Ruben & Babbie, 2005:4). The choice of research approach is determined by the nature of the research problem itself: which will in turn inform the choice of the methods and instruments utilised in the study (Leedy & Ormrod, 2005:12). The choices in research approach are substantiated and explained.

This research project aims to examine in depth gaps in perception and expectation of LMS support providers and LMS users from an entirely original perspective. Out of a consideration for the subjective view of the individual in context, this study was rooted in interpretivism; as clarified in Section 3.3.1. By applying an inductive research approach, the scope and range of the research investigation, the research problem and related investigative questions (*cf*. 3.3.2) were enclosed. Section 3.3.4 explains and substantiates the qualitative research methods for data collection. The research process is arranged in this chapter according to the following topics: research design and methodology, trustworthiness, delineation of the research, ethical considerations and a conclusion. Figure 3.1 offers a conceptual map for this chapter; indicating that Sections 3.2 and 3.3 are concerned with the methodological choices and processes for this study, while Sections 3.4 through to 3.6 refer to trustworthiness. This chapter

delineates the boundaries for the study and addresses relevant ethical considerations.

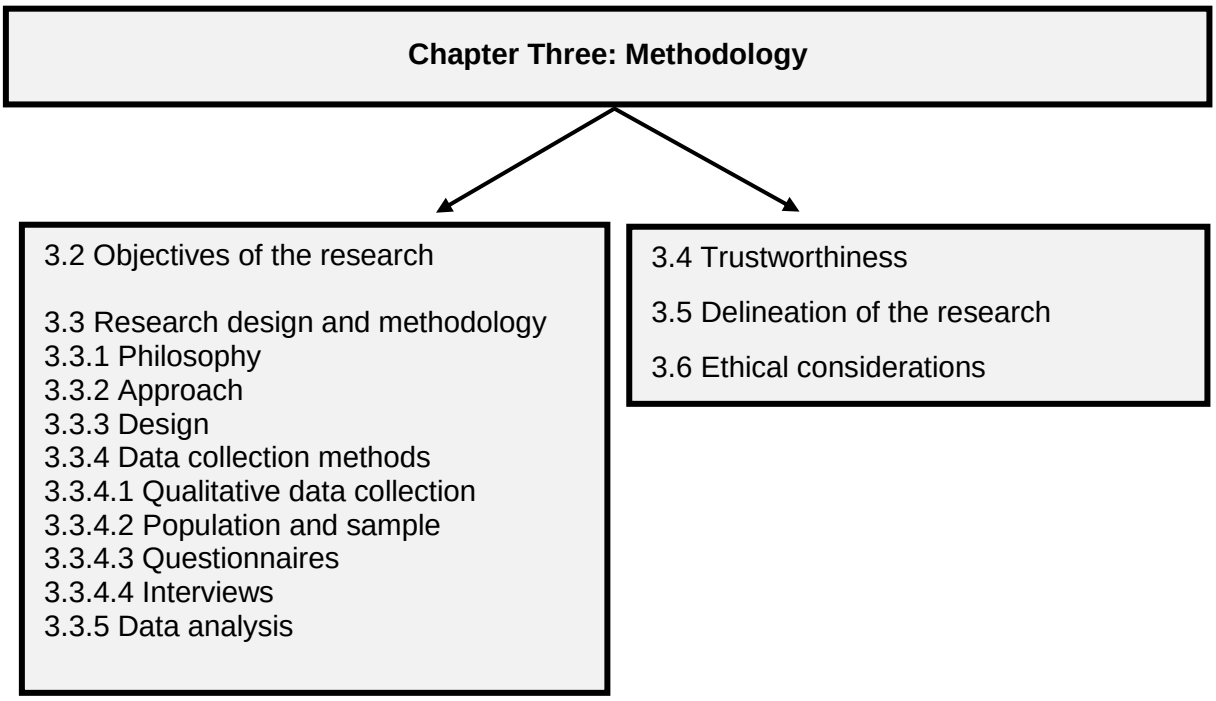

Figure 3.1: Conceptual map of Chapter 3

A concise presentation of the research design and methodology is provided by Table 3.1.

Table 3.1: Summary of research design and methodology

Main research questions		
1. What are the relevant elements of an e-Learning support service to language lecturers in a complex higher education environment where technology facilitates pedagogy? 2. How should LMS support services for language lecturers address the gap between the intended and actual use of technologies to enhance language teaching practices in a complex higher education environment?		
Overall approach		
An interpretive philosophy with an inductive research approach using a single case study was employed. Qualitative data collection methods included questionnaires and semi-structured interviews with LMS support staff and language lecturers. Data analysis comprised categorisation, codification and thematic development, descriptive and inferential for factor analysis and reliability testing.		
Investigative questions	**Objective / Purpose**	**Method**
1. What are the issues around the intended use of LMS versus its use in practice?	To determine discrepancies and agreements between the intended use of LMS and its actual use. (What is meant to be vs. what the reality is?)	Questionnaires and semi-structured interviews with language lecturers as well as staff and management from the support service function and management.
2. What are language lecturers' perceptions and expectations of LMS support?	To determine perceptions and expectations on the sides of both the user and of LMS support provider. To determine users' views of the level and quality of service that is provided.	Questionnaires and semi-structured interviews with language lecturers as well as LMS support staff and management.
3. Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?	To provide reasons for the gaps. This will contribute to establishing a context for the study where the gap model from the service industry is brought in.	Questionnaires and semi-structured interviews with language lecturers as well as LMS support staff and management.
4. What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?	To identify gaps in perception and expectations for the design of an LMS support gap model, which should lead to alignment and eventually optimal use of LMS.	Analysis of data.

3.2 Objectives of the research

The objectives of the research were:

- to identify perceptions and expectations of language lecturers regarding LMS support
- to identify perceptions and expectations of support management and staff regarding LMS support
- to identify possible gaps between perceptions and expectations of language lecturers and those of the LMS support staff
- to develop a reliable grasp of the level of support provided
- to align perceptions and expectations of language lecturers (as LMS users) and support staff so that e-Learning may be utilised optimally

This research attempted to contribute to the existing domain of knowledge regarding perceptions and expectations of support, as well as to develop a framework for support. Investigative questions were formulated to establish a fresh understanding of how dependent e-Learning strategies are upon the nature and level of support that is provided; reviewed in the final chapter of the thesis.

3.3 Research design and methodology

The “onion” approach to research (Figure 3.2) posited by Saunders et al. (2012:128), provides a point of departure for the philosophical positioning of the investigation; guiding the researcher’s understanding of how to approach the particular study field. This approach provided clear headings and subheadings with various options to deliberate during every step of the process. Using the “onion” as metaphorical formula enabled the researcher to explain and justify methodological choices, strategies and data collection techniques. Philosophical concepts influence research practice fundamentally: for this reason, the interconnectedness of worldview, research design and methods as proposed by Creswell (2012:35) was closely considered; assisting the researcher with reasons for choices.

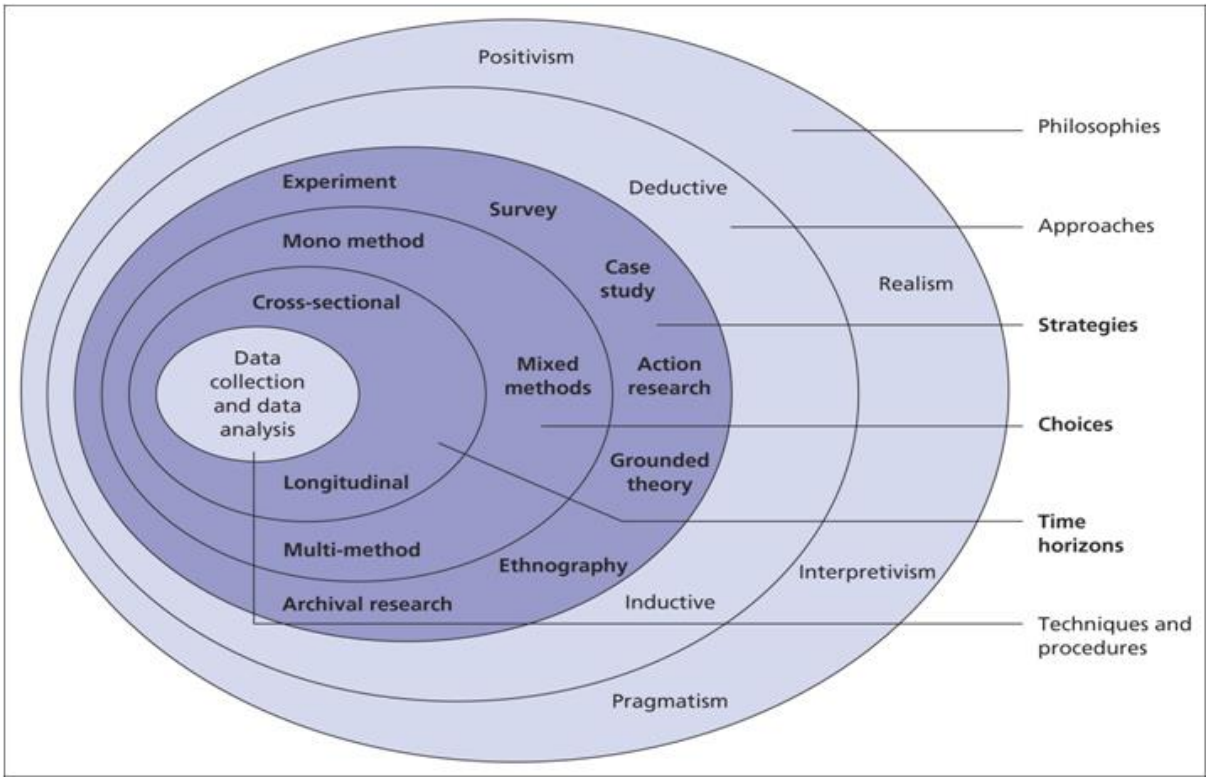

Figure 3.2: The research "onion" (Saunders et al., 2012:128)

Figure 3.2 provides a visual representation of the research "onion" as suggested by Saunders et al. (2012). It takes a simplistic but usefully progressive view of the research process; from initial philosophical questions through to details of data gathering. Because the design and organisation for this study were fashioned on the onion analogy, the following section systematically reveals the methodology; starting from the outside layer of research philosophy, progressing to the centre through the various "layers"; namely research approach, methodological choice, strategy, the time horizon and concluding with data collection techniques and procedures, including data analysis.

3.3.1 Research Philosophy

Research philosophy, as defined by Saunders et al. is the "overarching term relating to the development of knowledge and the nature of that knowledge in relation to research" (Saunders et al., 2012:680). Creswell uses the term "philosophical worldview" in describing the researcher's philosophical approach to the whole study (Creswell, 2014:34). The philosophy of this study was interpretivist; entailing the researcher's understanding of how humans make sense of their role as social actors in a specific environment. It is a complex philosophy described as follows by

Walsham: “interpretivist methods of research start from the position that our knowledge of reality, including the domain of human action, is a social construction by human actors” (Walsham, 2006:320). Interpretivism is employed here in order to obtain rich insights into the unique and complex environment of LMS support from the perceptions of language lecturers within an HEI in the Western Cape. This point of departure allows the researcher an empathetic inside view for understanding differences between humans as “social actors” in order to make sense of the world around them (Saunders et al., 2012:673).

The interpretive paradigm is concerned with the individual as social actor. Theories about ‘reality’ are ways of interpreting the world and shared meanings are a form of “intersubjectivity” (Walsham, 2006:320). With interpretivism, the subjective world of human experience is to be understood (Cohen et al., 2006:22, Saunders et al., 2012:137). This philosophical perspective theorises interpretation of the changing environment; considering subjective meanings and social phenomena with a focus upon details of a situation. This analytical methodology allows the researcher to reflect upon the reality behind these details. The details of the complex educational environment of students in South Africa, with which language lecturers are faced in a UoT in the Western Cape, is illustrated and explained in Section 2.2. The epistemology of subjective meanings that motivate actions, given the rich context, is what the researcher views as acceptable knowledge.

Walsham (2006) distinguishes between different styles of researcher involvement in interpretive research; namely an *outsider researcher*, an *involved researcher* and a *neutral observer.* The first term refers to a researcher who has no direct involvement in action, while the involved researcher participates in the action. Walsham refers to a spectrum with the *neutral observer* at one end; claiming that this does not infer an unbiased researcher Walsham explains that “we are all biased by our own background, knowledge and prejudices to see things in certain ways and not others” (Walsham, 2006:321). He places the *involved researcher* as full action researcher at the other end of the spectrum. The researcher in this study was not an involved researcher because she did not try consciously nor explicitly to change things, nor was she highly involved. The researcher in this instance depended upon Walsham’s consideration of the neutral observer from the perspective of the participant in the field. Walsham (2006:321) suggests that this type of researcher should be perceived as neutral; having no affiliation with a group or individual inside the organisation, or

intending to profit from the engagement or being seen to have strong preconceived opinions regarding individuals or groups within the organisation. The researcher was mindful of the observation by Saunders et al. (2012:140) that the investigator is part of the research and cannot be separated from it: rendering the researcher subjective by definition and practice. The role of the researcher in this study needs to be explained. The principles of interpretive research proposed by Klein and Myers (1999) are used to reflect regarding this aspect. These principles and their application are explained in the next paragraph; followed by a description of the philosophical foundations of interpretivism.

The set of seven principles proposed by Klein and Myers (1999) encourage various forms of critical thinking; drawing upon anthropology, phenomenology, and hermeneutic interpretivism and including other forms of interpretivism. The authors claim that the principles are in agreement with a large portion of the philosophical base of literature on interpretivism. Their stance is that interpretive research can assist Information Systems (IS) researchers in understanding "human thought and action in social and organisational contexts" (Klein & Myers, 1999:67). These principles can potentially yield deep insights into IS phenomena. With reference to these principles, Cepeda and Martin, feel that "it is better to have some principles than none at all, since the absence of any criteria increases the risk that interpretive work will continue to be judged inappropriately" (Cepeda & Martin, 2005:856). Klein and Myers (1999) believe that the principles need to be articulated explicitly to contribute and improve the interpretive field research. Such a critical focus assists the researcher to concentrate on fieldwork and encourages the researcher to consider each principle systematically; ensuring that none has been arbitrarily left out, and resulting in enriched work.

The principles are listed and explained as follows in accordance with the researcher's own endorsement and deployment of them:

1. **The fundamental principle of the hermeneutic circle** (Klein & Myers, 1999:71)
   This principle suggests that all human understanding is achieved by iterating between considering the interdependent meaning of parts and the whole that they form. This principle of human understanding is fundamental to all the other principles.

Application of the first principle to this study

This technique was replicated conscientiously while conducting interviews. The researcher attempted to listen to the whole of what was said and the way in which it

was communicated. When analysing the interviews and questionnaires individually, the researcher kept attempting to understand moving from the whole, to the part and back to the whole. The researcher considered each interview in conjunction with the corresponding questionnaire of that participant; creating a whole interpretation of each interview. Klein and Myers (1999:71) point out the possibility that participants appropriate ideas from the researcher. The researcher made every attempt to present herself as a neutral observer to avoid such appropriation.

2. **The principle of contextualization** (Klein & Myers, 1999:73)
   This requires reflection upon the social and historical background of the research setting; so that the intended audience can see how the current situation under investigation emerged.

Application of the second principle to this study

The researcher's detailed knowledge and awareness of the historical and current complex context of higher education provided insight and deeper understanding of the context in which data were collected. She attempted to seek meaning in a total context which Klein and Myers (1999:74) indicates should be explicitly reflected. The researcher agreed to view people as producers; not as products of this context. This attitude is reflected in the write-up of the study.

3. **The principle of interaction between the researchers and the subjects** (Klein & Myers, 1999:74)
   This requires critical reflection upon how research materials (or "data") were socially constructed through the interaction between the researchers and participants.

Application of the third principle to this study

Correlating with interpretivism, the researcher produced the facts from data as part and parcel of social interaction with participants. This principle required the researcher to place herself and the subjects of the investigation into perspective within the given context. Participants, just as much as the researcher, are interpreters and analysts interpreting and analysing in their unique contexts. The researcher's understanding improved as she became self-conscious and questioned her own assumptions; as suggested by Klein and Myers (1999:74).

4. **The principle of abstraction and generalization** (Klein & Myers, 1999:75)
   This requires relating the idiographic details revealed by the data interpretation through the application of principles one and two to theoretical, general concepts that describe the nature of human understanding and social action.

Application of the forth principle to this study

The researcher documented the unique circumstances of the investigation: theoretic abstractions and generalisations were related to field study details as they were experienced and collected. She did this to clarify how she arrived at her theoretical insights.

5. **The principle of dialogical reasoning** (Klein & Myers, 1999:76)
   This principle requires sensitivity to possible contradictions between the theoretical preconceptions guiding the research design and actual findings ("the story which the data tell") with subsequent cycles of revision.

Application of the fifth to this study

The researcher confronted her own preconceptions that guided the original research design which emerged through the research process. She attempted to make the intellectual basis of the research as transparent as possible to herself and subsequently to the reader. She identified the philosophical roots (deliberated in the following section) and related its appropriateness to the study. Hermeneutics admits that the necessary starting point of our understanding is prejudgment (Klein and Myers 1999:76). The researcher consequently was aware of her prejudices as far as possible, and the understanding or misunderstandings that it may have caused.

6. **The principle of multiple interpretations** (Klein & Myers, 1999:77)
   This requires sensitivity to possible differences in interpretations among the participants as are typically expressed in multiple narratives or stories of the same sequence of events under study. Similar to multiple witness accounts even if all tell it as they saw it.

Application of the sixth principle to this study

The researcher was aware that actions are conditioned by a social context as Klein and Myers (1999:77) indicate. For this reason, she sought multiple viewpoints and reasons for these; examining the influences that the social context could have had.

7. **The principle of suspicion** (Klein & Myers, 1999:77)
   This requires sensitivity to possible "biases" and systematic "distortions" in the narratives collected from the participants.

Application of the seventh principle to this study

The researcher endeavoured to discover “false preconceptions” about herself and the participants, in order to critically interpret or read the social world that lay behind each participant and the persona that each one projected.

To complete the cycle of the principles, the researcher deliberated upon each of the principles separately and then considered the interdependency and the complete picture that they create together. This whole guided the researcher’s judgement throughout the research process; concerning the application of each principle individually.

The philosophical underpinning of interpretive research is described as a combination of critical realism, together with phenomenology and hermeneutics (Walsham, 2006:320). Interpretivism is grounded upon two research traditions: phenomenology and symbolic interactionism (Saunders et al., 2012:137). All of these designs, other than critical realism, are centred upon a process of interpreting the social world. Phenomenology describes a direct experience from a first-person point of view, Creswell (2009:13) defines it as describing the essence of human experience regarding a phenomenon; while Leedy and Ormrod (2005:140) state that it is an account of individual experiences and perceptions of a particular phenomenon. Hermeneutics is a closely defined branch of knowledge that deals with interpretation of the world. Symbolic interaction is concerned with the construction of meaning by an individual during a practical and social encounter. According to this philosophy, individuals develop through social interactions. Critical realism is a general philosophy of science and social science referring to the interface between the natural and the social world; it claims that things exist apart from human experience and knowledge; referred to by Walsham as the existence of “an objective reality” (Walsham, 2006:320).

Positivism, realism and pragmatism are research philosophies standing in contrast to interpretivism. Positivism posits the social scientist as observer of the social reality; emphasising science as the cornerstone of knowledge and using rigid methodology that lends itself to statistical analysis (Cohen et al., 2006:8) and quantitative research. Positivism is concerned with the objective reality that exists “out there” (Creswell, 2014:36) and proposes to be objective and independent of social actors. Cepeda and Martin (2005:856) provide a useful table (Table 3.2) that summarises the different

characteristics between the two approaches. The researcher chose to insert the table here since it clarifies the differences between the two philosophical research approaches, underscoring the choice of interpretivist philosophy.

Table 3.2: Positivist approach versus interpretive approach (Cepeda & Martin, 2005:856)

Metatheoretical assumptions about	Positivism	Interpretivism
Ontology	Person (researcher) and reality are separate	Person (researcher) and reality are inseparable (life-world)
Epistemology	Objective reality exists beyond the human mind	Knowledge of the world is intentionally constituted through a person's lived experience
Research object	Research object has inherent qualities that exist independently of the researcher	Research object is interpreted in light of meaning structure of person's (researcher's) lived experience
Method	Statistics, content analysis	Hermeneutics, phenomenology, etc.
Theory of truth	Correspondence theory of truth: one to one mapping between research statements and reality	Truth is intentional fulfilment: interpretations of research object match lived experience of object
Validity	Certainty: data truly measures reality	Defensible knowledge claims
Reliability	Replicability: research results can be reproduced	Interpretative awareness: researchers recognise and address implications of their subjectivity

Similarly to positivism, realism is objective and relates to a scientific enquiry, investigating a reality that is independent of the mind (Saunders et al., 2012:136) but interpreted through social conditioning (Saunders et al., 2012:140). Pragmatism alternatively, places the research question at the centre of the research and asserts that there are various combinations of methods for approaching the study; arguing that it is possible to work within both positivist and interpretivist positions (Saunders et al. 2012:678). Pragmatists argue that multiple realities are not committed to any single view of reality and do not see the world as a unit. The pragmatist opens the door to multiple research methods (Cohen, 2006:40).

The interpretivist approach does not necessarily allow generalisations; although Walsham (1995), and Klein and Myers (1999) sense that it is applicable to interpretivism. Prominence is placed upon contextualisation; where generalisations in unique instances can be applied to multiple situations. Klein and Myers (1999:75) advise the researcher to proceed cautiously in relating generalisations to the data as they were collected and/or experienced to clarify the process that leads to the researcher's formulation of any theoretical insights. Walsham identifies four types of generalisation from interpretive case studies: "the development of concepts, the generation of theory, the drawing of specific implications, and the contribution of rich insight" (Walsham, 1995:79). Barrett and Walsham (2004:298) refer to generalisations as the content of contributions; stating that they are critical for researchers to develop.

Interpretivism makes an effort to examine the individual, in this instance the language lecturer and LMS support function, and to understand subjectivity from within. The institution and its context of higher education in South Africa and ICTs, are constantly changing. Socio-political conditions today may not be the same elsewhere nor in the future; thus precluding any facile generalisations. Cohen et al. (2006:19) argue that the "social world can only be understood from the standpoint of the individuals who are part of the on-going action being investigated". This research set out to explain purely what the specific situation within the complex environment was; something which has general potential that needs to be reassessed if deployed to other contexts, as guided by Walsham (1995) as well as Klein and Myers (1999).

Experiences are viewed differently. Individuals interpret events subjectively; rendering that experience a perception. Saunders et al. identify social constructionism that stems from the interpretivist position which is essential "to explore the subjective meanings motivating people's actions in order to be able to understand these" (Saunders et al., 2003:84). Saunders et al. state that reality is socially constructed (Saunders et al., 2012:682) rather than objectively determined; something which indicates that individuals construct situations differently; resulting in diverse ways in which they interact in their environments.

> It is the role of an interpretivist to seek to understand the subjective reality of those whom they study in order to be able to make sense of, and understand their motives, actions and intentions in a way that is meaningful for these research participants (Saunders et al., 2003:84).

Perceptions and expectations of LMS support form the focus of this study. The investigation found common ground with the social constructionism discussed here. Perceptions and expectations are the result of interpretation. A person's experience of reality lies within a specific situation.

The subjective nature of this approach leaves room for bias on behalf of the researcher; the researcher was cognisant of this possibility at all times throughout the investigation; remaining vigilant and mindful of the principles set out by Klein and Myers (1999). The researcher was determined to remain open to new knowledge and to let findings develop with the help of qualitative data collection methods and analysis; capturing the essence of individuals' interpretations, definitions, meanings and understandings as objectively as possible.

The nature of the research design progressed from an initial descriptive study to an exploratory study (Saunders et al., 2012:171). The project first needed to produce an accurate representation of the e-Learning support situation within the complex environment of a UoT in South Africa (descriptive study) as described in Section 2.2.1. The project had to discover new insights about the topic and assess such insights in a new light or exploratory manner.

3.3.2 Research approach

The research approach was based upon an inductive theory which entails "the development of a theory as a result of the observation of empirical data" (Saunders et al., 2012:672). This particular research approach was of considerable practical value and suited precisely the requirements and parameters of the study. The topic of perceptions and expectations of LMS support was examined from the language lecturers' point of view. A theoretical explanation was developed through data collection and analysis; by conducting a data-driven study, as is consonant with an inductive approach. The researcher familiarised herself with theories in the chosen subject prior to drafting research questions regarding theory in the process.

An advantage of the inductive approach is that it allows meanings to emerge from the data as it is collected, and permits patterns to be identified. An inductive approach facilitates the use of existing theoretical underpinnings to formulate the research question and objectives, and to identify concepts that the researcher might explore in the research process. The researcher is encouraged to commence the research with knowledge of relevant literature and the theory it contains. Creswell's account of the

process corresponds with the procedure that was applied to this study. Creswell (2014:186) describes the inductive method as characteristic of qualitative research where:

> researchers build their patterns, categories, and themes from the bottom up by organizing the data into increasingly more abstract units of information. This inductive process illustrates working back and forth between the themes and the database until the researchers have established a comprehensive set of themes.

Inductive theory, used as the research approach in this study, relies upon data to explore a phenomenon and to create a conceptual framework: it is concerned with the context in which events take place and tends to use a small sample subject which is more likely to work with qualitative data. To understand why something is happening is deductive; while describing what is happening is inductive (Saunders et al., 2003:90).

The inductive approach of this study investigated the context of LMS support at a UoT as a single case study: qualitative data collection was used to generate a theory. The inductive approach relates more closely to an interpretivist philosophy; as described in Section 3.3.1. This approach considers the individual within a specific context while perceptions and expectations of language lecturers are in the foreground.

3.3.3 Research design

A single case study was used in order to gain a rich understanding of the context of the research; synergising with an interpretivist philosophy which is a strength (Kelliher, 2005:123) in that it provides contextual depth. “Case studies arises out of the desire to understand complex social phenomena” (Yin, 1994:2). An in-depth examination of the nature of support for LMS utilisation was conducted in an institution within a complex educational environment; where the perceptions and expectations of the support were investigated from both the language lecturers’ perspective as well as that of the service provider. Yin (1994:6) proposes the use of a case study to answer the “how” or “why” research questions; as posed for this study. A case study focuses upon contemporary events, such as in this investigation.

Case studies explore a particular contemporary phenomenon within real-life contexts (Yin, 1994:2-3; Saunders et al., 2012:179; 666). Creswell (2014:43) aptly describes it as an in-depth analysis of a case, confined by time and activity. It is a particularly relevant strategy in order to answer the “why?”, “what?” and “how?” questions related

to a qualitative study. Saunders et al. (2003:93) argue that a “well-constructed case study can enable you to challenge an existing theory and provide a source of new hypotheses”, which is what this study set out to achieve by using the gap model from the service delivery industry; comparing it with the perceptions and expectations within a UoT. While Cohen et al. (2006:181) are of the opinion that a case study “provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles”. A case study, according to these definitions, then naturally coheres with interpretivist philosophical interpretations, qualitative methodological choices and the inductive approach as discussed (*cf*. 3.3.2) because they all work symbiotically in the uniquely rich qualitative study about real people in real-life contexts and with in-depth situations.

The choice of a single interpretive case study approach suits in-depth study of the current phenomenon of language lecturers’ perceptions and expectations of a particular LMS support service at a specific UoT in the Western Cape within a complex higher educational environment. These particulars render other research strategies or designs less relevant in this investigation. Cepeda and Martin (2005:852) remark, regarding relevant choices of a research approach, that “no strategy is more appropriate than all the others for all research purposes”. The researcher believes that a case study strategy is well suited in this natural setting; it assists in answering the “how” and “why” concerns and helps to understand the nature and complexity of the processes that are taking place: it is an appropriate way to investigate this arena where research studies are scarce. The reasons for the appropriateness of a case study are identified by Cepeda and Martin (2005:852,853).

