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University Lecturers' Perspectives of Moodle Usage in Teaching Postgraduate Modules: A Case Study of the School of Education

By

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Supervisor's Statement

This thesis has been submitted with my endorsement.

05/09/2020

Professor Simon Bheki Khoza

Declaration of Originality

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Abstract

Innovation in our educational system is driving our education towards new directions and new heights. Students of the 21st century generation owing to current advances, learn best with technology. This may be one of the reasons our educational system is shifting towards the use of educational technologies. One of the universities in South Africa introduced a policy stipulating Moodle as a mandatory teaching and learning platform from undergraduate to postgraduate. It should be noted that while the system was available, for a very long-time not all lecturers were using it as a teaching resource. It was a challenge to the participants if they had to use only Moodle as a teaching media during the lockdown. Their reasons for not using the system were not known until this study explored their perspectives on the use of Moodle. Therefore, this study was undertaken to provide lecturers with a platform to voice their perspectives on the system. This may assist in curbing challenges and promoting successes experienced by lecturers and students when using the system.

Few studies have been conducted with the purpose of understanding lecturers' perspectives on educational technologies, before introducing learning management systems to be used for teaching and learning. Most studies are about the experiences of lecturers and students after the system has been introduced and used. Introducing a change for lecturers, and expecting them to adapt to it without understanding their perspectives on the new changes, may pose challenges to the implementation of such changes. With that in mind, this study explores lecturers' perspectives on using Moodle in teaching postgraduate modules in the education department of a higher institution in South Africa. Lecturers, being the people directly involved with the use of Moodle, may have ideas on how Moodle can be used in a manner that can work for the system. This may help the university management to go back to basics and work with the lecturers to find ways in which Moodle can be implemented with success. Thus, to achieve this mission, this study presents an interpretive case study of six lecturers from different disciplines within the Department of Education in order to examine their perspectives on the use of Moodle in teaching postgraduate modules. This study combined the technology, pedagogic, and content knowledge (TPACK) with the technology acceptance model (TAM) to form a framework for this study. This was done in the

belief that without TPACK and other external resources lecturers may find it difficult to accept and use Moodle.

Purposive sampling has been used to select participants for this study. Documents, Moodle analysis, and semi-structured interviews or discussions were used to generate data for this study. The study used guided analysis method as a frame for data analysis, with TPACK and TAM employed as a frame of enquiry. The findings of this study revealed that lecturers were not well prepared to use Moodle before they were expected to start using the system with their students. Their lack of technological knowledge caused them a challenge if they had to use the system during the lockdown resulted from COVID-19. There was not enough professional development training which could have assisted lecturers with the necessary information to continue using the system. There is also an outcry on the lack of resources, especially for students to access Moodle. More so, lecturers were concerned that the system was introduced as a one-size-fits-all entity regardless of their knowledge of the system. With these findings supported by the literature reviewed, this study recommends that TPACK should become the number one priority for lecturers who wish to successfully use Moodle in their teaching.

Keywords: Coronavirus 2019 (COVID-19); Educational Technology; Lockdown; Moodle; Perspectives; Technological Knowledge

Dedication

I dedicate this piece of work to my little family. My wife **Bongeka Sibisi**, here are the fruits of the tree you nurtured with your understanding, patience, and lonely days and nights. I am grateful to you for your understanding. To my little angels **Emihle**; **Ayabonga** and **Anotha Nhlongo**, you always wanted your father's time and love yet, this work denied you that. At last, I dedicate this thesis to you too and thank you for not forgetting your father due to his absence in your early lives because of this research work.

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To my family: I was not there for you during good times and in times of need because of my commitment to this research. However, you understood me and supported me throughout this journey. Thank you for your understanding and perseverance.

Table of Contents

Contents Page

List of Tables

List of Figures

List of Appendices

Acronyms

ATT	– Attitude Towards Using
B.Ed.	– Bachelor of Education
B.Ed. Hons	– Bachelor of Education Honours
CK	– Content Knowledge
COVID-19	- Coronavirus 2019
DBE	– Department of Basic Education
DT	– Digital Technology
FITness	– Fluency in Technology
HEI	– Higher Education Institution
ICT	– Information and Communication Technology
IT	– Information Technology
LMS	– Learning Management Systems
M.Ed.	– Master of Education
Moodle	– Modular Object-Orientated Dynamic Learning Environment
NDP	– National Development Plan
PCK	– Pedagogical Content Knowledge
PEOU	– Perceived Ease of Use
PGCE	– Postgraduate Certificate in Education
PhD	– Doctor of Philosophy
PK	– Pedagogical Knowledge
PU	– Perceived Usefulness
TAM	– Technology Acceptance Model
TCK	– Technology Content Knowledge
TIE	– Technology in Education
TK	– Technological Knowledge
TOE	– Technology of Education
TPACK	– Technology and Pedagogical Content Knowledge
TPK	– Technology Pedagogical Knowledge
USE	– Actual System Use

Chapter One
Basis of the Research Study

1.1 Candidate's statement

This brief narration refers to my experiences of life in general and life as a student. As a young South African man, I grew up in a poverty-stricken community. My understandings of life came without education, the result of the absence of people who could guide me in the right direction toward education to uplift myself, my family, and my community. Due to this lack of information, I spent up to six years at home after completing my Grade 12. For me, this more than anything highlights the power of perspectives in the development and downfall of people. Though, I always wanted to see myself somewhere in life, being a learned individual, the community in which I was raised preached to me that to get to an institution of higher education I need to have been born from an affluent household. After such a long time without any luck and signs of ever going to University, considering that every day that passes I am getting old. I nearly lost hope, but I kept on encouraging myself not to lose hope because education has no age limit.

It was hurting to know that I did well at school level and I qualify to register for any degree studies at University level, yet my family background was a stumbling block towards my success. I had to look for jobs that are not even paying enough money that I could save to further my studies. Until one day my neighbour who is a teacher came with a letter from the Provincial Department of Basic Education recruiting young people to study for Bachelor of Education at a certain University. I was accepted and register to study for and undergraduate degree. When I received the opportunity to go to University for the first time to study for my first degree, it was a dream come true. After my first degree I then pursued opportunities to further my studies and fortunately doors opened and I was granted scholarships to further my studies.

I continued with my studies to postgraduate level because I wanted to be a game changer in my community, especially to young people who have no hope of going far in life because of the lack of information and financial resources to further their studies after Grade 12. In my first year as a postgraduate student, I was in a class with some students who had enrolled as part-time students

and relied on technology to communicate with their lecturers and their fellow students. I was disturbed as some of my fellow students dropped out because the lack of communication methods made it difficult for them to complete their studies. Those students were communicating with the supervisor via emails. This communication method was not affording them an opportunity to communicate with us students to discuss module contents that were common to us all. Moodle served as one method of linking us together (lecturers and students) so as to communicate the modules. Yet, some lecturers were not using Moodle, it was difficult for students that were registered part time because they had to contact their lecturers through emails or during school holidays for contact sessions.

Later in the year 2016, the University passed a regulation that Moodle will be an official and mandatory teaching and learning media for teaching and learning at all the levels of teaching and learning. This study came about to explore lecturers' perspectives on Moodle considering that there were lecturers that were not using the system for teaching and learning before it became a mandatory teaching and learning media.

1.2 Introduction

To succeed in implementing educational technologies, lecturers and management should understand the cause of certain behaviours displayed by some lecturers towards the system. Behaviours displayed by lecturers towards the system is an indication that they are not happy or they are not in support of the proposed change or new system. Especially if they will experience challenges during the implementation of the system. As a result, problems people experience will make them change their behaviour, which requires that the problems that cause them to behave in a certain manner be known (Boudah, 2011). Once such problems are known they should not be taken for granted and strategies should be devised to work out solutions to the problems and ensure successful implementation of the system. It should be taken in to account that problems people experiences differ according to contexts. For an example, lecturers experienced problems when implementing Moodle before the Coronavirus disease 2019 (COVID-19) due to lack of technological Knowledge. The problem became worse when the country was on lockdown due to COVID-19 because teaching and learning had to continue despite the lockdown. Universities had to utilise learning management systems to continue with teaching and learning.

This suggests that solutions to problems should be addressed according to the needs of people in their own context. Research conducted in different parts of the world show us what other countries experience about educational technologies. Some countries have challenges similar to the ones experienced by lecturers in some South African universities. However, challenges about educational technologies should be localised. Doing so will assist in working out local solutions that will respond to our local problems. Research studies that are published have solutions to research problems yet, such solutions may not be applicable in our context. This is a caution that despite any challenge experienced by lecturers when implementing educational technologies in their teaching should not be resolved according to solutions from a different context. Unless such solutions can be localised to suit our context then such solutions can be implemented.

On that note, Ssekakubo, Suleman, and Marsden (2011) note, with caution, that some institutions in African countries that have just introduced e-learning are imitating, yet they expect to reap the same benefits enjoyed by institutions that have long started using e-learning in teaching. This is an indication that higher education institutions in the African continent fail to implement learning management services because they emulate others without first considering that socio-economic needs and environments differ. This is the phenomenon of generalisation. It is evident especially when generalising findings from other contexts without comparing such to our own contexts. Countries, or institutions within countries, should resolve problems according to their own environment and own community needs. In other words, institutions may include other people's ways of doing things but should not rely on this, instead adapting it to their own situation and context. To succeed in solving problems institutions should identify the problem and allow for ample time to study the problem, in order to attain its underlying reality (Boudah, 2011).

When a problem involves people's actions and perspectives, it is important that we conduct research before expressing what we think of the problem and how it play a role on people's behaviour and perspectives. Doing so may assist in dealing with the cause of the problem and find solutions instead of blaming people about problems that are sometimes beyond their control. Springer (2010) opines that the influences of people's behaviour and perspectives are growing as a result of communal and political developments. This suggest that people's behaviour and

perspectives should not always be pointed to the people directly involves because there are many variables that make people to behave in a certain manner. It is undeniable that communities differ according to a variety of variables such as families, friends or colleagues, media just to mention the few. People's behaviour and their perspectives are influenced by society; while society is influenced by politics and education. This combination forms the kind of people we are, and the manner in which we behave. More details about socialisation are discussed in Chapter Two. Perspectives form the whole person and at some point they determine behaviour. Actions or decisions which people make in life are the results of the perspectives people have on a situation in which they find themselves. Thus, qualitative studies such as this, offer participants the opportunity to express their perspectives in order to find solutions to their challenges and make informed decisions.

Conducting qualitative studies goes further than simply identifying lecturers' perspectives together with their current attitudes. On the use of Moodle, this study aims to firstly offer lecturers new ways to consider their perspectives, and secondly present facts that support sound and practical decision-making (Mishra & Koehler, 2006). More so, this study purposes to provide lecturers with a platform on which to express their perspectives on Moodle. This may help university management to use local information to examine the challenges and improve the successes of lecturers' use of Moodle. Therefore, it can be argued that before people can be expected to change or migrate to a new environment, their perspectives on the migration to the new environment should be considered. In other words, it is crucial that lecturers' perspectives be known before they are expected to journey from a face-to-face to e-learning environment. In the institution under study, of the lecturers that are expected to migrate or change, it is possible that some may not willingly migrate and their perspectives may indicate their reasons. Digital immigrants come from a different community of scholars compared to the current generation. For a long time, they mastered the professional perspectives of teaching using a paper-based method learned from their community. Contemporary students are from a different community, known as the net-generation. This causes tension between the two communities of scholars, especially when it comes to the use of technologies in education. We all have individual perspectives as well as learned knowledge. Schultz and Schultz (2016) argue that, from our younger age onwards, we develop responses to the models our community sets us.

The way we perceive the world comes from our communities having taught us particular life values. This may be because perspectives and context are inseparable. Therefore, qualitative studies are centred on the view that knowledge is learned from community (society) settings (Lodico, Spaulding, & Voegtle, 2010). For example, for individuals to fully understand the reasons behind lecturers' use of Moodle, they must reach into the community (lecturers) and probe for answers. This is the only way to gain knowledge of lecturers' perspectives. Ultimately, a better way to use Moodle can be found because of the understanding generated from the community of lecturers. Merryfield (1998, p. 345) notes that "within social studies, education scholars have studied lecturers as instructional decision-makers and delineated some important contextual factors that relate to how lecturers make decisions". Whether they use Moodle or not in teaching relies on their perspectives. In the context of this study, it is for this reason that their voices should be heard as it presents an opportunity to understand their standpoint on the use of Moodle. Their voices or perspectives may serve as a guide to determine a positive way forward on using Moodle for teaching and learning.

Each person has their own way of thinking which leads to an individual way of behaving. Each person is a sentient being and may have a multitude of ways of performing the same task as others. People have perspectives on everything they come across in life. According to Khoza (2016b), lecturers' personal perspectives help them to decide on whether they follow community, or professional, or practice their own perspectives in their teaching. As lecturers are given Moodle as a mode of teaching and learning at postgraduate level, it is their perspectives that make them decide whether or not to use Moodle in their teaching. The manner in which lecturers implement Moodle in this institution may not be the same; because some are following the community (institution's perspectives); while others take a professional perspective (studying how to use Moodle); and others follow their individual perspectives. It is crucial to note that, "with respect to lecturer's personality, a range of diverse but complementary perspectives have been proposed that describe numerous characteristics of the manner in which lecturer's innate and life influences affect their behaviours" (Poropat & Corr, 2015, p. 61). Thus, these perspectives should be studied to redirect lecturers' behaviour for the purpose of Moodle usage.

Indeed, within the institution, we have lecturers who are advocates of Moodle, despite challenges they use the system. However, due to the lack of understanding the purpose of the programme other lecturers are not in favour of the programme. The university administrators should be aware of such lecturers' behaviour. Arranging short one- or two-day classes in which lecturers are trained on how to use Moodle, does not equip lecturers with enough knowledge for full implementation. It takes time for lecturers to acquire sufficient knowledge of Moodle and to redirect their perspectives towards positive Moodle usage. This can be achieved by firstly studying lecturers' perspectives and then working towards their perspectives as guides on what is needed to achieve positive results. In addition, encouraging those not knowledgeable of Moodle to gain knowledge would also benefit lecturers and students further. This may assist those using Moodle to continue studying more about Moodle so that they will change their minds as time goes on. It is for this reason that this study is conducted: to increase knowledge on lecturers perspectives on Moodle use in their teaching. This will assist in their perspectives being used as a remedy for the failure of lecturer's and student's integration of Moodle into teaching and learning. Concurrently, Ahmad et al. (2010) opine that it is very likely that lecturers' attitudinal and behavioural constructs centre on lecturers' perceptions of Moodle, whether they perceive Moodle to be useful or easy to use. Mishra and Koehler (2006, p. 1018) argue that "developing understanding of lecturers towards the use of educational technology is complicated because it requires a detailed knowledge of complex relationships that are contextually bound". This study attempts to understand such, so that alternatives on the use of Moodle could be suggested. Having noted that without reaching out to the lecturers, there is no way their perspectives on Moodle can be known. Whether they implement Moodle well or encounter some challenges, this study deemed it fit to learn their perspectives to ensure that the use of Moodle does not fail.

1.3 Focus and purpose

Lodico et al. (2010) suggests that in qualitative research studies, topics usually come from the researcher as based on their experience and observations and at times from reading books and journal articles on the research topic. Reading books and journal articles elicits data on similar experiences but from different contexts. Thus, experience and observation are good starting points if a researcher must come up with a research topic and a purpose. This is so because a student or a researcher will be arguing with tangible facts from their observations or experiences. Boudah

(2011) comments that, indeed, a research topic should be about something that a researcher has some knowledge. For the sake of ethical issues in research, it is better for researchers to talk about something known to them and the participants. This may further help one to suggest changes and improvements, understanding the situation well. In bringing about change in a particular setting, one must first reflect on one's own experiences. Experience alone helps us realise our mistakes or the good choices we have made. For this reason, a researcher must first go through or observe a situation before seeing the need to change particularities associated with the situation in the community. It then should be noted that research topics may focus on a person, setting, or experience that will be explored in depth (Lodico et al., 2010). As such, this study explores lecturers' perspectives on using Moodle to teach postgraduate modules.

Some of the students that are already working undertake postgraduate studies, having various reasons for furthering their studies. From experience and observations there arose a need for this study. I have been enrolled in postgraduate studies at this institution since 2014. In the year 2014, as a postgraduate student, I took a Bachelor of Education Honours (B.Ed. Hons). In 2015, I registered for a Master of Education (M.Ed.). In 2016, I registered for a Doctor of Philosophy (PhD) at the same institution. During this period of studying postgraduate studies at this institution I have observed much. I have experience working with different lecturers teaching postgraduate modules, especially in 2014 when I was doing B.Ed. Honours. Lodico et al. (2010, p. 386) note that many researchers "pursue research topics based on certain experiences for the sole purpose of improving practice and making them better for the next generation of learners". I had not suffered any negative experiences with my lecturers when studying for B.Ed. Honours. Yet, from what I have observed, there is a need to help improve the use of Moodle in teaching and learning, especially at postgraduate level.