Cohen et al. (2006:78) present the approaches of survey, experiment, ethnography, action research as well as testing and assessment as alternative research styles. The researcher could, as a result of the details presented above, not have applied a survey which explores context-free data and where generalisations are made. Experiments are for generalisations, controlled situations and the identification of variables. Ethnography includes data collected over a long period of time with a wide base and is time consuming; even though it explores specific contexts subjectively with rich reporting; much as a case study does. Action research is inappropriate to this investigation because it implements an intervention designed to address a problem. Testing and assessment are used to measure achievement and specifically

diagnose strengths and weaknesses, and assesses performances and abilities; which is not applicable to a case study.

Typical criticisms toward case studies, as determined by Yin (1994:9-11), of which the researcher took note, include a lack of systematic handling of data, where academic rigor has been questioned. Some researchers have been injudicious on occasion in the lack of systematic reporting of all evidence. Another concern regards the lack of scientific basis for generalisations. The purpose of a case study is to generalise to theoretical propositions and not to represent the population or a "sample"; as is done with statistical research. The third prejudice against a case study is that it takes too long; resulting in "massive, unreadable documents" (Yin, 1994:10). This pitfall should be avoided through setting time limits and avoiding lengthy writing of narratives. Yin cautions that although these concerns can be alleviated, good case studies are difficult to complete. The researcher endeavoured to regard all cautionary advice from various researchers; as discussed in this section. Yin (1994:20-26) supplies the following five important components of a research design that all case studies should include:

1. a study's questions,
2. its propositions, if any,
3. its unit(s) of analysis,
4. the logic linking the data to the propositions, and
5. the criteria for interpreting the findings.

The first component refers to the "how" and "why" questions that are appropriate to case studies and were applied in the main research questions of this study.

The conceptual framework, provided in Chapter two, delineates the study, limiting the scope and suggests possible links between phenomena, as suggested in component two.

The study's units of analysis, mentioned as the third element above, refer to the instances of support needed by language lecturers; through which elements of support services were derived in terms of perceptions of quality support. Yin indicates that the unit of analysis "is related to the way the initial research questions have been defined" (Yin, 1994:22).

Element four refers to the steps of data analysis in case study research, which, in this instance, are those suggested by Creswell (2009) and detailed in Section 3.3.5.

The last element considers the iteration between propositions and data; matching sufficiently dissimilar rival patterns to data.

These elements regarding case studies were observed by the researcher as far as possible.

3.3.4 Data collection methods

3.3.4.1 Qualitative data collection

Given the rich complex environment of the South African higher education, in a UoT, and the specific task of language lecturers (*cf*. 2.2.2), qualitative methods were the natural choice for data collection. A qualitative study synergises the interpretivist philosophy of comprehensive complexity (Creswell, 2014:32) focusing upon individual meaning in this case study. The qualitative research approach is interpretive by nature and part of a holistic process; as Leedy and Ormrod (2005:94-95) explain. In using the qualitative approach, the researcher sets out to understand and describe a specific situation or phenomenon from the participant's point of view.

Qualitative research entails exploration and understanding of the meaning that individuals assign to a social or a human problem (Creswell, 2014:32). He explains that data collection and analysis processes include inductively analysing and building themes from the particular to the general and the researcher interpreting meaning from the data. The final report comprises a descriptive and malleable structure.

Research can be approached either qualitatively, quantitatively or by using a mixture of both methods, known as mixed methods. A quantitative approach is indicative of other philosophies; as discussed in Section 3.3.1 and entails testing of objective theories by examining variables in relations. A quantitative approach is a scientific approach with measurable variables providing numbered data which are analysed statistically with a structured presentation of findings. Findings may be generalised and replicated (Creswell, 2014:32).

The qualitative data collection methods for this investigation were a case study (a UoT in the Western Cape of South Africa), interviews and questionnaires with language lecturers and the support staff of the e-Learning support function. The aim of the investigation was to obtain data which aided in determining perceptions and expectations of the participants.

The characteristics of qualitative data, as emerges from the preceding paragraphs, are:

- to explain a phenomenon from the viewpoint of the participant
- that it is narrative, thereby providing the exact words of the participants for perceptions, opinions and meaning to be conveyed
- that it is holistic

In this study the phenomenon that was described is the support system for LMS use from the point of view of the language lecturer in a complex higher education environment. Transcriptions of interviews were made verbatim to ensure just representation of the participants where their opinions, perceptions and attitudes were conveyed clearly. Qualitative data analysis assisted the researcher to comprise the whole, collective situation; to present it as such representing the responses from the participants.

3.3.4.2 Population and sample

The population is defined as the complete set of group members from which the researcher draws participants (Babbie, 2010:119; Saunders et al., 2012:260), while Kumar (2005:74-75) affirms a population as the group that provides information to assist in answering the research question. For the purposes of this study the population consisted of two groups:

- Language lecturers, defined in Section 1.7 as lecturers who teach language related subjects such as communication throughout faculties. They comprised a variety of lecturers who taught English, Afrikaans or Xhosa, and
- Support staff and management from the support function, the Centre for Innovative Educational Technology (CIET).

A sample consists of one or more individuals selected from the overall population. It is a sub-group of the larger population (Saunders et al., 2012:681) ensuring that data are representative of the population. The sample in this study was identified as follows:

- 24 language lecturers from the population voluntarily completed the questionnaire of whom eight voluntarily participated in semi-structured interviews, and
- five staff members from the CIET freely participated in semi-structured interviews of whom one is the director of the CIET and three are support staff.

There is no precise indication of the correct sample size because it is reliant on the nature of the population and the purpose of the study (Cohen et al., 2006:93). Neither a large nor a small sample size guarantees representativeness. With a qualitative

research style, however, it is more likely that the sample size will be small. Saunders et al. (2012:146) agree that a small sample size is more appropriate for an inductive theory approach than a large number; which is suited to a deductive approach because the researcher is particularly concerned with the extended context of the individuals. For this study language lecturers at an institutional Language Indaba were approached to take part in the research. All of the staff members at the CIET were invited to partake in semi-structured interviews. Participation, however, was voluntary: the sample size depended upon the number of lecturers and support staff who willingly agreed to participate.

Data saturation may occur (Marshall, 1996:523; Creswell, 1998:65 and Saunders et al., 2012:669) when additional data provides new insights into the qualitative data. The researcher became aware of repeated information in the questionnaires and interviews and decided that the sample sizes were satisfactory.

The study ascertained whether there are contrasts, discrepancies or gaps amid the perceptions and expectations of LMS support between the two groups of the population; and identified those gaps. The sample, providing ample data, formed the unit of research while their perceptions and expectations from LMS support comprised the unit of analysis.

Using non-probability sampling, specifically purposive and convenience sampling, the institution, language lecturers and support staff were selected. Cohen et al. (2006:99) clarifies non-probability sampling in the specific instance where the members of the wider population being selected for the sample are unknown. Some members of the broader populace are necessarily or definitely excluded; while others are definitely included. Non-probability sampling does not embody a wider population but represents itself. It is “perfectly adequate where researchers do not intend to generalise their findings beyond the sample in question” (Cohen, et al., 2006:102). The researcher did not intend to represent a wider population; rendering this sampling method suitable. The researcher observed the warning that this sample type: “does not represent the wider population, it is deliberately and unashamedly selective …” (Cohen et al., 2006:103,104).

Convenience sampling was applied in the selection of the specific university and population, since this institution was accessible and nearest to the researcher: “The researcher simply chooses the sample from those to whom she has easy access”

(Cohen et al., 2006:102). This proximity provided an appropriate example for the delineated requirements of the research questions, indicating:

1. language lecturers,
2. lecturers at a university of technology, and
3. support staff members and management at LMS support function of the university.

The staff members and management from LMS support function were selected through purposive sampling because they are support staff and the study investigated support issues. Purposive sampling is “often used when working with very small samples such as in case study research and when you wish to select cases that are particularly informative” (Neuman, in Saunders et al., 2012:289); a statement which aligns with this study.

Language lecturers were selected using purposive sampling, which is a sample that is satisfactory to the needs of the research (Cohen et al., 2006:103) because the researcher handpicks the cases to be included in the sample. The sample is suitable because:

1. the researcher did not intend to generalise the findings of this study to a particular population, but rather to determine the nature of support for LMS utilisation, the perceptions and expectations by both the user and support provider, and

2. the researcher was specifically focusing on a case study that involves LMS utilisation of language lecturers.

Qualitative data, population and sampling methods were clarified in the previous section (*cf*. 3.3.4). The following segment explains the physical collection of data by means of questionnaires and interviews.

The theoretical framework, as deliberated upon in Section 2.3.1 of Chapter 2, namely the gap model (Parasuraman et al., 1985:44) was fundamental in the design of the questionnaires and in the development of questions for the semi-structured interviews. Creswell (2012:98) indicates that academics working in the field of qualitative research are more frequently making use of a theoretical lens; such as provided by the gap model. This orienting lens influences the perspectives of questions and, in turn, informs the way in which data are collected and analysed. During data analysis and conclusions that were made, the TPACK framework, as discussed in Section 2.2.3.2 served as theoretical lens.

The niche area in the literature that has been identified for this study was: using the gap model, and the TPACK framework together as theoretical framework to inform a new set of service gaps between the perceptions and expectations of language lecturers and that of LMS support providers within the specific context of a UoT in the Western Cape. The gap model assisted in establishing the measuring instruments for data collection, and with the TPACK framework it provided the groundwork for the framework of identified gaps in perception and expectation of LMS support within a UoT in South Africa. This framework is provided in Section 6.2, of Chapter 6. The questionnaires and interviews as data collection instruments are explained in the next section.

3.3.4.3 Questionnaires

Two questionnaires for data collection were applied: an initial pilot questionnaire followed by the final questionnaire from which data were extrapolated. During the early stages of the study, the researcher used a pilot questionnaire (*cf*. Appendix C) which was functional in the refinement of the final questionnaire (*cf*. Appendix D) for language lecturers. To avoid confusion between the two versions of the questionnaire, the initial pilot questionnaire is referred to as the “pilot questionnaire”; while the final questionnaire is simply called the “questionnaire”. The gap model (*cf*. 2.3.1) influenced the design of questions.

A pilot study is a small-scale study used to test the final questionnaire (Cohen et al., 2006:260; Saunders et al., 2012:677). The small-scale preliminary version allows the researcher to amend questions for the final questionnaire. The pilot study in this investigation was conducted at a research colloquium and completed by language lecturers. The purpose was to refine the questionnaire both for clarity, for respondents to understand, and for the researcher to record the data. Both Saunders et al. (2012:451) and Cohen et al. (2006:260) reason that a preliminary version enables the researcher to assess the trustworthiness, the likely reliability of questions and the practicability of the final questionnaire for the data that will be collected. The pilot was discussed with an expert, the supervisor of the researcher, who commented on the representativeness and suitability of questions; after which additions and changes were made to finalise the questionnaire.

The questionnaire was voluntarily completed by twenty four language lecturers who attended a Language Indaba at the university. It was undertaken in order to obtain

qualitative data, as discussed in Section 3.3.4, and contained both open-ended questions and Likert scale questions.

Determining perceptions and expectations of a delivered support service was the leading aim of the study which concurrently translated to being the leading questions in the questionnaire. The questionnaire (Appendix D) obtained basic information regarding teaching experience levels of lecturers from novice to advanced and including lecturers who no longer teach but are involved in research. The first section of the questionnaire was aimed at determining LMS use by lecturers, from non-users to regular users, and the way in which they use it as well as the frequency. Respondents had to evaluate themselves in terms of innovative use of technology (*cf*. 2.2.4.3). There was a specific focus which allowed respondents to disclose their expectations of LMS. The second segment investigated the methods and frequency of support for LMS use that respondents obtain. There was a specific focus upon the perceptions and expectations that respondents have of LMS support.

3.3.4.4 Interviews

In addition to the data from questionnaires, data were collected from two sets of semi-structured interviews: (1) with language lecturers (*cf*. Appendix E) and (2) with support staff and management from the support function of the university (*cf*. Appendix F). The gap model was fundamental to the development of these questions.

Language lecturers voluntarily participated after indicating their willingness to do so in the questionnaire.

Support staff and management from the support function at the university were invited by the researcher to participate willingly in interviews. All of the staff members were invited and four participated.

A semi-structured interview is a "wide-ranging category of interview in which the interviewer commences with a set of interview themes but is prepared to vary the order in which questions are asked and to ask new questions in the context of the research situation" (Saunders et al., 2012:681). It allowed for flexibility and enabled participants to raise and pursue issues and matters of their own concern. With these interviews the researcher had a list of themes, originating from the literature in Chapter 2 and the theoretical framework of the gap model (*cf*. 2.3.1), and some key questions that had to be included; although interviews varied from one to another.

The themes were directly related to the investigative questions as illustrated in Table 3.3.

Table 3.3: Thematic development for semi-structured interviews

Theme	Investigative question	Linking to objective
1. Intent versus actual use	1. What are the issues around the intended use of LMS versus its use in practice?	• To develop a reliable understanding of the level of support provided
2. Perceptions and expectations of LMS support	2. What are the concerns regarding perceptions and expectations around LMS support?	• To identify perceptions and expectations of language lecturers regarding LMS support • To identify perceptions and expectations of support management and staff regarding LMS support
3. Identifying gaps	3. Why is there a seeming gap between intent to use LMS and reluctance of failure to use LMS in practice?	• To identify perceptions and expectations of language lecturers regarding LMS support • To identify perceptions and expectations of support management and staff regarding • To develop a typology of lecturers for the purpose of tailored LMS support services [To align perceptions and expectations of LMS users and service providers so that e-Learning may be utilised optimally]
4. Identifying gaps	4. What are the gaps in terms of perceptions and expectations between the user and the service provider of LMS support?	• To identify perceptions and expectations of language lecturers regarding LMS support • To identify perceptions and expectations of support management and staff regarding LMS support • To develop a typology of lecturers for the purpose of tailored LMS support services [To align perceptions and expectations of LMS users and service providers so that e-Learning may be utilised optimally]
5. Demographics		• To develop a typology of participants • Rogers: five groups of ICT-users according to the categories identified by Rogers

The two sets of questions for interviews with language lecturers and with the support staff were fundamentally the same; with a few questions adapted to suit the different contexts. The questions are briefly discussed in the following section with reference to both language lecturers, and LMS support staff. Where questions in the two sets differ, there is specific mention of those questions.

The first section of the interviews focused on Investigative Question 1 (*cf*. 3.2) of the study which was concerned with intended use versus actual use of LMS. The initial questions determined what interviewees knew about a university mandate to use LMS, as well as what the minimum requirements were perceived to be. The support staff interviews provided the actual mandate. The way in which language lecturers use LMS was determined, as well as reasons for use or non-use. Language lecturers were asked to state how they felt about the mandate to use LMS and how they perceive the support; with appropriate examples of support experiences.

The second part of the interviews revolved around Investigative Question 2 (*cf*. 3.2) regarding perceptions and expectations of LMS support. It established whether LMS users availed themselves of this technology willingly or because of the mandate to use LMS; whether they use it in a way that is acceptable or desirable to them. Participants were asked what they do when confronted with problems during LMS use and whether they contact the support staff. They had to provide reasons for approaching the support service or not and what their perceptions are of both the support service as well as the support that the university provides. Lecturers were given the opportunity to reveal what they ideally expect from an LMS support service. These questions were posed to the support staff as well; they were asked to indicate how lecturers contact them and use their services. They were asked to indicate what they perceive of the support that both they, and the university provide. Support staff were asked what they think lecturers expect of them as a support service.

Section 3 of the interviews reflected Investigative Question 3 (*cf*. 3.2); determining reasons for lecturers' use or non-use of LMS as well as why they obtain assistance from LMS support function, or not. The support staff were asked what their experience and opinions in this matter were.

The last unit of the questionnaire was reserved for demographic information of the language lecturers and ranged from LMS user types, gender, age, lecturing experience and experience in LMS use. This last unit provided an open-ended

question allowing lecturers to add any further comments concerning the topic. The support staff were not asked about demographics but were granted the opportunity to give additional comments.

3.3.5 Data analysis

The criteria for deciding which forms of data analysis to undertake are governed both by fitness for purpose and legitimacy (Creswell, 2014:251; Cohen et al., 2006:82).

Qualitative data (*cf*. 3.3.4) were based upon content analysis; including categorisation, codification and thematic development. The techniques included coding of interviews, content analysis of data, seeking patterning of responses, presenting cross-site analysis and narrative accounts. Development of thematic analysis led to a fresh view; new themes came to light during data analysis.

Qualitative data analysis comprises a process; starting with the researcher “taking a wide angle lens to gather data, and then by sifting, sorting, reviewing and reflecting on them the salient features of the situation emerge” (Cohen et al., 2006:148). The process consists of making sense of data; starting from a wide focus and narrowing down to an in-depth focus. It is a continuous process requiring constant reflection where analytical questions are asked.

The researcher used the framework provided by Tesch in Creswell (2009:186) because it provides practical and useful steps for the systematic analysis of qualitative data. Cohen et al. (2006:147) supply additional guidelines for typical qualitative data analysis: something which the researcher closely considered during this process. The framework that was used consisted of eight steps:

Step 1: Obtain an overview by carefully reading all of the transcriptions and writing down any ideas.

Step 2: Choose one document at a time from the pile and go through it carefully, annotating in the margin.

Step 3: Once the above task is completed with a few documents, write a list of all the theme ad group similar themes together. Identify main themes.

Step 4: Use the list of themes and code each theme by providing different abbreviations. This process assists with the identification of new codes.

Step 5: Try to use the most descriptive wording for themes and place them into categories. Group similar categories together ensuring fewer categories.

Step 6: Finalise abbreviations for each category and alphabetise them

Step 7: Collect data from one category in one place and start a preliminary analysis.

Step 8: If necessary re-code the existing data.

This framework allowed the researcher to identify themes and sub-themes systematically: something which increases the scientific nature of the study by grounding data analysis on a theoretical framework. Chapter 4, Section 4.3, provides a step-by-step account of the above process was implemented in this study, and the effect that it had on theme development.

In an attempt to confirm the scientific value of this study, the researcher verified the qualitative data by taking the appropriate steps as described above while ensuring the trustworthiness of data. Cohen et al. (2006:286) supply guidelines for verifying dependability: a discipline which the researcher observed throughout the process. Theoretical underpinning was of the essence; informing logical research questions. The design in terms of methodology, operationalization, sampling and ethical defensibility throughout was adequate and sound. The researcher made every attempt to ensure that data were trustworthy and that the interviews were conducted with discretion, sensitivity and close attention to accepted format. Transcribing of interviews was undertaken by the researcher who ensured the correct translation of oral to written medium. The analysis methods and interpretation of data were faithful to the data. The most appropriate forms of trustworthiness were considered, as discussed previously (*cf*. 3.4). The researcher reflected upon the study fairly and appropriately in the report. As far as it was possible, a fitness for purpose criterion, within an ethically defensible framework, was adopted for every step of the process.

Aspects of dependability are discussed in the following section.

3.4 Trustworthiness

The researcher feels strongly that trustworthiness is concerned with data collection methods that accurately measure “what they were intended to measure”. Saunders et al. explain it as the “extent to which research findings are really about what they profess to be about” (Saunders et al. 2012:684), while Creswell reminds the researcher that it is a continual process occurring throughout every step of the process. “Qualitative validity means that the researcher checks for the accuracy of the findings ..., while qualitative reliability indicates that the researcher’s approach is

consistent" (Creswell, 2014:251). Yin (1994:33) agrees that for case studies, several strategies in dealing with trustworthiness should be applied throughout the study and not merely at the beginning.

Because validity is "one of the strengths of qualitative research" (Creswell, 2014:251), the researcher employed different tactics in assuring trustworthiness as follows:

Construct validity (Yin, 1994:34) was obtained through the use of multiple sources of evidence to develop an operational set of measures and that subjective judgements are used to collect the data. For this reason, she collected data through questionnaires as well as through interviews. The latter was conducted with language lecturers as well as with support staff.

The researcher was concerned over *internal validity* and the problem of making inferences, "A case study involved an inference every time an event cannot be directly observed" (Yin, 1994:35). In anticipating this concern at design level, the researcher started dealing with the overall problem of making inferences early in her investigation and attempted to address internal trustworthiness throughout.

External validity refers to the study's findings being generalisable beyond the immediate case study (Yin, 1994:35). Section 3.3.3 addresses this concern with deliberation for the possible prejudices against case studies.

Reliability comprises the consistent findings and methods used to make sense of data, the collection techniques used, transparency and questions of whether observations and conclusions reached would be similar to those of other researchers (Saunders et al., 2012:668). The researcher closely observed the apt description of reliability provided by Yin (1994:36) who suggests that if a future researcher were to conduct the current study in exactly the same manner with the same procedures described by the initial investigator, that investigator should attain the same results and conclusions as the first researcher. Yin advises a researcher to document the procedures carefully and to "conduct research as if someone were always looking over our shoulder" (Yin, 1995:37). The researcher endeavoured throughout the study to follow this advice.

Cohen et al. (2006:105) clarifies the notion as an essential prerequisite of trustworthiness. Where trustworthiness is concerned with the appropriate

methodological choice, reliability considers the correctness of findings and data representation. Reliability aims to minimise errors and biases in a study (Yin 1994:36). Trustworthiness needs to be concerned throughout the research process: from design to data collection and analysis, and through to the compositional phase. In an attempt to address issues of trustworthiness, three types of potential research bias (Saunders et al., 2012:381-382) during interviews are discussed below and the manner in which the researcher confronted each one:

1. *Interviewer bias*. The researcher, being a language lecturer at the institution in question, was aware of her own possible bias or the possibility of creating bias: she therefore endeavoured at all times to avoid comments, tone or non-verbal behaviour which may cause bias in her responses to interviewees. She remained neutral and read the questions as far as possible without colouring or slanting the conversational tone of the interview. The researcher was aware of possible bias in the interpretation of responses and avoided it as far as possible. She numbered the interviews and, in working with the transcripts, she purposefully did not know the names of interviewees.

2. *Interviewee or response bias*. This bias is difficult to avoid since it lies on the side of the interviewee who may or may not have specific perceptions about the interviewer. An interview is a potentially intrusive process; especially in semi-structured interviews. The interviewee may be “sensitive to the unstructured exploration of certain themes” (Saunders et al., 2012:381); questioning may lead to invasive or sensitive information. The researcher was aware of this danger and ensured the confidentiality and anonymity of each participating interviewee. She maintained a high level of professionalism throughout the interviews.

3. *Participation bias*. Participation in interviews is time-consuming and may in some instances lead to less willingness to contribute or elaborate upon issues. Saunders et al. (2012:382) warn that it may bias the sample from whom data are collected. The researcher’s awareness of this issue allowed her to be patient with interviewees; allowing enough time to respond. A larger sample of interviewees and interviewed was invited than only the willing lecturers.

The findings of interviews in this study were reliable because they intended to reflect the reality at the time of data collection within a possibly fluctuating situation. The researcher respected the advice given by Saunders et al.: “The use of in-depth or

semi-structured interviews should not lead to a lack of rigour in relation to the research process – if anything greater rigour is required …" (Saunders et al., 2012:382).

Trustworthiness by means of semi-structured interviews was achieved through carefully probing meanings and exploring responses and themes from various angles.

Trustworthiness of qualitative data was purposefully addressed by the researcher through honesty, depth, richness and scope of the data achieved, and an attempt to remain objective throughout. Trustworthiness was improved and enhanced through careful sampling, design of appropriate instrumentation and applicable treatment of the data.

3.5 Delineation of the research

A university of technology in the Western Cape in South Africa formed the focus of this single case study. The researcher investigated the phenomenon of perceptions and expectations by language lecturers of LMS support function on an operational level with the intention of understanding more clearly how the management of the operational function can respond better to the actual needs of lecturers. Perceptions and expectations of the support function were correspondingly investigated since the two perspectives had to be aligned. A purposive selection of lecturers was used in order to gain representation of all levels of language lecturers; professors right down to juniors, throughout various faculties. This strategy included different levels of commitment to LMS utilisation as well; fully committed and un-committed users. The research scope included LMS support staff from the university's support function.

3.6 Ethical considerations

The researcher had to be especially vigilant regarding ethical issues and their importance throughout the research; specifically, at the design stage where concerns could be anticipated. The following ethical issues are emphasised for the researcher to take note of: "Integrity and objectivity; respect; avoidance of harm; privacy; voluntary participation; right to withdraw; informed consent; confidentiality and anonymity; responsibility in analysing and reporting; data management compliance; safety" (Saunders et al., 2012:236-237). Each one of these aspects was considered and addressed at every appropriate stage of the investigation.

Ethical clearance was received from the university at the start of the study and when the research proposal was accepted (*cf*. Appendix A) according to the pre-requisites of the university's research ethics committee. The aim of the study was explained in the questionnaire itself (*cf*. Appendix D) as well as to the participants of the interviews where they signed an informed consent form (*cf*. Appendix B). Appointments for interviews were made according to the convenience of each participant. The questionnaire was completed on a voluntary basis at the participants' convenience.

The following specific ethical aspects were considered and addressed:

- All involved persons acting as respondents, or interviewees, or in any other role (i.e. "participants") were informed as to the purpose of the study and assured of the confidentiality and anonymity of their contributions.
- There were no discussions about overtly sensitive or personal topics such as health or habits, and there were no invasive or intrusive procedures involved.
- Participants were allowed to withdraw at any stage should they have wished to do so.
- There were no financial inducements offered.
- All recorded data were annotated only with a code, identifying the contributor anonymously; records associating codes with contributors' names and other necessary personal were kept separately and securely.
- Original data collected from participants will be destroyed when the study is concluded.
- No use was made of any information that could uniquely identify a participant as source.
- There was no known risk of any harm to participants.

3.7 Conclusion

This chapter discussed and detailed the process and purposes of the qualitative methodology and carefully substantiated the choices made by the researcher. The study is rooted in an interpretivist philosophy as deliberated in Section 3.3.1. The chapter described the research process according to the research "onion" mooted by Saunders et al. (2012:128) and as presented in Figure 3.2, with the sub-headings: philosophy, approach, strategy, time horizon, and techniques and procedures. Seminal researchers (Yin, 1994; Walsham, 1995; Klein & Myers, 1999; Walsham, 2006) were consulted regarding these sub-headings allowing the researcher a deep understanding of the various elements. This research was designed so that the related methodologies would yield reliable and valid data concerning language lecturers' perceptions and expectations of LMS support and the possible gaps between that of the language lecturer, and that of the support provider. The latter part of the chapter deliberated upon issues regarding trustworthiness and reliability: it delineated the study and explained how ethical considerations were addressed. The

following chapter presents the interpretation of the data collected from the methodologies described in this chapter.

CHAPTER FOUR

Findings

4.1 Introduction

The preceding chapters discussed the background to the study and reported on the Literature in terms of main themes. The methodology used during this study was discussed in these earlier chapters. The central concepts for this study, namely the student, the language lecturer, LMS, and the support function were introduced in Chapter 1 (*cf*. 1.2) with a conceptual map provided in Section 2.2 where the concepts were identified and defined. This chapter describes the context in which data collection took place and explains the logical process of data analysis together with theme and category development followed by the presentation of findings from the data in an organised manner. Each theme is presented by the data gathered from the language lecturers first; followed by the data collected from LMS support staff. The discussion of this data follows in Chapter Five.

Figure 4.1 presents the conceptual map for Chapter 4; indicating that there are two sections to this chapter. The context and data collection process with theme development are presented first; followed by Section 4.4 which concludes discussion of themes introduced earlier in the chapter.

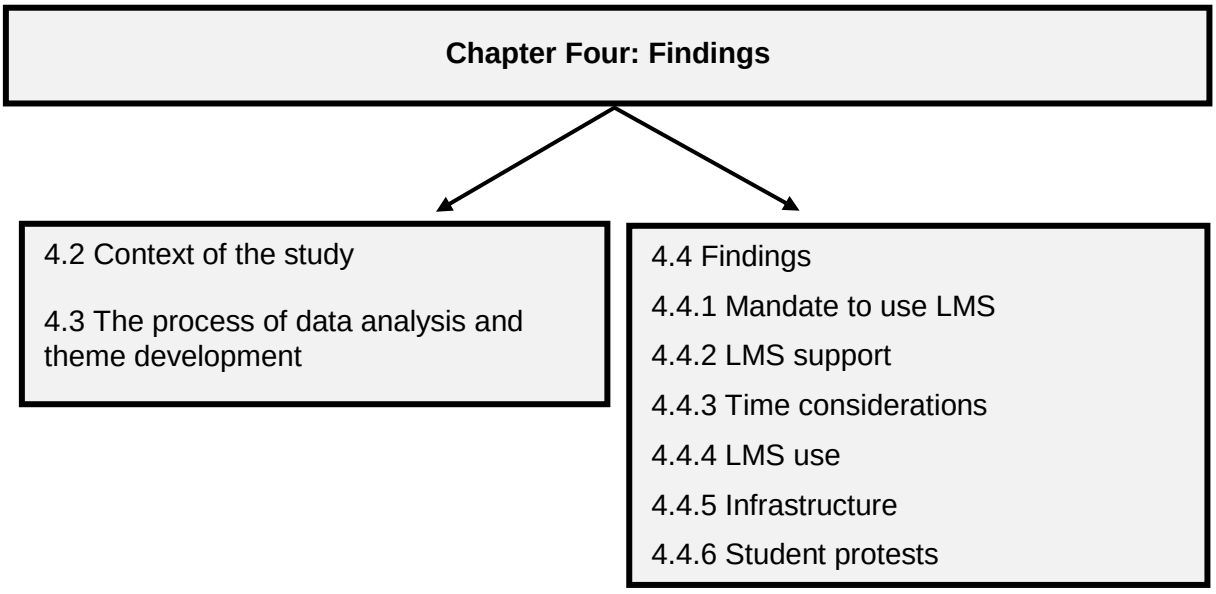

Figure 4.1: Conceptual map of Chapter 4

4.2 Context of the study

Data were collected at a university of technology (UoT) in the Western Cape from two sources; namely language lecturers (defined in Section 1.7), and staff members of LMS support function, the Centre for Innovative Educational Technology (CIET) which included support staff as well as the director of the unit. The environment of higher education is complex in terms of students, language lecturers, LMS and UoTs in South Africa as detailed in Section 1.2. A short description follows of the setting for data collection with specific focus upon the UoT.

The educational environment in South Africa exists in a democracy that is twenty-three years old. There are still many challenges to face in the provision of education from primary school, to high school and tertiary education. The unique elements of such challenges are referred to in Section 1.2 and include the ever-increasing role of technology in education. Wingfield et al., nearly a decade ago, remarked on the change that higher education in South Africa faced: “The last decade has been one of great changes in the field of higher education in South Africa and internationally” (Wingfield et al., 2010). These remarks remain ad rem.

E-Learning has emerged as a key strategic issue in education around the world. In South Africa there has been a major change in tertiary education. Technikons that were principally concerned with vocational teaching are now “Universities of Technology” that have to deal with the strategic need to develop applied research capabilities. Madiba is of the opinion that “a prominent indication that the South African higher education responded to the pressure (of e-Learning expectations) was the acquisition of a learning management system by most (higher) institutions” (2009:276). There is, however, much variety in the way that e-Learning was implemented in various institutions which should be considered. Due to a diverse organisational culture and approaches coupled with different learner communities, the implementation of e-Learning in South African higher education Institutions has been varied (Czerniewicz, 2007:90). The researcher conducted the present study within one UoT in the Western Cape where the concerns mentioned are a part of this broader context. The UoT that was the subject of this case study was in the after-stage of a merger which affected implementation of e-Learning. Within the context of an emergent South Africa, this UoT strives to fulfil its national purpose (as referred to in Section 1.3) in terms of incorporating e-Learning in its teaching. As such, the university should be particularly adept at handling and managing technology. The

vision of this UoT specifically is to “be at the heart of technology education”; expecting staff to be “able to create and apply knowledge that contributes to development” (Cape Peninsula University of Technology, 2008). Their mission is to “create a vibrant and well-resourced living and learning envirionment for our students”. In order to realise this vision, lecturers should be adept at using technology as part of their lecturing approach. This university is, however, currently ranked (in terms of academic quality) 13 out of 24 universities in South Africa (Webometrics, 2017); illustrating that it is an average University in South Africa, neither an elite nor a lowest ranking academic institution.

Change includes the ever-increasing use of technology in teaching; as deliberated in Section 1.2.3. The role of staff support for LMS use and training was particularly important to understand and to investigate at this time, when cost pressures and constraints are bearing down upon deans and heads of departments (*cf*. 2.2 & 2.2.4). Investment of time, money and effort into e-Learning has been made and it is now time to harvest the benefits of all of these investments.

The issue a changing environment, as discussed in Section 2.2.5, is prominent as a feature of Universities of Technology. De Freitas and Oliver (2005:15) state that “there is a relationship between e-Learning policy and organisational change and development”. They maintain that resistance to change is inevitable and that “opportunities for collaboration and discussion are consistently identified as being helpful within the change process”. De Freitas and Oliver indicate that an appropriate managerial approach to implementation and the scale of adoption of e-Learning should be considered. Within change management there needs to be a focus upon support as an operational function.

The UoT in this case study has a newly-formed Centre for Innovative Educational Technology (CIET); consisting of a merger in 2015 between the former Centre for e-Learning and the Fundani Educational Technology Unit. The CIET consists of a team of senior researchers, instructional designers, educational technology facilitators, administrators, and IT technicians who primarily aim “to support the academic project in the effective use of educational technology for learning and teaching” (Cape Peninsula University of Technology, 2017). They place themselves at the centre of their context in South Africa; addressing “real world problems, especially as experienced in a constrained higher education environment”. CIET declare that their

goal within CPUT “is to research, develop and employ technology – informed by pedagogical principles – to make teaching and learning practice more effective.”

Another, more recent and sudden influence upon the university is the #FeesMustFall student protests, detailed in Section 2.2.1.4: a movement, which has affected the university during 2015, 2016 and 2017; resulting in safety and security problems and preventing students and lecturers at times from going onto campuses. This student protest disrupted classes and assessments; alternative arrangements had to be made for students and lecturers to communicate off campus. These arrangements mostly included the use of technology via LMS. Because #FeesMustFall movement has had such a considerable influence upon the current context it is has been included in this chapter under findings; although the researcher did not set out to collect data in this regard.

In Chapter 3 it was repeatedly stated that this study was not to be generalised (*cf*. 3.3.3 & 3.3.4). Nevertheless, an argument can be made for generalising the findings to other universities of technology; all of which share similar problems and a similar recent history. Language lecturers’ use of and concerns regarding LMS support may be similar to those of lecturers in other fields. The strength of the findings here can be tested in future studies by exposing them to other research settings such as other universities in South Africa or in the world. A general theory of appropriate support for LMS utilisation, based upon recognition of different kinds of people with different needs, perceptions and expectations, was made that could be tested elsewhere.

4.3 The process of data analysis and theme development

I heeded the advice of Tesch in Creswell (2009:186) in terms of analysis of qualitative data; by following the eight-step framework referred to in Section 3.3.5 of Chapter Three. Qualitative data analysis is described by Creswell (2009) as a process which seems linear but which is actually interactive with the analysis developing through an iterative process. Qualitative data is seldom analysed in one correct manner: as Leedy and Ormrod (2010:152) point out, it is a process that tends to be lengthy and repetitive. Creswell (2009) indicates that qualitative data aims to make sense of the text. The data set are considered as a whole and then, through continuous analytical procedures, a deeper understanding of the data is. The steps followed are described in the following section.

The data were handled in two sets from samples of two populations (*cf*. 3.3.4): (a) the data from language lecturers which were gathered from questionnaires and interviews, and (b) the data from support staff members from the CIET which were collected through interviews. First, I analysed data from language lecturers and then data from support staff. I used the same technique as described below for both data sets, and presented it as such: data from language lecturers were presented first followed by data from support staff.

An overview and broad perspective of the data were achieved by repeatedly listening to interviews, transcribing them and reading transcriptions as well as answers from questionnaires. I carefully listened to all that was said and how it was communicated so that I could obtain a clear and objective view and understanding from each participant.

Once a broad perspective was established, one of the interviews was scrutinised while annotating in the margin; starting to identify main themes and sub-themes which would develop into categories. The same was then done with a few more interviews; methodically listing and grouping themes. I did not merely seek to answer the research questions but I endeavoured to maintain an open and objective perspective for new and fresh data. During the cyclical process of moving between interviews, a broad set of themes was listed, which was then refined and regrouped to fewer themes. The themes “Intent to use LMS”, “Reasons for using LMS” as well as “Reasons for not using LMS” comprise examples of this process and are grouped under the one category “Use of LMS”. Similarly, “Lecturers’ perceptions of LMS support” and “Lecturers’ expectations of LMS support” were grouped together as merely “Support” and so on until the categories seemed to suffice.

Repeating this process with more interviews, main themes, sub-themes and grouping developed. I realised that lecturers’ attitudes for example were strong and universal throughout the main themes and applied differently to each category. A lecturer with an overall positive attitude may be negative merely about one aspect and this had to reflect as a sub-theme. Similarly, time emerged as a main theme which was intertwined throughout the other themes.

New codes were identified as I progressed through the reading of interviews and I regrouped those using succinct descriptors; ensuring fewer categories. I abbreviated

and alphabetised them and I started collecting data from one category in one place and I proceeded with preliminary analysis.

Finally, re-coding of existing data was done to create concise categories and sub-categories. This was merely a fine-tuning process rather than a complete re-coding or redesign of the categories and sub-categories. I decided to code manually after initially using a computer programme called “The Qualitative Content Analyser” to assist in the process. My experience is that it was more practical and convenient to work hands-on with data using different colour highlighters for each of the codes and cutting the paper and placing colours together in piles. I entered all of the data from the interviews with lecturers and the questionnaires into the analyser. The computer programme seemed distant; creating a feeling of detachment to the data. It did, however, contribute towards a clearer overview of the data: I was forced repeatedly to re-read and re-think codes.

Throughout the lengthy, repetitive and complicated process of data analysis I was vigilant not to ascribe codes to the data but to allow the data to generate codes. I could, however, not ignore pre-existing codes which had been addressed by the literature.

Table 4.1 indicates the themes, sub-themes and categories that were finally identified and according to which data were analysed.

Table 4.1: Themes, sub-themes and categories derived from the data

Themes	Sub-themes	Categories
Theme 1: Mandate to use LMS	**Sub-theme 1.1**: The awareness of the mandate to use LMS and its requirements	**Category 1.1.1**: Lecturers’ awareness
		Category 1.1.2: Support staff’s awareness
	Sub-theme 1.2: Language lecturers’ attitudes regarding the mandate	**Category 1.2.1**: Positive attitudes towards the mandate to use LMS
		Category 1.2.2: Negative attitudes towards the mandate to use LMS
	Sub-theme 1.3: Managerial matters regarding the mandate to use LMS	**Category 1.3.1**:How the mandate to use LMS is communicated to lecturers
	Sub-theme 1.4: The influence of the mandate to use LMS	
Theme 2: LMS support issues	**Sub-theme 2.1**: A description of the frequency and the delivery of support	

	Sub-theme 2.2: Perceptions of LMS support function	**Category 2.2.1**: Positive perceptions of LMS support
		Category 2.2.2: Negative perceptions of LMS support
	Sub-theme 2.3: Expectations of LMS support	
	Sub-theme 2.4: Challenges of the support function	
Theme 3: Time constraints	**Sub-theme 3.1**: Time considerations for lecturers	**Category 3.1.1**: The effect that LMS use has on preparation time
		Category 3.1.2: The effect on time that utilising LMS has
Theme 4: Use of LMS	**Sub-theme 4.1**: How LMS is used	**Category 4.1.1**: Types of LMS users
		Category 4.1.2: Reasons for using LMS
		Category 4.1.3: Reasons for not using LMS
	Sub-theme 4.2: Language lecturers' intent to using LMS	
	Sub-theme 4.3: Language lecturers' attitude towards LMS use	**Category 4.3.1**: Positive attitude towards LMS use
		Category 4.3.2: Negative attitude towards LMS use
	Sub-theme 4.4 Language lecturers' expectations from LMS	
Theme 5: Infrastructure	**Sub-theme 5.1**: Specific concerns that hamper LMS use	
	Sub-theme 5.2: The effect of challenging infrastructure	
Theme 6: Student protests	**Sub-theme 6.1**: The physical environment during protests	**Category 6.1.1**: The effect of student protests
	Sub-theme 6.2: Communication and social media	

4.4 Findings

The findings are presented according to the developed themes as indicated in Table 4.1 and analysed in the section that follows. The data derived from interviews and questionnaires with language lecturers are first presented in each section, and then followed by the data which were collected from interviews with support staff. Interpretation of, and conclusions drawn from, the data follow in Chapter Five.

4.4.1 Theme 1: Mandate to use Learning Management System

Sub-theme 1.1: A description of the awareness of the mandate to use LMS and its requirements

There was uncertainty among lecturers whether they had to use LMS and what the institution required from them. The majority of respondents were aware that there was some form of mandate to use LMS for them to use LMS. One lecturer indicated that he was unaware of this mandate to use LMS, answering:

> No, not so far as I know. It is not expected from me.

What exactly the mandate to use LMS entails or expects as minimum presence on LMS from lecturers was unclear. Interviewees were all unsure of the degree or what specifically they needed to do as minimum requirements set by the mandate. Some of them offered what they assumed should be the minimum, stating:

> No, I don't but I presume…

Support staff members, in contrast, were clear in their understanding that there was a directive for lecturers to use LMS with a minimum presence expected; which could be outlined by three of the four interviewees:

> Yes, since 2005 all of the lectures are supposed to have a minimum presence on the system. Minimum presence we mean they need to make use of the communication tools like announcements calendar; and they need to make use of the announcements tool and they need to populate their grade centre at least with the marks of the students and then the subject guides need to be loaded.

The management of the university was positive about the mandate to use LMS and supports CIET: "The warm fuzzy feeling from management has always been there …. and support and everything was there, no problem". They have created and endorsed the policy as well as encouraged online hosting for improved service which "is a clear commitment from management."

Sub-theme 1.2: Language lecturers' attitudes regarding the mandate to use LMS

The majority of language lecturers were positive to varying degrees about the mandate to use LMS; with responses ranging from merely not disagreeing to being very enthusiastic about it: "I think it is essential. I think every lecturer should do it." And "I love it. I love it."

One respondent was overtly negative about the mandate stating: "I am immediately motivated not to do something if "expected" to do it."

There was an indication of progress in attitudes towards a mandate to use LMS. Over time some lecturers' perceptions developed from negative to positive as they started using LMS:

> At first I didn't like the idea because I come from a traditional school of teaching where it's just chalk board and explanation or just overhead projector… and then I got so comfortable with using data projector and white board in teaching …, so at first I didn't like the idea. But I realised how fruitful it could be after having gone (to) some workshops and courses.

Some positive responses included reasons for the mandate to use LMS being advantageous and practical for both lecturer and student: "Because to me it's a tool that I can use and it's a positive thing to use."

> Look, as I said it's a university of technology it should be a given and also we are living in the age of technology. We're dealing with kids who are, today they call them all sort of name, even android, we call them android kids. And so we're living with the generation, so we have to adapt somehow. We have to, we have to use a platform that is very, very sort of engaging for this particular generation of kids.

A support staff member identified a negative attitude to the mandate as "buy in" which prohibits the implementation of the mandate to use LMS. He mentioned that regardless of policy, lecturers had the freedom to choose whether they wanted to implement the policy because of buy in:

> We have this sort of veto right, I call it, you know, it's a very strong term. I sometimes feel that this thing that we talk about, a buy in… That means: 'If I don't like it that means I don't buy in', then nothing is applicable, no policy no nothing and: 'I can do what I want.' And we pick it up regularly so that is one of the biggest problems with especially the take up of e-Learning. Then all the other things, support, blah, blah, blah goes with that.

Sub-theme 1.3: Managerial matters regarding the mandate to use LMS

Interviewees spontaneously referred to managerial concerns regarding the mandate to use LMS. It is observed as being mere organisational procedures or red tape:

> It doesn't bother me at all to be mandated because I think that's just a bureaucratic wish list, an executive wish list. It is a good thing in principle but the implementation, like so many other things is irrelevant.

Or as a top down approach:

> I felt like it was more a top down approach than a more informed discussion approach like negotiations, a type of negotiation, so at first I didn't like the idea.

There was also mention of possible strain between the CIET (as LMS provider) versus free open media:

> …there is tension between the agencies that are promoting the newer technologies, the open media and between the custodians of LMS.

Support staff, however, underscored the need for the mandate to use LMS to specify Blackboard as LMS because it created unification of technology use by lecturers and was therefore advantageous for the student:

> So there needs to be some sort of unification, where we have a standard…because at the end of the day students need to know if: 'I need to get X, Y and Z, I don't have to jump from one system or one platform to another.'…this is the platform irrespective of where the source is…

There were, however, within CIET, divided opinions regarding the incorporating of free software: one of the staff members indicated that: "I am struggling with this idea that I have to push Blackboard." It was stated that other software meets requirements beyond what Blackboard can do:

> For me if I have to work on a draft. Google docs for me is the best because I get feedback, I get comments I can share, we can work live collaboratively. And as long as Blackboard doesn't give me the same functionalities, I'm going to use it… So to try and force me to use something that doesn't fit is difficult.

The communication channels of the mandate to use LMS were uncertain: lecturers did not know how the information should reach them.

According to the support staff, it was the official responsibility of Deans and HODs to communicate the minimum presence that is expected from staff to the various faculties. The success of this communication varied from faculty to faculty:

> That is communicated through the Deans' meeting. The Deans sit there and they, I think fairly little of them basically take it down to the next level. I have presented to the HOD forum... how many times.

The mandate to use LMS is a policy and as a policy it was expected that all staff should have been aware of it: "Well technically if we've got a policy then everybody needs to know about policies. That's the first thing about a policy: it's a policy whether you want to read it or not."

The support staff did, however, communicate the expected minimum presence on LMS at training sessions and through road shows where they visited faculties or campuses from time to time; but not on a regular basis. A supplementary mode of communicating the mandate to use LMS was that it was incorporated in the orientation programme for new lecturers.

Sub-theme 1.4: The influence of the mandate to use LMS

The effect that the mandate had is evident; since it was repeatedly provided as a reason for using LMS (*cf*. 4.4.1):

> The first one [reason for using LMS] is the fact that it is a university requirement so we have to use it.

While it was mentioned that there were lecturers who did not use it regardless of the mandate:

> Although it is obviously not established in practice [To] the extent management would like it to be established.

According to support staff, a majority of lecturers were using LMS in varying degrees; with some meeting the minimum presence, while they referred to the non-implementation of the mandate to use LMS by a minority of staff due to buy in. One support staff member stated: “People who will find all different excuses or even if they use it they will make it look like it is happening but the lights are on and there’s no one there.”

Support staff involved with training mentioned that many lecturers attended training initially out of obligation: after they had experienced the benefits of LMS they started using it keenly. This had a knock-on effect; of encouraging other colleagues to use it.

4.4.2 Theme 2: Learning Management System support

Sub-theme 2.1: A description of the frequency and the source of support obtained by language lecturers

The frequency of need for LMS support was varied; as is reflected in Figure 4.2 with information yielded from the questionnaires. Fifteen respondents indicated that they frequently sought support; six sought it frequently. Six respondents indicated an average need for support; while 4 needed support infrequently or seldom.

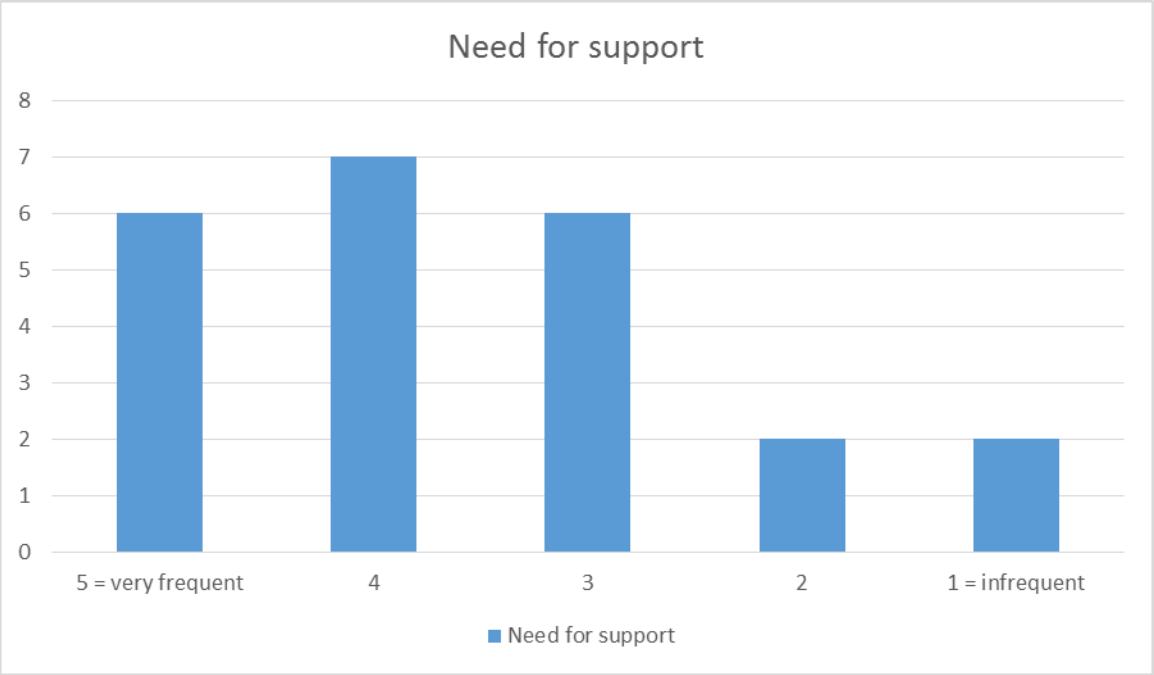

Figure 4.2: Frequency support needed

Support was obtained from numerous avenues with the following options mentioned:

- Ask friends or colleagues
- Use the “Best Practice” option on Blackboard
- Contact the Centre for e-Learning
- Look for answers on the Internet
- Refer to notes received in training
- Ask people from previous work
- CTS-service desk

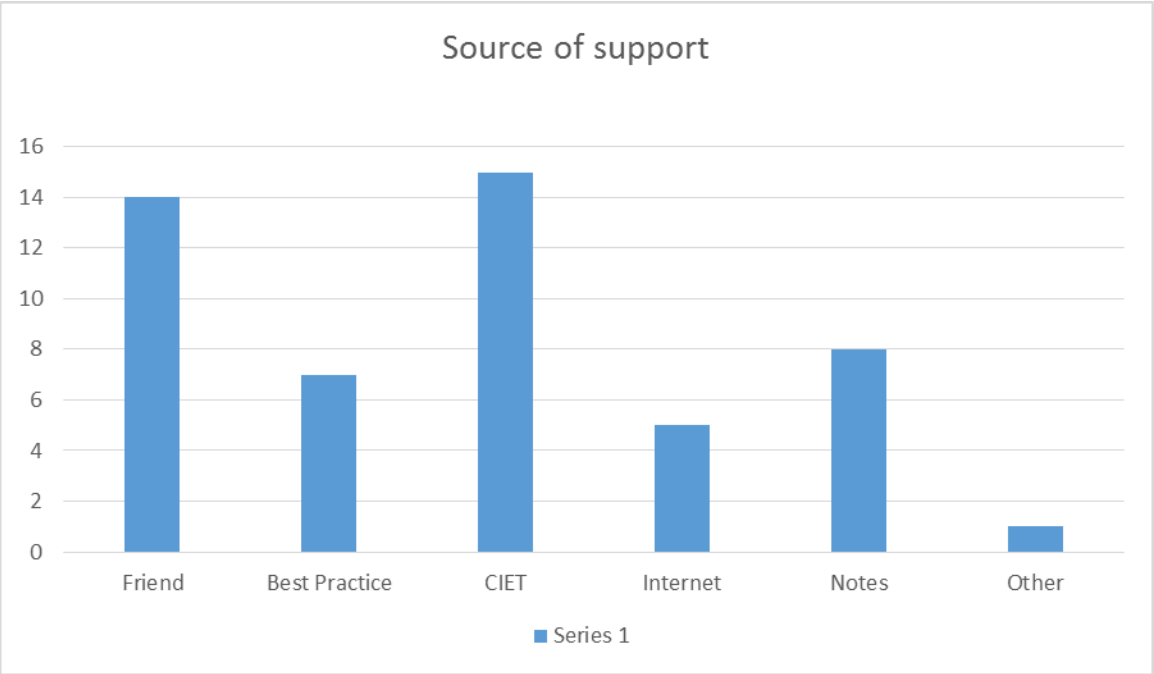

Figure 4.3: Source of LMS support

The data from the questionnaires, as indicated in Figure 4.3, revealed that the CIET most frequently provided support (62%). Asking a friend or colleague was the second most used option (58%). Respondents referred to their notes received during training when in need of assistance: the Best Practice option on Blackboard, a web search and even the support system of another university were indicated as additional sources of support.

There was a tendency to use a combination of the support sources available when lecturers sought assistance. However, some lecturers only used one of the sources as support: five lecturers indicated that they only used the CIET and none of the other sources, three lecturers obtained support from a colleague or friend, and one lecturer referred to notes received during training. One of the respondents did not select an option; while indicating his/her frustration with the university and not necessarily the support function specifically:

> …disillusioned by the “support” the institution offers – and I am referring here to the most basic type in the faculty. I have therefore learnt to rely mostly on my own insights and practical wisdom – and on course common sense.

The findings from the interviews corresponded with those from the questionnaires. Lecturers generally contacted the CIET and/or asked friends or colleagues for assistance when they sought support. One interviewee approached a friend on campus for assistance saying:

> I fortunately have colleagues who use Blackboard more than I do so I go to them and ask for help from them.

The perceived advantage to asking a colleague was that it was more convenient and that it saved time:

> To me it is just easier because my colleagues are here to rather go to them than phone or email and waiting a period of time for someone to get back to you.

Interviewees confused the role that the Computer and Telecommunications Services (CTS) of the university played versus that of the CIET, and indicated that they “log calls” or contact the CTS system for LMS assistance. This confusion greatly contributed to a negative perception of support by those participants, which is discussed in the following section:

> …most of the time I’ve got to log a call and unfortunately my experience is that it does not really give me immediate help. I’ve got to wait and wait and wait until I’m helped eventually.

> I think I am not well informed. I've always thought that whenever we have a problem with computer assisted learning or anything that has to do with computer it is CTS. But now that I learn from this interview that there's also centre for e-Learning I think I will also go that route.

CIET provides two main support areas: one is support for Blackboard specifically and the other is support of pedagogy. Blackboard specific support provided training and support methods which vary from formal training workshops, consisting of basic, intermediate and advanced training, through the spectrum to focussed individual assistance:

> That's where our support starts. We have departmental trainings, ad hoc trainings, one-on-one trainings where we start assisting the people in the use of the system and then after that they send us emails, telephone, [or they come to] private meetings where we sit and help them with the design of their specific courses on LMS.

The pedagogical support function ran weekly seminars for small groups and work with individual lecturers over a course of time, looking at the needs of the students in context:

> For me it is very small steps, it is taking people where they are, it is seeing what they actually need so the kind of staff development that we do is more about, the technology is in the background. So we start with learners' needs and we start with context and we start with current practice and then we start thinking how could we build up on current practice to identify or to satisfy some need we have identified. And then we talk about the technology at the end.

Sub-theme 2.2: Perceptions of LMS support function

The general perception of LMS support function was overwhelmingly positive with comments reflecting this attitude:

> I feel very, very well supported by LMS. The centre for e-Learning with X and Y are fantastic.

> They are very helpful and always reply promptly.

In answer to the question whether lecturers were happy with the support provided by CIET, the following answer underscored their positive perceptions:

> One hundred percent. They're fantastic.