Students (especially those registered for part-time contacts) were banking on Moodle to catch up and keep in contact with their lecturers and their fellow students. They hoped to receive information on Moodle while waiting to come to the campus for contact sessions. However, some lecturers were ineffectively using Moodle because of their own perspectives. Thus, the purpose of this study is to explore lecturers' perspectives in order to discover how they have used Moodle for teaching. Boudah (2011) notes, with caution, that if effective interventions to address Moodle

challenges are to be planned and executed, management must first diagnose and define the problems associated with it. This study intends to do so by offering lecturers a platform to raise their voices or perspectives to ensure that the problem is defined and a plan be devised to assist them to successfully implement Moodle.

Note that the Department of Education at the institution concerned does not offer distance learning to postgraduate students. There is, however, 'part-time' contact which can be equated to distance learning; and 'full-time' contact where students attend lectures every day. Most students, especially those working full-time, choose part-time contact when they register for postgraduate studies. It then becomes a challenge to such students working from home if their lecturers do not use Moodle. Emails are one means for students to communicate with their lecturers when they are away from campus. However, emails cannot be used for groups in the same way as Moodle. Using Moodle's chat room, a group of students can agree on a certain time to come in and communicate or discuss a topic at the same time. The lockdown announced by the president of the country (Republic of South Africa – RSA) on the 23 March 2020 to be effective from the 26 March 2020 resulting from COVID-19 forced institutions of learning especially higher education institutions to use their learning management systems to teach. The lockdown was one strategy implemented by the republic as a means to curb the spread of the Coronavirus. During the lockdown people including students and lecturers were instructed to stay home. However, to save the 2020 academic year teaching and learning had to continue online. Teaching and learning could not be possible through emails and telephone calls, but Moodle was the best tool for teaching and learning during this time.

Moodle with its features that allows communication, viewing video clips and submission of documents and other features was a perfect tool to teach during the lockdown. Students can post their daily activities and assignments, they can even ask questions on the discussion forum to other students to get more perspectives about their writings. This is among the reasons the university administrators decided to bring in Moodle as a teaching and learning mode to help postgraduate students communicate with their lecturers and their fellow students, especially part-time contact students (Vithal, 2015). Moodle, with all its features (discussion forum, chat room, etc.), is designed to ensure that distance students are made aware of everything that is taking place in the

lecture room. To a point, this can be one of the reasons that Moodle is being adopted by many universities, including the university being studied in this case. However, because of varying perspectives, some lecturers prefer the so-called traditional (face-to-face) method of teaching. There is a need to understand the reasons behind lecturers' usage or non-usage of Moodle in teaching postgraduate modules. To reiterate, the purpose of this study is to understand **university lecturers' perspectives on Moodle use in teaching postgraduate modules.**

1.4 Brief motivation or Background

1.4.1 Rationale

Lecturers have been using Moodle since its introduction, many without knowledge of how to fruitfully integrate it into their teaching. Inopportunely, their perspectives, voices, and experiences have not been heard or known, nor how these impact on the integration of Moodle into their teaching. As a result, the use of Moodle does not serve its purpose. For example, during my Honours degree studies we learned seven modules taught by different lecturers. Only two modules were fully incorporated into Moodle for study. Both modules were supervised or taught by the same lecturer. Other lecturers did not care about using Moodle to teach their modules. The only instance in which they would use Moodle was to upload lecture notes. I am not sure whether they uploaded notes personally, or whether their colleagues helped. This raised the need for a study of this kind; to learn from participants' experiences through their voices or perspectives in order to improve the use of Moodle by lecturers. Some students were disadvantaged, especially those registered part-time.

Most students at Master's degree and at PhD level register their thesis for research. Indeed, a research is usually a lonely journey for students with only lecturers as our guides. Usually a supervisor is allocated two to four, and sometimes more, students at Masters and PhD level. In addition, students at these levels research different topics. Yet, by using the discussion forum on Moodle we (students) can communicate on certain aspects of our studies common to us all. We can also help one another on technicalities in our writing before taking our work to our supervisors for final thoughts. Using Moodle facilitates study. Students registered part time may not struggle with their work because they can obtain full support from the lecturer and their fellow students

through Moodle. This requires that the lecturers' perspectives on Moodle be positive; ensuring that the lecturer conducts all work online while also ensuring that students engage in online learning. Therefore, lecturers' perspectives and experiences play a critical role in the espousal of technology in education.

Lecturers' perspectives can be a starting point towards successfully use of Moodle in their teaching and supporting students at postgraduate studies. This study presented lecturers perspectives of Moodle from non-lockdown days and from lockdown. Such perspectives can be of help on how to approach the use of Moodle moving forward. As modules are proposed to be taught through Moodle, lecturers should ensure the modules are taught with Moodle to assist the students. However, in 2014 there were lecturers whom were not using the system and it was not known why such lecturers were not using the system. It may have been their perspective on the use of Moodle or on educational technology which had led some lecturers to avoid Moodle in their teaching. In other words, if we perceive something as good, we may adopt it and work with it despite any challenges it may bring (Dewey, 2001). On the other hand, if we perceive something as bad, we may not adopt it, and we may capitalise on its challenges in order to avoid it. Lecturers' perspectives on Moodle led to their decisions to use or not use Moodle in teaching. Not only perspectives also technological knowledge, infrastructure, expenses, physical ability, and many other related issues.

In this case, lecturers should understand that using Moodle to teach at postgraduate level can benefit students, not only those on campus full time also part-time contact students. Moreover, to ensure that students develop a love for educational technology, students should be exposed to a variety of educational technologies. Students come from different environments in which some have not been exposed to technological resources at school level. This requires that lecturers' perspectives be positive on the use of technologies. Lecturers should redirect their perspectives for the benefit of their students. As some lecturers did not make much use of the learning platform, students then did not engage on the learning platform and interact with their fellow students on the other modules.

1.4.2 Objectives of the study

The objectives of this study are to:

1. Explore university lecturers' perspectives on the usage of Moodle in teaching postgraduate modules.
2. Understand why university lecturers have particular perspectives on the usage of Moodle in teaching postgraduate modules.
3. Understand lessons that can be learned from university lecturers' perspectives on the use of Moodle in teaching postgraduate modules.

1.4.3 Research questions

1. What are university lecturers' perspectives on the use of Moodle in teaching postgraduate modules?
2. Why do university lecturers have particular perspectives on the use of Moodle in teaching postgraduate modules?
3. What lessons can be learnt from university lecturers' perspectives on the usage of Moodle in teaching postgraduate modules?

1.5 Significance of the study

The future of the education profession lies in the hands of lecturers who must produce graduate researchers who in turn move the profession forward. Through lecturers' perspectives, students are likely to behave in ways their lecturers have taught them (Schultz & Schultz, 2016). This study holds that lecturers' use of Moodle determine the future of students, depending on how lecturers engage students on the system. However, Maistry (2017) cautions that the capability levels of lecturers supervising postgraduate modules continues to be a serious obstacle for many students in higher education institutions in South Africa. An example of this is found in a two-year qualitative case study conducted by Khoza and Manik (2015), based on the digital technology experiences of postgraduate students undertaking research at a university in KwaZulu-Natal, South Africa. Khoza and Manik (2015, p. 191) assert that "South African public universities have recently been embarking in efforts to increase their postgraduate enrolment, and ensure postgraduate student throughput and graduation".

Increasing students' enrolment at postgraduate level is possible; yet the issue becomes keeping students in the system until they finish their studies. Students experience difficulties during their studies, often because they are not provided with the support they need. With Moodle, users may need to be equipped with the necessary knowledge to successfully integrate Moodle into teaching and learning. If not, lecturers and students will continue to experience difficulties with educational technologies. Sonn (2016) believes that a supervisor's attitude is crucial, either making or breaking the student. Thus, lecturers should review their perspectives in order to encourage students to complete their studies. This study focuses on lecturers' perspectives, raising awareness for lecturers that their actions yield one of two results: 'make or break' the student. Currently, students recruited to enrol for postgraduate studies have largely been from a younger generation and within the technology context they are known as 'digital natives'. As they are new in the postgraduate level they do not have much experience of doing research: they thus need to be treated with care. Though they are able to source their own learning, still they need to be guided to the right direction. They should be exposed to learning management services (LMS) such as Moodle because they benefit more from learning with technology (Khoza, 2013). Lecturers should be able to use Moodle to teach the modules in order to cater for students enrolled, part time, to study.

A similar study to that above was a qualitative case study conducted at Walter Sisulu University (WSU), Ibika Site, Butterworth, South Africa by Sonn (2016). The study, in particular, draws from a research study conducted with B.Ed. Hons. and M.Ed. students at WSU Ibika Site with a focus on unearthing the challenges students experience while conducting their research. Within the same year, a descriptive study was conducted at the same university (WSU), although this one was conducted at another campus in Mthatha, South Africa. The descriptive study investigated "a one-on-one writing consultancy as an informal learning space, formed to assist postgraduate research students with thesis writing" (Grossman, 2016, p. 94). These three studies were conducted in three different places, with the focus on students' challenges in their experiences with their supervisors. All these studies yielded similar results: that students do not receive the necessary service or assistance to successfully complete their studies. As a result, students find it a challenge to complete their studies on time because of the lack of assistance from their supervisors (Grossman, 2016). This results in the early dissolution of the connection between the lecturers and their students.

As alluded to earlier, lecturers have a lot of work to do. In many cases, lecturers have classes of more than two hundred undergraduate students. In addition, they have a number of postgraduate students, from Honours to PhD, to supervise. This makes it difficult for some lecturers to easily work with such a number of students. They require Moodle to help them because students cannot always depend on the lecturer for assistance. It is crucial that lecturers be heard so that strategies will be developed to assist them cope with their work. As with the above-mentioned research from WSU, there are more other studies concentrated on students perspectives on educational technologies. Therefore, this study seeks to offer lecturers a platform to express their thoughts on their experiences on their use of Moodle. This may enable the university management to establish relevant solutions that assist lecturers to implement the system with success.

It is crucial to understand the challenges experienced by both sides (students and lecturers). Viewing students in isolation, lecturers can be taken as monsters who are against students' progress. It can be true what students are saying about their lecturers that they do not offer them sufficient support when they must learn through LMSs. However, lecturers' perspectives also count. Fingers must not only point at lecturers for failing students. The significances of this study is that it affords lecturers' space to articulate their perspectives on the use of Moodle in teaching postgraduate modules. Lecturers should be given all the support they may need to integrate Moodle into their teaching. Doing so can make it easy for lecturers to help their students learn to use Moodle. Most universities in South Africa place a greater emphasis on recruiting students to enrol for postgraduate degrees than on inspiring them to complete their studies within the mandatory timeframe (Sonn, 2016). This route requires lecturers to use Moodle to teach the recruited students to complete their studies in the given time. Maistry (2017) notes that, in a highly competitive market for postgraduates, South African universities vie with the private institutions and the government institutions to attract and retain high-calibre postgraduates. Attracting and retaining high-calibre postgraduate students requires that lecturers' perspectives be known to assist them where they experience challenges.

Sonn (2016, p. 228) cautions that in South Africa the "active researchers are gradually ageing while not enough younger researchers and academics are being recruited and retained". According

to Khoza and Manik (2015), Grossman (2016), and Sonn (2016), some lecturers do not have academic experience to explicate to their students why a certain assignment is wrong and how to correct it. Some lecturers offer nothing positive that can motivate a student, leading to students unfairly failing their research projects (Sonn, 2016). This suggests that lecturers themselves need to be assisted in some activities. This can be achieved by offering them a platform to share their challenges so they can be assisted. Some students note that, as they are first-time postgraduate students, they do not have support with LMSs, or knowledge to understand technical issues and research methodologies in order to use educational technologies correctly (Khoza & Manik, 2015).

The country has no future without a good foundation that supports students as future academics and researchers. The same principle applies to our lecturers; they need support to help integrate Moodle so that the curriculum is successfully implemented. Especially as we head towards 4IR. One can therefore contend that the absence of lecturers' technological knowledge, when integrating Moodle into teaching, is indeed a way of tearing at the basic structure of our future academia and weakening our country (Brownell, Hirsch, & Seo, 2004). As a result, we find ourselves short of academics and research on educational matters in the country. Using Moodle with the necessary technological knowledge may motivate students to continue with their studies, especially as they know it will also connect them with other students all through their studies to their graduation. Similarly, Bernstein (1999, p. 1) states that "what happens to children in their first days, months, and years of life affects their development, the development of our society, and the development of our world". In much the same way, if students experience difficulties during their first year at postgraduate level, they may not have courage to move further to Master's or PhD level. Similarly, when our lecturers experience challenges with Moodle at its early stages they may not be interested in moving forward. Thus lecturers, university management, and other stakeholders, should work ensure that the use of Moodle is taken very serious and challenges are addressed as early as possible to avoid its abandonment in the near future.

The introduction of Moodle is one means of recruiting young students to enrol for postgraduate studies because many undergraduates are already working. Employment demands make it difficult for such students to enrol for postgraduate studies because they have little time to spend on their studies. According to the National Planning Commission (2012), on the National Development

Plan (NDP) 2030, distance and part-time education, aided by educational technologies or information and communication technology (ICT), play a crucial role in escalating learning opportunities for various groups of students. The use of inline learning promotes lifelong learning and continuous professional development. South Africa needs academics and researchers to secure production within the country, thereby developing the economy. The more people are educated within the country, the better the production. Therefore, if South Africa intends to meet international standards, there is a need to shift the focus from a resource-based economy to a knowledge-based economy (Berkvens, van den Akker, & Brugman, 2014). This can be achieved by encouraging young people to study further.

Once students are knowledgeable on the use of Moodle that can be an encouragement to them to study further as part of their own professional development. Such may mean more knowledgeable people in the country. A first degree is merely the starting point at which a student gains knowledge. Knowledge is found in research, the space in which one explores the world independently in search of knowledge. South Africa is investing more in education with the understanding that it is only with education that the country can develop further. Yet Venter, van Rensburg, and Davis (2012) argue that, regardless of the potential benefits of the use of educational technologies in teaching and learning, a person cannot neglect the barriers lecturers and students experience when integrating technologies such as Moodle into the teaching of postgraduate modules. There is a need to understand these barriers through lecturers' perspectives and work towards overcoming them to successfully integrate technologies in our education. South Africa has many capable people, especially the young, who can study further to enlarge their knowledge and are able to help improve the country's education system. However, there are some students or graduates from rural regions whose backgrounds are a hindrance to their professional development. Only ICT (Moodle) may help such students to further their studies.

1.6 Contextual factors

Unlike other African countries, South Africa's developing economy is working well to integrate ICT into the education agenda (Farrell & Isaacs, 2007). Yet, we should not forget that many of our students come from places in which there is no availability of ICT infrastructures. This suggests that while higher education institutions (HEIs) are equipped with ICT equipment to enhance

teaching and learning, some — if not most of our students — enter university without basic computer skills (Tedre, Ngumbuke, & Kemppainen, 2010). This is a major hindrance to the use of Moodle for teaching and learning. It becomes further challenging if there are part-time postgraduate students because they will continue studying from home where some have limited-to-no Internet connection. Lecturers' perspectives on the use of Moodle in teaching and learning, especially postgraduate modules, may reveal all the challenges they encounter when integrating Moodle into teaching and learning. This may help us better understand which students (full-time or part-time) utilise Moodle.

Moodle, for example, has been introduced to many HEIs in South Africa. However, only students who are on campuses stand a good chance of utilising Moodle. Indeed, context plays a crucial part in deciding whether Moodle is utilised or not at the various institutions. Despite that, Andersson and Grönlund (2009) mention a similar concern expressed by Tedre et al. (2010, p. 8):

> *Differences in geographical and economic conditions, different educational backgrounds and pedagogical views, language and content issues, usability, and technical literacy issues, attitudes, and prejudices, and even differences in climate have posed challenges to initiatives in technology-enhanced education.*

Despite being considered an economically well-developed country that is able to integrate its ICT into education, South Africa has its own challenges when it comes to technology-enhanced education. It may not be as bad as in other African countries, but challenges exist. A person may even argue that it is better to have technical challenges when it comes to the integration of technology in education because as time goes by users will learn how to use and integrate these systems in to their teaching and learning. When looking at our case it is worse because the facilities are available but are not effectively used. Reasons for not using or integrating these systems are unknown, they can only be discovered from the lecturers' perspectives.

One may further argue that an individual cannot work without knowledge of how the work should be done. In simple terms, lecturers may not use Moodle to teach if they experience challenges with Moodle and no one cares to know their challenges. According to Mtebe (2015, p. 55), "usability is a measure of how users find the LMS easy to learn, easy to use, and user-friendly, if the LMS is

easy to use and easy to learn, lecturers will use the system more often". On that note, Unwin et al. (2010) proposes that a large number of lecturers in higher education institutions (HEIs) believe they are using e-learning tools. However, they are merely using basics to enhance their teaching and learning: more often than not they interpret Moodle as a source to access information.

Educational background, therefore, plays a crucial role if lecturers and students are to use educational technology for successful teaching and learning. One of the key issues in our educational system is that most students entering universities have no experience of educational technology. Most of our primary and secondary schools are not furnished with technological equipment. Their ICT skills seem to have largely come from their experience with their mobile phones (Tedre et al., 2010). Such students have only experienced face-to-face teaching and learning, acquiring computer literacy while embarking on their undergraduate degrees. We should therefore not overlook their educational background because it is a significant contextual factor when integrating technology into education, especially at postgraduate level. Not only are the students technologically challenged, but there are some lecturers that have not used educational technology during their primary and secondary education.