Lecturers commended the support system for fast, effective and reliable reaction to assistance that was needed:

> If they can't help you immediately they will tell you that they will help you at some point and make sure that they keep their promise.

> And every time that I get stuck somewhere I email them and they respond almost immediately.
>
> It is quick and efficient.

There was progress in the perception of the support function from negative to positive:

> My early perception was that there was no support. I didn't feel supported in any way. But I only used colleagues to help. But in future I feel that I can use them [the support staff] so I feel positive about it.

Lecturers indicated their positive perception of the support staff but also referred to concerns that they had regarding time constraints, infrastructural issues and on campus or in faculty support which hamper LMS use:

> Trainers are very enthusiastic but one hardly finds time to implement what is learnt.
>
> It is a good support system but internet connectivity is a challenge to this tool.
>
> Good, but spread thinly. Support provider X is not always available, and is physically far.

A minority of respondents perceived the support function with discontent, providing comments such as "Not good", or "I don't think it is enough. We need more support".

During #FeesMustFall, a sudden influence during data collection, lecturers were particularly demanding of the support staff resulting in positive and negative perceptions of the function. One comment stood out, where a support staff member was helpful over and above what was expected:

> The contact person for our Faculty was available and I also had her cell number. I was able to contact her off campus and after hours.

A negative perception during the time of student protests was accompanied with a positive: "on a couple of occasions my email requests were ignored, which I found annoying, but was eventually directed to someone who did assist me very efficiently".

Many of these negative perceptions were accompanied with reasons for their displeasure which ranged from the previously mentioned lack of on campus or in faculty support, the confusion of the role that CTS plays versus that of the CIET, and time related issues.

Comments indicating a negative attitude, as result of the confusion between CTS and the centre for e-Learning, included:

> …most of the time I've got to log a call and unfortunately my experience is that it does not really give me immediate help. I've got to wait and wait and wait until I'm helped eventually.

The lack of on campus or in faculty support was highlighted in some of the comments:

> It is a bit of a problem that there is not someone on campus.

> I perceive them as very helpful, very supportive but maybe a bit over stretched in what they try to do.

A lack of communication contributed to negative perceptions:

> I didn't feel supported in any way…. I'm part time, again I didn't really know about their assistance.

A large group of respondents indicated their concern for time related issues (*cf*.4.4.3) causing a negative impression of LMS support function:

> In my perception it would take longer to get information from e-Learning as opposed to just asking a colleague quickly to come and help you.

There was concern that even though LMS support function is there and exists, it may be underutilised:

> I think they are capable to deliver a lot of support that we don't use.

> I get very frustrated when people say they don't know how to do it and they start moaning about the university. Because the training sessions are there. You just have to go.

All of the support staff members were positive and perceive the support that they provided as very good under the circumstances. CIET is a small, central unit with a few members providing support to a large university with many faculties and different campuses:

> Well I think people are extremely dedicated. But we are few. So I think we all do our best. I think if we try and provide as high a quality as we can. I think we are seen as very enthusiastic and passionate and motivated. I know people like 'Support staff member X'. They are extremely dedicated to doing what they do but we are too few I mean that's the end of it.

They agreed that the support, however adequate, could always improve: "…we do have a fairly good support but I think we can do better."

They felt that support at times was "inefficient" because they could not always be available due to staff training, and a new support staff member who was still learning and thus not able to provide full support as needed. There were times in the year

when they were so busy that they got behind on email queries, which often took up to a week to catch up. This created frustration for lecturers, who expected immediate assistance.

Sub-theme 2.3: Expectations of LMS support

Lecturers had many and varied expectations form LMS support function, which was disclosed as follows.

The words most used to describe these expectations of the support function included: availability, responsiveness, accessible, working, consistency and immediate. One of the lecturers encompassed the expectations with:

> My expectation would be to train, which they did. To problem solve, which they did, hand hold, which they did.

More lecturers referred to the hand holding expectation where they wanted not only training but to a large degree encouragement from the support staff for their use of LMS to be functional. One-on-one attention was needed:

> I think what I need is time to sit down with assistance and see what it really entails because I don't think at the moment I really know what is available.

During student protests and interrupted classes, lecturers experienced a heightened need for individual support, where they were confronted with the inevitable use of LMS:

> I would suggest more support staff for lecturers who are struggling, especially during such trying times… It is very important that they can be reached via other means and ways e.g. cell phones if the campus is closed... not all staff had access to these key people. There should be alternative email addresses and cell phone numbers for emergencies.

In the discussion of the perceptions of LMS support function, in the previous section, it is clear that the staff of the current support function was perceived to be competent and knowledgeable. Lecturers emphasised this as an expectation, though the expectation was mostly met. They wanted even "more support in the form of innovative ideas for online assessment."

Language lecturers expected the support staff not only to be experienced and efficient but also to have had a certain personality trait. One respondent identified this expectation clearly: "But you need a lot of support, you need enthusiastic people otherwise it just doesn't happen.

Time (*cf*. 4.4.3) was a significant factor mentioned by many stating that they expected "immediate help".

Some lecturers, especially on remote campuses, expected a readily available support function on campus or within the faculty:

> I would like someone more readily available, e.g. on campus to support me, and to advise me on new ideas that I could incorporate.
>
> It is at least an hour's drive, so not many people can just quickly drive through and get help on a face-to-face basis and that makes a huge difference to see the person in front of you. So I would say that there needs to be a permanent person in Wellington.

There were comments made about the expectations from the support function specifically regarding continual or follow-up training:

> I'd say ongoing support in terms of follow up training. If any new tools are available to have training sessions on that or just to see how far we are.
>
> I would like to use LMS more widely, but lack the skills.
>
> I wish it could be on a weekly or on a monthly basis … because the more I get training I think the more I'll get knowledgeable.

Clarity on the expectations of lecturers attending the existing training programmes was expected:

> …that grading of different levels of expertise… but that there has to be a differentiation between when they say *beginners* and *advanced*. What they mean and that they have to have some sort of cut off …There is no point in having a beginner in an advanced course or doing something like offering a workshop on teaching with tablets and spending the first two hours of the workshop teaching people how to turn the iPad on. You know I want to teach with it, I don't want to know how it works. I know how it works.

An individual mentioned that it should have been the responsibility of LMS support staff to train students: "to show first years how you can use Blackboard, what the benefits are thereof so that they can also know the system…"

Support staff identified reasonable and unreasonable expectations placed on them by lecturers. Unreasonable expectations included lecturers wanting support staff to design their courses or to create content on Blackboard for them: "There is some of them that expect too much. They think that you are going to design their whole course for them." This expectation was "virtually impossible" as one staff member

indicated. They provided understaffing as a reason for being unable to do this and also: “we are not experts in their field.”

Another unreasonable expectation that was repeatedly mentioned referred to lecturers wanting support staff to be available all of the time and they became frustrated when no one could see to their needs immediately: “Like yesterday, I’m in a training session and the people are phoning and they’re kind of getting frustrated with the secretary if I’m not available.”

The reasonable expectations that the support staff identified were to assist lecturers individually with specific content and to answer email queries as well as being available in person: “I think they prefer the human factor, they prefer talking and explaining… They need that human intervention.”

Sub-theme 2.4: Challenges of the support function

In the data from interviews with support staff, the following challenges that support staff faced, though the study did not set out to determine this aspect, had emerged:

- Support staff are confronted with negative attitudes of lecturers who arrive at training sessions, which the support staff purposefully try to change.
- Infrastructural issues mistakenly create negative attitudes of lecturers towards Blackboard.
- Infrastructural issues hamper training (*cf*. 4.4.5) where lecturers arrive for training and it cannot take place due to cable theft.
- The first term is an exceptionally busy time in the year where support staff cannot keep up with queries of lecturers and often are a week late in answering emails. This is due to a combination of factors such as ITS issues and linking lecturers to their correct subjects coupled with regular training sessions and increased need by lecturers for support.
- They are a small central unit consisting of three educational technologists providing LMS support to all of the lecturers in the university and on various campuses.
- They have to deliver formal training and while they are out of office people require their support which they cannot provide resulting in lecturer frustration.
- Unreasonable expectations from lecturers who are under the impression that the support staff have to design their courses.
- Support staff need to deal with queries through different avenues: telephonically, through emails and face-to-face whether through appointment or impromptu.
- The focus on LMS as a technological tool versus LMS as a pedagogical tool. “I think it positions e-Learning as technology which I think is problematic because it shouldn’t. The focus shouldn’t be on the tool. It should be on what it does to teaching and learning.”

4.4.3 Theme 3: Time constraints

Sub-theme 3.1: Time considerations for lecturers

Time is an integral theme that emerged throughout the data and is interlinked with the other themes. It is a factor that influences LMS use as well as the perception of support and it contributes to the frustration experienced with infrastructural concerns.

Some lecturers felt that they did not have enough time to learn how to use LMS or to plan the incorporation thereof in the delivery of their curriculum. “I think it takes time to feel secure enough to go over to the next step…” They often ascribed a large work load, other administrative tasks and the expectation to do research for their lack of time and therefore not optimally using LMS: “The only thing that is stopping me at the moment is time…Because of the work load I could have more time to do it. But I don’t …” and “Time to develop competence in LMS is my major barrier at present.”

Lecturers who were using LMS frequently, stated that the time spent on the preparation thereof, however, saved time. “And I thought that the time was well spent in terms of what did work”, also “Although your initial work is maybe a bit more extensive because you’ve got to design it first, but once it’s there you can just copy and paste it to the next year.”

More lecturers referred to the time saved as a positive with the implementation of LMS:

> The planning part takes time but to me it saves time. It’s efficient, it is professional and it gives the students immediate access.

An advantage mentioned is that in terms of time, LMS use can transcend contact time, enhancing class room practice, also referring to that as a benefit for the students:

> You’re in your own time and they write in their own time, they are not supposed to be in class at certain specific periods for whatever. So that freedom I think, to do that went well, both ways.

A dynamic that emerged during #FeesMustFall was that lecturers used LMS often not having other modes of communication with students. Respondents mentioned the time factor involved in this regard:

> marking assignments online is time-consuming – especially writing comments an giving feedback on the assignment itself. My classes are large and it takes long to write detailed assessments.

It was also mentioned that effective use of LMS is constrained by time:

> I could have used LMS more if I had been able to upload lectures via video… However, time constraints made it difficult to do all that I wanted to do.

Another lecturer attempted to grade oral assessments who also experienced it as time-consuming saying: “it took too long to open each assignment, even longer with oral videos in isiXhosa.”

The support staff identified preparation time, referring to time needed for learning how LMS works, and as a time saver for administrative tasks. A member from the support function referred to time needed to experiment and learn about the technology but coupled motivation, support and willingness to learn: “So it’s a complex need… It’s motivation, it’s time, it’s support, it’s affordances of the tool, it’s a fit for purpose…”

Another support staff member highlighted the value of time saved with administration by using LMS, thus providing the lecturer with the energy to spend on lecturing as their core business: “to cut down on the administration that you spend so much time on as opposed to you know lecturing that you can barely do.”

Many lecturers, according to the support staff, used LMS as an immediate link with their students: “They need to get information through to students quickly…”

For the support staff time considerations also referred to the immediate need of lecturers to be assisted expecting “urgent” or “immediate” support.

4.4.4 Theme 4: Use of Learning Management System

Sub-theme 4.1: A description of how LMS is used

Most lecturers used LMS to varying degrees. Some respondents used it extensively while others were using it minimally or not at all.

Most lecturers loaded at least their study guides on LMS. They used it to download class lists or they used it as a communication tool, where they populated the calendar or provided assignment details and load marks. In some cases, notes were merely uploaded and students were expected to work through the notes prior to attending class.

There were language lecturers who used LMS to an even further degree, incorporating it to their lecturing approach loading additional notes and PowerPoint

notes, video clips and assessments with added rubrics, also bringing it into their lectures during contact time. Assessments via Respondus were implemented, as well as longer assignments where SafeAssign, the plagiarism tool, was applied. LMS was also used as a research portal with links to the library.

A support staff member linked her use of LMS to free software and describes how she used it in a blended learning approach or as a supplement to LMS:

> I'm running this course now, I'm using LMS but I still use Google Drive, quite instinctively, I just link from LMS to Google document because it's live so a Google document I can add, I can change, it can grow, like a course outline is a Google document because whenever we change something I can just change it and it updates live.
>
> We run seminars on podcasting, you know all the other tools that can be used to supplement e-Learning, a blended learning approach.

Data from support staff concurred that a majority of lecturers were using LMS all be it variably, and not all of the lecturers: "We are moving towards a majority of the lecturers… And because of the FeesMustFall issues that we had in 2015 and 2016 we've had a really big uptake in the use of the system."

Category 4.1.1: Types of LMS users

The types of LMS users were identified from the data and determined through a combination of the following methods:

1. During the interviews language lecturers had to describe themselves in terms of LMS use and their willingness to use LMS. An open ended question provided them with an opportunity to describe themselves without limitations or perceived labels.
2. The lecturers were given definitions of Rogers' five groups of academics which emerge when confronted with the use of technology (*cf*. 2.2.4.3), and asked to categorise themselves accordingly (after having described their use referred to in the paragraph above).
3. The questionnaire also provided a section where they had to categorise themselves according to Rogers' five groups.
4. The researcher observed the interviewees and inferred their user type, either confirming their answers to the above three questions or consequently adapting it. The reason for this was that some interviewees seemed modest about their extensive use of LMS, while some were under the impression that their use was extensive whereas it was limited and basic compared to other lecturers.

As with use being varied the types of users were diverse as well. Users described themselves through the spectrum from the basic, or "indifferent", right through to "enthusiastic" or even "ahead of my time". Figure 4.4 shows the type of users as

indicated and concurred through the above mentioned identification process. There were no laggards with the majority of lecturers being early adopters and early majority users.

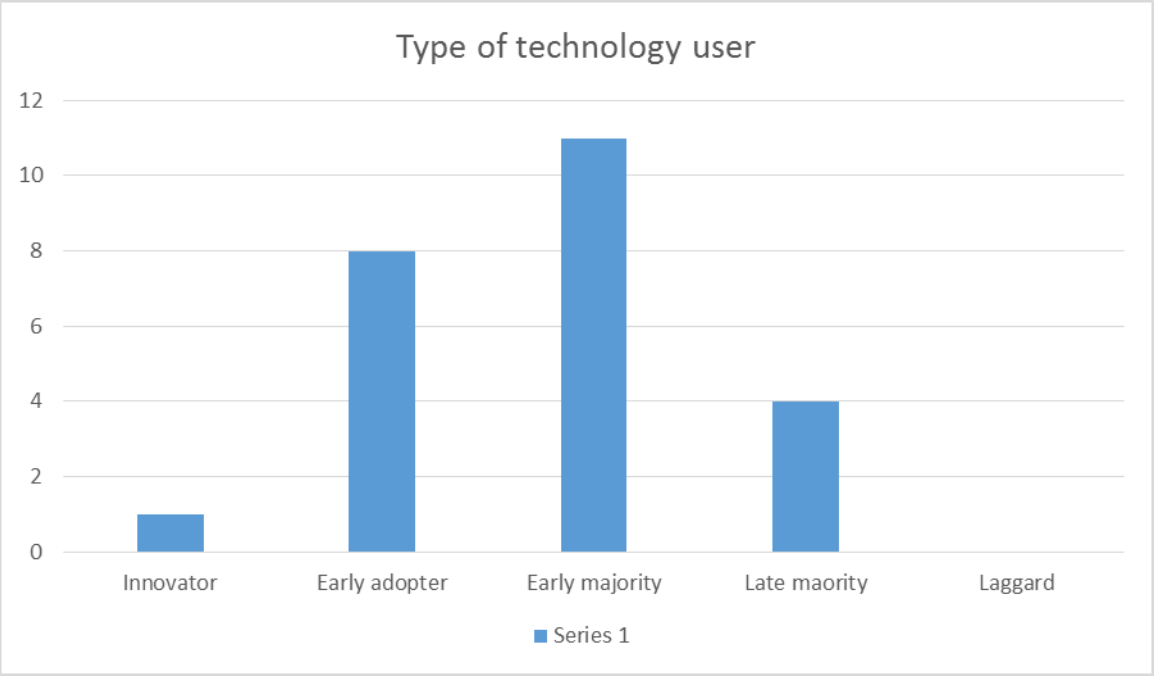

Figure 4.4: Type of technology user

Category 4.1.2: Reasons for using LMS

Many reasons for using LMS were revealed with the lecturers experiencing it in a practical way being a major incentive for further use. Respondents differentiated between the advantages experienced by the lecturer on the one hand, and to the benefits it holds for the student on the other hand. Reasons for use included descriptors such as “its accessibility and the extent to which students embrace it.”

Reasons for using LMS are:

1. Mandate to use LMS awareness
2. Convenience
3. Time saving
4. Enhancement to classroom practice
5. Positive student experience
6. Environmentally friendly
7. Personality type
8. #FeesMustFall

A large group of lecturers indicated that they started using LMS out of obligation to the mandate: because they experience its benefits they want to use it more: “At first I

used it because I realised that it is something that I have to do being mandated but then the more I interacted with LMS the more I realised that it is more fun and it is more progressive. Instead of just being traditional and stagnant in your teaching approach."

Lecturers, however, mostly agreed on the convenience factor as a reason for use: "It is an easier way of getting everything to the students in one go.", and that it is a "very efficient mode of delivery". They add that it is an organised way of working which contributes to their own professionalism. Supplementary to convenience is the feeling of security held by the lecturer: "I feel covered." They explain "students can't say that they didn't know certain things about the subject." or "…students can't say they didn't receive notes or it wasn't possible for them to look at the PowerPoint again."

Time considerations have been discussed in Section 4.4.3 but it is worth mentioning here that it is one of the driving forces behind use. Lecturers appreciated the time-saving factor of grading online or assessments with built-in grading tasks together with the immediate availability to students: "To me it is a huge advantage that you can grade online and the marks are immediately available on the grade book. It really saves time." This lecturer also referred to the advantage it had for large groups stating: "If you really have classes up to 800 students there is almost no other way that you could do it."

LMS was used as an enhancement tool in classroom practice. Lecturers initially used it as a medium of communication with some developing further to creating "a blended learning environment". They felt that it lead to a higher level of teaching as "I am able to provide the students with more information than I would have been able to otherwise." and "I can flip my classroom." In doing so the general interest level of students is brought to the fore: "And also you want to play in the same field like your learners… use the platform that they are very familiar with." Comments reflecting this attitude include: "And the students like it very much." With incorporating technology, the positive outcomes thereof are acknowledged: "I notice that the attitude of students to the subject Communication was vastly improved when I started using LMS" and "it becomes more interesting, they become more interested in their learning as well and you end up with seeing quite good results". Some lecturers expect student to prepare for a class using LMS prior to the lecture: "I would like students to prepare for the lecture in advance."

Mere environmental or economic reasons for use were referred to by a few lecturers who feel that “it saves money because I’m not printing out lots and lots of little notes”. They stated that it is environmentally friendly in the long run because it saves paper.

LMS was used by some simply because they enjoy technology as a platform: “I enjoy technology…it appeals to my personality … It is portable, it’s mobile, and it’s fantastic.”

Various reasons for lecturers using LMS emerged from data of interviews with the support staff. One of the major current reasons provided by all of the support staff members was the #FeesMustFall (*cf.* 2.2.1.4) disruptions that happened during 2015 and 2016.This caused lecturers to realise the practical value of using LMS, which in turn aided uptake. The director of the CIET states that the “FeesMustFall had a massive impact… you can see that there is not just a willingness, there is a definite realization by academics that it can assist.” Another support staff member referred to this phenomenon as follows:

> ...this year it’s a lot better as opposed to previous years as a result of Fees Must Fall that took place last year. So obviously that encouraged a lot of lecturers to get on board and to have a plan B in the event you know Fees Must Fall strikes take place and so forth, so the take up and the buy in has improved tremendously.

Other reasons for LMS use that emerged from the support staff data are as follows:

1. The mandate to use LMS is one reason for lecturers to attend initial training where they feel compelled to use it, often resulting in further use: “…he is forced to be here. ‘I’m just going to do this because I have to do this.’” Together with the mandate there is more encouragement from middle management: “I am just glad there are so much more buy in and we have a lot more departments, more HODs and Deans that are driving this because it is from management coming down you know…there has been a great improvement in the system itself but also the use of the system.”
2. Lecturers need to be exposed to LMS: “And to see how it benefits them they have to first of all be exposed to it.”
3. Other lecturers’ use, or the culture of LMS use within a faculty or a department encourages further use: “They influence the other lecturers to also try it out because they start to see the advantages of how it can enhance their teaching and learning.”
4. Lecturers experience the benefit of LMS: “Because they see the value and how it can make life easier and enhance the whole teaching and learning experience.”

5. There needs to be a willingness by the lecturer to use it: “do I have enough willingness to experiment to move from one tool to the next to find that works for me?”
6. More and more students are encouraging lecturers to use LMS creating a bottom up approach rather than just a top down, referred to in point 1: “…when lecturers come into training sessions and say the students have sent me to training…”
7. Lectures feel that using LMS is safe for them because:
    a. It is convenient with content which is kept for re-use: “once you have created your content on Blackboard, next year you don’t have to reinvent the wheel.”
    b. There is proof of what has been done with students: “the system obviously keeps an audit track”, “they need that proof that X, Y and Z has taken place.”

One support staff member combined the reasons in her summary as a complex mixture of elements:

> I think it’s a complex mix of culture… You know structure, culture, agency. It is assistance, the policy, the guidelines that force them to. It’s the culture because they see that others are doing it, that it is being recognised, that you get brownie points if you use it well and it is agency, it’s my own personality that allows me or that makes me experiment.

Category 4.1.3: Reasons for not using LMS

Reasons for not using LMS emerged from the data as follows:

1. Personality and attitude
2. Lack of knowledge
3. Infrastructure
4. Negative student experience
5. Other forms of technology
6. Not meeting their specific needs
7. Time constraints

Personality and attitude were specified as reasons for not using LMS with one lecturer referring to his age (close to retirement) as a reason why he was finding it challenging: “And don’t forget the age gap, the generation gap….so it takes longer to get it.” Lecturers felt insecure in their own ability to use it:

> Some of us are very limited, we are not very technological savvy but could use it so you tend to minimise. You tend to minimise we don’t explore … so we basically use the tools that we are very familiar with.

> I put things on Blackboard, they don’t read them before lectures…. because I don’t know how to do all the nice and fancy things.

> Because people are so attitudinally reactive to technology one way or another. It seems very embedded in certain personalities.
>
> with a certain colleague – who is one of the most brilliant teachers that I've met - and she has tried LMS and other technologies and she has recoiled in frustration, you know… she's not instinctively adapted to it… she's a technophobe. I think there's a split between organic thinkers and mechanistic thinkers and she's very much an organic thinker.

There were lecturers who experience their lack of knowledge as key reason for not using LMS: "I don't really know what is available that's why I don't use it, not enough, not at all." And "I realise there is quite a lot that I don't know about…" There is an indication that they'd like to use it barring this hurdle: "I just want to be able to use it properly."

Infrastructure, as a main theme is discussed in Section 4.4.5. The lack of, and poor quality at times of infrastructure is integral to use and has caused great frustration resulting in many lecturers either not using LMS at all or to the extent that they would like: "I am also a bit weary … because of the bandwidth and Internet problems that we've been experiencing."

In the same vein, concern for students' attitudes and the negative experience for them was mentioned: "I'd like to use that a bit more but at the moment it's a bit troubling for the students because their complaints is always "I can't submit an assignment because of connections" and things like that…. And that's a current problem that we do have."

Lecturers had started relying on other forms of technology as communication tool: "I find it easier to WhatsApp the students if I need to make an announcement because they don't all respond to their CUT email addresses." Facebook was also mentioned as an alternative form of communication: "Students have asked me to rather send info to class reps who then send it on to them via Facebook. They maintain Blackboard does not work for them. Therefor I use the system they prefer."

Some lecturers were not using LMS out of a perceived inability to apply it to their specific needs: "I work with Literature mainly… mostly I don't have the short assessments, so I don't do multiple choice… they must write a lot and they must write quite extensively. Then I go through their writing." This lecturer admitted though that he had the convenience of a small group and may find it more challenging with a large group where LMS may be useful. Another indicated "I'll adopt aspects of e-

Learning when I am convinced that it will enhance teaching and learning in a way no other strategy/technique/method I use, can."

It is reported in Section 4.4.3 that learning to use LMS may be time consuming but that it results in saving time. However, for the sake of providing an exhaustive overview it is mentioned in this section as well. Some lecturers provided time constraints in an already busy schedule as reason for not using LMS. "[I am] intimidated in terms of time needed to familiarise myself with all LMS uses and applications."

Data from the interviews with the support staff provided the following reasons for lecturers not using LMS:

1. Lecturers who regardless of the mandate to use LMS do not like the idea and therefore do not buy in and then not use it.
2. Lack of knowledge about the pedagogy behind LMS use. It is a "good educational tool designed for educators by educators" yet "a lot of our academics are not trained teachers so they've never done teaching methodology and it is sometimes a little bit difficult for them to understand how to apply that."
3. There is a natural trend of laggards and people who are disinterested, generally also traits reflected by older staff members close to retirement:
   "Lecturers that are almost near retirement so they decide why must I learn this new stuff, I'm almost done teaching and then we have our lecturers that are afraid of technology. They tend to not use it. There is actually not an age limit there because we even have youngsters that don't like technology and like not to use it."
4. Negativity towards the technology and/or change is mentioned: "So see a lot of people constantly just always find problems with whatever solution that you provide." A support staff member concludes this statement by saying: "So I think it is a perception issue and there is not much that we can do when it comes to that."
5. If LMS is perceived not to fit the purpose it does not get used: "as long as they don't see how it benefits them they won't adopt it."
6. "Past experience" is mentioned as a reason for lecturers' resentment towards LMS. It refers to negative attitudes mostly caused by infrastructural issues, which prevents them from trying to use it again. This is discussed Section 4.4.5 hereafter.
7. Cultural perception within a specific faculty where the methodology over 20 or 30 years have not changed:

I'm very unhappy with the Faculty of Education because their adoption is the lowest and one of the reasons is that your methodology that you apply to teach students are exactly the same as the teaching methodologies that you were taught by your lecturers 20, 30 years ago. They are going to walk into the class with their plan

> worked out, and you are going to stick to this and you are going to be still the main peanut in the packet, you are going to be the content dumper and not the facilitators. So the flip classroom has not yet arrived at education training.

The converse of what was said regarding structure, culture and agency as reasons for using LMS in the previous section is provided by the same support staff member as reasons why LMS was not used:

> Structure, culture, agency. If the structure is not there, it is frustrating, I don't have access. Culture: It is not being recognised. My HOD never asked me to do it, why should I do it? It is agency: I am not interested in technology. I am a good teacher but I don't care about technology.

Sub-theme 4.2: Language lecturers' intent to use LMS

All of the respondents indicated their wish or intent to use LMS more than what they were using it. It is referred to as being "underutilised" and that it should be rectified "because it is a university of technology and I think it is very important that students are exposed to that." Many comments reflect the wish to use it more: "I'd still like to do much more… so to me it is a lifelong learning experience." Lecturers indicated specific tools that they intended using such as assessments via Respondus, communication tools and discussion boards.

With intent to use LMS there were four perspectives that emerged from the data:

1. Lecturers who did not know what was available and would like to learn more about LMS and its possible applications. They intended to use it once they knew more about it. Lack of knowledge as barrier to using is discussed in the previous section and implies the intent to use it once this barrier is crossed.

2. Lecturers who knew what was possible but due to various constraints were not using it yet. They intended to use it when:

    - they have time: "The only thing that is stopping me at the moment is time. I would very, very, very much like to use it like some of the people that I've worked with",
    - the infrastructure is no longer a problem: "Well, the general instability has prevented me from taking it as far as I wanted it.",
    - they have mastered one step and are ready to move to the next application that LMS has to offer.: "I only try to do one thing per year… so every year I try to add something to what I am able to do.", or
    - students buy into the concept "I do not use Blackboard but may do so in future once student indicate they regard it as a reliable form of communication and I really feel there is a need in my subject."