Over the past two or three decades, technology has rationalised, amongst other things, how we teach and learn (Siemens, 2005). Such changes were, however, crucial for South African education so that universities, lecturers, and students can keep up with the 4IR. The use of technology in teaching is originally not a South African style, therefore challenges and anxiety towards the systems are expected from the users of educational technology until it is perfectly adapted to fit in our context. It is for such reasons that Tedre et al. (2010, p. 14) opines that currently "Africa's educational system is a mixture of Western education, Islamic education, and traditional African education". To ensure the ease of use or successfully integration of educational technologies, it should be localised so that it become specific to students and lecturers. The mixture of cultures in educational technologies makes it difficult for some lecturers and students to integrate technologies in education. Unwin et al. (2010) asserts that one of the reasons lecturers and students do not use Moodle is the absence of e-learning policies in their institutions.

1.7 International trends on Moodle usage

South Africa, as a member of the international community, has undertaken numerous changes in its education system to meet international standards. As such, integration of ICT has been adopted by South African universities for a variety of reasons. The integration of ICT into educational institutions is meant to ensure a high-quality education for the twenty-first century generation (Department of Education, 2004). This initiative is a worthwhile because of the internationalisation of education. This initiative may also allow students to study and receive a degree from any university in South Africa, even if they are outside of the country. It is also a good initiative because it cater for the 21st century generation in the sense that students understand technology because they are using it in their everyday lives. The truth is that, HEIs could not continue to use only the old method of teaching and learning while technology is becoming part of our everyday lives. By integrating technology to teach 21st century generation university students, frequently referred to as the net-generation, we can ensure that we are indeed aiming for a high-quality education.

Students from the former 'Model C' type schools are at an advantage when it comes to technology when compared with their fellow students from rural areas. Students from the upper classes of society have typically used digital technology such as computers, tablets, and mobile phones from a younger age than their fellow students from the lower socio-economic classes (Czerniewicz & Brown, 2010 ; Prensky, 2001b). Closing that gap is necessary as some children may be required to use such equipment in class. Imagine a school in which there is no library, no laboratory, and no computer centre, where there are no technological resources. Students from such schools will have to experience such resources when they first enter universities. Ignorance of technology becomes a challenge to students, who must understand first how to use such resources before they can use them effectively. This causes a delay in such students' academic progress. During the first year of my undergraduate degree, I witnessed many students struggling to use a computer to write their assignments. There are people who wish to further their studies or to study online, but they cannot send an email; this is especially true for students from rural areas.

The use of technology to bridge the digital divide within different parts of the country, should begin at primary school level, and should be sped up to ensure that students enter universities with

knowledge on how to use technology (Department of Education, 2004). More so, integrating technology into education is the only means by which HEIs can recruit students from all over the world. For students to successfully complete their studies, universities need to use educational technology (LMSs) to ensure that students can access education from anywhere around the world. In as much as LMSs are used to ensure that students access education globally, more studies must be conducted to ensure a full understanding of the global perspectives on e-education. Lecturers should study further and also be given full support to know more about technology and how it is integrated into teaching and learning.

Merryfield (1998) articulates that research has revealed much about lecturers' perspectives on education; however, very little is known about how they make instructional decisions and the challenges they encounter as they plan to teach with Moodle. This poses a challenge to developing countries who wish to implement e-learning. One may argue that with little or no knowledge about what lecturers experience in the classrooms, when integrating Moodle, it is possible that some lecturers fail to successfully implement e-education. It is therefore crucial that research be done, especially on lecturer's perspectives on the appropriate use of Moodle at local or national level − lecturers can make the use of Moodle possible to students. Keeping in mind that e-learning was devised in more technologically advanced countries, particular perspectives were incorporated from the onset (Andersson & Grönlund, 2009). One may therefore contend that, for developing countries like South Africa, before Moodle can be adopted for teaching and learning, lecturers should be thoroughly trained on how to use Moodle. Not only this, but lecturers must understand the importance and the benefits of using Moodle. This may help lecturers adjust Moodle to their contextual perspectives.

Any introductory training is inadequate for lecturers to be able to overcome the complex and increasing demands of twenty-first century education (Boud & Brew, 2013). The use of educational technology requires lecturers to have a thorough knowledge of technology. The institution under study is ranked amongst the best universities worldwide by various agencies. Such a reputation catches international attention − it attracts international enrolment. Therefore, for this university to meet international standards it must also offer e-learning at an advanced kind. It is for such a reason that Moodle is adopted and proposed as compulsory in teaching and learning

through to postgraduate level. Lecturers in this institution should, therefore, understand that Moodle can assist them to create more collaborative and constructive learning settings in which students can become prominent academics and researchers (Yun-Jo & Williams, 2010). Students' collaboration may help them to teach one another more about their technological expertise, academic capabilities, cultures, further expanding their research knowledge.

1.8 Outline of research methodology

This study employed an interpretive paradigm which is designed to understand people's behaviour and their satisfaction with their place of work, as opposed to the critical paradigm which seeks to change and empower. The qualitative method of research is used in this study because Hodge, Lieberman, and Murata (2012), note that it consists of many different endeavours, many of which are concerned with the study of authenticities. Only the lecturers' perspectives can tell exactly how they perceive Moodle and the reasons for using Moodle in such a way.

1.9 Structure of the thesis

This study has been structured as follows:

Chapter One incorporates the background to the study, as well as the rationale behind the study. Berkvens et al. (2014) state that everything we do, especially in education (teaching and learning), starts with a vision. Working to a vision is key to the achievement of our goals. Since the use of Moodle incorporates many perspectives, I decided that a study such as this should be conducted to understand such perspectives. As an introductory chapter, Chapter One discusses the rationale, the objectives, and research questions that led to this research study. It further states the significance, contextual factors, and global trends used with Moodle.

Chapter Two presents the literature review on the topic of the study. This chapter extensively explains perspectives and reasons for studying lecturers' perspectives. It further discusses Moodle as an instrument for teaching and learning, as well as curriculum approaches on the use of Moodle.

Chapter Three is guided by the conceptual framework; curriculum concepts on the use of Moodle were explored in great detail. The curricular spider web concepts were incorporated with reviews of literature to explicate and strengthen the arguments around perspectives and educational technology. Each concept was adjusted to focus on the three types of perspectives (individual, community, and professional) used for this study, thereby providing an evaluation and exploration of the works or studies conducted on Moodle.

Chapter Four presented the theoretical framework. The theoretical framework for this study is a combination of Technology Pedagogical and Content Knowledge (TPACK) and the Technology Acceptance Model (TAM). TPACK is used to supplement TAM to incorporate factors that are missing in TAM. Each of these theories was discussed in detail before being linked. Weaknesses of the two theories were briefly discussed as were possible strategies to address the weaknesses of these theories.

Chapter Five critically surveyed the research methods used to conduct this study. It discussed the character of the study, the case study, the sampling techniques employed to select the participants, and the methodologies used to generate data.

Chapter Six presented and analysed the data generated from the participants. The findings presented were generated using two sets. The first set was face-to-face interview which was conducted during no-lockdown period. The second set was an open-ended questionnaire which was conducted during the lockdown period. Open-ended questionnaires were used because of the lockdown regulations that restricted the movement and physical gatherings of people to curb the spread of the virus. Inductive reasoning was used to analyse the data.

Chapter Seven discussed, findings drew conclusion from these findings. Lastly, proposed recommendations about the findings and areas of future research were presented.

1.10 Conclusion

This chapter has indicated the intention and reasoning behind this study, and has provided a summary of the research blueprint and procedure. It has further elaborated on the significance of

this study. A researcher cannot expend effort and resources to undertake a study without producing any significant results. It is crucial to undertake studies of this kind so that the university concerned knows the state of teaching and learning. Knowing the state of teaching and learning can be beneficial to the institution as they may use findings to help lecturers improve their practice. There may also be frequently overlooked contextual factors, yet such factors play a crucial role in the education system. These factors are critical because they involve teaching and learning as well as students and lecturers. To ensure successful teaching and learning, these factors should not be minimised. Such factors can be used to improve practice and the profession itself. This chapter briefly elaborated on such issues. The following section or chapter will provide an analysis of related literature.

Chapter Two

Integrating Literature to Understand Perspectives

2.1 Introduction

This chapter provides information from local to international literature about lecturers' perspectives of Moodle and the way Moodle is used to teach in HEIs. Lecturers' perspectives are studied because the findings of a qualitative research study conducted by Sahin (2013) on education supervisors revealed that the majority of lecturers are deficient in applying technological tools to implement the curriculum. Yet, lecturers' voices are not heard as to why this is so. This study aims to unearth lecturers' perspectives on the use of Moodle in teaching postgraduate modules. To ensure that this study covers almost all aspects of lecturers' perspectives, it categorises perspectives into individual, community, and professional perspectives.

My observations on literature for this topic concluded that some lecturers indeed lack motivation when it comes to using instructional technologies to teach at postgraduate level. Sahin (2013) indicated one disturbing issue — that some lecturers do not use Moodle even when they know how to use it. Why then are lecturers not using Moodle, despite knowing how to use it? This is one of the concerns that led to this study. Focusing a critical eye on lecturers' behaviour, one can tell that such actions have to do with perspectives lecturers have towards Moodle which are only known by them. Thus, the need for studies that will probe lecturers' perspectives are crucial. Some lecturers are still comfortable with implementing the curriculum using traditional methods. However, it should be noted that Moodle was not introduced to replace the 'traditional' teaching and learning method. Rather, it was introduced to enhance teaching and learning — especially to assist lecturers with students who study part-time (Dahalan, Hasan, Hassan, Zakaria, & Noor, 2013).

Lecturers may never have been provided with a platform on which to express their views about the integration of Moodle in their teaching. It has been indicated that lecturers perceive Moodle from various perspectives; thus, they are likely to act differently when it comes to the use of Moodle to teach their modules. Lecturers' perspectives must be known, so they are provided with

assistance, leading to them re-organise themselves (their perspectives and understanding of Moodle) in order to implement the curriculum accordingly (Cavus, 2015). Lecturers should reflect on their teaching in order to understand the type of perspective from which they perceive Moodle. Lecturers' perspectives must be studied to ensure that Moodle is successfully implemented for the benefit of students, society, the teaching profession, and ultimately themselves.

In any study, a researcher cannot solely rely on the information generated from participants in the particular study. Therefore, in order to gain more understanding of the effectiveness of current trends on Moodle usage in HEIs, a literature review of local and international programmes was undertaken. To ensure even-handedness in research, such research must be entrenched in the wider research milieu. Springer (2010) asserts that, even if a researcher's interests on a certain topic are motivated by practical concerns, policy, or curiosity, the researcher will need to study literature or sources on the topic of choice. This may aid the researcher with information to have ample understanding of the similar issues (successes and challenges) experienced by other people internationally, on their use of Moodle in teaching. Without generating information from researched sources, a researcher may not be able to back up their arguments. A researcher must have global knowledge on the topic being studied. This will further help a researcher to avoid duplicating studies (Ary, Jacobs, Sorensen, & Razavieh, 2006, p. 63). In research, other peoples' "work need to be used as a halt to our own ideas and to highlight and support our own findings" (Govender, 2012, p. 49). Literature used in this study is referred to as a primary sources. Martens (2010) and Springer (2010) define primary sources as the database containing information about the research articles, books, and any other sources published on the topic of the researcher's interest.

Moreover, this is a qualitative research study. Springer (2010) states that qualitative research studies usually explicate the descriptions of the methods, sampling, data-generation strategies, and data analysis. Even the discussions on the findings of this study are supported by findings from the sources or literature. Some issues are similar to others that have been raised by students and lecturers in other countries. Correspondingly, Ary et al. (2006) state that the literature review shows how the proposed research fits in with the existing body of knowledge. Studies have revealed much information on Moodle usage in various parts of the world. Yet, little information

or research has been conducted enquiring after lecturers' perspectives on the use of Moodle in their teaching. In qualitative research such as this, Ary et al. (2006, p. 63) state that in the "fields of qualitative research many researchers include a brief review of related literature at the beginning of their studies to identify the theory that inspired the research or to justify the need for it". Books on the theory used for this study i.e., TPACK and TAM, clearly provide the required knowledge and reasons for the integration of Moodle into teaching and learning. Furthermore, from books on the invention of Moodle and the reason behind its invention, it could be argued that the integration of technology into teaching and learning is a necessity. The existing literature to challenge or support my own ideas on this study are outlined according to the following themes: perspectives and their influences on the use of Moodle; reasons for studying perspectives; Moodle for teaching and learning; and curriculum approaches in the use of Moodle.

2.2 Perspectives

2.2.1 Understanding the perspectives

This section explicates and discusses perspectives to ensure that such are understood. It may be common for lecturers to perceive Moodle differently from one another, coming as they do from different contexts. The manner in which lecturers react to Moodle results from their perspectives. Accepting that perspectives vary from person to person — according to their beliefs, experiences, and context — may raise awareness among university management (Cox, 1997). Since perspectives vary from person to person, it is crucial that lecturers are studied to understand their differing perspectives. This study explored a small sample of lecturers who represented themselves according to the research methodology of this study, as indicated in Chapter Four. This suggests that the university or any other individual should expand such a study to sample more lecturers in order to discover perspectives from more participants. This may ensure that the university management and lecturers perceive Moodle similarly. Doing so will mean progress to the teaching profession, students, and lecturers, as well as the community at large. However, the challenge is to recognise and understand what a perspective is and how it affects teaching and learning. Wagner (2012, p. 11) states, "one needs to have a perspective in order to understand what a perspective is".

A number of authors argue differently about the nature of perspectives. However, there is a common agreement that perspectives have to do with a person's point of view of a given object at a given time (Cox, 1997; de Castro, 1998; Di Stefano, Gino, Pisano, & Staats, 2015). Cox (1997, p. 270) offered a critique of the works of Maudemarie Clark and Brian Leiter through a historical and documentary research study. According to Cox (1997, p. 270), these two authors argue that perspectivism presents a similarity between obvious features a person can visualise, and less obvious features of what a person knows. According to him perspectivism is not a simple issue: it is more problematic, yet more interesting than these interpretations take it to be (Cox, 1997, p. 270). It is for such reasons that the issue of lecturers' perspectives should not be taken lightly. If Moodle is problematic, lecturers would need to read and engaging with the system to finally reach the interesting part of it. This is similar to being in a new environment: A person may initially feel unwelcome but when in that environment for a longer period, a person adapts and may begin to enjoy it. Thus, it is the same with the integration of Moodle, especially with some engaging with it for the first time. Moodle is interpreted as a difficult platform to use for teaching and learning. This requires lecturers to familiarise themselves with Moodle or lecturers will continue to perceive Moodle the way they currently do. To help lecturers familiarise themselves with Moodle their perspectives should be studied: this will assist them to teach postgraduate modules without difficulty. Lecturers who have doubts, may hesitate to use Moodle. Exposing perspectives may help lecturers realise how interesting it can be to use Moodle once they know from which perspective they interpret the system.

In his critique, Cox further asserts that perspectives are instituted and directed by conditions in which they are compelled by interpretations (Cox, 1997). Every person has an individual perspective of any object they come across. A simple definition of perspective is said to be the particular pattern thinking about something, especially when influenced by context, belief, or experience (Simpson, 2006). One may agree that the process of thinking involves many interpretations in which individuals uses their experiences and philosophies to create meaning of a particular object (Moodle). More so, the context in which we find ourselves at a given time allows us to interpret any object according to that particular context. Cox (1997, p. 273) further contends that "the world in which we find ourselves is a world of struggle, and that this struggle is among interpretations". As human beings we are the products of our societies; we struggle with

interpretation of life and actions of our daily lives. People sometimes interpret certain objects (such as Moodle) according to either individual perspectives, society's perspectives, or professional perspectives.

It is therefore imperative to understand the three categories of perspectives, in order to understand how lecturers interpret the incorporation of Moodle into teaching and learning. It is also crucial to understand lecturers' interpretations of Moodle. Their perspectives on either category have an impact (positive or negative) on teaching and learning.

2.2.1.1 Individual perspectives

Khoza (2016a) presented a critical action-research study on three university postgraduate students who were registered part-time as they were working as school managers. These students worked in different schools, using Moodle to manage the curriculum in their respective schools. Khoza (2016a) contended that individual or personal perspectives address the needs of an individual lecturer, and are mostly generated from each lecturer's unique context. Contexts in which we spend much time determine our personality or character, and further determine our perspectives. This is because, in any context, there is socialization. Schultz and Schultz (2016, p. 472) concur that "it is impossible to deny the impact of diverse environmental and social forces on individuality". This section focuses on individual perspectives; however, we know that an individual does not live in isolation. Social forces cannot be separated from the individual. We find ourselves at our place of work socialising with our colleagues; yet, we still have our individual abilities, attitudes, and perspectives. Similarly, Mischel and Shoda (1995) state that the concept of individuality rests on the assumption that individuals are characterised by unique abilities across situations and over time. The way each individual lecturer perceives Moodle will be drawn from their own perspective and/or experiences. Individuals understand Moodle differently, depending on how they were introduced to Moodle from the outset.