3. Some lecturers indicated that there should be a long term or holistic intent with the use of e-Learning in terms of the socio-economic environment in the South

African education system. LMS should be used not only for the benefit of students in the class but being exposed to it, students could be encouraged to apply it in practice. They argued that exposing students to e-Learning, especially within the education faculty, could influence the schooling system:

> …so we need to create some balance in terms of communities also to try and bridge the gap of divide in background because I'm worried about mainly the schools in the rural areas…

Another respondent concurred:

> …if you look at all the positives that it can have in the classroom in our case this educational problem in South Africa it can make a huge difference in schools and get real, practical, direct teaching.

4. The intent of the university for lecturers to use LMS was expressed through the mandate of expecting a minimum presence, which was discussed in Section 4.4.1. Support staff indicated that lecturers at least needed to use a communication tool, an announcement tool, use the grade centre, and load subject guides. Regarding the mandate to use LMS a support staff member indicated the intent: "But yes, we obviously want the lecturers to start using the system more and more and more."

Sub-theme 4.3: Language lecturers' attitude towards LMS

Data regarding attitudes were collected not only from the questionnaires and interviews but also through observation by the researcher. Attitudes were both positive and negative with the majority of lecturers perceiving LMS with optimism.

Lecturers were positive about it and felt that using LMS was beneficial to teaching and learning, they were enthusiastic about the possibilities that it holds: "I am mainly very positive [about the use of technology] …. It's like driving a car; you must just get used to it."

It was observed that some lecturers shifted from a negative to a positive attitude: "A little bit reluctant at first where technology is concerned but it has its place…I fully support it." This trend was also observed by the researcher as it was evident in a few interviews which started out with scepticism on the part of the interviewees and swayed during the course of the interview.

There were attitudes, although in the minority by respondents, of indifference as well as explicitly negative, sceptical opinions with comments reflecting this:

> At the moment it has the reputation (at least for me) as yet another way of evaluating and controlling what lecturers do according to fads and superficiality.
>
> There is very little that cannot be done with chalk, a blackboard, internet access and good reference works by a skilled lecturer. Up to now, e-Learning sounds (and looks like) an interesting add-on.

A bad experience via the students, combined with an adverse attitude towards the institution encompassed a negative attitude and expectation towards LMS by one respondent:

> Since the students have indicated they have reservations, I am happy for them to indicate when it is their preferred mode of communication. In the meantime, I expect it [LMS] to be as reliable as the institution's guidance and promises in general: thus not expecting much!

From the perspective of the support staff it was clear that there was a majority of lecturers who were positive about LMS. These were lecturers who regularly seek support in bettering their practice of LMS use and who had experienced the benefits thereof as discussed in the section about reasons for use.

There were lecturers with negative attitudes who arrived at training because they merely had to. Negative attitudes toward LMS use was intertwined with reasons for not using LMS and therefore presented in that section above.

Sub-theme 4.3: Language lecturers' expectations from LMS

Many lecturers referred to their expectations from LMS rather than that of the support staff when questioned about their expectations.

Generally, the vast majority of respondents expected LMS to be an accessible, user-friendly pedagogical tool which allows for pedagogy applied to individual subjects within the curriculum "A stable multi-tool environment". They expected it to enhance classroom practice or to transcend notional contact time and to "provide additional space of engagement with students".

Lecturers were keen on using it as an enhancement tool: "I would like to use it as an extension of the lecture hall to ensure communication with students, and better teaching and learning."

Infrastructure was a concern raised by most where lecturers expected a fully functioning, fast and dependable programme which is always available regardless of the time of day and that it is remotely accessible. Infrastructure as a main theme is discussed in section 4.4.4 hereafter.

Lecturers expected regular upgrades of LMS: development for additional languages was included: “so that it can be more Xhosa friendly and that it should include access to more levels of African languages.” While at the same time the regular updating of the system was also commended (thereby indicating that it was expected): “Look one thing I like about them is that they are constantly updating, trying to make the system more user friendly every year so we always get a newer version of the system.”

It was mentioned that LMS use needed to be prescribed by management

> It must be popularised. Lecturers and students must be inducted. Everybody must find a way to utilize it as a wonderful technology resource.

A support staff member identified the expectation for LMS to be very user friendly in order for it to be used: “So for me LMS … is the main denominator it is the one technology that has to work for everyone. It has to be super user friendly.” This person, as regular user of LMS, furthermore stated that it was not necessarily the case, saying: “It (Blackboard) is not self-explanatory … is not intuitive.”

4.4.5 Theme 5: Infrastructure

It was clearly communicated to respondents that this research did not consider infrastructural issues and that it focused on perceptions and expectations of LMS support, provided by the CIET, and not CTS support. The issue of infrastructure however was raised by a vast majority of respondents, both language lecturers and support staff, and thus emerged as a main theme interlinking with the other themes. It has an effect on how lecturers perceive the support, how they use LMS, their intent to use it and time considerations which are vital for most lecturers. The data are presented as specific concerns and the effect that it has had.

Sub-theme 5.1: Specific concerns that hamper LMS use

Respondents referred to infrastructural issues that hindered their use of LMS: “The Internet is always down and we are without fast moving Internet.” The following specific problems were stressed by many respondents:

- Password, access and logging in
- Internet connections and Wi-Fi
- The system is down
- The system freezes
- Internet speed
- Number of available computers for students

Sub-theme 5.2: The effect of challenging infrastructure

Lecturers felt that the disruptions negatively reflected on their teaching and it created tremendous frustration not only by them but by their students too:

> I think it's a frustration for everyone when the system is down for the students as well as lecturers and it does prohibit good practices.
>
> The breaks in the Internet are very disturbing.
>
> Not being able to log in, then the student would then go off to CTS in the middle of the class.

The infrastructural problems had resulted in opportunities created by CIET. They had implemented Blackboard trainings online over Blackboard Collaborate where lecturers could attend virtually from home.

Support staff had indicated that because of challenges that were faced due to infrastructure the servers for Blackboard were "no longer managed by our on cite CTS department. It was basically managed by Blackboard, Amsterdam." The result of this decision was that the servers were always on with "zero down time". A support staff member concurred: "So even with the Fees Must Fall, if they burn down e-Learning, burn down the IT centre on Bellville, Blackboard will still be up and running."

4.4.6 Theme 6: Student protests

During data collection #FeesMustFall was prevalent and the following data emerged. Though the researcher did not set out to investigate this phenomenon, it was a huge part of the current environment and it created a very unique situation. The researcher did not want to create emotive reaction with the use of these pictures but merely to represent, as accurately as possible the conditions during which data collection took place, and to depict the complex context (for students and lecturers) of the UoT at the time. For this reason, she chose only to include a select few images of the situation from the available data.

Sub-theme 6.1: Physical environment during protests

All campuses of the UoT in question were rife with student protests; creating an atmosphere of distress and uncertainty among students and lecturers alike. There was considerable destruction to buildings and classrooms. The following photographs depict some of the damage that was done on campuses and in residences.

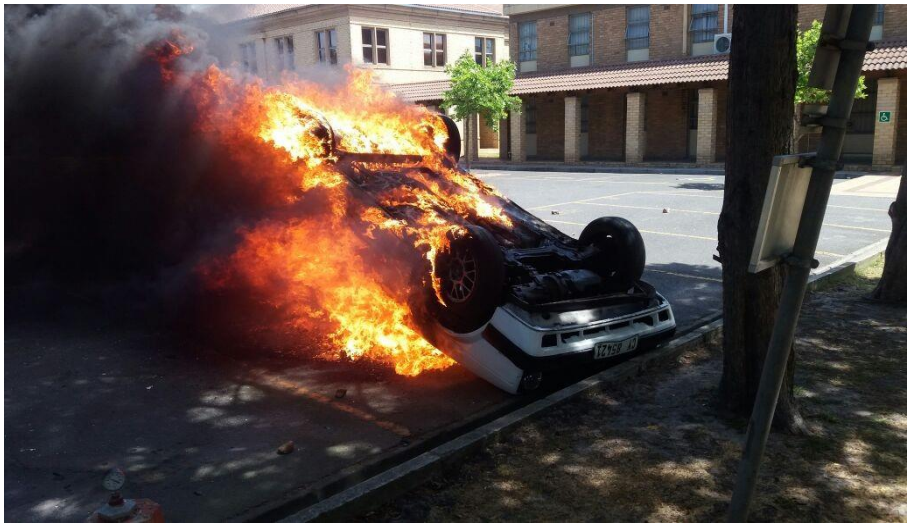

Figure 4.5: A vehicle set alight by protestors on campus (Mentoor-Fredricks & Mentoor-Fredricks, 2016)

Figure 4.6: A plastic bin set alight by protestors with private security securing the main campus (Malgas, 2017)

Figure 4.7: Damage done by protestors on campus 8: Damage done by protestors to classrooms (Bothma, 2016)

Figure 4.8: Damage done to classrooms (Ritchie, 2017)

Figure 4.9: Fire was set to the entrance to one of the campuses (eNews Channel Africa, 2016)

Figure 4.10: Historical buildings on various campuses were set alight (Front National South Africa, 2016)

Alongside damaging property on campuses there were protestors as the following pictures indicate causing further disruptions, chaos and fear. This action contributed to the intimidation factor.

Figure 4.11: Protests and class disruptions (Gallo, 2017)

Figure 4.12: Protestors on campus (Koyana, 2015)

Figure 4.13: Vandals halted exams on campus (Peterson, 2015)

Not only did the protestors spread intimidation emotionally but also physically they interrupted classes. A respondent reported this phenomenon repeatedly with comments such as: “On one occasion we were thrown out of class…”, “some of my lectures were cancelled” and “a lecture to M students had to be abandoned.” Due to increased danger on campus and the physical interruption of classes the university formally had to stop classes causing further disruptions to the system.

Police presence and additional security were seen on all of the campuses.

Figure 4.14: Police presence on and around campuses (Mtongana, 2016)

Figure 4.15: Additional police in riot gear on campuses (Mtongana, 2016)

Sub-theme 6.2: Communication and social media

During protests communication between university management, administrative staff, lecturers and students had to take place via social media. The university management communicated through Facebook with comments such as:

> Today the Cape Town and Mowbray campuses experienced a few incidents of unrest. In Mowbray security managed to contain a crowd of people, who were trying to disrupt operations there. In Cape Town a design studio was set alight, and a section of the Engineering building was maliciously targeted by arsonists. (Cape Peninsula University of Technology, 2017e).

Another example of such communiqué from the acting vice-chancellor, Dr Chris Nhlapo, is:

> After mammoth all day meetings with students and insourced workers I have consulted with the Chair of Council and in the interest of the safety of staff and students we agreed to suspend all activities, which included classes and work for tomorrow (SABC News Western Cape, 2017).

Attempting to continue with classes were blocked as reflected in the following Facebook communication:

> … staff who over more than 2 months have been victimised, traumatised, in some cases assaulted, insulted and abused by the protestors … (Cape Peninsula University of Technology, 2017d).

> Our attempt to resume work today have been sabotaged by a group of students on the Bellville campus. They are currently trying to remove staff and students from their offices and classes. The VC has requested that all staff and students make their way calmly off campus and return home. We will inform you of any updates in due course (Cape Peninsula University of Technology, 2017c).

One student, with regards to class disruptions, described his experience as follows:

> I truly hope that CPUT can meet up to the students' demands so that we may no longer have exams disrupted like this.
>
> I was on campus Tuesday night, to see men with massive guns really brought back flashback of a hijacking experience I was in in Soweto, brought back having my phone taken on gunpoint in Athlone.
>
> Since then I have just been on panic mode (Cape Peninsula University of Technology, 2017b).

Category 6.1.1: The effect of student protests

These experiences together with emotive images (such as those depicted above) spread rapidly fuelling fear and causing low morale amongst non-protestors. Racism came to the fore and powered by political agendas, individuals became aggressive which caused many students to stay away from campuses. Because of the intimidation factor many students, who wanted to attend classes could not.

It became increasingly dangerous for students to be on campus resulting in the suspension of classes and upcoming exams being postponed repeatedly. Yet students had to try and complete the academic year causing uncertainty and extreme frustration. A respondent aptly observed: "I think the situation as a whole not only affected the obvious operational matters, but also intangibles such a morale." Another lecturer referred to the effect that it had on both staff and students:

> Students were stressed and worried about failing and had to be re-assured constantly. The #FeesMustFall had an emotional effect on staff and students which influenced performance.

Lecturers and students were often in contact only through LMS and/or social media. A lecturer comments that “LMS was a lifeline to communicate with students, distribute notes and for students to submit assignments”, another stating that they set up contingency assessments and the “LMS was of great help”. Some lecturers conversely opted for other avenues of technology, saying “I used Google Drive more, and a WhatsApp group, because I couldn’t get the students loaded onto LMS early enough in the semester.”

Lecturers were concerned with the quality of their courses, which were interrupted by protests and the suspension of classes. A respondent remarks on the specific apprehensions regarding language teaching in a communicative approach: “In a third language it’s difficult to teach via e-Learning alone as some language structures require face to face interaction”. Another comment coincides with this concern, “as only 80% of the curriculum was completed in many cases, it impacted negatively on performance”.

A further impact of interrupted classes, and the use of LMS in its place is on students who did not have access to technology. A respondent highlighted this concern:

> Although online communication was effective, not all the students were able to access materials and submit assignments as required and lecturers had to be lenient in this regard, which impacted quality.

This concern is layered as the poor student, who used to access the Internet on campus, at the library no longer could be on campus and did not have the alternative of home internet or any other off-campus internet access.

Another result of the separation between lecturer and student was that the real student’s voice was never heard. The protesters, being a smaller group, intimidated and overwhelmed the majority of students who could not attend class. Lecturers had no physical contact with them and could not ascertain their specific needs at the time.

These disruptions made students and lecturers fear for their safety and caused anxiety. Comments on social media included the following:

> Exams are already stressful and most people go on panic mode before, during and or after an exam. I have an exam in less than 6 hours, since Tuesday night I have been

> in full panic mode the videos and visuals going around on social media …" (Cape Peninsula University of Technology, 2017b).

Students left campuses and many, who live far away moved home, not able to return at short notice nor before protests had stopped completely and there no longer were any threats.

Frustration was experienced by all with Facebook entries reflecting these emotions:

> I have been sitting at home waiting patiently on an answer about whether or not we will continue with our exams. Messages have been sent out but it's nothing worth reading. It's the usual "campus is closed until further notice." What about the students that you claim to care for? We are the ones suffering. Once a "decision" is made we have to cram a huge amount of work in and in a short space of time. Pay us our money back! We're sitting at home learning nothing when we should be learning something. The least you can do is communicate what is going on but as usual nobody knows. (Cape Peninsula University of Technology, 2017a).

The effect that LMS use had during #FeesMustFall concerning time considerations by lecturers is discussed in Section 4.4.3 previously in this chapter.

4.5 Conclusion

In the process of data analysis main themes, sub-themes and categories were developed. The main themes that emerged included the mandate to use LMS and lecturers' overwhelmingly positive attitudes regarding this directive. Support issues are presented here with reference to the generally positive perceptions that language lecturers have of the support service; listing precisely the expectations that they have of an LMS support service. The effect on time considerations that the pedagogical tool offers all parties concerned, is provided here. Data about how LMS was used by language lecturers, the different user types together with reasons for using it as well as not using LMS are deliberated in the preceding section. Not only did data regarding attitudes about LMS support emerge, but also attitudes regarding LMS as pedagogical tool with positive and negative attitudes relayed. Infrastructural concerns, as an overarching influence on all the themes is presented.

This chapter presented the data organised according to the themes, sub-themes and categories, as indicated in Table 4.1 without interpretation or discussion thereof. Chapter Five provides a discussion of the findings that are presented here and conclusions are provided in Chapter Six, where the research questions are revisited.

CHAPTER FIVE

Discussion of findings

5.1 Introduction

The previous chapters systematically provided: first a description of the background with specific reference to the complex context of this study; a discussion about the relevant literature; deliberation on the chosen methodology; as well as a presentation of the findings in this study. In this chapter, conclusions from the findings are deduced and linked to the theoretical concepts (Figure 2.2) which were discussed in Chapter 2. From the findings presented in the previous chapter, conclusions follow here with a concise discussion of each theme, as presented in Table 4.1. Below follows a conceptual map of Chapter 5, Figure 5.1; clearly indicating that in this chapter the thematic conclusions and their implications are presented first, and then the empirical data from this study is correlated with the data from the literature.

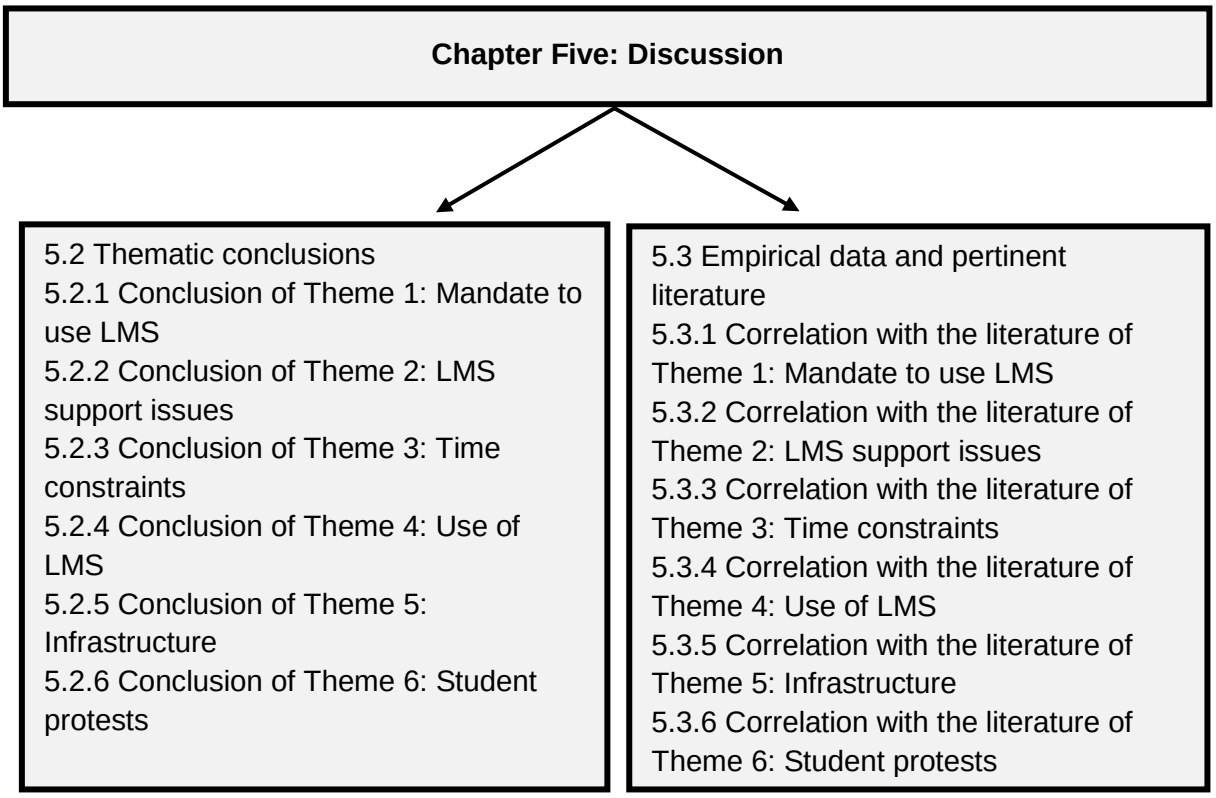

Figure 5.1: Conceptual map of Chapter 5

5.2 Thematic conclusions

In the following section conclusions drawn from the empirical data are discussed in thematic order.

5.2.1 Conclusion of Theme 1: Mandate to use LMS

The findings regarding the mandate are listed here and then followed by a succinct description of each:

- There is a mandate by the university for lecturers to use LMS
- Lecturers are either unaware of the mandate to use LMS, or unaware of the requirements of the mandate to use LMS
- Lecturers have positive attitudes regarding a mandate by the university to use LMS
- The mandate is not communicated effectively
- The mandate, when lecturers are aware of it, leads to LMS use, which in turn causes positive attitudes regarding LMS

Although there is a mandate by the university for lecturers to engage with LMS in the delivery of their curriculum, many lecturers are either unaware of the existing directive to use it, or, for the majority of lecturers who do know about the mandate, there is uncertainty about how to comply with it. Most of the support staff, however, know what the mandate entails. This fact indicates a discrepancy between what is expected of staff and what staff members understand about LMS and its mandated implementation; addressing Sub-question 1 (*cf*. 1.4, page 16).

Lecturers generally have positive attitudes about the existence of a mandate because such policy directives help to clarify the detail of common tuition practice on campus. Lecturers who are not naturally inclined to try new technology in teaching, however, appear to resist the particular mandate about LMS. Some lecturers who were initially negative about the mandate had a change of heart after experiencing the practical value and concurrent positive effects that LMS has on teaching and learning. Benefits specifically perceived or experienced by students encouraged lecturers to try to incorporate LMS further. But other lecturers remained recalcitrant about the innovative technology.

There is, however, no consequence to not using LMS. This lack of a punitive aspect allows some lecturers not to try, or to apply LMS on the surface only; creating the illusion that it is being used systematically. In these cases, lecturers who opt for a perfunctory usage of LMS seldom attain a positive experience of LMS.

The LMS mandate is a policy, which instructs lecturers in a plain and comprehensible manner; expecting staff members to comply with its stipulations. Members of staff are, after all, expected to be familiar with policy documents of their institution. An alternative to a written mandate is to allow policies to filter down to staff members

through faculties via deans and HODs of the university. This channel is ineffective: as proven in this case by the fact that not all staff members know about the directive to use LMS. The CIET, on their own initiative, endeavour to communicate a minimum presence to all staff members but this channel, not being the official communication channel is limited in its efficiency because CIET do not have contact with all staff. CIET interact most often with staff who attend training sessions, or reach out for assistance; leaving a large portion of the staff unaware of the expectations placed upon them.

Although the university mandate to use LMS is accepted by many staff members, there is still a lack of awareness about why the university decided to mandate the use of LMS in the first place. Since there are no disciplinary consequences for failing to use LMS, the mandate has not resulted in changed practices among language lecturers: LMS has not become embedded in their teaching practices. Having a mandate included in a policy is not sufficiently authoritative to convince lecturers to change their teaching practices.

5.2.2 Conclusion of Theme 2: LMS support issues

Lecturers frequently seek support when using LMS: from the CIET or from friends and colleagues. There is often a degree of uncertainty among lecturers regarding the type of support specifically provided by the CIET. First, there is a sense of confusion because some lecturers mistake the CTS (Computer and Telecommunications Services) function for the CIET support function: staff members mistakenly attempt to obtain LMS support from CTS; resulting in negative experiences by lecturers. Second, the CIET offer mainly two types of support: (a) Blackboard training which takes place formally in groups, or individually, and (b) pedagogical assistance with the use of LMS, in small groups or individually. Many lecturers are uninformed about these specific, individualised services although they are generally aware of the formal Blackboard training on offer.

Among an overwhelming majority both on the language lecturer’s side and on the support service provider’s side, there is confidence in the support that is provided. Generally, it can be shown that lecturers experience LMS support, and the attitudes of the support staff, positively. Negative perceptions of the support function are often a result of misunderstanding between the functions of the CIET and the CTS; as two separate services. Lecturers are negative when their time is encroached upon or

when they think that they need to log a call, as is required when contacting the CTS but not for CIET. Lecturing staff sometimes desire immediate results.

Lecturers have the following specific expectations from an LMS support function. Support staff are expected to be:

- encouraging, supportive and helpful,
- knowledgeable enough to supply quality support specific to individual needs,
- able to provide continual training and support, after initial training was delivered,
- able to provide immediate (within reason) support as needed,
- available on campus or in faculty,
- able to delineate clear levels of training (beginners, intermediate and advanced), and ensure that requirements for these training sessions are met, and
- able to train students.

Most of these expectations are reasonable and already being met by the support staff of the CIET. Unreasonable expectations are that support staff should be available at all times; immediately and sometimes even after hours. Lecturers sometimes expect to be able to walk into the offices of support staff, or phone them at any given time for assistance. The support staff, when available, do provide for this need. The CIET, however, is a small central unit and do not always have the staff capacity to meet random visitations. Currently, there is no on campus support for remote campuses. The CIET unit is small and cannot provide continual on campus support. This shortcoming needs further investigation by the university management. Lecturers often expect support staff to design or execute and/or administrate LMS activities for their courses, which is an unreasonable expectation.

Theme 2 addresses Sub-question 2 (*cf*. 1.4, page 16) regarding language lecturers' perceptions and expectations of LMS support. Theme 2 details the non-use of LMS, as formulated by Sub-question 3 (*cf*. 1.4, page 16).

LMS support staff face many challenges in the delivery of support; as revealed in Section 4.4.2 and developed as Sub-theme 2.4 in terms of, challenges of the support function (indicated by Table 4.1). LMS support staff frequently contend with negativity from lecturers; often due to circumstances outside of their control such as infrastructural problems or misunderstanding of the services provided by the CTS or CIET.

There is discrepancy regarding the expectations for support that is either not possible to provide, or unreasonable to expect. Where support is given within the support service frame of reference with the available resources, the expectations are mostly

met. It seems that support expectations need to be actively managed to educate lecturers on the effective use of LMS in their tuition.

5.2.3 Conclusion of Theme 3: Time constraints

Infrastructural problems, described as Theme 5 below, frequently infringe upon lecturers' and support staff's time; resulting in frustration. The confusion between the services of the CTS and CIET cause a delay in support negatively impacting perceptions, and even operation, of the support service.

Lecturers need to spend time on learning how to use LMS; which they are often unwilling to do considering an already heavy work load. Once time is spent on learning how to use LMS effectively, and on designing a new course, it saves time in future preparation and administration. It is possible to use contact time optimally for lecturing, while transcending class time; allowing students to complete tasks remotely; and it allows for immediate communication between students and lecturers outside class time.

Lecturers found that when forced to work with LMS, such as during #FeesMustFall protests, for marking assessments, especially those concerned with language teaching, it is time consuming. Audio files take long to upload, by the student, and to download, by the lecturer.

Time constraints extend to the complex needs of staff; LMS offers immediate interaction and can be sculpted to specific needs, comprising an appropriate or suitable application tool, if time is invested correctly in preparation.

5.2.4 Conclusion of Theme 4: Use of LMS

The many advantages of employing LMS have been demonstrated: there are many language lecturers willing to use LMS who fall into the "early majority" category (*cf*. 2.2.4.3). Table 5.1 pinpoints the reasons for using LMS, and for not using LMS. The reasons are provided, and then briefly discussed below in the table.

Table 5.1: Reasons for using and for not using LMS

Reasons for using LMS	Reasons for not using LMS
1. Mandate to use LMS	1. Lack of knowledge about the mandate
2. Convenience	2. Not meeting language specific needs, inconvenience
3. Enhancement of classroom practice	3. Enhanced classroom practice through other forms of technology
4. Benefits for students	4. Negative student experience
5. Time saving	5. Time constraints
6. Environmental concerns	6. Infrastructure
7. Personality type and attitude	7. Personality type and attitude
8. #FeesMustFall	
	8. Not knowing what LMS offers

The mandate to make use of LMS has resulted in many lecturers employing this system in teaching. But there still are lecturers who are not converted or overtly resist incorporating LMS into their tuition programme. This recalcitrance may partly be due to ignorance of the mandate about LMS, what LMS entails, or the manifold benefits of this pedagogical tool. Not knowing about a directive to use LMS prevents such lecturers from benefiting from LMS.