Even if a concept can be explained in similar ways to different people, each individual will understand it differently from the others. Schultz and Schultz (2016, p. 470) cautions that it can be a challenge to study an individual because "the field of individuality is marked more by chaos than certainty, more by differences than agreements". Dealing with the individual demands a great deal

of attention and tolerance, as one may encounter different perspectives of one object from different people. One may further argue that the chaos referred to here are that each individual understands things differently from others. Being that people have different personalities. This study argues that the use of Moodle or the introduction of Moodle to lecturers should not be done by the administrators with the "one-size-fits-all" mentality. Studying lecturers' perspectives may help unravel the different understanding lecturers have on Moodle so that a common understanding is forthcoming.

On a similar note, Poropat and Corr (2015) concur that an extensive paradigm is crucial to understanding the nature of individuality. Such should be fundamental to any attempts at incorporating personality models. Lecturers, individually, are expected to integrate Moodle into their teaching, yet their individual strengths and weaknesses on Moodle may not be known. An individual cannot be studied and understood if only studying them at face value. Individuals should be thoroughly studied to understand everything about them. Understanding personalities of different individuals may help one understand how individual lecturer thinks, interprets, and perceives Moodle, together with many other abilities and characteristics. This can be one of the reasons some lecturers find it difficult to use Moodle: they are not all at the same stage of using the system. Individuals have their own pattern of thinking: and they may hesitate to reveal their true personality. However, the little information that we may generate from studying the few selected participants may help us understand their individual perspectives.

Lecturers' lack of understanding of the university management's visions and goals of adopting Moodle in teaching is a challenge that needs to be addressed in order to stimulate quality teaching and critical thinking (Khoza, 2016a). As they do not share the same vision with the university administrators about Moodle; they may not be referred to by what Proctor, Tweed, and Morris (2016) call a *fully functioning individual*, because they are not fully using Moodle. Proctor et al. (2016) used a confirmatory factor analysis to conduct a study on a fully functioning individual. That study was divided into two. For the first study, a single influential structure of the fully functioning individual was evaluated with young adults aged 16 to 19 years. The second study authenticated the findings of the first study per different participants, using an exploratory factor analysis to define the adjustment accounted for in the model. The purpose of the study was to

scrutinise the characteristics of the fully functioning individual from a positive psychological perspective (Proctor et al., 2016). The findings of the linked analysis offered the conclusion that the fully functioning individual is positively correlated with zest, bravery, trustworthiness, leadership, and spirituality; and negatively related to fear and concern for fairness (Proctor et al., 2016). An individual who is functional at work is able to withstand any challenge and does not fear changes. For an individual to be able to withstand challenges and changes, the individual must be a lifelong learner. Learning is one of the ways that an individual's perspectives can change from negative to positive.

Schultz and Schultz (2016) maintain that knowledge plays a key role in almost every aspect of behaviour in an individual. Proctor et al. (2016) consider a fully functioning individual an individual in process, that is, an individual continually changing. For one to continually change, one must study: it is only per new information that an individual can change perspectives of a given object at a given period and context. Moreover, the world we live in is changing because of technology that seem to be ubiquitous at all aspects of our lives. Schultz and Schultz (2016) categorically state that even hereditary facets of individuality can be altered, disrupted, prevented, or allowed to thrive through the process of learning. Learning is the most powerful weapon that an individual can use to change their perspectives (Mandela, 1995). However, at some point in life, individuals use emotions to judge the situation, making decisions that can make them succeed in life while others make decisions they will live to regret. Individuals have an inborn aptitude to know what they need, and what is crucial to a fulfilling life (Schultz & Schultz, 2016). Such may influence their teaching: using Moodle requires an individual to have or apply learned knowledge.

2.2.1.2 Influence of lecturers' individual perspectives on the use of Moodle

No matter how individual lecturers perceive Moodle, their perspectives either positively or negatively influence their use of Moodle. If they perceive Moodle positively this impacts positively on their use of Moodle. If they perceive Moodle negatively this negatively impacts their use of Moodle. It is true that "because of the Internet, today's youth are part of an interconnected global community of learners with an increasing awareness of the world around them" (Coiro, Castek, & Quinn, 2016, p. 4). It is also worth noting that some lecturers are not part of the net-generation group, which means they may have certain perspectives on the use of Moodle as a

teaching and learning tool. Lecturers who do not fall into the net-generation group may have differing perspectives on Moodle from the net-generation group. Such differences will impact on their use of Moodle. Those not part of the net-generation group may move toward intrinsic goals and away from extrinsic goals (Schultz & Schultz, 2016). They may use their individual perspectives of Moodle — individual lecturers know about goals most likely to be beneficial for their subjective well-being. Yet, it becomes a problem if lecturers use Moodle according to their own goals; they make decisions that are beneficial to them and not to the students and their profession. The use of Moodle should be based on professional perspectives so that it can benefit students, lecturers, and the discipline (Khoza, 2016a).

Moodle should therefore be fully used as envisaged by the university management. However, the lack of support from university management may cause lecturers to interpret material presented to them on Moodle training courses in ways that support their own perceptions about teaching (Fajet, Bello, Leftwich, Mesler, & Shaver, 2005). It is thus important that the training session for lecturers ensure that lecturers grasp the content of Moodle. Individual perspectives are crucial to decision-making. Living with other peoples' decisions may make an individual regret life in the workplace because people take decisions according to their individual understanding or experience of any given object at any given context. Such experiences may contradict with one another's understanding or experience of the same object. As in the societal perspectives, individual perspectives come from what a person has experienced in life. Schultz and Schultz (2016) caution that our jobs or work experiences should have the potential to change our basic personalities. At our workplaces we encounter people from different backgrounds with different perspectives: every day we learn something from them. Some knowledge that we acquire from our colleagues we tend to take and apply to our work and lives. One must exercise caution when applying other peoples' perspectives, without supporting them with professional perspectives. People are personal and depend on the context in which an individual was taught to approach life. Therefore, other people should not completely forget who they are, living other people's lives. On that note, Fajet et al. (2005, p. 718), state that lecturers "tend to accept their own schooling experiences as prototypical and generalizable toward the teaching profession".

Although perspectives are the results of beliefs and experience, at some point it is important to consider the time. Lecturers of different age groups should understand the use of technology in education differently depending on the era in which they attended school, whether it was technologically or paper based teaching. Equally so, experiences go with context, in the sense that a person may learn about the use of technology from their cell phones or personal computer which will have an impact when using technology for teaching and learning at university level. A person should be able to adapt to the new environment and not just use the strategies used in other environments in which one has learned about the use of technology. Failing to adapt to new environment can cause educational technology users to produce negative results because they could implement the system according to their understanding of technology from their experiences. Schultz and Schultz (2016) state that lecturers should note that even the time period in which an individual was born and reared can have an impact on their personality and their use of Moodle. Khoza (2016a) asserts that studying technology may help lecturers understand the purpose of using technology in the education system for teaching. Furthermore, understanding the purpose of Moodle may explicate the reasons why they should use the system (Forde, McMahon, McPhee, & Patric, 2006; Khoza, 2016a). However, being able to use devices does not imply that an individual is fully knowledgeable about technology: only the basics can be known. It is therefore vital that a person questions perspectives, deciding whether their perspectives are in line with the current era or not. Individual perspectives are important because they form "a foundation of social and professional perspectives and are determined by individual choice of transformation" (Khoza, 2016a, p. 2). Poropat and Corr (2015) caution that personality research is further complicated by the fact that personality as a phenomenon, and every assessment of personality, are inherently communal.

2.2.1.3 Community perspectives

Bandura (1999) contends that people are producers as well as products of a community system. Therefore the primary cause of peoples' behaviour arises from forces within the individual (Bandura, 1979). Also, society plays a role in shaping an individual's behaviour. With the individual being part of the community, peoples' behaviour may change according to the community's expectations. Dewey (2001) clearly states that whatever an individual does and what they can do is influenced by the beliefs, demands, consents, and denunciations of the community.

Bandura (1999, p. 24) opines that "human adaptation and change are rooted in social systems". The community has an influence on changing peoples' lives because whatever a person does, the community must either approve or disapprove of. This study does not only refer to the community at large; it also refers to friends and colleagues within a workplace. Some people at their workplace value their colleagues' or friends' perspectives; sometimes not knowing that it is not all of the perspectives from colleagues and friends should be put into practice. Community perspectives often stem from personal experiences and not from learned knowledge. Morgan (2014), and Schultz and Schultz (2016) argue that community experiences always have an emotional element in which sentiments provide a crucial connection between beliefs and actions.

Lecturers may have certain perspectives of Moodle, depending on the community they grew up in, including the community schools they attended. Khoza (2016a) argues that community perspectives place the community at the centre of the Moodle learning environment. This may lead lecturers to overlook the professional perspectives, relying on what their community taught them, because to them community needs are most important. Moreover, whenever lecturers have to decide on Moodle use they may seek community advice because of the value they attach to the community. Khoza (2016a, p. 106) stresses that:

> *Societal perspectives are called the horizontal perspectives. In the horizontal perspectives, Moodle usage is driven by learning outcomes. According to these perspectives, knowledge is mostly generated horizontally, from simple, locally known sources.*

Technological knowledge should not be locally based, especially when it has to do with educational technologies that include the international fraternity. The use of Moodle cannot be localised because it is a programme designed to be used internationally. Merryfield (1998, p. 342) argues that there is a "need to infuse global perspectives in technology education so that students will understand and benefit from the increasing interconnectedness of the world's cultures, economies, technologies, ecology, and political relationships". According to White Paper 7, ICTs are crucial to the transformation taking place internationally (Department of Education, 2004). McWilliams and Siegel (2001) assert that, with the transformation taking place, managers of different institutions constantly encounter demands from various stakeholder groups to devote resources to develop the community, thus being able to use technology in the workplace and in

their life in general. For this reason, the institution has introduced Moodle as a compulsory teaching and learning platform to supplement face-to-face teaching. Doing so indicates that university management wishes to meet international standards on the needs of the 21st century generation. Moreover, the institution invites international students to enrol with this institution.

How would it be if Moodle were localised? This is one question that needs to be answered and is worth keeping in mind. The global community is moving towards complete digitalization. Local knowledge, including traditional methods of teaching and learning may no longer help lecturers and their students to be internationally competent. Therefore, lecturers should consider the needs of the community by perceiving the community that will be able to use technology for communication, teaching, and learning. Once lecturers are transformed, Moodle may be a success in the institution, and students may benefit from global interconnectedness.

Educational technology, including LMSs are the international trend, therefore society's perspectives envisage students who will be internationally competent. According to Freedman (2000), technology in education helps to make life worth living and enables us to create, forcing us to think, and providing us with new opportunities. It is an indication that educational technologies can help us be competent in the global world. Technology users should at all time work towards shifting from local knowledge of technology to acquire broader understanding of technologies. Lemke (2001) contends that if using Moodle in teaching is to be based on local knowledge, rather than scientifically proven technological knowledge, using Moodle to teach local knowledge may not help students to be internationally competent. Therefore, if Moodle is to be used to benefit students, per the increasing interconnectedness of the world's technologies, lecturers must pay attention to their professional perspectives rather than just to their personal and societal perspectives.

2.2.1.4 Influences of community perspectives on lecturers' use of Moodle

Community perspectives have an influence on implementation of educational technologies, depending on the type of community people are coming from, either academic community or the community in general. Lecturers should not be muddled about these two groups. Perspectives from community in general may not provide lecturers positive advice on the use of Moodle. Bernstein

(1999) argues that, even within the academic community, not all members share a crucial and constructive perspective on the use of Moodle. Within the academic community there are members from the horizontal discourse. The use of Moodle is either encouraged or discouraged by what the community says on its usage. If most of the lecturers' advice from the academic community comes from the horizontal discourse, this may have a negative impact on lecturers' use of Moodle. Bernstein (1999) indicates that this form of advice is common-sense knowledge. Thus, Moodle is a technological tool that requires researched knowledge to perform. If, however, it is seen from the vertical discourse this may have a positive impact on the lecturers' use of Moodle. According to Bernstein (1999) and Khoza (2016a), a vertical discourse promotes professionalism and the use of learned knowledge on the use of Moodle. Therefore, lecturers should ensure that their perspectives on Moodle do not negatively affect their actions.

As alluded to earlier on that community perspectives have an emotional element that impacts peoples' decisions on tackling a situation. Acting on emotions may help people achieve a goal; however, this is not always the case. People who act on emotions are often "unlikely to use their cognitive processes to learn, think, evaluate experiences, or solve problems" (Schultz & Schultz, 2016, p. 348). Lecturers who use emotion to help them decide whether to use Moodle may experience challenges on the actual use of Moodle. One must consider the professional side of a problem before acting on it. Schultz and Schultz (2016) caution that lecturers must understand how the community from which they seek advice perceives Moodle. Whatever colleagues and friends say about the use of Moodle may result in lecturers acting according to the community's beliefs on Moodle. Consequently, Zembylas (2005, p. 469) argues that "emotion is the least investigated aspect of research on teaching, yet it is probably the aspect most often mentioned as being important and deserving more attention". Pritchard (2013) asserts that what the lecturer takes as advice from their friends or colleagues today they are likely to practice alone tomorrow. It is for that reason that lecturers should ensure that they analyse their colleagues' perspectives when taking their advice as this will impact on their use of Moodle in the near future.

Yet, Dewey (2001, p. 16) opines that "a being connected with other beings cannot perform his own activities without taking the activities of others into account". This is a good practice, yet lecturers should determine the impact it has on their performance. This can be the reason some people fail

to achieve what they want in life, because what is good for one may not be good for another (Schultz & Schultz, 2016). Moreover, Schultz and Schultz (2016, p. 358) caution that "it is not enough for one lecturer to construe or interpret experiences in the same way as another" unless such people have started the project together and have a shared idea of the problem. Schultz and Schultz (2016) contend that lecturers with the same perspectives tend to interpret their actions similarly. All that is required from the lecturers is to stand together using the professional perspective to work out any problem, to achieve better results to their problem.

2.2.1.5 Professional perspectives

The introduction of lecturers to the use of Moodle in their teaching without any formal training for this role or continuing support is based on the supposition that lecturers' Moodle use is something that does not need any additional preparation (Zeichner, 2005). This is indeed a mistake that will perpetuate the notion that Moodle does not require a special knowledge or skill to use. Management must understand that Moodle will always remain a challenge when foisted upon lecturers who have little knowledge of the system. Lecturers may develop an interest in learning and knowing more about the use of Moodle after training sessions to master the use of Moodle. Knowledge of Moodle may ensure that lecturers use Moodle effectively. It is common sense that, within the university, digital natives are likely to use Moodle fluently in their teaching and learning, as will those studying educational technology (Khoza & Manik, 2015). Lecturers should be encouraged to go for professional development sessions to do with educational technology if they wish to be successful at integrating technology into their teaching.

The assumption that lecturers will use Moodle now that it has been introduced as compulsory should not be nurtured until they are professionally developed. Lecturers need to be knowledgeable about Moodle: continuous training should be provided to them so that they will understand Moodle and use it to teach their modules (Khoza & Manik, 2015). This has an impact on students learning too. Khoza and Manik (2015) indicate that students, despite having or not having computer skills, are expected to fulfil several research-related endeavours from the onset of their postgraduate studies through the use of digital technology. The question is: will students who do not have basic computer skills be able to complete their studies without challenges? Their development or training should be a practical initiative intended to make an impact, driven by perceptions that change is

needed in the education system (Boud & Brew, 2013). The field of education needs a change from old-fashioned (face-to-face) to digital (online teaching and learning) teaching methods.

However, it may happen that lecturers who negatively perceive Moodle see little or no reason to study and use Moodle (Fajet et al., 2005). If lecturers' perspectives can be driven by professionalism, the innovation can be successful. Fajet et al. (2005) argue that, with respect to professional competence, good lecturers generally are believed to have adequate knowledge of the content area in which they teach. Once lecturers are equipped with theories of technology, they can not only be knowers and performers of educational technologies, they can also be self-reactors with capabilities of motivating, guiding their students, and regulating their teaching (Bandura, 1999).

Professional perspective encourages or is of the opinion that lecturers can be successful in their teaching: moving together with their students. Moreover, in the academic world, when change is anticipated for academic development, studying becomes the only means of achieving such goals. Understanding Moodle from the professional perspective can develop lecturers' self-efficacy: this is a key factor in the causal structure that deals with motivation (Bandura, 1998). Developing self-efficacy is key in lecturers as it can result to them being a *fully functioning person* who has increased positive perspectives towards Moodle and the students (Proctor et al., 2016). However, Boud and Brew (2013) maintain that the professional development of lecturers is based on the perception that the institution needs to provide opportunities for their academic personnel to develop their profession. Self-efficacy is one aspect that assists lecturers do their work without any hesitation. Confidence is another factor that helps a person to successfully do their work. Stewart (2014) argues that if lecturers are not developed or not professionally equipped to use Moodle they may not feel comfortable to teach using Moodle; they may not be able to offer feedback in a constructive way to their students. Lecturers must be technologically knowledgeable in order to be confident when they teach, to avoid embarrassment in cases in which they get stuck during the lesson. During the lessons lecturers may encounter technical challenges from the system, therefore they need to be technologically knowledgeable in order to address technical problems. Failure to solve such problems can cause delays in teaching and learning.

Stewart (2014) cautions that if lecturers are anticipated to successfully deliver the curriculum through technology, one of the principles in participating in such a newly proposed programme is that lecturers can be motivated by their own goals. This suggests that lecturers should not be excluded from the technical aspects of Moodle. Lecturers need to own Moodle. This suggests that they should not just be developed or trained to know certain features of Moodle for the purpose of teaching. They should know Moodle in totality in order to solve technical problems, instead of relying administrators. Lecturers should be developed to the point that they can look critically at students' work and be able to identify specific gaps in student learning (Stewart, 2014). Society may say much about Moodle, however, lecturers need to use verified or researched data on the use of Moodle in teaching and learning. Professional perspectives are the opposite of social perspectives. Social perspectives say lecturers come to their place of work, having already internalised many elements from their own society (Zeichner, 2005). Waters-Adams (2006, p. 919) further concurs that "with the societal knowledge lecturers have internalised, it is common-sense to assume that their societal knowledge will influence what they will do in the lecture room".

However, it should be noted that today the world and all of life is influenced by technology. Grossman, Hammerness, and McDonald (2009) argue that teaching as a profession is not as easy as it may seem to people perceiving it. However, teaching as profession needs a great deal of knowledge specific to the work of teaching. People perceive technology in different ways, especially the so-called digital immigrants. Technology always changes; this requires us to change our perspectives in order to cope with the standard of living in the 21st century. Strategy that can be applied if we must change our perspectives is through studying technology theories and to acquire its content knowledge. As life is influenced by technology, so is the education system (Gurunath & Kumar, 2015). Machado and Tao (2007) used online surveys to compare user experiences of basic functionality of systems such as communication tools, student-student interaction tools, and student-instructor interaction tools. Their study compared the user experience between the leading proprietary solution, Blackboard, and the leading open-source solution, Moodle. The researchers established a control group that only used the proprietary solution; and two study groups: a faculty group, and a student group, that used the open-source solution, but had had previous experience with the proprietary solution. Lecturers were cautioned that technology is here, and it is here to stay (Machado & Tao, 2007). Therefore, lecturers need to equip or develop

themselves in order to meet the demands of life. Whether people adopt or reject technology depends on different influences from different people with different perspectives.

2.2.1.6 Influences of professional perspectives on lecturers' use of Moodle

Kirkwood and Price (2013) posit that lecturers' perspectives about their practices can influence how they interpret and teach with Moodle. Lecturers should be guided to ensure that they understand crucial issues that influence their practice. Consequently, Kirkwood and Price (2013) insist that interpretations of lecturers on teaching and learning are often taken for granted. Usually one interprets the object from what is known about that particular object. Lecturers interpret Moodle from the little information they know about Moodle. Therefore, if lecturers are to interpret Moodle correctly, they must study more, generating more facts on Moodle. Lecturers' knowledge or interpretation influences the way they use Moodle in their teaching.

One most critical issue lecturers should understand is that "whatever exists, having somehow come into being, is again and again reinterpreted to new ends, taken over, transformed, and redirected by some power superior to it" (Cox, 1997, p. 273). It is true that there is nothing that is newly invented; everything today is transformed from the previously existing. With Moodle, there are new versions of the software, upgrading the old. Lecturers' previous experiences of Moodle may have an influence on how they interpret the new versions of Moodle. Some lecturers have once used Moodle, finding it difficult to use for reasons known only to them. Lecturers need to continue to use Moodle because it has been upgraded; usually upgraded versions are easier to use.

In this case, Moodle is the subject; and the aim is to understand how university lecturers perceive or interpret Moodle in teaching their modules. On that note, in his article *"The 'subject' of Nietzsche's perspectivism"* Cox (1997) recommends that we understand perspectives within the wider boundaries of a general theory of interpretation. Lecturers' interpretation of Moodle may tell more about their perspectives on the use of Moodle in their teaching. Lecturers might have had certain experiences of using Moodle that motivate them to either use or not use Moodle in their teaching. This is supported by a study conducted by de Castro (1998) in which he argued that different sorts of subjects from person to person are perceived differently. From a theoretical angle,

Moodle can be perceived as an easy method of teaching; however, lecturers may perceive such from a vastly different angle. Cox (1997, p. 276) offers that:

> *We see an object from a particular perspective: e.g., from a certain angle, from a certain distance, under certain conditions, and the more perspectives we enjoy the more angles we see the object from, the better our conception of what the object is actually like will be.*

Latour (2009) cautions that perspectivism should not be regarded as a simple category, but rather as a complicated philosophy, with the possibility of confusing the whole implicit philosophy so dominant in most lecturers' interpretations of their material (Moodle). Once these perspectives are not clear and the lecturers' interpretations of Moodle seem confusing, the university management will have to devise a strategy of dealing with such. Thus, it is the lecturers' perspectives that may indicate whether Moodle is usable. Schultz and Schultz (2016) opine that different home environments can result in different perspectives. The context from which every person comes has an influence on how each person perceives technology and how technology is used. A context thus determines the way people think and interpret technology through knowledge they generate from that particular context. The way in which people perceive Moodle can be as a result of their interpretation of their context, experiences, and philosophies. Cox (1997, p. 272) clarifies:

> *We are always already immersed in a world full of significances that we pre-theoretically understand, and that the role of epistemology is to discover how particular sensory experiences, beliefs, and desires relate to our understanding as a whole and vice versa.*

We have no perspectives that are not completely imagined ones; that is, perspectives do not exist alone in nature (de Castro, 1998). People should be able to interpret Moodle from an understanding of technology or professional perspectives. It is people who should use Moodle for teaching and learning, therefore they have perspectives about the system.

Proctor et al. (2016) argue that, with the right working conditions in which lecturers' perspectives are considered, each lecturer can learn to realise their capabilities and their positive virtues. This is the most crucial issue at hand. Indeed, for a better practice, lecturers' capabilities should be realised to ensure that they are developed where necessary. Therefore, lecturers' perspectives should be considered because perspectives help them to draw conclusions about Moodle. The conclusions they draw about Moodle are their own perspectives taken from the reality of Moodle.

Such conclusions or perspectives may influence lecturers' use of Moodle in a particular way which can be interesting and benefit their students or vice-versa. Singh (2016, p. 3) asserts that "…seeing is always from a particular point of view; it is from some particular perspective that individuals know something". In this cases lecturers' object is Moodle, they have certain perspectives about the system therefore, they should ensure that they combine the theoretical knowledge with the knowledge they draw from the reality of using Moodle. Combining the two will ensure that Moodle is perceived similarly by both university management and lecturers. This may further ensure that lecturers have a thorough knowledge of the system and that lecturers fully use the system.

2.2.2 Reasons for studying lecturers' perspectives

Lecturers' perspectives are studied in order to discover what lecturers think about the integration of Moodle into teaching and learning. Perspectives are also studied to learn lecturers' understanding of Moodle as well as the programs benefits on their professional practice and for students' learning. Cox and Marshall (2007) suggest that lecturers' responses to the introduction and implementation of Moodle will significantly affect Moodle use for students' learning. In other words, participants' responses will help them understand their perspectives so that they redirect their behaviour to inform their practices. Thus, it may happen that even at the university under study, there are some lecturers who do not have a vision for the use of Moodle. Their perspectives are studied so that participants are aware of the perspectives that facilitate the use of Moodle individually. Understanding their perspectives strengthens the internalization of Moodle knowledge and competencies that can improve their Moodle teaching and learning (Khoza, 2016a).

This calls for a change of perspectives from lecturers, ensuring that their perspectives on this issue are driven by professional perspectives. Thijs and van den Akker (2009) contend that the implementation of educational change is strongly influenced by people's perspectives and attitudes towards a specific change. Lecturers' perspectives should be changed if they do not promote the university's vision of introducing Moodle as a teaching and learning platform. If the said perspective does not help them achieve the purpose of Moodle, they must change. Thijs and van den Akker (2009, p. 13) further argue that "one of the perspectives on curricular issues is the technical professional perspective which is a challenge to lecturers for successfully translating

intentions into curriculum products, that are used in practice and that lead to desirable learning outcomes". This can be as a result of what Cox and Marshall (2007) say are activities related to lecturers' perspectives, beliefs, and actions on Moodle in teaching.

A qualitative case study, based on a survey conducted by Malek (2013), to determine whether technology is a problem or a solution, argues that the teacher-centred method of teaching does not work for all students. This is especially true for those who prefer to interact with the Internet and technological devices in order to learn (Malek, 2013). They enrol with higher institutions of learning, while employed, knowing that they will need to use technology to study. They rely on technology to help them cope with their studies. The use of Moodle in teaching postgraduate modules should be prioritised in order to cater to such students. Using Moodle to teach postgraduate students may help them remain on track with their studies to avoid academic workload which may drive students to drop out of the system. Travelling to campuses for contact session make it difficult for some students to cope with both employment and their academic work.

Malek (2013); Rezaei (2009) concur that lecturers' perspectives should be studied to further discover whether lecturers have accepted that technology has changed the way we should teach, and the way our students learn. One of the most important aspects that lecturers should understand about Moodle, is that online teaching and learning "attracts working professionals, employed students, and single parents who may otherwise not be able to engage in a traditional academic setting" (Bates, Rodríguez, & Drysdale, 2007; Dahalan et al., 2013; Mabila, Ssemugabi, & Gelderblom, 2013). The university concerned does not offer distance learning. At postgraduate level there are students who are learning while working or on part-time contracts. Moodle may help lecturers teach their part-time postgraduate students. Bates et al. (2007) posit that, with Moodle, lecturers can provide modules that allow for ongoing topic-driven discussion groups and live chat that can be instructor moderated.

Lecturers can seamlessly teach part-time students only if they can ensure that they have knowledge of Moodle and use its features to engage with their students. This may also reduce the resistance of lecturers, especially the digital immigrants, to teaching online; and their aversion to new technologies (Rezaei, 2009). Lecturers need to come into terms with the fact that technology has

altered traditional teaching in such a way that they are no longer the sole propagators of information (Khoza & Manik, 2015). This requires them to revise their duties or responsibilities in the classroom in order to cater for educational technologies that have come into play. Skilbeck (1970) notes that human or personal perspectives can become the object of self-control and self-direction. One can use perspectives to control or change one's behaviour towards certain objects. Studies like this one will offer participants the opportunity to, intuitively or deliberately, articulate their perspectives. Later they may learn and understand the type of lecturers they are, and begin to integrate technology into their teaching. Morgan and Bourke (2008) note that the influence of personal perspectives may play an important role in the development of attitudes and perceived competencies regarding teaching. Moreover, reflecting on their perspectives may help them to accept technology as positive, and affording productivity. Lecturers have the experience of teaching without Moodle, using only the traditional method (paper-based).

Garrett and Wrench (2007) investigated the nature of personal experiences in the teaching of physical education. In their study to explore lecturers' perspectives, Garrett and Wrench (2007) indicate that lecturers' perspectives or personal backgrounds are important components affecting the teaching and learning process. Likewise, Bernstein, Phillips, and Silverman (2011) argue that, if lecturers do not have the technological knowledge to use Moodle, this might affect their teaching. Bernstein et al. (2011) further state that these perspectives should be explored, as they may affect lecturers' attitudes and perceptions of using technology in education. In order to promote teaching development in lecturers and ensure that the curriculum is successfully implemented, it is necessary to agree that "prior positions, discourses and beliefs should be exposed, analysed and reconstructed in order to promote professional growth in lecturers" (Garrett & Wrench, 2007, p. 25).

Bernstein et al. (2011) maintain that it is relevant to study lecturers' perspectives. Indeed, it will be appropriate to first understand what lecturers have in mind in regard to the use of Moodle in teaching, before one can blame them for not fully implementing the curriculum as intended. It is also important that, once these perspectives are exposed and analysed, lecturers and university management work towards ensuring these perspectives are turned to be positive in order to yield good results. Studying and understand perspectives may help lecturers improvement their use of

Moodle when teaching. Lack of understanding Moodle and its poor usage causes a huge tension between students and their lecturers. Most of our students are digital natives they understand technology better than some of their lecturers that are digital immigrants. Thus, the experience these two groups have especially the digital immigrants sometime find it difficult to integrate technology in their teaching. As a result students cannot perform at the expected 4IR level. Stylianou, Kulinna, Cothran, and Kwon (2012, p. 36) note that "experience changes a teacher's "perception of things", "thought process", or "views" as well as that it teaches "a lot about teaching and how students can be so different". Much needs to be known by lecturers about the use of Moodle. Especially, the aspect of students being different. Studying or exploring lecturers' perspectives may expose their experiences and can help them change their views on the integration of technology into education, especially once they have a clearer understanding of those perspectives that are taken for granted.

Of all the studies indicated above and much being said about perspectives, none have studied lecturers' perspectives on the use of Moodle in teaching postgraduate modules, especially in the South African context. Many studies addressing perspectives on different topics within educational technologies have been conducted overseas. For an example, Barr, Gower, and Clayton (2008) conducted a case study, in three of the project's partner tertiary institutions, to describe lecturers' responses to the implementation of Moodle in their institutions. Their research was developed to establish whether lecturers perceived that Moodle would support e-learning courses. The e-learning courses in New Zealand is meant to perpetuate the country's tradition of constructivist learning. Moreover, the system was meant to meet the needs of Maori and Pacifica students, and the needs of students with experience of failure in the school system. Lastly, the system was developed in a manner that is flexible enough to cater to students doing advanced study. Chapter One indicated that context on its own plays a crucial role in determining people's behaviour. Yet, Kirkwood and Price (2013) insist that lecturers' interpretations and their behaviour when teaching and learning are often taken for granted; interpretations have a huge impact on the implementation of any project in the education system.

Being one of the students who ended up studying far from the institution, it was of concern that Moodle is not effectively used yet, we could have benefitted from its use. Then it was imperative

that lecturers' interpretation of Moodle be studied as it can tell more about their perspectives on the integration of Moodle in their teaching. This, and other reasons, led to this study being undertaken. Taking in to consideration that this study is meant to understand and represent ideas of the selected participants' perspectives. The results from this study may open a platform for further studies which may employ critical paradigm and action research methods to devise strategies to help lecturers change their practice. Once new strategies to address the challenges are put in place lecturers can find a better way to successfully implement Moodle. However, success on the use of Moodle could not be possible if one can use only results or findings of a studies conducted in context different to our context because the contexts are different. As such, this study emerged to produce results from the South African context which can be used to develop practice within this country.

On the African continent, studies have been conducted in search of the challenges that lead to educational technology failure in most universities when implementing LMSs. Missing from the studies on the integration of technologies in education are lecturers' perspectives or voices, especially perspectives taken before programme implementation. Many studies were conducted after the programme has already been implemented. After the system has failed it is then that the management starts to find out the reasons for the system failure. For example, Tedre et al. (2010) analysed the complex network of challenges faced during the development process of LMS or e-learning. Their study further discussed technical issues with ICT equipment, system administration, and networks. Lastly, they analysed socio-cultural issues with training, funding, and pedagogy. The researchers agree that implementing various e-learning solutions in developing countries has often been problematic (Tedre et al., 2010). In the same year, Unwin et al. (2010) wrote a report on a survey of 358 respondents across 25 African countries on their use of learning management systems. The researchers concluded that while there are some enthusiastic advocates of LMSs, the reality is that most African educators have little knowledge about, or interest in, their LMSs use (Unwin et al., 2010). This should worry university administrators as they intend to introduce educational technologies to teaching and learning yet the issue of lack of interest from users has never been addressed in many African countries. The studies referred to above have been published in 2010 yet, to date there universities are still not have reached a position whereby educational technologies are effectively implemented in teaching and learning. Unsuccessful use

of educational technologies in HEIs is an indication that there is a problem that needs to be dealt with before educational technologies are implemented.

Furthermore, Mtebe (2015) conducted a literature survey with studies published on the use of LMSs in HEIs in sub-Saharan Africa. The researcher indicated that the use of LMSs poses questions of whether these institutions are fulfilling their potential or not. It became clear from participants' responses on different studies sampled that Moodle does not fulfil its potential. As a student I noticed when we were introduced to Moodle during my first year as a postgraduate student that the system is not effectively used and it does not fulfil its potential. Mtebe (2015, p. 53) therefore, concluded that "the success of LMS in the region can be measured by assessing how these systems are used in terms of intensity and quality of use". Evaluation of the systems and understanding users' perspectives about the system is what should be done by institutions as they introduce educational technologies into teaching and learning processes. A check list was never created to check the successes and challenges experienced by lecturers and students when using Moodle before it could be officially and mandatory introduced for implementation for teaching and learning. Therefore, this study intends to discover lecturers' perspectives from the few participants selected to participate to give the state of the system use.

Studies of this nature in the South African context are crucial to ensure that educational technology problems are understood from local context. Local studies yield local results that can be practically implemented considering our contextual factors. It is for that reason this study was done with lecturers as people who are directly involved in the implementation of Moodle. This study was started two years before Moodle could be used as a teaching and learning platform for postgraduate modules. The purpose was to understand how lecturers perceive Moodle and how they think Moodle can be integrated to improve teaching and learning. Generalizing from other studies that used different methodologies in environments dissimilar to South Africa in terms of economy and other features, may not help this institution solve its Moodle use problems or challenges. Padayachee, Kotzé, and Van der Merwe (2011) conducted a case study at the University of KwaZulu-Natal (South Africa) to understand if the software is usable for teaching and learning and check if it can improve teaching and learning should it be adopted. The participants in their

study were Honours students drawn from Information Systems & Technology that were registered for the Human Computer Interaction module.