Many lecturers, upon experiencing the benefits, feel confident and then commit to further LMS uptake. The remarkable versatility and applicability of LMS matches the desire of those lecturers, who are further advanced in use and interest, to enhance classroom practice; creating a blended learning environment or flipping the classroom. Conversely, however, if LMS does not meet lecturers' specific needs (due to a lack of knowledge, negative experiences or perceptions about the tool), they tend either not to use it or they seek other forms of technological tools to fit their purpose: tuition is more laboured, and less congruent with students' own familiarity with technology and expectations of its use. Such resistant lecturers tend to fall behind in delivering their programmes and students show little support for outdated tuition. Convenience of use and enhancement of classroom practice generally lead to students experiencing LMS positively; which in most cases encourages further uptake by language lecturers. There are, however, various reasons for students to be negative about LMS; including personality types and infrastructural issues. When they complain, lecturers may be discouraged and often refrain from using it.

Most significantly, LMS saves time. When lecturers plan and apply LMS in a pedagogically grounded manner, they save time in terms of classroom attendance time, assessment supervision and administrative tasks. Some lecturers, LMS sceptics, consider it to be time consuming to learn how to use, prepare, implement and manage LMS in their teaching and learning practice.

An obvious benefit of LMS is that it saves paper: which is aligned to environmental and conservation goals. If lecturers and students choose to print out their notes or lists, this practice undermines planetary goals for preserving trees and forest, and reducing deforestation.

After reviewing the advantages and disadvantages, benefits and impairments of LMS use, a pertinent issue is the role of individual personality type with regard to the effective use and uptake of technology in teaching. Some language lecturers are amenable to learning about new technology, while others are reluctant, resistant or recalcitrant about learning how to incorporate systems such as LMS into their tuition. LMS support has to know how to identify different categories of personality type as noted by Rogers (1995) and learn to encourage laggards, late majority and early majority users alike.

Regardless of all the reasons provided above for using and not using LMS, #FeesMustFall has forced some and many lecturers to use LMS. In so doing otherwise reluctant language lecturers have been obliged to employ LMS and have discovered inadvertently some of the practical values of using LMS.

Lecturers are in the main part as positive about the mandate for LMS as they are about LMS as a pedagogical tool. There is a somewhat ambiguous willingness by lecturers and management alike, to use LMS. Some lecturers either do not know about the expectation, do not know what the pedagogical tool can do or feel that they do not have enough time to learn, or are hampered by instability of infrastructure. Lecturers themselves are occasionally intimidated by new technology. Students can be resistant to its deployment. Lecturers in turn do not want to make the investment of time and effort if students respond unfavourably. The majority of lecturers anticipate that if these aspects were addressed and in place, they would use LMS: agreeing that LMS should be part of a holistic goal in South Africa, to uplift the educational context (*cf*. 2.2.1).

The amount of time needed to master LMS has deterred many lecturers from incorporating LMS into their tuition programmes. But in the long term LMS saves considerable time in the hands of a knowledgeable lecturer with strong pedagogical underpinning.

Regarding Theme 4: In terms of LMS use, language lecturers in the sample group of this project have indicated specific expectations of the pedagogical tool: any LMS system should be:

- accessible
- user-friendly
- a pedagogical tool that enhances teaching and learning
- stable
- current

Unless these expectations are met, language lecturers are not generally ready to incorporate LMS into their teaching programmes or devote the necessary time to learning about LMS.

5.2.5 Conclusion of Theme 5: Infrastructure

Unstable infrastructure and technical problems result in frustration which, affects students, lecturers and support staff alike; negatively influencing perceptions of support, use of LMS as a pedagogical tool and readiness to learn about it or deploy it. Infrastructural issues range from technical problems, such as password problems, logging in and access concerns, to physical difficulties such as unavailability of computers lack of internet speed, and Wi-Fi and system interruptions.

Language lecturers in the sample group studied in this project are particularly concerned about the negative effect that this kind of interruption may have on the quality of teaching and learning impacting negatively on the student. Problems associated with infrastructure discourage lecturers from relying upon LMS. This impediment of infrastructural failures could constitute a support challenge.

5.2.6 Conclusion of Theme 6: Student protests

Student protests had far-reaching consequences; primarily affecting students, lecturers and the environment: which are three of the key concepts in this investigation. It is inevitable that protest affected the support function and LMS utilisation: these elements are intricately linked. The chaotic and disrupted physical environment adversely affected students and lecturers. The physical environment

during the protests was one of devastation and disorder; with damage to buildings, classrooms and vehicles on campus. The atmosphere was filled with fear and intimidation. Students were anxious and scared; as were lecturers who had to adapt their teaching approach during such trying times. Lecturers felt intimidated and frustrated with concern for themselves and for the safety of their students, and for the quality of their courses.

Both the physical environment and the atmosphere resulted in interruptions of classes; forcing lecturers and students apart, and allowing only for LMS or social media as a functional method of communication between the two. This resort to technology, handicapped many students who lacked access to the Internet; resulting in an even larger divide between students who could afford internet access and those who were unable to. Students often access the Internet on campus and in the library, specifically. The protests caused damage to such a degree that classes were disrupted and access to technology was severely hampered. Students who were in dire need of internet contact, could not continue with their work. Some affluent students could afford alternative means of internet access and could continue with academic activity via LMS; a luxury not available to all.

The disruption of student protests compromised the verifiability of some of the key findings of this research project. The mandate to use LMS, LMS use, support services, time and infrastructure were viewed and experienced in a different light during these protests. Lecturers did not deploy LMS out of a pedagogically enlightened willingness to do so but out of necessity. This change in emphasis necessarily adjusts the nature of the findings as they would have been rendered during a year of tuition uninterrupted by protest. Driven by necessity to communicate with students and to conclude academic activity, lecturers, more than before, utilised LMS; allowing them to experience a multitude of its practical benefits.

The increased uptake of LMS during protests inevitably heightened the demand on the support service: lecturers suddenly needed immediate support. The support function is strained, under usual conditions because it is a small unit but it suddenly and unexpectedly was obliged to provide for urgent demands from lecturers. During protests support staff were forced away from their building and could at times not provide for any of the lecturers' needs. Support staff members endeavoured to supply as much support as they were able to give, working from home where possible.

Time invested in preparing and learning how to use LMS was suddenly less important or mattered less as the need for communication was the primary concern. Lecturers were willing to learn new methods of communication for teaching because they were compelled to do so by circumstances.

Infrastructure mattered less with lecturers willing to use LMS; regardless of previous concerns or perceptions about infrastructural problems. Lecturers and students both were willing to attempt to use new technology such as LMS. Perceived lack of support, time and infrastructure may have been reasons for not deploying LMS previously but unique circumstances of protests forced many language lecturers to learn about LMS.

5.3 Empirical data and pertinent literature

An extensive literature study was completed prior to data collection regarding the theoretical constructs for this study; as indicated in Section 2.2. The following section deliberates on the data from this study; linking it to the findings from the literature. Correlations between the empirical data and the literature are tabled according to themes below: findings additional to the literature are highlighted.

The literature investigated comprised five key c: the student, the language lecturer, LMS, LMS support function, and the complex environment (illustrated in Figure 2.2). The literature review explored the service delivery industry with particular focus upon perceptions and expectations of service quality.

The empirical findings were discussed in Section 5.2 according to the identified themes. Each theme concluded with a main finding for that theme; considered in terms of the reviewed literature. Similarities and differences are viewed in terms of the conceptual framework. Answers to research questions are based upon the interpretation which fallows the discussion.

5.3.1 Correlation with the literature of Theme 1: Mandate to use LMS

The literature indicated that institutions internationally as well as locally expect lecturers to use an LMS for the delivery of curriculum (Pirani, 2004; South Africa, Department of Higher Education, 2013). Empirical data accordingly indicated that lecturers at the university in question are expected, through policy, to use LMS. The mandate to deploy LMS is often the reason why lecturers do use it. Once they experience the benefits, they tend to incorporate it more into academic activities.

Empirical data indicate that there remains a discrepancy between the mandate to deploy LMS and how well language lecturers in this sample comprehend (i) this mandate and (ii) the communication channel between management and lecturers. The majority of lecturers observed in this specific project claim not to know about the directive to use LMS or what they are expected to do with it in academic teaching. Data specify that lecturers generally experience the mandate to use LMS positively. Lecturers feel that it contributes to their academic programs and that the student benefits from its incorporation into tuition. The mandate to use LMS, though perceived in a positive light by many, is not authoritative enough to oblige all lecturers to use it. Efficacy of a technological system such as LMS depends to a large degree upon universal acceptance and deployment. Partial resistance compromises the whole to a significant extent.

Student protests and resulting class interruptions made it difficult for the researcher in this project to determine with accuracy some aspects of LMS deployment. Lecturers during difficult times were compelled to use LMS in teaching activity; regardless of an existing mandate to do so or whether lecturers knew what they were supposed to do with it. Language lecturers observed in this project often used LMS in whichever way they needed in order to communicate with students and to conclude academic activity. Such lecturers were not intent on using LMS to its fullest extent or highest capabilities.

The fact that lecturers fell back on LMS as an expedient, not an asset, implies that under other circumstances, without protests, language lecturers in this sample may refrain from deploying LMS. Finally, the implication is that lecturers will use LMS if necessitated by circumstances and where it is practical and not necessarily because of a mandate by the university to do so. If the aim of the university is for lecturers to use LMS for teaching, neither a policy nor communication of the expectation is authoritative enough to oblige them to do so. The directive to use LMS needs to be integral to teaching. The university needs to encourage lecturers to use LMS more strongly: by demonstrating the practical value of the pedagogical tool in the teaching process.

5.3.2 Correlation with the literature of Theme 2: LMS support issues

The findings from the literature indicate that LMS support has been identified as one area that is important to the successful implementation of e-Learning (Govindasamy,

2002:289; Czerniewicz, 2007:97; Bozalek et al., 2013:420; Gavriushenko et al., 2015:304; Uppal et al., 2017:1). It cannot be assumed that lecturers know how to apply technology in their teaching or that it should be taught and supported (Govindasamy, 2002:287; Brown & Gachago, 2013).

The TPACK framework and CALL emphasise the importance of integrating technology into teaching and the interconnectedness of knowledges (Chapelle, 2008; Mishra & Koehler, 2006) for technology use to be successful. Studies show that the integration of technology in educational practice is a complex innovation for teachers and that teachers, according to, struggle to integrate technology into their teaching (Voogt & McKenney, 2017). Success is reliant on a combination of knowledges: technology, pedagogy and content. Technology use should be supported with these elements in mind (Benson & Ward, 2013; Turgut, 2017; Voogt & McKenney, 2017). The empirical data shows that the support function does not fully incorporate the various knowledges but that there are facets of the CIET where staff members work with individual lecturers within individual contexts, supporting lecturers as they are able. The staff do not necessarily possess content knowledge and in some cases pedagogical knowledge, with specific reference to language teaching, which identifies an area for development.

Management is the driving force behind an adequate support function and need to incorporate it into training and support programs for lecturers (Czerniewicz & Brown, 2009; Stoltenkamp & Kasuto, 2012; Islam, 2014; Bytheway et al., 2017). The empirical data support these findings: lecturers need and use the support function frequently and they do not necessarily know how to use LMS as a pedagogical tool. For this they need to be informed about the advantages of the tool and be trained in its use. Given the specific circumstances of the university in this case the university management needs to drive and encourage LMS uptake.

The literature specifies that personality types of users need to be taken into account when lecturers are supported (Rogers, 1995:242), and that context is to be considered (Stoltenkamp & Kasuto, 2012; Lee et al., 2016). Language lecturers have varying interest in the use of technology when teaching and a support function should identify resistant types in order to adapt support for difficult cases. A changing context affects the needs of users which ought to be considered by the support function. Without adequate support, lecturers often fail to use LMS optimally (Brown & Gachago, 2013). The empirical data confirms the integral role that the support

function plays in lecturers' use of LMS, and that their personality types, and the context, require different support approaches. In this study there was an already complex and changing environment which is exacerbated by student protests. These elements have had a profound effect on LMS use as discussed in Section 5.3.6.

The misunderstanding that lecturers have regarding the support that is offered by two different support functions, LMS support service that the CIET offers, and the technical support offered by CTS, are peculiar to this case study. LMS support function is provided specifically through the CIET unit of this university, and is separate from other support functions. Confusion among language lecturers about the difference between CTS and CIET may appear to be slight but it can cause delayed support and negative perceptions of the support service for LMS. Such perceptions can lead lecturers to avoid LMS and the provided support; which in turn leads to lesser use of LMS. This difficulty can be overcome, however, through clear communication channels. It is the responsibility of management, faculties, deans and HODs to ensure effective communication services to language lecturers. Visibility of the support unit is a possible way to address this concern.

The current support unit is a small and central unit operational throughout the university but situated on two main campuses. Though they are available to smaller campuses they are not located on each campus. This is a void, where they are neither available nor visible. Support in a decentralised environment, that is to say widespread faculties, creates difficulties; especially where there is distance between the support unit and lecturers. This obstacle may not be specific to LMS support, though CTS have on campus support on satellite campuses. The CIET unit, remains understaffed; so that lecturers are not always able to service the high demand placed upon them. One staff member is new to the unit and inexperienced; causing further strain on other support staff. These findings resonate with the literature; confirming that service quality (Berry et al., 1994:32) is compromised by insufficient resources.

The empirical data indicated an overwhelmingly positive perception by language lecturers regarding the CIET and particularly the staff who work there. These findings are consistent; regardless of personality types of technology users. The expectations pinpointed in the first section of this chapter (*cf*. 5.2.2) are additional and not corroborated by the literature. An effective support function should comprise staff members who are friendly and helpful, professional and knowledgeable and readily available to assist. Knowledgeability refers not only to technology knowledge, but

also to the knowledges identified by TPACK (*cf*. 2.2.3.2), where there is understanding for the complexity of teaching and the interrelatedness of pedagogical knowledge, content knowledge and technological knowledge. This factor contributes towards a successful and positive support experience by the lecturer which in turn could encourage language lecturers to rely more heavily upon LMS. It is imperative to employ experts in the support function who understand these human factors, who meet these requirements, and who understand LMS in an educational environment as suggested by TPACK (Koehler & Mishra, 2009:63). Support staff familiar with these concepts, and experienced within the unique context of use provide a better quality service, better incorporating technology use for language lecturers.

5.3.3 Correlation with the literature of Theme 3: Time constraints

In a professional milieu it is important to work efficiently, especially in terms of effective time management. Time management was not included as a theoretical construct in the literature but it is embedded throughout. Students have limited time to complete their academic activities because they have large workloads. LMS is a tool for optimising time limitations for lecturers and students who have severe time constraints. Lecturers work within set time frames and need to deliver academic material as quickly, effectively and efficiently as possible. LMS by its very nature is a fast and immediate pedagogical tool primarily used for effective and enhanced academic conduct; with the benefit of saving time for the lecturer and the student. The goal of LMS use is thus partly to save time.

The empirical data in this regard explicitly specifies that time is an essential concern for lecturers and support staff. All aspects of LMS implementation need to take time into account. Training should be efficient, as should learning how to implement LMS, in order to reap its benefits promptly. It should not be a drawn out process. Lecturers become discouraged when they perceive e-Learning to take too long both in preparation and in execution.

Lecturers expect CIET to be prompt in response and in providing support. Language lecturers observed in this sample group desire the fastest possible route to support and often think that asking a colleague is faster than the information CIET may provide. Language lecturers in this sample expected support staff members to be available whenever support was needed; without understanding the demands already placed on the support function and training that is taking place constantly.

5.3.4 Correlation with the literature of Theme 4: Use of LMS

Findings from the literature specify that there are different types of LMS users; ranging from laggards to champions. This knowledge of a range of personality types needs to be taken into account when supporting individual lecturers (Rogers, 1995:242). These individuals have specific characteristics and demand various levels of assistance from support providers, Mohammadi (2015:372) recognises the importance of the support provider's awareness of human and social factors in this regard. Rogers suggests individual support in a social context according to the time that it takes the individual to overcome fears and adopt the technology with confidence. Empirical data confirm a variety of LMS user types. The literature accentuated that LMS as a tool should be based on pedagogical principles, which the empirical data underscores. The TPACK model emphasises the importance of various knowledges that have to synergise when incorporating technology in academic activities and the fact that lecturers do not necessarily possess the ability to implement technology in teaching. Lecturers have to be shown, supported and equipped to use the technology optimally. Language lecturers need more knowledge regarding the application of technology to language teaching: they require a combination of content and pedagogical knowledge, as well as knowledge of the appropriate technology. The role of the support service in this regard is pivotal as language lecturers need to be knowledgeable beyond the lecturer and be able to incorporate the different knowledges into their support approach. Supporting with technology (or pedagogy, or content) is not enough. Integrated support with all of the elements are the key to successful support.

Table 5.1 in the first section of this chapter indicates reasons for lecturers using or not using LMS. A majority of the reasons for using LMS confirms the findings from the literature; namely the expectation to use it as a result of an existing mandate, the convenience of the tool which contributes to enhanced classroom practice to the advantage of the student, and personality types causing people to use it. Time saving, though not explicit to the literature findings, is incorporated in efficient and quality support. It was, however, added as an explicit finding from this study. Similarly, though #FeesMustFall is not mentioned in the literature findings, it is an additional element which compromised many of the findings concerning use of LMS.

Infrastructural concerns were mentioned in the literature regarding the complex context of higher education in South Africa; causing negative perceptions (Central

Intelligence Agency, 2017). This aspect correlates with the empirical data; providing infrastructural problems as a deterrent for lecturers to use LMS.

Empirical data supply explicit reasons for reluctance to use LMS: the lack of knowledge about a mandate to use LMS, LMS not meeting lecturers' specific needs, negative student experiences and time constraints hampering use and contributing to negative perceptions of e-Learning. The TPACK framework encompasses these reasons: lecturers do not necessarily possess the combination of knowledges as suggested by TPACK. They seem either to have content knowledge and/or pedagogical knowledge and may lack technological knowledge. Where they do have technological knowledge there may be a breakdown in relation to the other knowledges and their sensitive interactions.

5.3.5 Correlation with the literature of Theme 5: Infrastructure

Findings in the literature point to negative effects and added strain caused by unstable infrastructure. There are social challenges too that face many students in the study; as discussed in Section 2.2.1.2, largely the result of poverty and inequity (Baloyi & Isaacs, 2015; Central Intelligence Agency, 2017). Many regions in South Africa experience unstable electricity supplies. These elements combined culminate in further complications; causing a complex environment for higher education (Bozalek, et al., 2013:419).

The empirical data show that infrastructural problems include internet connectivity and speed, availability of computers and technical glitches such as password problems and access, and power outages. These problems result in frustration by students, lecturers and support staff alike; reflecting adversely upon the perception that students and lecturers have of LMS, and the support function. The frustration often it is misplaced because it is as a result of infrastructure and not through any weaknesses in the support function. Lecturers may become unwilling to use LMS in unstable conditions because they are not interested in investing in time with something that is perceived not to work; they may be concerned for the quality of teaching that they provide to their students.

Internet connectivity and computer availability on campus tends to affect poor students more than others because where some students can access the Internet off campus and with private computers it is the poor student who faces additional challenges; having no internet and/or no computers when infrastructure is added to

the list of problems. The following section discusses the effect of student protests, which links to infrastructure and points out that poor students are affected negatively by infrastructural complications caused by protests. In the instances where students and lecturers are separated by protest, LMS may be used as a communication tool and in the delivery of academic activity between the student and the lecturer. But the poor student faces further trials, often having no access to technology and therefore often excluded by the LMS. That which was meant to bring about communication and change further caused divide between those who have and those who don't.

5.3.6 Correlation with the literature of Theme 6: Student protests

Higher education in South Africa is further affected by ongoing student protests (Baloyi & Isaacs, 2015; Fihlani, 2015; Draper, 2016; Hauser, 2016; Henderson, 2017). The combination of this and other negative socio-economic elements causes a strained and unequal teaching and learning environment (Frempong, et al., 2013; Baloyi & Isaacs, 2015; BusinessTech, 2016b; Qobo, 2017). Lecturers are challenged, and language lecturers particularly so. Language lecturers are tasked with equipping students to communicate effectively on an academic level. Given the already complex history of racial injustice in South Africa the admixture of new and largely unexpected educational, financial and infrastructural difficulties are testing for the average South African student. The demand set by multilingualism and low literacy levels across the country exacerbate the student's plight and increase the pressure on language lecturers in particular to raise levels of literacy and critical thinking at a fast pace.

The empirical data from this study corresponded with the literature germane to this area; indicating that the student protests cause chaos, fear and disruptions (Hauser, 2016). The literature and empirical data substantiated the view that protest action is causing further division in South Africa; especially in higher education.

Student protests are borne form a need to assist students who cannot afford university tuition; often the result of social inequalities carry over from apartheid. Data from this study suggested that the protests deepened divides between students; between those who have and those who do not. The students who can afford off campus internet access could continue with their studies during suspension of classes, while students who could not access the Internet off campus could sustain

their academic activities. LMS in such situations benefitted privileged students but punished poor students for whose benefit most of the rioting was said to be staged.

The consequences of these repercussions are extensive and affect lecturers and students alike. Support services here are key because under these extreme circumstances lecturers needed to be equipped to work with LMS, and to do so at short notice, regardless of their previous LMS capabilities, or knowledge of e-Learning. Support services need to assist lecturers in these instances: the problem of students not being able to access technology is a domain that begs further research. No amount of support for lecturers can solve the problem of students who do not have access to technology. There is a need for additional support for students who are excluded from e-Learning during trying times.

There were physical consequences to #FeesMustFall as well as intangibles affecting student and lecturer morale; causing general chaos on campuses. The empirical data from this investigation confirms the dire situation, which is sketched in the literature highlighting the destructive physical environment during protests, where buildings and venues were damaged. The emotional atmosphere of chaos, intimidation and fear is fuelled by violent protestors, media and social media while the disruption of classes caused further levels of disruption and chaos.

An additional result of the student protests which emerges from the empirical data, is the concern for quality education provided by the university. Lecturers have been trying to maintain a high quality of teaching, and have been severely challenged to be creative in this regard; adding to an already complex and strained learning environment. The positive outcome from the interruptions is that #FeesMustFall accelerated LMS uptake and allowed lecturers to experience the benefits, and more possibilities that the tool affords. Lecturers have been considerate to students under these conditions and have endeavoured to assist students, using various means of communication often leading to the use of LMS, and other forms of technology including social media.

#FeesMustFall was a game changer which affected LMS use and its support. During disruptions many lecturers used LMS regardless of a directive to do so or an awareness of such a directive; with little awareness of their perceptions or expectations of support services and quality of support, personality types, or amount of time that it took in preparation or delivery of content or infrastructural challenges.

Lecturing staff shared the common goal of completing an academic programme for the year; irrespective of the challenges which they faced doing so. Though a majority of lecturers used LMS in that time, not all continued to do so after circumstances returned to the usual conditions without protests.

Support issues remain a priority during the normal day-to-day activities of a university. Preparations for possible future disruptions caused by protests or any other factors are being made. The support function has to support lecturers during regular LMS use and to equip them in preparation for future use. Lecturing staff may be forced to use LMS as the only mode of communication. Supporting students during trying times is an area identified for further investigation.

5.4 Conclusion

In this chapter the findings of the investigation into implementation of LMS were discussed by theme and in relation to the data from the literature findings. Language lecturers are expected to use LMS during academic activity, though they are often unaware of the existence of a mandate to do so or of what such a directive entails. They need frequent support in e-Learning and have specific perceptions and expectations regarding quality support that needs to be rendered. Knowledge of the TPACK framework is important for both the language lecturer and for the support provider. CALL and TPACK identify the intricate working of the different types of knowledge in incorporation of technology in teaching practice. Support cannot be functional if one or another aspect is being supported. All of the knowledge domains, such as content, pedagogy and technology need to be integrated with the support approach. Time is essential and most professionals strive to work proficiently which means that when language lecturers use LMS they want to learn how to do so fast and efficiently, they expect prompt support and effective application of this tool. With different types of knowledges, a suitable LMS will be applied effectively and efficiently as needed.

Infrastructure should not hamper this endeavour but support its proficient application. There are various personality types when referring to lecturers who are tasked with learning about and deploying LMS in their tuition. Experts who use technology and support services should bear this in mind when working with individuals, supporting them as optimally as possible. Finally, student protests have scarred the academic landscape of the country and had a particular impact upon LMS use; affecting all the

aspects that surround its use, and specifically so the support function, which has to operate professionally under ever-changing and demanding circumstances.

The following chapter concludes by revisiting the research questions, identifying the contributions of the study and by providing recommendations. The limitations of the study are acknowledged and possible future research is identified.

CHAPTER SIX

Conclusion and recommendations

6.1 Introduction

The initial and stated aim of this research investigation was to assess how language lecturers at a university of technology perceived LMS support and what they expected this system to deliver. The working hypothesis of this investigation, before data were collected and analysed on the topic, was that for lecturers to use LMS optimally language lecturers need effective training, support and empathetic persuasion to engage with new technology. After data collection and analysis, it is possible to test the initial purpose and working hypothesis of this investigation. A more nuanced and three-dimensional understanding of the early understandings of the problem emerged after analysis and identification of key themes. Optimal LMS use relies upon a range of factors including rigorous interaction between technology, pedagogy and content knowledge as indicated by Mishra and Koehler (2006) in the TPACK framework, and underscored by CALL (Davies, 2008). Effective and quality support is both a quantifiable and objective service, and a subjective perception which may be viewed in markedly different ways within the context of the service delivery industry; depending on the user's view and the that of the support provider. The research largely endorses the findings of Heller (2006:4) that "perception justified or not, is fact". This enigmatic formula infers the trustworthiness and existence of various opinions regarding support quality; making it difficult to condemn, praise, define or determine performance of service delivery or usage too easily. This area of depth and nuanced understanding is where the researcher found a niche in research.

The researcher set out to determine the perceptions of service from the point of view of the language lecturer versus that of the support provider. The language lecturer was specifically chosen given the complex context of the educational environment of higher education in South Africa. Language lecturers have the explicit task, within this intricate context, of preparing students to communicate on an academic level across subject fields; making them a viable subject for investigation. This chapter concludes the thesis and the research investigation as a whole by synthesising the findings presented in Chapter 4. In Chapter 5 these findings were discussed thematically and related to relevant literature: with reference to the main research question and specific objectives of the study as stated in Chapter 1. Section 6.2 addresses the

main research questions and sub-questions; while presenting a framework for improving LMS support within a university of technology in South Africa; followed by possible strategies for addressing the central concerns.

Section 6.3 highlights the main contribution of the study to the research field as it stands currently; with recommendations in Section 6.4. The limitations to the study and possibilities for future research are deliberated in Sections 6.6 and 6.7. Final thoughts are shared in the concluding paragraphs.

6.2 Conclusions related to the research questions

In Chapter 3 it was determined, after examination of research methodologies, that a qualitative-based case study would have yielded the most reliable and useful findings for an investigation of this nature. I wanted to understand the specific situation of LMS support within a multi-complex environment at a UoT, in South Africa. I aimed to determine what the perceptions and expectations of the support service were from the point of view of a language lecturer. From this perspective and through the findings from the empirical data, I identified discrepancies or gaps between expectations that the user had of LMS, the language lecturer and the provider, or LMS support service. This disjunction in expectations between user and provider was viewed and analysed according to the theoretical assumptions and methodologies of a conceptual framework for LMS support. The alignments and differences that emerged are depicted in Figure 6.1 (page 181).

Following the analysis of data as well as the interpretation and discussion, this section combines the findings in an attempt to address the overarching research questions. There were two main research questions that guided the study (*cf* 1.4):

1. What are the relevant elements of an e-Learning support service to language lecturers in a complex higher education environment where technology facilitates pedagogy?

2. How should LMS support services for language lecturers address the gap between the intended and actual use of technologies to enhance language teaching practices in a complex higher education environment?

The sub-questions below further guided the investigation:

1. What are the issues around the intended use of LMS versus its use in practice?
2. What are language lecturers' perceptions and expectations of LMS support?

3. Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?
4. What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

In order to answer the main questions, the sub-questions are addressed first; building towards the response to the main question. The researcher addresses these questions below as directly and succinctly as possible.

Research Sub-question 1: What are the issues around the intended use of LMS versus its use in practice?