Their study contends that "very little effort has been directed at understanding the usability properties of this class of software and the impact it may have on adoption of this type of software" (Padayachee et al., 2011, p. 297). Though their study may be relevant in tracing the problem of Moodle usage, their study only included students from Information System and Technology. While this study explores lecturers' perspectives from different disciplines within the Department of Education which operates differently from Information Technologies because even the terminologies applied in these disciplines are different. Based on the studies indicated above and other studies, it was discovered that very little effort has been directed at understanding lecturers' personal, social, and professional perspectives on using Moodle to teach postgraduate modules, or the impact it may have on lecturers' adoption of Moodle.

Understanding lecturers' perspectives may ensure that the university upholds professional perspectives to develop lecturers' use of Moodle for teaching. By upholding professional perspectives of Moodle, the university has to produce a prescribed document that will explain more about Moodle and its use to lecturers. This may assist users to refer to the document for further details on how they can integrate Moodle into their teaching. Berkvens et al. (2014); Machado and Tao (2007) caution that if the institution concerned wishes to improve its vision on Moodle, or its entire curriculum, it must have the right people involved. As of now there is no prescribed document for lecturers and students to guide Moodle integration. This suggests that perhaps not everyone is involved in the initiative. Thus, it is worth arguing that the university has been influenced by society. This causes tension between lecturers and their students because students come from the social perspectives while some lecturers lack social perspectives. Students are more "into" technology and many use social networks every day. While some of their lecturers are not familiar with digital technologies, which is why they are referred to here as digital immigrants.

2.2.3 Knowing perspectives simplifies lecturers' use of Moodle

Pritchard (2013) emphasises that a learning context can be one of the factors influencing the adoption of Moodle and can include peoples' culture and values, philosophies, and commonly

agreed standards. These are among the aspects that the university management, as well as researchers, need to examine. If such issues are not studied they may result in the failure of Moodle with concerns misdirected to the technical aspects of the system while the real problem lies with the users. As Bhalalusesa, Lukwaro, and Clemence (2013, p. 93) opine, lecturers need "to critically examine their practice, seek the advice of others, and draw on educational research to deepen their knowledge, sharpen their judgments, and adapt their teaching to new findings and ideas". This clearly informs one that, once lecturers' perspectives are known, lecturers may know what to strengthen.

Perspectives are now seen as a fundamental way for lecturers to develop an understanding of their work at all junctures of their career, especially in teaching and learning (Forde et al., 2006). Being a teacher requires one to think of the students being taught. While the university management should also think of the lecturers who use Moodle to teach students. They should trace the number of students who do not complete their studies, and those that take longer than they should to complete their studies, eliciting reasons for their lack of completion (see Sonn, 2016; Grossman, 2016). These studies put it clearly that students also leave off studying through the behaviour or inaction of lecturers. Thus, known perspectives on the use of Moodle may help one detect the challenges they encounter in order to help students successfully complete their studies.

Studying lecturers' perspectives may help lecturers become successful in their work (Van Manen, 1995). As Van Manen (1995, p. 1) says, "teaching is not only governed by principles of effectiveness, but also by special normative and ethical consideration". Therefore, we study perspectives in the teaching profession because we believe that, in using technology in teaching and learning, lecturers must think consciously about their practice. Studying perspectives can move lecturers towards deeper levels of awareness, not just about the use of Moodle in teaching, but about why they use Moodle in teaching (Forde et al., 2006, p. 66). Using Moodle should not only be about using the system to teach but also acquiring technological and theoretical knowledge in order to benefit lecturers and their students. Lecturers and students can benefit from the professional perspectives because this perspective deals with the theories of educational technologies and its application. The reasons for using Moodle to teach arise from the professional perspective. Professionally, we will know the reasons, from different sources, for using Moodle to

teach, unlike the personal and the societal perspectives that may give reason without facts for using Moodle. Society offers its own perspectives at times without any research or proven evidence. It is important to understand Moodle and its benefits so that, when using Moodle in teaching, lecturers and students will know what they can use outside the lecture room. Being aware of our perspectives is important as a tool for teaching, but also as an aim of education, since "it enables us to know what we are about when we act" (Van Manen, 1995, p. 1).

Wagner (2012, p. 11) believes that "to say what one makes of a paradigm shift is a matter of what 'paradigm' one happens to be engaged in at a particular time and context". This suggests that the explanations, interpretations, and the perspectives on Moodle will vary from individual lecturer to student, community, or society, and discipline or profession, because of differing contexts which make them interpret Moodle accordingly. It is unfortunate that users are often not involved in the development of these programmes and that the innovations are not approved by the users; they are proposed and approved mostly by the management, before being passed along to the users for implementation (Boud and Brew, 2013). Thijs and van den Akker (2009) caution that lecturers should be allowed opportunities to contribute to the changes proposed at the institutions. Once lecturers are included in the changes proposed, they will contribute to the solution, and this may increase their willingness to change. Consequently, these perspectives on Moodle, from the people who suggest the innovations (management) and the people who should implement the innovations (lecturers), collide which results in Moodle use failure in most cases.

Before a person engages in any activity, they must first think of how to conduct that particular activity, whether it is feasible, and whether their context allows them to conduct that particular activity (Thijs & van den Akker, 2009). Thus, perspectives should be allowed to surface because perspectives may ensure success. In his writing in which he explains "*How we think"* Dewey (1910, p. 1) proposes that, "to think of a thing is just to be conscious of it in any way whatsoever". Therefore, one cannot be able to resolve challenges of Moodle without having certain perspectives about the system and being involved in the use of the system. Since the introduction of Moodle as a teaching method to supplement face-to-face teaching method, lecturers have been aware of Moodle. They have developed perspectives on the use of Moodle in teaching. This study explores

lecturers' perspectives believing that exposed perspectives may help lecturers adopt alternative ways of using Moodle to ensure effective curriculum implementation.

2.2.4 Known perspectives improve curriculum implementation

There is a lot that needs to be known about lecturers in order to help them succeed in their practice. Beetham and Sharpe (2013); Sahin (2013) caution that lecturers' educational needs should be met; and other precautions that would motivate them to adhere to the changes proposed should be taken in to consideration. However, Thijs and van den Akker (2009) opine that university management forces lecturers to implement new working methods (Moodle) before lecturers have been given time to construct an image of the new creation for themselves. This can be considered one of the reasons various institutions experience failure when integrating technologies in education. Lecturers must also know from which perspective Moodle was prepared and whether those perspectives are applicable or not applicable to them (Beetham & Sharpe, 2013; Khoza, 2016a; Sahin, 2013; Thijs & van den Akker, 2009). Observations on lecturers' usage of Moodle revealed that lecturers do not use all the features of Moodle when teaching their modules. Why do they not use all of Moodle's features? It could be because they do not know the reasons for adopting Moodle for teaching. In trying to use Moodle without ideological-ware (reasons) lecturers may develop emotional difficulties, resulting in some lecturers shying away from Moodle use (Sahin, 2013). In education, the effective realisation of aims depends on the quality of the curriculum and on how it is applied (Berkvens et al., 2014; Thijs & van den Akker, 2009). Lecturers should be taught the aims of introducing Moodle in teaching postgraduate modules.

In teaching and learning from primary schools to training institutions, every teacher has a perspective on the education system they implement. However, our education system still lags behind because some or most of these perspectives are not known to curriculum developers. Even if these perspectives are heard they are not taken into consideration. Lecturers' perspectives must be heard and be taken into consideration in order to develop and improve the system usage. Perspectives should be considered in order to support, add on, or modify the system so as to make it interesting for teaching and learning. Perspectives plays a critical role when introducing a new system because it allow users to voice out the good and the bad of that particular system. Lecturers

have different perspectives on the use of Moodle in teaching and learning depending on their individual experience of the system. Understanding these perspectives could ensure that the relevant features of Moodle are successfully used. Once perspectives are known relevant support can be provided to lecturers to support them use the system (Moodle) to implement the curriculum as intended.

Implementing the curriculum as intended through digital space can be a challenge, especially if users do not meet the required standard. It is known that lecturers are users or consumers in the education system: whether the system becomes a success or the failure, they are accountable. It is worth noting that the education system is not static, it always changes; just as we move to 4IR, so too does the education system. It is not only the education system that changes; lecturers' acuities are not static but change during the education change process (Thijs & van den Akker, 2009). This suggests that the successful implementation of the curriculum through digital space depends on lecturers being involved in the development stages. This is to ensure that the shift does not leave any person behind that will be needed at a later stage. Whenever management brings about changes to the system, consumers (lecturers and students) should be involved and heard so that when the transformation is to be implemented, consumers are ready and have welcomed and accepted the changes.

Singh (2016) contends that lecturers perceive Moodle from a particular, conceptual perspective, namely, from a set of interests, goals, and purposes. Lecturers may use Moodle if they understand the goals and the purposes of Moodle. As alluded to earlier, the institution should have a policy on Moodle to which lecturers can refer, in order to find the purposes and the goals for using Moodle. Moodle policy can also give guidelines on knowledge requirement lecturers should possess to use Moodle. Knowledge avoid the curriculum implementation being of poor quality as a result of the failure in the method used to deliver the curriculum. However, the manner in which lecturers use Moodle is dependent on how they perceive Moodle rather than the institution's goals and perspectives. This suggests that the introduction of Moodle as a tool for teaching and learning should be welcomed from various perspectives by lecturers in this institution. Management at the university should discuss how lecturers can acclimatise to the use of Moodle in particular

circumstances, in order to meet the university's intended goals for introducing Moodle (Zeichner, 2005).

Zeichner (2005) wrote a paper to examine his personal transition from classroom teacher to a university lecturer using his analysis as the foundation for several specific suggestions on how to improve curriculum implementation and HEI programmes such as Moodle. Studying lecturers' perspectives on the use of Moodle may serve as the basis for developing lecturers' understanding of Moodle and how to integrate it in education (Forde et al., 2006). Not knowing lecturers' perspectives may lead to failure in integrating Moodle into teaching and learning which can have an impact on the implementation of the curriculum. It is noteworthy that it is difficult to remedy a problem in which the fault does not manifest itself. Understanding lecturers' perspectives may serve as a starting point to discovering the causes of lecturers' challenges when integrating Moodle into their teaching. Zeichner (2005) argues that there is often little to no professional development provided to lecturers to help them learn how to improve their work. Challenges causing the failure of Moodle in HEIs are not yet known. This study contends that known perspectives may help lecturers improve their practice.

2.3 Moodle for teaching and learning

Technology is advancing at a rapid rate, overtaking almost everything that we do in our everyday lives. Teaching and learning in the classroom has traditionally been conducted face-to-face. Technological devices such as computers were once used by administrators in their offices. Today teaching and learning, especially in HEIs, is expected to be achieved through technology (Moodle and other types of LMSs). Dahalan et al. (2013) concur that the development of the Internet has offered pre-eminent virtual teaching and learning; it is the norm in education. Education is therefore reforming and will use the Internet to teach and learn (Dahalan et al., 2013). However, Machado and Tao (2007) caution that before Moodle can be considered effective, the user (lecturers' perspectives) must be studied and analysed to ensure there are optimal solutions available to meet lecturers' and students' needs. Kirkwood and Price (2013), and Cox and Marshall (2007) caution that it should be considered that lecturers' perspectives on using Moodle in teaching may have a major and solid influence on how they use Moodle, and upon students' learning. Lecturers teach using Moodle, therefore their perspectives on these innovations are significant.

Moodle should not only be used by lecturers to assist them with the management and distribution of course content. However, lecturers should use Moodle to allow students opportunities for collaboration and participation (Bagheri, Ali, Abdullah, & Daud, 2013; Barr et al., 2008). The use of chat rooms and the discussion forum may ensure that students interact with their lecturers and their students. The chat room is a feature of Moodle where students can communicate with one another and elicit information from the lecturer and their fellow students. Such features of Moodle can be effective if lecturers themselves can encourage their students to use them. Sahin (2013) indicated that, to some people, using online tools for teaching and learning is time consuming. Other researchers argue that Moodle is helpful in students' learning because of the many benefits found in using Moodle for teaching and learning (Sahin, 2013). Moodle can allow lecturers to use instructional techniques that are far more practical than lecturing, and without much time and effort being lost (Newman & Scurry, 2015). Lecturers may allow students to discuss certain concepts on their own, thereby reducing lecturers' workload. Lecturers can then facilitate learning, allowing students to chat about their modules, including assignments. More importantly, students may feel they own their learning; and as such this may motivate them to study. Greater content knowledge before they participate on the chats with their fellow students will be helpful.

Another feature on Moodle is the discussion forum. Such a feature is helpful to students because it triggers their thinking and calls for students to study; this is a core business at postgraduate level. Similarly, Barr et al. (2008, p. 127) stress that:

> *Moodle is not like most LMSs that are instructor-oriented and largely concerned with how course content is delivered, Moodle is based on a learner-oriented philosophy called social constructionist pedagogy, in which students are involved in constructing their own knowledge.*

Students at postgraduate level are expected to study on their own. The discussion forum on Moodle can ensure that students achieve such a goal. Although a lecturer may teach, students must study and do research for themselves. Reis, Ikari, Taha-Neto, Gugliotta, and Denardi (2015, p. 150) assert that the use of Moodle and the discussion forum can help students gain "greater knowledge in teaching self-control strategies". Students at postgraduate level are expected to be able to

critique theories from other philosophers. With the discussion forum, a lecturer can post an article on the forum, asking students to critique the article and post back their responses. This is one lecturers through Moodle can bringing students together despite their distance. Every student can download material, and can look at or learn from other students' comments posted on the forum. Moodle connects students from different areas, allowing them to work together on their modules (Bates et al., 2007). Dougiamas and Taylor (2002) contend that, if students are connected, they tend to learn cooperatively, and are more amenable to constructing knowledge gained from the ideas of their fellow students. This creates opportunities for students to participate in their learning, especially for students who are unwilling or too embarrassed or shy to talk in the lecture room (Khoza, 2016a; Khoza & Manik, 2015). Likewise, students can post their own work and request a critique from their fellow students. They can then use their fellow students' ideas to finalise their assignments. As a result of such action, every student may succeed no matter where they are. All the lecturer needs to do is to evaluate students' performance by guiding their comments where necessary, and observe that all students participate in lessons using Moodle (Erol, 2016). A lecturer can reduce their work in commenting on each students' assignment drafts, because students are at different cognitive levels and they can help one another (Newman & Scurry, 2015).

For Moodle to be effective in teaching and learning, lecturers must shift their perspectives from teacher-centred (individual perspectives) to learner-centred (social perspectives) and content-centred (professional perspectives) methods. However, some lecturers find it challenging to shift to a student- or content-centred method. Bagheri et al. (2013) assert that even if lecturers in educational technology are acquainted with new instructional approaches, they still prefer the old-style lecture-type of teaching or lecturer-centred approach. Continuing with lecturer-centred approach does not promote the use of LMS in HEIs. University management if they need to ensure that LMSs are utilised they should have a strategy to encourage lecturers to integrate LMSs in their teaching. Whenever they encounter challenges with Moodle they should consult their colleagues for assistance. However, most students (digital natives) find it easier than their lecturers to use LMSs (digital immigrants) (Prensky, 2001a). Lecturers may as well ask their students for help, especially those familiar with technology. According to Prensky (2001a), academics born after 1982 are better with digital technology use than those born before 1982. However, according to Khoza (2011), age should not prevent lecturers from using a web-based teaching and learning

environment, if only they learn from their perspectives (reflect on their teaching). The use of Moodle requires lecturers to reflect, in order to establish whether they need to improve. However, some lecturers find that age affects them in terms of technology usage. If lecturers review their perspectives, they may understand their curriculum ideological-ware resources (theories) that identify relevant hardware and software resources required for Moodle use (Khoza, 2015a). Though students can be good with digital technology (digital natives), the lecturers' presence is always important because learning is not only about technology — it is about lecturers' professional perspectives (Amory, 2010; Erol, 2016). A perspective review is important in terms of integrating technology into any teaching and learning environment.

Gay and Kirkland (2003) indicate the importance of developing personal and professional critical consciousness (perspectives) on cultural, racial, and ethnic diversity in the teaching and learning environment. As noted above, if lecturers can review their perspectives, they can learn about how to use Moodle to teach and how students differ (Stylianou et al., 2012). The study was on pre-service teachers who were expected to conduct self-reflection in such a way that they understood who they were, and their context. The study questioned their technological, and pedagogical content knowledge and assumptions, as these are considered the main ingredients of effective instruction which promotes professional perspectives (Valli, 1992). Lecturers are expected to apply their professional perspectives to their teaching in order to be aware of their actions at all times, thereby avoiding the use of social perspectives (habits without thinking). Perspectives, as a result of applying the conscious mind (awareness of perspectives), may promote lecturers' critical thinking; applying the subconscious mind (habit or social perspectives) may promote descriptive thinking. Such may drive one to discover why lecturers use Moodle to teach in a particular way. Awareness of perspectives may promote a good connection between professional perspectives (theory) and personal perspectives (practice) which is always of concern in education (Khoza, 2015a).

The gap between theory and practice must be closed. In most cases there are notions that are theorised and are good for developing the teaching profession and benefiting the students. Yet, they are not put into practice. Of example are the benefits of Moodle use in teaching and learning theorised by many researchers (critical thinking, creative thinking, communication, problem-

solving, research, and decision-making), and yet they seem to not be considered by some lecturers (Sahin, 2013). There are benefits of Moodle use for lecturers and students. Thus, if Moodle is not used, or is being used only sporadically, it may not serve its purpose of helping postgraduate students develop the above-mentioned skills. Postgraduate students are expected to develop all these skills to be considered qualified academics. Moreover, once students develop these skills they could transmit or teach their students such skills. Moodle should be used for teaching and learning in order to benefit all participants involved. Sadly, there seems to be a dearth of understanding that the use of Moodle in teaching and learning is meant to benefit students for life and work (Berkvens et al., 2014). Keeping in mind that today more and more jobs, including teaching and learning careers, demand workers that have advanced levels of ICT use, using Moodle in teaching and learning may help students develop certain capabilities, making them productive at work (Bagheri et al., 2013; Beetham & Sharpe, 2013).

Such capabilities could be used in the field of work by students after graduation. Using Moodle to teach is not an end in itself. Capabilities that students may receive from Moodle include self-directed learning which focuses on the process by which students take responsibility for their own learning, such as setting their own learning goals (Bagheri et al., 2013; Bates et al., 2007). This is one of the requirements in the field of work in which employees are expected to work both individually and as a team. Working individually or as a team, problem-solving skills, working well under pressure, meeting deadlines, and working extra hours, are common requirements employers seek from graduate students who wish for employment. Students should therefore learn to be responsible for their own education. Acquiring the above mentioned skills during their studies through the use of Moodle prepares them to be responsible even in the field of work. Moodle may prepare lecturers and students to manage their work, and meet deadlines, even if they are out of office. Moodle can help them have access to education and knowledge at any time, at any place (Dahalan et al., 2013).

Moodle can help lecturers teach their modules, even if they are not at the institution. A lecturer may have attended a conference abroad, but be able to communicate with his students using Moodle. Therefore, if Moodle has such benefits, why not use it to encourage, involve, and accelerate teaching and learning, and increase productivity for both lecturers and students? Malek

(2013), and Hobbs and Hynson (2013) argue that the effective use of Moodle in the lecture room may solve students' problem of the dearth of inspiration and paucity of interaction, creating a more active lecture-room environment. Students like to interact with others because they know that they benefit from learning with other students. Therefore, lecturers should consider the above-mentioned benefits and more. Lecturers should also be creative enough to ensure that they employ various strategies to implement the curriculum.

2.3.1 Moodle for teaching and learning during Lockdown and COVID-19

In December, 2019, "an outbreak of pneumonia of initially unknown cause was detected in Wuhan (Hubei, China), and was quickly determined to be caused by a novel coronavirus, namely severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" (Dong, Du, & Gardner, 2020, p. 534). Coronavirus disease 2019 (COVID-19) was spreading rapidly across China, and as of February 2020, it had been reported in several other countries globally (Sahu, 2020). It then was declared a global threat and a coronavirus pandemic by the world health organisation (WHO) (Sohrabi et al., 2020). From its discovery in December 2019 to date there is still no vaccine or cure for this virus. Therefore, to respond to this COVID-19 pandemic many countries enacted the lockdown as a means to curb and prevent the spread of the virus to unaffected parts of different countries. In South Africa the lockdown was announced by President Cyril Ramaphosa to be effective from the 26 March 2020. The lockdown was first projected to last for 21 days. It was evident that the virus will continue to exist because of the unavailability of vaccine or cure.

Companies, retailers including schools and universities were temporary closed. The movement of people and travelling either internal or external were restricted unless they are attending to essential activities. Health experts advised that people should practice social distancing and personal hygiene and many other measures to prevent the spread of the virus among people. People were advised to work from home. Accordingly, Universities have moved quickly to switch courses and programs from face-to-face to online delivery mode (Sahu, 2020). The use of online teaching was a challenge during non-lockdown period. Sahu (2020, p. 2) concur that, "there is always a chance that some faculty who are not techno-savvy will not be able to cope up with this mode". The transition to online mode as a result of the lockdown has raised questions for the lecturers about their capability to deal with the technology because some lecturers and students were not using the

system during no-lockdown period. This question resulted to a second set of questions from this study to explore lecturers' perspectives on their use of Moodle during the lockdown.

While learning continued without challenges for children from higher income households, children from lower income households are likely to struggle to complete assignments and online courses because of their socio economic background (Van Lancker & Parolin, 2020). Sahu 2020 indicate that computers and ICT equipment such as smart phones at home are now in demand from lecturers and students as they have to work from home. Consequently working at home is going to be difficult for some lecturers and students due to lack of technological knowledge. Such difficulties can cause a delay in curriculum implementation especially during the lockdown.

2.4 Curriculum approaches in the use of Moodle.

Curriculum is the main issue in education that should be taken into consideration by curriculum users, meaning the lecturers and the students. Moodle is a method used to help lecturers implement the university curriculum. The curriculum is known to all lecturers, being the plan for teaching and learning (Thijs and van den Akker (2009). Lecturers should ensure that students learn content according to their disciplines. Students in the same discipline should be taught the same content on a module. Moodle is a curriculum implementation method, although lecturers may use it differently according to how they perceive it, they should not forget the theories of technology on how to apply the system. The use of Moodle in curriculum implementation can be approached from different perspectives. Some lecturers may use Moodle and some may not; while some may use all the features of Moodle to teach, while others may decide to use specific features only. Each of the curriculum approaches (pragmatic, communicative, professional) is equated to one or the other of the perspectives that influence lecturers' implementation of the curriculum through Moodle.

2.4.1 Pragmatic approach and artistic approach

The pragmatic approach focuses on the *practical usability* of curricular products (Thijs & van den Akker, 2009). The practical usability of Moodle requires an individual lecturer to dedicate themselves to Moodle use. This must involve people with the necessary knowledge base to use the software (Machado & Tao, 2007). Thijs and van den Akker (2009) caution that in order for

lecturers to use Moodle and positively approach the curriculum, they should be allowed the opportunity to use their perspectives to question their practice. By doing so, lecturers may devise a way to make Moodle easier to use. By internalising it, they may develop a love of Moodle. Lecturers should first convince themselves that they can teach using Moodle. If the lecturer is not interested in using Moodle to teach, then the product will be useless, as the student may not use it without the help of the lecturer. According to Thijs and van den Akker (2009), becoming familiar with and using Moodle to implement the curriculum requires much of the lecturers' time. If lecturers are not given sufficient time they may be tempted to fall back into their old practices (Thijs & van den Akker, 2009).

Berkvens et al. (2014) remind us that lecturers are the cornerstone when implementing the intended curriculum. They embed intentions into the implemented curriculum or practice; and they provide a stimulating, complex, interesting, and inspiring learning milieu to students (Berkvens et al., 2014; Thijs & van den Akker, 2009). Advancing the curriculum usually takes place in close conjunction with local practice and lecturers (Thijs & van den Akker, 2009). Moreover, lecturers need to study further on the products given to them. Lecturers may find it difficult to put Moodle into practice when teaching their modules if they do not have an expanded knowledge of the system. Professional perspectives may change their perspectives when it comes to the use of Moodle in teaching. Lecturers using Moodle for the first time, or lecturers who are technology immigrants, may find it challenging to teach using Moodle. Lecturers using Moodle for the first time may think that using Moodle is difficult and requires more time than face-to-face methods of teaching. Barr et al. (2008) support the notion that lecturers who are inexperienced with technology may find working with Moodle stressful. Such lecturers tend to be impatient of technology's confines and more exasperated by its unreliability. Thijs and van den Akker (2009) opine that professional perspectives are necessary to ensure lecturers gain knowledge so that they will be creative enough when using Moodle to implement the curriculum. Creativity is another skill that lecturers should acquire. They must be able to use Moodle imaginatively, ensuring that students enjoy Moodle. Moreover, lecturers must be able to handle the technical aspects and challenges of Moodle themselves.

Another method of approaching the curriculum from an individual perspective is the artistic approach which emphasises creativity from lecturers (Thijs & van den Akker, 2009). In this approach, it is assumed that designing is a subjective process guided by a designer's personal perspectives and expertise. Lecturers should be creative enough to ensure that when they comment on the new innovations they will have valuable input. In most cases, lecturers complain that they are not involved in the design of any products that are introduced; they are simply given the products to implement (Sahin, 2013; Zeichner, 2005). Lecturers should offer comments in order to have a say on when the product succeeds or fails and to improve it. Berkvens et al. (2014) advise that the design decisions on Moodle that matter must be taken by lecturers. Lecturers will forestall the classroom situation when they teach, and make judgements about the curriculum based on their own perspectives and experience (Thijs & van den Akker, 2009). Lecturers are always in the lecture room with students; therefore, they know their students well. Whenever lecturers encounter challenges with Moodle they must seek help from their colleagues. Creating a good relationship with their colleagues may result in their working condition being better and together they can overcome challenges. Lecturers will then take decisions that will benefit their students and develop one another in their profession.

2.4.2 Communicative approach

Thijs and van den Akker (2009) state that, from the communicative perspective, it is crucial to build relationships with stakeholders and solicit input of developers and other parties involved. Lecturers must not take their students for granted, but must ensure that they involve them in the use of technological products. The new generations that we teach are mostly digital natives (Prensky, 2001a). Moreover, according to Dougiamas and Taylor (2002), the most ubiquitous theoretical perspectives of online learning are those related to constructivism, particularly *social constructivism* and *social constructionism*. Similarly, Barr et al. (2008) emphasise that a good LMS should also include opportunities for collaboration, interaction, and participation. Thijs and van den Akker (2009, p. 17) express this clearly, saying "the social perspectives starts with the more subjective perceptions and views of the designers, the target group, and other stakeholders". Designing is regarded as a social process in which the interested parties each have their own perspectives on the problem situation and the desired improvement. The institution should involve the lecturers and consider their perspectives on the introduction of a new product (Moodle). The

best solution for the situation is the one in which all parties (management, lecturers, and students) involved reach an agreement. Once all parties have reached consensus, the product will be successfully implemented with no one being against it. Moreover, training would be provided for the lecturers who are not familiar with Moodle.

2.4.3 Instrumental approach

The instrumental approach emphasises the importance of a *systematic design process* (Thijs & van den Akker, 2009). This requires professional perspectives from lecturers when systematically designing Moodle in a way that will interest them and their students. Lecturers should be knowledgeable about Moodle, so that they will successfully teach their students. Based on thorough analysis, clear and measurable objectives for the development and modification of Moodle are formulated. Without professional perspectives it can be difficult for lecturers to implement Moodle, because they will be working without any motivations (theories and philosophies). Berkvens et al. (2014) assert that, how and what students learn with Moodle will depend on their developed vision. The aims and objectives of how lecturers are to use Moodle can be approached from different perspectives — specifically the society and the subject perspectives. Objectives can drive lecturers because lecturers will be working towards achieving their objectives. This may further encourage lecturers to study further about Moodle in order to gain knowledge that will help them achieve their objectives.

2.5 Conclusion

This chapter has discussed perspectives and various influences that perpetuate perspectives. In conclusion, lecturers should feel free to express their perspectives. If the curriculum is to be successfully implemented, ensuring that lecturers develop their practice, it is recommended that their perspectives be known. It is therefore crucial that every challenge that hinder the successful implementation of the curriculum be known, in order to address the challenges. Addressing challenges that comes with methods used to implement the curriculum will ensure successful curriculum implementation and improvement of our education system. Thus, the next chapter will discuss the curricular spider web (important concepts of any curriculum), linked to the influences of perspectives to determine whether perspectives have an influence on the curricular spider web.

Chapter Three
Curriculum Concept as a Framework of the Study

3.1 Introduction

Mishra and Koehler (2006) argue that a conceptually-based theoretical framework showing the connection between technology and teaching can change lecturers' perspectives as well as the pragmatic approach of teacher education, teacher training, and lecturers' professional perspectives. Each profession has its own concepts which they use to communicate and work. The health profession, commerce, agriculture, and many other professions use various concepts for communication and work. The education (teaching and learning) profession has its own concepts that students, teachers, and lecturers should know how to use in teaching and learning to ensure the stability of the profession. Thijs and van den Akker (2009) offered ten curriculum components or concepts to be kept in mind by teachers, and students in the teaching profession when implementing the curriculum. These concepts were framed in the form of a spider web. Thijs and van den Akker (2009) argue that using the metaphor of a spider web serves to emphasise how the nature of a curriculum is at risk. The misunderstanding and exploitation of these components or concepts by lecturers and students may lead to failure of the learning programmes. Therefore, lecturers and students should ensure that they adhere to these components by using these concepts to plan for their teaching and learning.

Lecturers should work together, especially when planning lessons, to ensure that they understand the curriculum concepts as crafted by Thijs and van den Akker (2009) in order to help one another adhere to the intended curriculum. Kuiper and Berkvens (2013) caution that, in this competitive world, we need to cooperate, exchange our experiences and ideas, try to understand one another's solutions and, accordingly, adapting them to our systems. In teaching and learning, lecturers should not work alone in everything they do — they should consult their colleagues and seek advice. Studying published works is one way in which lecturers can get to know other peoples' ideas, experiences, and solutions, especially on the use of Moodle in teaching and learning. This may assist lecturers to have ample and current knowledge that they can utilise to successfully teach their students. It is not all about the lecturers: education should prepare people (students) for life

and work (Berkvens et al., 2014). For an example, the Department of Basic Education is currently working on a plan to digitise teaching and learning even in primary and secondary schools. Therefore, Lecturers should ensure that students are technologically skilled to keep up with the departmental requirements. Govender and Khoza (2017) concur by stating that the government has realised the power of digital devices and supports the incorporation of technology into rural and urban classrooms: teachers must be equipped with technological knowledge in order to teach effectively. Therefore, using the curriculum spider web concepts may make it easier for lecturers to understand how and what information they should teach their students. Kuiper and Berkvens (2013) clarify this by indicating that one of the substantive perspectives focuses on the critical curriculum question: what knowledge is of most worth teaching and learning within the limited amount of time available for schooling?

This is an extremely critical question that all stakeholders in the education system should always consider. In this case it is the technological knowledge that should be taught to both lecturers and students so they are able to integrate Moodle into their teaching and learning. Understanding such a question and their perspectives may help lecturers ensure that they use the curriculum spider web concepts in their planning as such may clarify their teaching rationale. Each concept of the curriculum spider web must be fully understood in order to ensure that lecturers achieve their teaching rationale. It is also helpful to realise that curriculum products, including those at micro level, may vary strongly in their scope and scale (Thijs & van den Akker, 2009). Lecturers should focus on the knowledge that is of most worth in teaching and learning. Lecturers should be able to adapt to students environmental backgrounds, especially when using Moodle to teach. The curriculum concepts are designed to help lecturers narrow the gap that exists from lecturer to lecturer, especially on their designation of teaching plans. This may ensure that lecturers are excelling in their practice. Tondeur et al. (2012) suggests that the curriculum spider web concepts, as well as the information on how to implement them, should be linked to teaching practice, so that lecturers can understand the motives behind using Moodle.

Understanding the motives behind each curriculum concept can ensure correct use of the concepts which can ensure the curriculum is successfully implemented. These concepts should be covered by teachers and lecturers when planning lessons, for effective curriculum implementation. This

chapter presents the conceptual framework lecturers use when viewing Moodle from different curriculum perspectives.

3.2 Curriculum concepts on the use of Moodle

Table 3.1: Curriculum Concepts (Thijs & van den Akker, 2009)

Concepts	Propositions
3.2 Lecturers' technological perspectives	**3.2.1** Hardware resources **3.2.2** Software resources **3.2.3** Ideological-ware resources
3.3 Lecturers' content perspectives	**3.3.1** Module topics
3.4 Lecturers' pedagogical perspectives	**3.4.1** Vision (personal, community, content/ professional) **3.4.2** Goals (aims, outcomes, and objectives) **3.4.3** Accessibility (physical, financial, and cultural) **3.4.4** Teachers' role (facilitator, mediator, instructor, or manager) **3.4.5** Teaching and learning environment (face-to-face, and online) **3.4.6** Teaching and learning activities (teacher-centred, content-centred, and learner-centred) **3.4.7** Assessment (formative, summative, and peer assessment) **3.4.8** Time

3.3 Lecturers' educational technology perspectives

Lecturers, internationally, have various perspectives on the integration of technology into teaching and learning. Even though there are mixed ideas on this, most lecturers like the idea of integrating technology into education. Lecturers ponder the outcomes or benefits that come with technology in helping both themselves and students achieve their goals for teaching and learning. In quest of lecturers' perspectives on educational technology, I have perused a number of studies in which I

discover that both lecturers and students benefit from using technology in teaching and learning. The integration of technology into education helps lecturers understand their subject content, and promotes activity from students (Dahalan et al., 2013; N. Govender & Khoza, 2017; Khoza, 2013; Malek, 2013; Tondeur et al., 2012). However, there are still challenges that make it difficult for one to conclude that the integration of technology into teaching and learning is a solution to the educational problems faced by the 21st century generation. Comments from different studies (especially in the African continent) indicate that some lecturers in HEIs and other institutions are not fully equipped with the expected or required skills to teach using Moodle (Farrell & Isaacs, 2007; Mtebe, 2015; Nihuka & Voogt, 2011; Tedre et al., 2010; Unwin et al., 2010). The so-called technology immigrants (those born before the 1980s) need to be trained and taught about the importance of using technology in teaching and learning. They need to accept that we are living in the digital era which has altered the way we teach and the way our students learn (Malek, 2013).