There are two kinds of intent when referring to using LMS. First, there is intent by the university for lecturers to use LMS which is a policy. The other type of intent is that of a language lecturer's personal intent to incorporate it into the delivery of curriculum and during academic activities.

The first concern regarding the university's intent for lecturers to use LMS, was contrasted to the actual use of LMS. There exists a mandate through policy but not all lecturers were aware of the mandate. Left to their own devices some language lecturers did not necessarily avail themselves of LMS. Other lecturers incorporated technology into their tuition programmes. From this research investigation it could be concluded that:

(i) The communication channel between management and lecturers was ineffective: the expectation for use did not filter down to lecturing staff; indicating a significant discrepancy between lecturers, management and support staff.

(ii) Since LMS is mandated as policy, lecturers ought to know about the expectation to use LMS. But it appeared that where faculties or heads of departments "bought into" the use of LMS and incorporated technology, the converse was true and lecturers applied technology. Where faculties and heads of departments did not encourage the use of LMS lecturers were less likely to apply technology to teaching.

(iii) The second concern about the mandate is that even with the instances where lecturers knew that they should use LMS, there were no disciplinary consequences for failing to incorporate LMS into tuition programmes. Lecturers were free to use or not to use the system depending on whether

they wanted to use it or not. The university did not necessarily want to force use and preferred not actively to encourage the use of the technology.

(iv) Lecturers often intended to use LMS but did not perceive it to be able to do what they expected from it. They wanted it to be “fit for purpose”, or suitable to their pedagogical needs, and often did not know how to achieve their purposes with the technological tool freely at their disposal. Language lecturers within the sample group tended to give up too easily; generally frustrated by the amount of time that it took to learn how to incorporate technology. This aspect linked with personality types mentioned in the following paragraph. The matter of a combination of content knowledge, pedagogical knowledge and technological knowledge, as identified by the TPACK framework (*cf*. 2.2.3.2) is relevant here. Where these integrated knowledges are not present, the technology cannot successfully be incorporated. A discrepancy was identified between the needs of the language lecturer and his or her knowledge of what the technology offered.

(v) When referring to technology use there are different personality types identified by Rogers (1995) (*cf*. 2.2.4.3). There are always champions or innovators who lead and use the technology regardless. There are laggards too, who are not keen on trying. The range and presence of these personality types in various departments often led to uptake or failure to use new technology. Generally, lecturers tended to be influenced by those around them and their teaching methods. The identified champions in a group exposes colleagues, who might naturally shy away from technology use, to different teaching methods. This may appeal to their curiosity and in turn encourage them to want to reap the perceived benefits of technology.

(vi) Another issue regarding the intended use of LMS is perceived infrastructural problems which hampered its deployment. In the past there have been interruptions caused by infrastructure such as power outages that have led to lecturers’ and students’ negative experiences of and perceptions about LMS. These problems had, however, been addressed to a large extent. Yet some lecturers still perceived this issue to be a reason for not relying upon LMS. This concern, however, links a concern previously mentioned regarding personality types. The inability to distinguish between CTS and

CIET was an additional factor which caused a negative perception regarding infrastructure. CIET was seen to be able to solve problems such as internet connection, password problems or amount of available computers on campus.

The matter of intended use comparative to the actual use then comes down to the mandate; either this mandate was unknown to the lecturer or the lecturer simply chose not to respect it; with no consequences to that choice. Ignorance of how to apply technology to teaching, and the affordances of the LMS, led to lecturers perceiving LMS as falling short of what they intended it to do. Certain personality types at times inhibited the actual use of LMS. Infrastructural problems experienced in the past contributed to the difference between the intent of lecturers to use LMS and its uptake in practice.

An interesting and important observation that has come to light during the investigation is that the above description is applicable to the usual yet complex conditions of the university. #FeesMustFall (*cf*. 5.2.6) however has definitively changed LMS use and the intent to incorporate it under extreme conditions where students and lecturers have been driven apart. During those trying times lecturers used LMS regardless of intent either by themselves or by the institution; they merely used it because they had to when there was no other choice. It is observed that this is applicable only during those conditions. The situation returns to status quo where lecturers chose not to use it when they do not need to. The possible lack of knowledges of pedagogy, content and technology, and how they interact may be a reason for this. Lecturers, during the trying and stressful times of #FeesMustFall, often used technology in a perfunctory or expedient manner; lacking the knowledge or interest to incorporate the technology into the pedagogical way intended. This brings another correlation to the TPACK framework. Lecturers, when under pressure to incorporate technology, intended to use it in ways that are embedded in pedagogy, but because of their lack of interrelated pedagogical and technological knowledge, and support were largely unable to incorporate the technology in a methodologically sound manner.

Research Sub-question 2: What are language lecturers' perceptions and expectations of LMS support?

This enquiry encompasses two aspects from the point of view of the language lecturer: lecturers' perceptions of LMS support on the one hand, and expectations of LMS support on the other. At the UoT in question there was an overwhelmingly positive perception of LMS support function and an appreciation for the support that staff members provide. The staff at the support service were generally perceived to be professional, knowledgeable, friendly and efficient. There were negative perceptions of the support function which was caused by confusion between the different purposes of the technical support (CTS) and LMS support functions. Negative perceptions were noted regarding a time delay in provided support where lecturers sought immediate support and/or on campus support which was not always available or deliverable due to the support unit being small, central and understaffed.

The empirical data identified both reasonable and less reasonable expectations with the following list of reasonable expectations (*cf.* 5.2.2) that language lecturers had of the support function. The elements are provided in bullet form below and then each one is briefly discussed:

- Support staff were expected to be supportive, approachable and courteous
- Support staff were expected to be highly competent and professional, providing group training as well as individual support
- Support staff were expected to provide continual training and support
- Lecturers expected prompt response to their queries, and when needing assistance
- On campus support was needed with satellite campuses
- Levels of training provided needed clear descriptors

Lecturers expected a specific personality type from support staff within a support service. Support staff needed to be enthusiastic, encouraging and helpful while courteous. If language lecturers did not perceive the support staff to be professionally approachable they did not readily use this function; which led to diminished use of the pedagogical tool.

If, at face value support staff members were perceived to be adequate, they were further expected to be knowledgeable and competent. Lecturers wanted support staff to be experienced. They had to provide effective and efficient support for specific needs of language lecturers; whether during group training sessions or through providing specialised, individual support. Knowledge by support staff included the knowledges identified by TPACK (Mishra & Koehler, 2006) namely pedagogical,

content and technological knowledge and most importantly interrelatedness of each of these knowledges with one another. It was deemed unsatisfactory to support the language lecturer in one or the other knowledge domain. The support was expected to occur simultaneously in all of these domains so as to achieve optimal benefits.

Another element of the support service is that in addition to initial training, support staff were expected to provide continual training and support to guide lecturers with further LMS use. Language lecturers observed in this specific situation expected recurrent and frequent training. Within a multi-complex environment this was unrealistic and unreasonable because the needs of lecturers changed according to the environment and demands. During disruptions lecturers immediately had to start using LMS; regardless of whether the use was planned or not. Lecturers needed to adapt their teaching approach accordingly and the support staff were expected to assist individual lecturers in specialised circumstances, and often at short notice. The knowledge domains were interrelated where pedagogical, content and technological knowledges integrate and should provide adequate support.

Providing prompt support, or being readily available, proved to be a relevant element of the support service; especially given a multi-complex environment. The word “readily available” though should be defined within reason of working hours or within a given time frame and unambiguously understood by both parties involved. With #FeesMustFall and the interruption of classes lecturers were forced to change their teaching approach and had to make use of technology. Lecturing staff often needed immediate assistance in a crisis. Not only with protests but also in daily use lecturers expect support to be on hand and immediate as the need arose. The challenge for the support function was how to accommodate these needs professionally. Recommendations in this regard are provided in Section 6.4 further in this chapter.

On campus support was an additional element that was brought to light as the UoT in question has various satellite campuses. Lecturers on these campuses expected availability from the support function, and were not necessarily willing to travel to another campus in search of support. This element not only links with the expectation of readily available, or prompt support, but also to the personality type of the support staff member, referring to the human factor that is needed.

Clear descriptors of the levels of training that is provided need to be communicated and adhered to by the support service. Lecturers were frustrated when attending an

advanced training session that stipulated certain prerequisites from attendees and novice users attended such training. It leads to frustration both by the novice user and by the advanced user, and then to reluctance to attend further training sessions.

The perceptions and expectations are compiled as follows. A support service for LMS use by language lecturers in a complex environment needs to be thoroughly aware of and rooted in technological knowledge, content knowledge and pedagogical knowledge, as required by the TPACK framework; while taking careful consideration of the perceptions that language lecturers have of the quality of service that they provide. The support staff are expected to be professional, encouraging and helpful individuals who are knowledgeable and efficient in their task. They need to be highly competent. Ongoing support and training is expected with support staff being readily available (within reason) to lecturers on short notice, given the unpredictability of the complex and changing, sometimes volatile environment. On campus support was an expectation that lecturers on satellite campuses had of the support function. When providing formal training sessions, the levels of training provided need to be clearly delineated and strictly adhered to.

During difficult conditions, such as created by student protests, language lecturers expected support staff to be even more available to provide prompt support and advice. This was often a difficult challenge for the support unit.

Research Sub-question 3: Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?

The answer to this question is to some extent encompassed in the response to Sub-question 1. The concerns regarding the discrepancy between intent to use LMS and the practical implementation of the technology were discussed above. Because it needed to be contextualised, the reasons for this gap were provided. However, the reasons for this gap and its nature are recapitulated here in order to answer Sub-question 3.

There are two kinds of intent to use LMS; of which one is on a corporate level where university management expects the lecturer to use LMS in academic conduct. The other kind refers to the lecturer on a functional level who intends to use LMS in the delivery of academic content but due to various reasons there is no follow-through with implementation.

With the managerial concern the gap between intent to use LMS and the actualisation of that mandate lies mostly in an ineffective communication channel. The mandate existed as a policy and as such it was expected that lecturers should be informed about it, yet this was not the case and some lecturers were still unaware that they should use it. Additionally, there seemed to be certain faculties and departments where the uptake of technology was more successful than others, where deans or HODs tended to drive the initiative and encouraged lecturers to incorporate it; triggering a culture of e-Learning in such departments. Conversely in faculties and departments where e-Learning was not prioritised and encouraged it tended to fall by the wayside or lecturers were left to cope on their own.

The policy was not endorsed or favoured equally in all faculties. There were no consequences for not using LMS; allowing lecturers to implement it if they choose to do so or not. Lecturers often wanted to use LMS: there was definite intent to incorporate LMS into their teaching approach. Often, due to various reasons, lecturers become discouraged or dissatisfied with the technology and then avoided its uptake. Lecturers wanted to apply the technology to their teaching but due to perceived lack of time or infrastructural concerns they did not use it. The infrastructural problems that had been experienced cause frustration and disillusionment. The lack of knowledge about what the technology could do, linking to what the TACK framework (Mishra & Koehler, 2006) states, contributed to this dissatisfaction. Personality types included lecturers who were early majority or late majority users (*cf*. 2.2.4.3). As such they needed additional encouragement and support to use LMS but were easily deterred by complications or perceived challenges.

The reasons that were provided for lecturers not using LMS, in Section 5.2.4, contributed to the discrepancy between intended use and actual use. These reasons are:

- A lack of knowledge about the mandate to use LMS
- Not meeting language specific needs
- Other forms of technology that lecturers chose to use
- Negative student experiences
- Time constraints
- Infrastructure
- Personality types and attitude
- Not knowing what LMS offers

Conditions during #FeesMustFall have disproved many of these reasons for not using LMS; though it was only during extreme circumstances that language lecturers were compelled to use LMS regardless of intent.

Research Sub-question 4: What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

The findings of this question proved to develop into one of the foremost contributions of this investigation to the research field. A framework for improving LMS support within a UoT in South Africa was generated from this information. The framework (Figure 6.1) depicts the gaps or discrepancies discussed in this section.

The gap model (*cf*. 2.3.2) from the service delivery motivated the design of the measuring instruments for the investigation. The TPACK framework (*cf*. 2.2.3.2) had an overarching influence on the study, as the researcher applied it as a lens through which the data were analysed and discussed. These models inspired the development of a new framework to indicate discrepancies in the perceptions and expectations of support service between the service provider and the language lecturer.

Five gaps have been identified between LMS support service and language lecturers regarding the delivery of support. Attention to these discrepancies by management and LMS support service could lead to better support and contribute to optimal use of this particular pedagogical technology tool. These differences are described here with possible solutions provided in the section that follows.

The identification of five gaps is born from the empirical data and not an attempt to correlate with the five gaps in the gap model from the service delivery industry as described in Section 2.3.3. It was merely the number of gaps concluded by the data.

Gap 1: Mandate to use LMS awareness gap

This discrepancy was identified between language lecturers on the one side and the university management and LMS support service on the other side. The gap identified pertains to an awareness of the mandate to use LMS as well as to examine what this mandate entails. The mandate was reflected in policy and as such lecturers were expected to know about its existence. The reality though was that where HODs within faculties communicated this expectation and encouraged staff to incorporate

technology, the uptake in those faculties was higher than in those where it was not encouraged.

Lecturers generally had a positive attitude regarding a mandate to use LMS and welcomed the directive; though sometimes only after experiencing the practical value of the pedagogical tool. Lecturers were often unaware of the existence of a mandate to use LMS: when they knew about it, they seldom were cognisant of its specific stipulations or implications. Where lectures had been aware of the directive it often led to them using the pedagogical tool and to experiencing its benefits to their teaching.

Gap 2: Perceptions and expectations gap

This breach lay between the language lecturer and the support provider regarding perceptions and expectations of LMS support, which is described in Sub-question 2. It is twofold; referring to misunderstandings between what the service offered by the CIET entails, and language lecturers' expectations of the support provider.

There was a misunderstanding by language lecturers regarding the services offered by CIET and that of CTS, which had caused frustration and misplaced negative perceptions of LMS support function (CIET). In the instances where there were no misunderstandings, lecturers had a positive perception of support staff. Support staff too proudly perceived the support that they provide in a confident light.

Not all lecturers were aware of the variety of services offered by the CIET: lecturers thought that they offer generic training courses only while CIET actually provides individual, pedagogical support for LMS use, as well as generic training sessions. There was a perception amongst lecturers that CIET should design and/or administer lecturers' individual LMS courses; which they did not. The reason for this is that though CIET had technological and possibly pedagogical knowledge they lacked the specific content knowledge that the lecturer possesses, which was integral to TPACK for successful implementation of e-Learning. Support staff could impart and assist with their knowledges to equip the lecturer, who needed to apply all of these knowledges successfully.

In terms of common expectations between lecturer/user and service provider of LMS, there was considerable congruence between language lecturers and support services. Support services were expected to be reliable, responsive, efficient, friendly

and generally professional with advanced knowledge of pedagogical application of the technology. Both parties agreed that there should be on campus support for satellite campuses though it was not available at the time. The inconsistency between user and provider of LMS lay chiefly in the perception concerning what is meant by the term ‘reasonable expectation’. Within the ambit of this research project it can be stated that many language lecturers expected support staff to be immediately available and at all times during the day and even at night, through various mediums of contact, whether telephonically, via email or by walking into the office of a support staff member without appointment. The CIET is a small unit situated on two main campuses of the university with a few staff members who often were in training and could therefore not supply the needed support immediately; either on campus or remotely.

Support staff expected lecturers to be understanding of their situation, workload and time constraints; which they often were not. Language lecturers who attended training were expected by support staff to be friendly and positive; not hostile because of possible initial negative attitudes towards the mandate. Considering TPACK, support staff expected lecturers to incorporate the technological knowledge and pedagogical knowledge that they provided, with content knowledge, and their own pedagogical knowledge, in LMS application.

Gap 3: Expectations of LMS gap

This discrepancy lay between the language lecturer and the affordances offered by LMS as a technological pedagogical tool. The tool allows many applications and facilities for lecturers to apply during teaching and learning. Lecturers observed in this project, however, were unaware or uninformed of the many application possibilities. Pedagogy as opposed to technology as a point of departure was contentious: lecturers are primarily teachers, and not necessarily technologically trained or inclined. Language lecturers have pedagogy as a cornerstone of their educational approach. The TPACK framework links areas of knowledge: technology, pedagogy and content are interrelated and fundamental to successful e-Learning application.

The expectations that language lecturers had of the tool were that it should be (*cf*. 1.5.2):

- fully functioning, fast and effective whenever it is needed (infrastructure affects this)
- accessible, user-friendly multi-tool and fit for purpose
- regularly upgraded

Gap 4: Free open software versus LMS gap

This gap lies on the side of management and refers to the type of technology that was employed through e-Learning policy for learning management. There was on the one hand a conventional and formal LMS, used by the UoT in this case, as is traditionally done by other institutions; and free open software on the other hand, which was incorporated by more and more individuals, since it better suited their needs. There was a degree of tension between the two schools of thought. Although LMS is formally mandated, language lecturers in this sample group used other forms of technology in their teaching. This affected students who were obliged to learn to be familiar with a range of technologies according to the habits of lecturers. This finding is fundamental to the successful implementation of e-Learning. Various lecturers preferred to use other open software in different ways than to use the prescribed LMS. Some language lecturers claimed their reluctance was caused by their suspicion of the capability and reliability of LMS. Data indicated that in many cases reluctance was the result of fear of the unfamiliar.

The TPACK framework is applicable here: there was some ignorance among lecturers concerning the efficacy of the technology. Many did not possess the technological knowledge combined with content knowledge and pedagogical knowledge to apply technology in a suitable way for their needs.

Gap 5: **University and student**

This discrepancy is identified between the university and the student as product delivered into the complex South African context, and the world beyond. The primary aim of the university is to prepare students for the world in which they will be contributing professionally. There was a difference, in some cases between the product that is delivered into the world, and the demands and expectations from that environment or industry.

Students observed in this project were not necessarily prepared, in terms of technological applications and pedagogy, for the professions that they are trained for at university. This observation specifically refers to the education faculty in which teaching methods in the world are rapidly changing with technology: the role of the teacher has been reinvented (*cf*. 1.2.2), but the method in which students are trained have not in all instances kept pace with this rapidly changing world. Uptake of

technology by lecturers in this sample was slower than the demands in practice. Figure 6.1 is a visual representation of the framework where gaps regarding perceptions and expectations of LMS support between the service provider and the language lecturer have been identified.

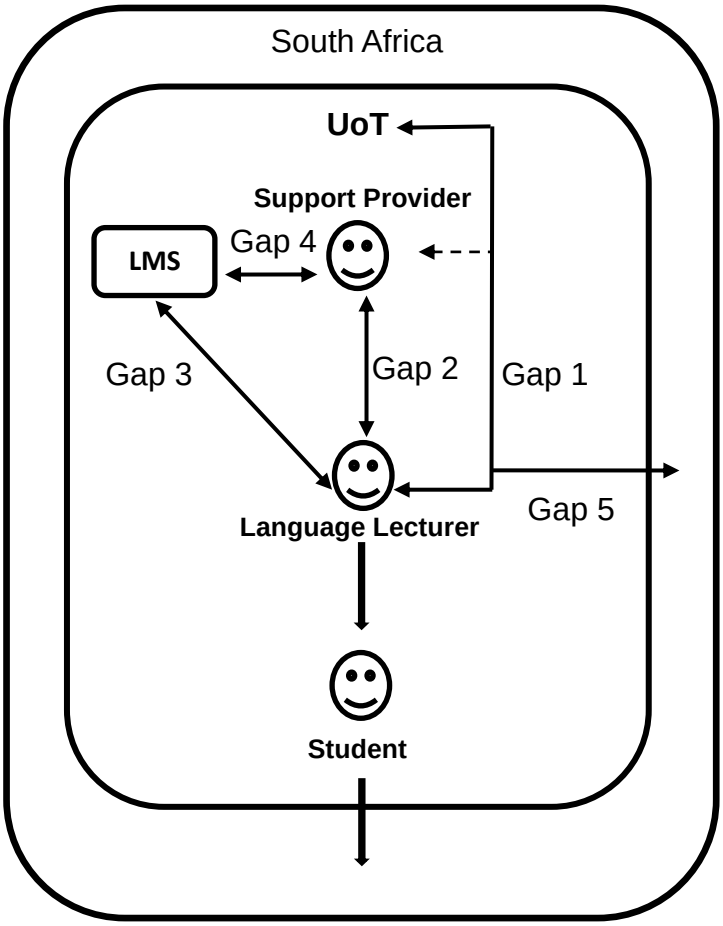

Figure 6.1: A framework for LMS support within a UoT in South Africa

The role of the TPACK framework has been discussed and the area of its influence on the LMS support framework is clarified in the explanation of the gaps above in Figure 6.2. Gaps 2, 3 and 4 are affected by the knowledges identified by TPACK, as expressed above.

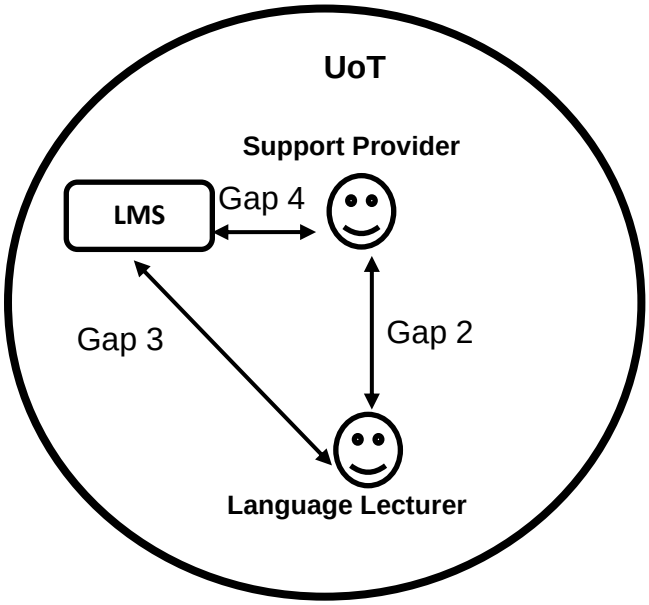

Figure 6.2: The area of influence of TPACK within the LMS support framework

Identifying discrepancies, as considered by Sub-question 4, is insufficient in the context of this study. Possible solutions or considerations for closing the gaps identified in the course of this study follow as an extended discussion of Sub-question 4.

Approaches to the gaps

There are various possible approaches to bridging these gaps. Most of these solutions are distilled into communication channels. Gaps 1, 2 and 3 could be closed if information were communicated more effectively. The *mandate awareness gap* (Gap 1) needs to be communicated through specific channels to reach language lecturers unambiguously. This discrepancy could be eliminated completely. The *perceptions and expectations gap* (Gap 2) could be addressed, even if not completely closed, by effective communication channels: expectations that language lecturers have of the support staff could be more openly stated. There should be a mutual communication process to create clarity and agreement on both sides. Positive perceptions could follow if expectations are mutually understood and respected. *Expectations of LMS gap* (Gap 3) could benefit through effective communication. The communication here is more than sharing information; it concerns educating and equipping language lecturers with knowledge and skills;

linking this gap to the TPACK framework. Language lecturers need to be informed about what LMS can do and be supported and taught how to apply LMS to meet their specific needs; within their complex environment and given their specific challenges.

Gap 1 may be bridged by encouraging lecturers to be accountable for LMS application. Administrative processes should naturally be linked to LMS where lecturers provide marks through LMS, making it essential to use. Given the expectations that language lecturers have of LMS and the support staff, this subtle enforcement could be approached positively, encouraged and supported. Its use should simply be practical, and experienced by the lecturer and the student as beneficial.

Providing on campus support is one way of addressing Gap 2. Lecturers expect prompt and efficient support, something that a small central unit of a large university cannot necessarily supply. Another possible solution is to have more staff available in the CIET to be readily available for much needed support.

Gap 3 may be addressed through supplementary training and educating language lecturers about what the pedagogical technology tool can do. Communication in this regard may assist lecturers who need to identify and communicate their specific needs in language teaching within the complex environment. The support staff in return need to be fully knowledgeable about the possible applications of LMS, and be able to assist specifically. Technology knowledge as identified by TPACK comes into play here: it is assumed that support staff possess superior knowledge of technology application which can be shared with the lecturer who possesses expert content knowledge. Pedagogical knowledge is contributed by both parties. Supporting and encouraging innovators and early adopters should assist in spreading the visibility of the capabilities that LMS offers.

The choice of LMS used in the university is a managerial concern and needs to be approached through policy. Gap 4 lies outside the scope of this study but can be bridged through management and stakeholders. This is an area identified for further research since it plays a vital role in e-Learning.

The modern student needs to be prepared for the world in which he or she is going to be a contributing citizen. Creating communities of practice conversant with the latest technology is a given feature of a university of technology. Linking the real world environment outside of the university may assist in bridging Gap 5. A culture of

technology use should be cultivated in all universities but especially one which has technology in its title. Training staff is one way of achieving this goal. Lecturers should be competent in technology use so that students can learn from them. Staff and students at a university of technology have to stay abreast of technological development and demands from the field. A summary of the possible solutions discussed here are depicted in Table 6.1.

Though Gap 4 is identified specifically as a field for further research, falling outside of the scope of this study. Each of the gaps are further fields for research though.

Table 6.1: Possible solutions to the gaps

Gap	Possible solutions
Gap 1: Mandate to use LMS awareness gap	• Effective communication • Accountability for use • Encouragement/incentives to use LMS
Gap 2: Perceptions and expectations gap	• Effective communication • On campus support • More CIET staff • TPACK knowledge
Gap 3: Expectations of LMS gap	• Effective communication • Training and educating language lecturers • TPACK knowledge • Creating communities of practice
Gap 4: Free open software versus LMS gap	• Managerial concern • TPACK knowledge
Gap 5: University and student as product in context gap	• Creating communities of practice • Culture of use • Training and educating the language lecturers • Creating communities of practice conversant with the latest technology

Given the composite answers of the sub-questions, the two main research questions are addressed below.

Research question 1: What are the relevant elements of an e-Learning support service to language lecturers in a complex higher education environment where technology facilitates pedagogy?

The answer to this question is derived both from the literature and from the empirical data, discussed in the sub-questions. One relevant and fundamental element of support service is found in the TPACK framework as described in Section 2.2.3.2 of the literature. This element identifies the intricate interactions between the lecturer's knowledge of the different knowledge domains of technology, pedagogy and content. The support service has to acknowledge this intricacy and ensure a balanced support approach where these knowledges are incorporated; neither one is more emphasised than another. Support in one of these elements in isolation will not suffice. Inevitably the lecturer has more content knowledge of his or her subject while the support provider is likely to have more technological knowledge. The technology needs to be rooted in sound pedagogical practice. In order for LMS use to be optimal, the support service and lecturer have to bring these elements together. This coalition is crucial to successful implementation of LMS; regardless of the context. This aspect is applicable to all contexts but even more so in a complex context because it deals with complicated facets and can possibly contribute to the smooth running of academic activities to the advantage of the student from the complex context.

Perceptions of support quality play a pivotal role in this arena. Perceptions that language lecturers have should be considered by the support function and managed when providing support. Addressing the discrepancies, identified by the framework for pedagogical technology support in the following section, should ensure better support and contribute to optimal use of the technology tool. In a complex environment (as described in Section 2.2.1 and 2.2.5) this element may be more difficult to achieve because of the challenges that the language lecturers face within this environment. The complex environment, coupled with infrastructural challenges and student protests specifically, further complicate the task of the lecturer. The support function needs to take the environment into account and support accordingly. In a complex environment the support function should have a profound understanding of the intricacy and specific demands that are placed on lecturers. The

support staff need to be readily available to assist lecturers individually within their exact pedagogical situation and cater to their specific needs.

The expectations of LMS support function are discussed above as part of Sub-question 2. In the interest of not repeating the findings it is condensed here. The expectations convert to relevant elements of a support service for LMS use by language lecturers in a complex environment. The relevant elements include supportive and professional staff, who are approachable and courteous. They are expected to be knowledgeable, which includes knowledge by both language lecturer and support staff member of technological knowledge, content knowledge and pedagogical knowledge with sensitivity to the interconnectedness between these domains. Support staff are expected to provide continual and recurrent support, and to be readily available (as agreed by both parties) to meet individual requirements. A relevant element is on campus or in faculty support, which contributes to the element of availability. A last relevant element includes clear levels of descriptors of training levels.

These expectations translate into applicable elements of a support service which are relevant: if they were considered by the support function and met, it would encourage and equip lecturers to incorporate LMS optimally. The technological pedagogical tool LMS needs to be supported with the above mentioned components in place so that it may be optimally used by language lecturers.

Research question 2: How should LMS support services for language lecturers address the gap between the intended and actual use of technologies to enhance language teaching practices in a complex higher education environment?

The question regarding how the gap between intended use and actual use of LMS could be addressed lies on a managerial level with communication channels rather than on the side of the support service. There was a communication gap between the intent, which existed as a mandate through policy, and the lecturer who was aware or unaware of this directive. As a university policy the lecturer should know about it but this was not the case in reality and management should make every effort to communicate the policy clearly, through faculties and heads of departments.

Intent to use LMS has two facets, one operational within the institution and communicated through management and policy, as described above. The institution indicated intended LMS use through expecting lecturers to incorporate e-Learning in their teaching activities. The other intent refers to that of lecturers who individually intended to use LMS but for various

reasons did not commit. The support function can accommodate in this regard and be operational.

The support function in question had attempted to communicate the benefits to lecturers and to support them continually. Different personality types of users should be taken into account which would assist in general lecturer uptake of LMS. Furthermore, by adhering to the relevant elements as indicated by Research Question 1, lecturers would naturally be encouraged to use LMS and that should contribute to a natural process of bridging the gap.

6.3 Contributions of the study

This study identified relevant elements of a support function for technology used by language lecturers in a complex environment of higher education. It addressed the discrepancies between the intended use of LMS and the actual application thereof within the complex setting further ascertaining the issues in this regard. The perceptions and expectations of a support service by language lecturers were identified with the major contribution being a framework for improving LMS support within a UoT in South Africa (Figure 6.1) which was generated from the case study.

The original contribution is the framework that developed which recognises discrepancies between LMS service provider and the language lecturer. The gaps revolve around perceptions and expectations of support services and LMS. This framework overlaps with the TPACK framework. The latter comprises various knowledge domains that teachers need to incorporate technology successfully to teaching, namely technological knowledge, pedagogical knowledge and content knowledge and the interconnectedness between these knowledge domains. For lecturers to use technology effectively they need to be empowered with these knowledges and accordingly supported for these knowledges to be pedagogically embedded in the application of technology in teaching. The framework for LMS support presented here contributes to the pedagogical and technological knowledges, but it goes beyond this to the intangible element of perceived quality of support.

The investigation found that the aspects of LMS use and support concerns discussed here are relevant under the usual day-to-day activities (non-student protest conditions) which include a complex higher education context. #FeesMustFall did, however, influence the various themes that were identified in this study. Findings regarding mandate to use LMS, LMS use, support services, time and infrastructure

were viewed differently during interruptions because of protests. Lecturers were compelled by circumstances to use LMS regardless of a policy or intent, and irrespective of personality type, infrastructure, time constraints or any other reason that previously deterred them from doing so. In this sense the student upheaval was a game changer because driven by necessity to communicate with students, lecturers were willing to look past previously perceived constraints and work towards a collective solution to the challenges at hand.

A higher volume of LMS users during protest caused a larger demand on the support unit. Support staff were under these circumstances adaptable and assisted as much as they could to achieve a shared goal. At times though they could not provide in the high and specialised demand and were forced away from campus.

6.4 Recommendations

It is recommended that communication channels regarding a mandate to use LMS is clarified. Though LMS use is a policy, lecturers are neither aware of the existence nor what the expectations entail. Management need to communicate this expectation effectively and encourage lecturers to use it by making it integral and beneficial to daily use such as the administration of marks and other delivery of curriculum. All deans of faculties and HODs need to be convinced of the advantages of e-Learning in teaching and learning so that they convincingly communicate this to lecturers.

Communication between language lecturers and LMS support provider needs to be encouraged through regular feedback ensuring that both parties expect the same type of support and that there is lucidity in this regards. Expectations of the support function need to be clarified in two-way communication.

Lecturers should be accountable for their use in LMS and given ample support in this matter. By encouraging lecturers to use LMS through various ways, including combining the existing administrative programme for marks and class attendance in an easy way where lecturers do not duplicate work on two systems. At the time of investigation lecturers felt that they had to administer marks on separate systems, which discouraged them from using LMS.

By making lecturers accountable for LMS, they will be in the habit of applying technology to their teaching. When interruptions, such as student protests, occur they will be better equipped to continue with academic activity with minimal alteration to

their academic programs. This will be less disruptive for students during challenging times.

Personality types of lecturers need to be taken into consideration and provide additional assistance to those who are laggards. On campus support will make a difference in this matter. Management needs to reassess the chosen LMS and investigate other types of open software; comparing advantages and disadvantages of both or determine a midway of using both. Lecturers incorporated various technologies to e-Learning and students were challenged to adjust to different approaches by different lecturers. It may be more convenient for students to unify the e-Learning approaches.

Training language lecturers in using LMS is important: they need to be knowledgeable about what LMS has to offer and how it can enhance their teaching approach within the complex environment. Lecturers need to become examples to students of how to use technology, especially in specific faculties where they are expected to use LMS in practice, such as the Education Faculty. The TPAC framework is essential in this regard where the relations between technological, pedagogical and content knowledges are emphasised. Both the support staff and language lecturer need to work together to combine these knowledge domains for successful technology uptake.

6.5 Limitations of the study

This study was limited to a specific university, in a specific region and from the perspective of a specific group of lecturers; all within a single complex environment. Research was conducted at a university of technology in the Western Cape in a multifaceted environment during a time of unrest with the focus on language lecturer's perceptions and expectations of LMS support. The study adopted a narrow focus with one case study. Findings can for these reasons not necessarily be generalised as each context is unique, yet similarities to other universities in South Africa may be found.

6.6 Possibilities for future research

The researcher set out to answer the questions that were posed at the beginning of the research. The investigation can be deployed as a comparative study with lecturers in other subject fields. This study did not specify how language lecturers use

LMS differently (if at all) to other lecturers. The researcher chose to investigate support for language lecturers and what their expectations and perceptions of LMS were because of the integral role that they play in the multi complex environment.

It was found that #FeesMustFall compelled lecturers to use technology in academic activities and to communicate with students. An investigation could be conducted regarding the circumstances that would compel continual use when it is not necessitated through crises, and whether a mandate to use LMS is enough reason for lecturers to apply technology.

LMS as mode of e-Learning at universities could be compared with free open software.

6.7 Conclusion

All lecturers in universities are expected to use an LMS in their delivery of curriculum. This was, however, found not to be the case with many lecturers in this study who preferred for various reasons not to incorporate LMS into their teaching. LMS support is identified as one way in which to encourage and enable lecturers to use the pedagogical tool. Optimal use could be achieved if lecturers were knowledgeable about the application of technology within their specific contexts combined with pedagogical and content knowledges, and supported according to their specific needs. Support is a service which is perceived differently among various lecturers, and by the support providers.

Language lecturers teaching in a complex higher educational environment have specific needs for LMS and should be supported accordingly. The gaps between the perceptions and expectations that language lecturer have compared to that of the support function should be bridged to achieve optimal use and uptake of technology. By adhering to the elements of a support service for technology that are identified in this study, language lecturers, and other lecturers by extension, could be effectively supported. Optimal support in turn should lead to better application of the technological tool, which automatically addresses the discrepancy between the intended use of the tool versus its non-use in practice. Support staff have to market their product effectively by learning how to approach, persuade and win over language lecturers.

In conclusion, this study highlighted the fact that classroom practice for language teaching could be enhanced, as envisaged by the Department of Higher Education and Training in South Africa, through thorough support for language lecturers in their use of LMS. This encourages optimal, knowledgeable and pedagogically grounded use by the lecturer to the advantage of the student.

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APPENDICES

Appendix A: Ethical clearance form from CPUT

P.O. Box 652 • Cape Town 8000 South Africa •Tel: +27 21 469 1012 • Fax +27 21 469 1002
80 Roeland Street, Vredehoek, Cape Town 8001

Office of the Research Ethics Committee	Faculty of Informatics and Design

At a meeting of the Faculty Research Ethics Committee on 14 August 2012, ethics approval was granted to MS SANET COX student number 205119468, for research activities related to the DTech: Informatics at the Faculty of Informatics and Design, Cape Peninsula University of Technology.

Title of thesis:	Academic perceptions and expectations of e-learning support based on the GAP Model

Comments

Research activities are restricted to those detailed in the research proposal.

Signed: Faculty Research Ethics Committee	Date
	14/8/2012

Cape Peninsula University of Technology

Appendix B: Informed consent form

Faculty of Education
Ethics informed consent form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Category of Participants (tick as appropriate):

Principals		*Teachers*		*Parents*		*Lecturers*	*x*	*Students*	
Other (specify)									

You are kindly invited to participate in a research study being conducted by **Sanet Cox** from the Cape Peninsula University of Technology. The findings of this study will contribute towards (tick as appropriate):

An undergraduate project		*A conference paper*	
An Honours project		*A published journal article*	
A Masters/doctoral thesis	X	*A published report*	

Selection criteria
You were selected as a possible participant in this study because (give reason why candidate has been chosen):
You have completed a voluntary questionnaire at a Language Indaba and agreed to an interview with me. You have a language interest.

The information below gives details about the study to help you decide whether you would want to participate.

Title of the research:
Language lecturers' perceptions and expectations of LMS support

A brief explanation of what the research involves:
My research aims to answer the following research questions and sub-questions:
Question: What is the nature of support for Learning Management Support (LMS) utilisation as a complex pedagogical tool of language lecturers?
Investigative questions:
1. What are the issues around the intended use of LMS versus its use in practice?
2. What are the concerns regarding perceptions and expectations of LMS support (service delivery)?
3. Why is there a seeming gap between intent to use the LMS and the actual use thereof in practice?
4. What are the gaps in terms of perceptions and expectations between the user and the service provider of LMS support?

I aim to address a relatively recent problem which has become universal. E-Learning implementation has not happened smoothly for various reasons, a most important one being a perceived lack of academic support. As a result of this work

the planning and control of e-Learning support activities will be more effective and will help to ensure the delivery of the investment of e-Learning.
It is evident that there are perceptions of an inadequate level of support for e-Learning where academics want to implement e-Learning to their lecturing approach. The understanding of perceptions and expectations of service delivery should enable the implementation of a tailored service for e-Learning. This understanding can be developed into a theory which may be adapted to be useful for various institutions.

I intend to particularise the general ideas from the service delivery industry (particularly the gap model of Parasuraman, Zeithaml and Berry) and apply it to the support service of e-Learning with specific emphasis on perceptions and expectations of support.

I intend to assist tertiary institutions in achieving more effective use of staff support of e-Learning.

Procedures
If you volunteer to participate in this study you will be asked to do the following things: (The researcher must complete the section below. For example: 'Each research participant will be interviewed by the researcher or his/her assistants or collaborators [provide names of interviewers]. Briefly explain how many interviews, the duration of the interviews, place, date, etc.)

Each research participant will be interviewed once.

Potential risks, discomforts or inconveniences
(Researcher please briefly describe any foreseeable risks, discomforts or inconveniences likely to affect research participants)

You are invited to contact the researchers should you have any questions about the research before or during the study. **You will be free to withdraw your participation at any time without having to give a reason.**

Kindly complete the table below before participating in the research.

Tick the appropriate column		
Statement	Yes	No
1. I understand the purpose of the research.		
2. I understand what the research requires of me.		
3. I volunteer to take part in the research.		
4. I know that I can withdraw at any time.		
5. I understand that there will not be any form of discrimination against me as a result of my participation or non-participation.		

6. Comment:		

Please sign the consent form. You will be given a copy of this form on request.

Signature of participant	Date

Researchers

	Name:	Surname:	Contact details:
1.	Sanet	Cox	coxs@cput.ac.za 0847548236

Contact person:	
Contact number:	Email:

Appendix C: Pilot questionnaire

Investigating support for e-Learning

This short questionnaire is a first step in assessing how we support academics in the use of a Learning Management System (LMS).

Kindly address the questions below. Your responses will be kept confidential.

Thank you.

1. This questionnaire is directed at academics. Please check the description that you consider applies most clearly to you:

    - ☐ I am a seasoned academic with years of teaching experience
    - ☐ I am a young academic trying to understand the rules of the game
    - ☐ I am in mid-career, and I would really like to find something else to do that would be more rewarding
    - ☐ I am in mid-career, and I am looking for an opportunity to excel as an academic
    - ☐ I do teach, but I am really only here for the research opportunities
    - ☐ I am not really an academic, but I have something to say about support for e-Learning

2. Do you use e-Learning in the delivery of course content? Briefly explain why or why not.

    _____
    _____
    _____
    _____
    _____

    What are your expectations of the LMS?

    _____
    _____
    _____
    _____
    _____

3. Where do you see yourself in terms of the use of technology?

    - ☐ I am an innovator, with advanced technical skills

- I adopt e-Learning fast and easily and am enthusiastic about it
- I adopt e-Learning keenly but slowly
- I adopt e-Learning because I have to
- I am a laggard, unwilling to let go of traditional beliefs and practices

Academic staff support for e-Learning (LMS)

4. In the table below indicate the extent to which you agree or disagree with the two given statements. Choose one for each statement.

Statement	**Strongly agree**				**Strongly disagree**
I seek support for my use of learning management system frequently.					
I am happy with the level of support that I receive.					

Comments (please specify):

_____

_____

_____

Access to support

5. How do you access support in the use of e-Learning? Choose one or more (circle the correct letter).

   a. I ask a friend, or the person working near me

   b. I look in the help system (Best Practice) to find answers to my questions

   c. I call the Centre for e-Learning and ask them

   d. I look on the web for ideas to help me

   e. I refer to my notes which I received during training

   f. Other (please specify)

   _____

   _____

Use of Blackboard

6. The learning management system, “Blackboard”, provides many tools or applications that are intended to help you in your work. Please think about which applications you use, and check them off below. Please also make

comments if you wish; for example, there may be applications that you want, that are not available.

Indicate which of the following facilities of the LMS you currently use, and how frequently:

Facility	Never	Rarely	Annually	Semesterly	Per Course	Weekly	Daily
Announcements							
Blogs							
Collaboration							
Course Calendar							
Discussion Board							
Glossary							
Goals							
Journals							
Podcasts							
Messages							
Respondus							
Rubrics							
SafeAssign							
Self and Peer Assessment							
Send Email							
Tasks							
Test, Surveys and Pods							
Evaluation							
Grade Centre							

Comments:_____
_____
_____
_____
_____
_____

Perceptions and expectations of LMS support

7. What do you expect from the LMS support service?

_____
_____
_____

8. How do you perceive the delivery of current support?

_____
_____
_____

If you are willing to take part in an interview with the researcher, please write your name down here with your email address:

_____
_____

Appendix D: Questionnaire

QUESTIONNAIRE INVESTIGATING SUPPORT FOR E-LEARNING

Title of research study for D Tech: Language lecturers' perceptions and expectations of LMS support

This research is being conducted to:

- *Explore the seeming gap between intended use of ICTs and the actual use thereof;*
- *Enable optimal support of the LMS for language lecturers; and*
- *Assist language lecturers in the complex relationship between Technological and Pedagogical Content Knowledge.*

Please note

Any information you provide will be treated with a high level of confidentiality, privacy and anonymity. Your participation is voluntary, and you can choose to withdraw from answering this questionnaire at any point in time.
Results from this research shall be published as a whole and not as individual responses.

Contact: Sanet Cox of the Faculty of Education and Social Sciences at Cape Peninsula University of Technology (CPUT) is conducting this research, as part of her doctoral studies being supervised by **Prof. Retha de la Harpe and Dr. André Steenkamp**. Prof De la Harpe may be reached (at telephone number: **0828877369, email: delaharper@cput.ac.za)** for questions or to report a research related problem.

Consent

I have read this form and agree to participate in this study.

Name

Signature

Date of signature

QUESTIONNAIRE INVESTIGATING SUPPORT FOR E-LEARNING

INSTRUCTIONS

Please answer these questions by ticking (✓) the applicable block or by writing your answer in the spaces provided. You may please write more answers on extra sheets available. If you do so, please kindly indicate the question number on the extra paper, to correspond with your relevant answer.

9. This questionnaire is directed at language/communication lecturers. Please check the description that you consider applies most clearly to you:

    - ☐ I am a seasoned lecturer with years of teaching experience
    - ☐ I am a young lecturer still learning how things work
    - ☐ I am in mid-career, and I would really like to find something else to do that would be more rewarding
    - ☐ I am in mid-career, and I am looking for an opportunity to excel as an academic
    - ☐ I do teach, but I am really only here for the research opportunities
    - ☐ I am not a lecturer, but I have something to say about support for e-Learning
    - ☐ Other, please specify:

      _____

      _____

10. As lecturer you are expected to use the LMS. How do you feel about this?

_____
_____
_____
_____
_____
_____

11. Do you use the LMS in the delivery of course content? Briefly explain why you do or do not use it.

    _____
    _____
    _____
    _____

_____
_____

12. What are your expectations of the LMS?

_____
_____
_____
_____
_____

13. Where do you see yourself in terms of the use of technology?

- □ I am an innovator, with advanced technical skills
- □ I adopt e-Learning fast and easily and am enthusiastic about it
- □ I adopt e-Learning keenly but slowly
- □ I adopt e-Learning because I have to
- □ I am a laggard, unwilling to let go of traditional beliefs and practices
- □ Other, please specify:
  _____

  _____

Academic staff support for e-Learning (LMS)

14. In the table below indicate by ticking (✓) the extent to which you agree or disagree with the two given statements. Choose one for each statement.

Statement	**Strongly agree**				**Strongly disagree**
I seek support for my use of the LMS frequently.					
I am happy with the level of support that I receive.					

Comments (please specify):

_____
_____
_____

Access to support

15. How do you access support in the use of LMS? Choose one or more (circle the correct letter).

    g. I ask a friend, or the person working near me

    h. I look in the help system (Best Practice) to find answers to my questions

    i. I call the Centre for e-Learning and ask them

    j. I look on the web for ideas to help me

    k. I refer to my notes which I received during training

    l. Other, please specify:

    _____

    _____

Use of Blackboard

16. The LMS, “Blackboard”, provides many tools or applications that are intended to help you in your work. Please think about which applications you use, and check them off below. Please also make comments if you wish; for example, there may be applications that you want, that are not available.

Indicate which of the following facilities of the LMS you currently use, and how frequently:

Facility	Never	Rarely	Annually	Semesterly	Per Course	Weekly	Daily
Announcements							
Blogs							
Collaboration							
Course Calendar							
Discussion Board							
Glossary							
Goals							
Journals							
Podcasts							
Messages							
Respondus							
Rubrics							
SafeAssign							
Self and Peer Assessment							
Send Email							
Tasks							
Test, Surveys and Pods							
Evaluation							
Grade Centre							
Other (please specify)							

Comments:_____
_____
_____
_____
_____
_____

Perceptions and expectations of LMS support

17. What are your expectations (needs) from LMS support?

_____
_____
_____
_____
_____

18. How do you perceive the delivery of current support?

_____
_____
_____
_____
_____

If you wish to contact the researcher regarding the research you are welcome to email me:

Sanet Cox: coxs@cput.ac.za

Your participation is much appreciated!

Appendix E: Semi-structured interview for language lecturers

Bear in mind:

Main research questions:

1. What are the relevant elements of a support service for a complex pedagogical technology tool to optimise the teaching by language lecturers in a complex environment of higher education?
2. How should LMS support services address the gap between the intended and actual use of a complex technology pedagogical tool by language lecturers in a complex environment?

Investigative questions:

1. What are the issues around the intended use of LMS versus its use in practice?
2. What are language lecturers' perceptions and expectations of LMS support?
3. Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?
4. What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

Objectives:

The objectives of the research were:

to identify perceptions and expectations of language lecturers regarding LMS support
to identify perceptions and expectations of the support staff regarding LMS support
to identify possible gaps between perceptions and expectations of language lecturers and that of the support staff of LMS support
to develop a reliable grasp/understanding of the level of support provided
to align perceptions and expectations of language lecturers (as LMS users) and support staff so that e-Learning may be utilised optimally

Conversation to precede interview:

1. I have ethical clearance from CPUT to conduct this research. Your responses to this interview will be kept anonymous.
2. Clearly explain terms:
    a. 'e-Learning',
    b. 'LMS',
    c. 'Blackboard'
    d. 'support'
3. Shortly delineate study i.e. looking at perceptions and expectations of support and not at infrastructure. This is not CTS-issues (band width, connections, internet speed and availability, availability of computers on campus; however if these are the issues that people are having it can be mentioned, but it's not the aim of my research)

Investigative Question 1:

What are the issues around the intended use of LMS versus its use in practice?

Linking to objective:

- *To develop a reliable understanding of the level of support provided*

1.1 Are you mandated by the university to use the LMS?

1.1.1 If yes, how are you expected to use it?

1.1.2 What are the minimum requirements set by the university?

1.2 Do you use the LMS?

1.2.1 If yes, how do you use the LMS?

1.2.1.1 Do you meet the minimum requirements as mentioned in the previous question?

1.2.2 If no, why not? [this addresses investigative question 4]

1.3 How do you feel about being mandated to use the LMS?

1.4 Why do you use/not use the LMS?

1.5 Do you feel that you are supported well enough in LMS use?

1.5.1 Please explain/substantiate your answer with an appropriate example.

Investigative Question 2:

What are language lecturers' perceptions and expectations of LMS support?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS support*
- *To identify perceptions and expectations of support management and staff regarding LMS support*

2.1 Do you use the LMS because you are mandated to use it or because you want to use it? Please elaborate on your reasons for use.

2.2 Are you using the LMS in a way that you would like to use it? (this addresses investigative question 4)

2.3 What do you do when you experience a problem/glitch with LMS use? How do you obtain assistance/help/advise?

2.4 How does the centre for e-Learning support you? / provide in your needs?

2.5 How do you feel about the support provided by the university / the centre for e-Learning (support for LMS use)? [perception of]

2.6 What do you ideally expect from the centre for e-Learning (support for LMS use)? [expectations]

Investigative Question 3:

Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS support*
- *To identify perceptions and expectations of support management and staff regarding*
- *To develop a typology of lecturers for the purpose of tailored LMS support services [To align perceptions and expectations of LMS users and service providers so that e-Learning may be utilised optimally.]*

3.1 Why do/don't you use the LMS?

3.2 Why do/don't you contact the centre for e-Learning when you experience problems with LMS use?

Investigative Question 4:

What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS-support*
- *To identify perceptions and expectations of support management and staff regarding LMS-support*
- *To develop a typology of lecturers for the purpose of tailored LMS-support services. [To align perceptions and expectations of LMS-users and service providers so that e-Learning may be utilised optimally.]*

Covered in 3 and 4 previously.

Demographics:

- *To develop a typology of participants.*
- *Rogers: five groups of ICT-users according to the categories identified by Rogers*

4.1 How would you describe yourself in terms of LMS use and willingness to use the LMS?

4.2 If you had to choose a category to place yourself into, which of the following definitions describes you best?

4.2.1 I have advanced technical skills and bring attention to the innovation within the organisation

4.2.2 I adopt e-Learning fast and easily. I am enthusiastic and believe that I motivate others to do the same. I am successful in my use of e-Learning.

4.2.3 I take time to adapt to e-Learning but do so easily once I've decided to try. I am enthusiastic about learning new things even though it takes some effort.

4.2.4 I take more time to adapt to e-Learning and do so because I am required to do this not because I want to. Only once I have experienced the benefits of the LMS do I use it keenly.

4.2.5 I do not like using new technology and think that the old methods of lecturing and practices are completely adequate. I believe that using the LMS unnecessarily complicates the already good practices of teaching.

4.3 Are you male or female?

4.4 What is your age?

4.5 How long have you been lecturing?

[4.6 How long have you been using e-Learning?]

4.7 You are welcome to make any further comments if you'd like.

Thank you for your participation.

Appendix F: Semi-structured interview for support staff

Bear in mind:

Main research questions:

1. What are the relevant elements of a support service for a complex pedagogical technology tool to optimise the teaching by language lecturers in a complex environment of higher education?
2. How should LMS support services address the gap between the intended and actual use of a complex technology pedagogical tool by language lecturers in a complex environment?

Investigative questions:

1. What are the issues around the intended use of LMS versus its use in practice?
2. What are language lecturers' perceptions and expectations of LMS support?
3. Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?
4. What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

Objectives:

The objectives of the research are:

1. to identify perceptions and expectations of language lecturers regarding LMS support (sub-q 2,3 & 4)
2. to identify perceptions and expectations of support management and staff regarding LMS support (sub-q 2,3 & 4)
3. to develop a reliable understanding of the level of support provided (sub-q 1)
4. to develop a typology of lecturers for the purpose of tailored LMS support services. [To align perceptions and expectations of LMS users and service providers so that e-Learning may be utilised optimally.] (sub-q 3 &4)

Conversation to precede interview:

4. I have ethical clearance from CPUT to conduct this research. Your responses to this interview will be kept anonymous.
5. Ensure an agreed understanding of these terms:
    a. 'e-Learning',
    b. 'LMS',
    c. 'Blackboard'
    d. 'support'
6. Shortly delineate study i.e. looking at perceptions and expectations of support and not at infrastructure. This is not CTS-issues (band width, connections, internet speed and availability, availability of computers on campus; however if these are the issues that people are having it can be mentioned, but it's not the aim of my research)

Investigative Question 1:

What are the issues around the intended use of LMS versus its use in practice?

Linking to objective:

- *To develop a reliable understanding of the level of support provided.*

1.4 Is there a mandate by the university, for lecturers to use the LMS?

1.4.1 What are the minimum requirements set by the university, for lecturers to use the LMS?

1.4.2 How are these minimum requirements communicated to lecturers in faculties and on various campuses?

1.5 Is the LMS used by all, a majority or some lecturers?

1.5.1 How do they use the LMS?

1.5.1.1 Do lecturers meet the minimum requirements as mentioned in the previous question?

1.5.1.2 If no, why not (in your opinion)? [This addresses investigative question 4]

1.4 Why do you think lecturers use/not use the LMS?

1.5 Do you feel that you support lecturers well enough in LMS use?

1.5.1 Please explain/substantiate your answer.

Investigative Question 2:

What are language lecturers' perceptions and expectations of LMS support?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS support*
- *To identify perceptions and expectations of support management and staff regarding LMS support*
-

2.1 In your opinion: Do lecturers use the LMS because they are mandated or because they want to use it? Please elaborate on the reasons for your opinion.

2.2 How do lecturers contact you for support? And to what frequency do they contact you for support?

2.3 How does the centre for e-Learning support lecturers/ provide in their needs?

2.4 What is your perception of the support that (a) the centre for e-Learning and (b) the university provides for LMS use?

2.5 What do you think is expected form the centre for e-Learning as a support service?

Investigative Question 3:

Why is there a gap between intent to use LMS and reluctance or failure to use LMS in practice?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS-support*
- *To identify perceptions and expectations of support management and staff regarding*
- *To develop a typology of lecturers for the purpose of tailored LMS-support services [To align perceptions and expectations of LMS-users and service providers so that e-Learning may be utilised optimally.]*

3.1 In your opinion and experience why do some people use the LMS?

3.1.1 Why do some people not use the LMS?

3.2 Why do you think some people use the support system and some don't?

Investigative Question 4:

What are the gaps in terms of perceptions and expectations between the language lecturer and LMS support service?

Linking to objectives:

- *To identify perceptions and expectations of language lecturers regarding LMS-support*
- *To identify perceptions and expectations of support management and staff regarding LMS-support*
- *To develop a typology of lecturers for the purpose of tailored LMS-support services. [To align perceptions and expectations of LMS-users and service providers so that e-Learning may be utilised optimally.]*

You are welcome to make any further comments if you'd like.