The university under study is no exception. On one of its campuses I have observed that the use of technology in teaching and learning is not one hundred per cent supported by some lecturers. Poor usage of Moodle is one of the rationales this study was conducted. Malek (2013) has conducted a survey with the purpose of determining whether technology is a problem or a solution to teaching and learning. It is crucial that lecturers' perspectives be heard or known in order to understand why they do or do not integrate Moodle into their teaching. The integration of technology into teaching and learning is perceived by some as a solution to the technological challenges experienced by the 21st century generation in their quest to meet the 4IR standards. As Malek (2013) indicates, educational technology may create problems on one hand, and solutions on the other. To perceive educational technologies as a solution to teaching and learning, lecturers and students should be knowledgeable about technologies in order to interpret it accordingly.

To avert problems lecturers encounter with the use of technology in education, Tondeur et al. (2012) argue that HEIs' management must help lecturers build their knowledge of good pedagogical practices using technology and technical skills, as well as how technological concepts relate to their subject content. This may ensure that educational technology is adopted and lecturers may reconsider its value. Lecturers need to appreciate the value of educational technology, perceiving it as a teaching and learning method. The traditional method of teaching is no longer

working for all students, especially those familiar with technological devices. Students prefer to interact with their technological devices when learning (Malek, 2013). Technology is gradually taking over therefore lecturers should ensure they promote blended learning as a means of introducing technologies into teaching and learning. In no time traditional (face-to-face) methods of teaching will no longer be of interest at all to students at the HEIs. This calls for lecturers to change their perspectives on technology and its use in teaching and learning.

Lecturers' educational technology (Moodle) perspectives are crucial aspects to ensuring that they are offered all the help they require to use Moodle to teach. Khoza (2013, p. 53) argues that "lecturers have to understand their fields of study well, and be aware of the principles of teaching and learning". Lecturers' interpretation of the concept "educational technology" is also necessary to understand. Perhaps this should be the starting point because understanding is all we need to ensure that our interpretations are correct. Getting to grips with the concept "educational technology" can be a motivation to lecturers because they understand and can explain the method they are using to teach. If lecturers lack understanding of this concept, they may interpret it incorrectly, leading to implementing it incorrectly. Johnson, Aragon, Shaik, and Palma-Rivas (2000) conducted an empirical study comparing a graduate online course with an equivalent course taught in a traditional face-to-face format. In their study they indicate that students find the use of technology in the classroom helpful; however, if lecturers seldom or incorrectly use technology, some students tend to be exasperated by such practices (Johnson et al., 2000).

Khoza (2013), in his clarification of this concept, cautions that lecturers should unpack and define educational technology as *a field of study* rather than simply as *for use in education*. This may help lecturers implement it correctly. Misunderstanding the concept may even cause other lecturers to avoid the use of educational technology; they may implement it incorrectly as a result of the misinterpretation of the concept. Educational technology is a field of study that requires knowledge of certain theories and skills, rather than the use of the available devices (as in using a cell phone to make a call) to teach. This may help detect problems with lecturers' misinterpretation of educational technology, leading to the manner in which lecturers perceive technology in education.

Selwyn (2012) and Tondeur et al. (2012) aver that integrating technology into teaching does not require one single pedagogical perspective; it includes a variety of approaches to teaching and learning. When using educational technology, or planning their lessons, lecturers should consider that students do not belong to only one style of learning. Dahalan et al. (2013) believe that it is for this reason that educational technology comes with a variety of approaches to teaching and learning; the need to cater to different learning styles from students. Moodle is a good example in that it includes features such as the discussion forum; chat room; email; learning quizzes, and many other features of interest to the so-called digital natives (Prensky, 2001a). This is what they do in their everyday lives and it engages them in learning. Lecturers should have considerable and relevant knowledge of what educational technology is, and how to implement it in more than one method.

Then the question is, what is educational technology? Is it a field of study, is it about the use of devices, or a teaching resource? Govender and Khoza (2017, p. 66) argue that "educational technology is complex, but can be understood as a branch of knowledge that deals with the creation and use of information, mostly in digital and electronic format, and technical resources and their interrelation with life, society, and the environment". Cheung and Slavin (2011) and Malek (2013) further indicate that educational technology is a colossal and still unexploited resource for content delivery, research, and class work preparation in higher education. The above definitions of "educational technology" clearly indicate that lecturers should consider educational technology a resource that require multiple methods of implementation in order to satisfactorily reach students. Defined as a "resource for content delivery" the use of technology in education should not be considered as the use of computers but as a teaching method. This is because computers can be used for many reasons not related to education.

There is a difference between 'technology' and 'educational technology'. Govender and Khoza (2017), when clarifying the difference between the two concepts say that 'technology' is a principal concept which refers to broader technical resources and tools. They further indicate that "the history of technology is the history of the invention of mechanical tools and techniques, and it is inextricably linked to the history of humanity" (Govender & Khoza, 2017, p. 66). Technology as a stand-alone concept is all about tools such as computers and overhead projectors. As indicated,

technological devices can be used for many reasons not related to education. Some people who have computers use them to play music, games, watch movies, work, and other activities. In educational technology, even the software used differs, depending on what one wishes to gain from a technological device. While 'technology' is about the devices, 'educational technology' refers to the effective use of technological tools or devices (resources) in teaching and learning (Govender & Khoza, 2017). Lecturers need to come to terms with the integration of technology into teaching and learning; they should adopt it in order to implement it. This is because educational technology is here to stay; all that is needed is that lecturers should find a way to make the best use of the numerous technologies now available (Burnard, 2011; Cheung & Slavin, 2011). However, it is difficult for some digital immigrants to adopt Moodle, since they were trained to use the traditional (paper-based) method of teaching and learning. Such a method of teaching is still applicable; however, it is gradually losing value since technology has come in as a new way of teaching and learning (meaning we are moving from face-to-face to digital). Consequently, according to Khoza and Manik (2015), digital immigrants are only acquainted with the legacy content (content that is generated and distributed by print media) and as such they will teach legacy content. Their young colleagues and students, the net-generation (those who were born after 1980), enjoy using technology (Khoza, 2013; Prensky, 2001a). There will be differing lecturers' perspectives on the use of technology in teaching and learning. There is a need to explore lecturers' perspectives on the use of technology on teaching and learning so that lecturers are assisted to move forward, especially on the African continent. Educational technology is a co-opted concept and as such, many lecturers are slow to understand its usage and to adopt it.

A study conducted in different African countries on e-learning has revealed differing perspectives from lecturers (Isaacs, 2013). Perspectives from lecturers should be taken in to consideration because they include issues that prevent lecturers from adopting or teaching with technology (Moodle). This study wishes to discover lecturers' perspectives on using Moodle in teaching postgraduate modules, specifically in the South African context. Some issues raised by participants in the study by Isaacs (2013) mentioned report are useful and relevant to this case. For example, a lecturer working in the higher education sector in Nigeria indicated that students with access to information through the use of technology in education have greatly improved their writing and the number of graduates produced by their university has improved as well (Isaacs, 2013). As a

result the use of technology for teaching and learning in this particular Nigerian university can be perceived as a positive method of teaching and learning.

The success or failure in using educational technology in HEIs' teaching and learning depends on the availability of resources, the training given to practising lecturers, and lecturers' perspectives. Lecturers' perspectives are the most crucial issue that should be dealt with if Moodle is to be adopted by lecturers. In most instances, lecturers' perspectives are negatively perpetuated by the unavailability of teaching resources and the lack of training offered to them. With good training and the availability of resources, lecturers can have no reasons not to using or integrate educational technological tools into their teaching. Govender and Khoza (2017) assert that, in some cases, because of human perspectives, the use of educational technology tends to be a failure, resulting in people seeing no importance in educational technology. Thus, to ensure that lecturers perceive educational technology positively, it is suggested that they should be trained in understanding the significance of integrating educational technology into teaching and learning. Doing so may alter their beliefs and help them to adopt educational technology. Many studies conducted on the African continent on adoption and use of LMSs presented similar results — lecturers lack pertinent knowledge; therefore, they do not adopt LMSs. On the other hand, some countries encounter technical challenges such as Internet connections and financial constraints. However, owing to the benefits of using LMSs, Malek (2013) cautions that HEIs should allow the use of technological devices to enhance students' learning. Some countries on the African continent do not have problems integrating educational technology into teaching in HEIs as they have the necessary resources.

Govender and Khoza (2017) indicate that, in the South African context, a prominent theme in curriculum reform is integrating technology into classes, and preparing lecturers and teachers for the use of technology. South Africa is considered one of the African countries with the resources needed for implementing the educational technology curriculum. However, the integration of educational technology into teaching and learning requires lecturers' understanding of the use of these three types of resources — hardware, software, and ideological-ware, to ensure the successful implementation of the curriculum. Resources may be available to users to integrate

technology into teaching yet, the shortage of ideological-ware may cause all the processes to fail. Further details on each resource will be discussed on the following sections of this chapter.

These resources are key if lecturers must teach using educational technology or Moodle. Khoza (2015b) indicates that there is still a widening gap in the availability and use of ICT resources by teachers and students in South African schools compared to their counterparts, globally, with disadvantaged and rural schools still lagging far behind. Lecturers at HEIs should have a profound knowledge of the above-mentioned resources and its uses. This may help lecturers to assist students more readily, especially those coming from rural or disadvantaged schools. As the Department of Basic Education is working towards digitising teaching and learning, students should have knowledge of using ICT when graduating in Bachelor of Education degree courses. The three resources mentioned above should be understood when using technologies in the teaching and learning profession because they play a critical role in planning and actual teaching. B.Ed. students should understand that these resources are not interpreted similarly to the ones used in the Computer Sciences (CS) or Information Technology (IT) fields. Although they may refer to one thing, the education profession defines them differently. According to Govender and Khoza (2017, p. 67):

> *Educational technology (ET) as a concept encompasses the use of a variety of tools, such as hardware (HW) (machines and networking) and software (SW) (programe), as well as a consideration of philosophical perspectives for their effective use in education. These three types of resources are categorized into two categories and they include the concept of 'ware' which represents 'awareness' in using these teaching and learning resources. Accordingly, these resources, hard-ware (hardware) and soft-ware (software) are called Technology in Education (TIE) and ideological-ware is called Technology of Education (TOE) or under-ware. TIE and TOE are the two main components of Educational Technology.*

Khoza (2015b) indicated that these three resources include the concept of 'ware' which should be a caution to lecturers that they be aware when using these resources in their teaching and learning. According to Govender and Khoza (2017), lecturers must be aware of regular updates and also update their ICT expertise to meet international developments if they wish to be successful in their

teaching and learning. Similarly, Mtebe (2015) argues that if lecturers are not aware of any LMS or Moodle's existence and the value attached to it, they will find it difficult to integrate it in to their teaching. Therefore, if lecturers are required to use Moodle to teach postgraduate modules they should have a profound knowledge of these resources.

3.3.1 Hardware resources

Hardware includes machines, networking, and any other equipment used to teach. Technology always changes, although it does not completely change into something new — it always being (usually per annum) upgraded. Lecturers should not be technologically far behind. Lack of technology knowledge may make it difficult for lecturers to connect with a newly invented machine that has been introduced by the university. Dahalan et al. (2013, p. 414) opine that "universities around the world, started to offer on-line courses in response to great flexibility (anytime and anywhere) in learning environment". Lecturers can teach their students even if they are not in the lecture room as long as they have their computers with them. Similarly, students can work on their assignments and can even submit their assignments without waiting for the contact session with their lecturer, as long as they have access to a computer.

One of the disturbing issues is the lack of availability of these resources (computers and Internet connections), especially for students. Not every student has a personal computer to enable them to work anywhere and anytime. This is what Khoza (2015b) refers to as 'noise' in the e-learning environment which makes it difficult for lecturers to teach and students to learn. Noise in teaching and learning refers to any obstacle or any distraction that prevents lecturers from delivering the content successfully. More so, the improper use of these resources can also distract from teaching and learning. Thus, to avoid noise in their teaching and learning, lecturers and students should be aware of the manner in which these resources should be used. The lack of awareness amongst users on the existence, resources, and the value of LMS or Moodle has a negative impact on LMS usage within institutions (Mtebe, 2015).

Since the university in this case does not offer distance learning, especially in its Department of Education, use of online teaching and learning should prepare students for skills expected of the

teachers by the Department of Basic Education (DBE). The Department of Education (2004, p. 9), in its White paper on e-Education, stipulates that its aim is to:

> *Develop the capacity of education by improving Internet access and educational offerings in schools and colleges, creating digital libraries for universities, promoting professional training institutes, and stimulating the economy to absorb people with a variety of Information and Communication Technology (ICT) skills.*

Student teachers need to have ICT knowledge and skills so that when the time comes for the DBE to implement e-learning into schools there are teachers who have skills to implement the curriculum using ICT. Moreover, this may help postgraduate students to undertake postgraduate research studies. Taking a Master's degree or a Doctorate through research using online learning does not require a student to attend contact sessions with their supervisors. Students can conduct the research independently and submit the chapters or findings for marking and publication. It may also help them to publish; publishing a journal article or a book is an individual task. It only requires a student to have a computer and an Internet connection (hardware). The purpose of doing postgraduate studies is to equip students with research skills, further their knowledge just to mention the few.

Having such skills may ensure, what the former Minister of Education, in her foreword on the White paper 7 once said, "every school has access to a wide choice of diverse, high-quality communication services which will benefit all learners and local communities" (Department of Education, 2004, p. 6). Universities should ensure that this vision is fulfilled, and that there are skilled teachers using the above-mentioned resources. Technology in teaching and learning, includes the full gamut of available resources, skills, and knowledge, to find solutions to problems and to satisfy human needs and wants (Govender & Khoza, 2017). Currently, human needs and wants include being equipped with technological skills to cope in this digital era. Universities should ensure that student teachers are taught using online teaching and learning so that they will graduate with the required skills. The university, as indicated in the White paper 7, is working to meet the needs of the nation and the government. Enforcing the use of Moodle for teaching and learning may avoid the noise in education caused by the inappropriate use of the three types of teaching and learning resources or e-resources (Khoza, 2015b).

Mtebe (2015) states that lecturers in higher education in the region (Africa) are either not aware of LMSs or the educational value they provide. Therefore, Khoza (2015b) recommends that, when lecturers and students use these resources, they should be aware of what these resources produce or are capable of producing in education. In the context of this study, educational technology definitions (the above definitions) have been used rather than Computer Science definitions in which hardware is any computer component that one can see and touch; and in which software is any computer component that one cannot see and touch, e.g., applications and suchlike (Khoza, 2015b). These definitions are meant to ensure people understand concepts used in the education department instead of confusing them with concepts from other disciplines.

3.3.2 Software resources

As mentioned above, software is a computer component that one cannot see and touch (Khoza, 2015b). Software usually comes in the form of a compact disc (CD) or digital download for the user to install on a personal computer. Users may download the software from the Internet provided they have an Internet connection. Moodle, for instance, cannot be touched. It can only be seen using hardware, i.e., a computer screen. In most cases, software is frequently upgraded. It usually comes in versions once per year to add new features on the programe or update the existing features. The current version of Moodle is an upgraded version. This implies that, even the way it displays on the screen may change, while the content remains the same but updated. Lecturers must be able to explain this to their students.

3.3.3 Ideological-ware resources

Khoza (2015b), in his interpretive case study, argues that a lecturer can teach using hardware and or software and be successful in their teaching and learning. However, without ideological-ware, teaching and learning may not be successful. Teaching and learning is dominated by the ideologies of the lecturer and students. Ideological-ware resources in teaching and learning include teaching and learning approaches, philosophies of teaching and learning, research findings, lecturers' experiences, and general school or scientific knowledge (Khoza, 2015b). Teaching and learning is therefore not all about hardware and software but about ideologies (Amory, 2010; Khoza, 2015b). One may have the necessary teaching aids (hardware and software) but without the knowledge of

how to use such resources, teaching and learning may not take place. If it does, it will not be of expected standard because teaching and learning is not all about everyday knowledge. Amory (2010) maintains that hidden ideologies or perspectives contribute to users' failure when they use educational technologies because from perspectives it is likely that lecturers can state their successes and challenges so they can be dealt with accordingly. Some lecturers do know how to use educational technologies to teach, yet they do not use such knowledge. This is one example of the hidden ideologies among lecturers, whereby they have knowledge of integrating technologies yet they are not using them. Lwoga (2012) offers that many institutions on the African continent have LMSs. Yet, usually not all lecturers are trained to use LMSs for teaching and learning. Therefore, this results in the level of actual usage of LMSs across the continent being distinctly low.

This calls for lecturers to review their ideologies (perspectives). Selwyn (2012) disputes that the low usage or the lack of adopting LMS in teaching is a result of the lack of understanding on how to use hardware or software. According to Selwyn (2012), the low usage of LMSs is as a result of users' ideologies (perspectives). Lecturers dismiss alternative methods of teaching simply because such methods do not correspond with their own ideologies (experiences, opinions, or intellectual standpoints). If ideologies that lecturers currently hold do not correspond with the suggested methods (i.e. educational technology) lecturers should be encouraged to study further in order to gain knowledge of the proposed teaching and learning methods. Burnard (2011) refers to lecturers as ingenious role models. Lecturers are professionals, who should continue to be self-motivated learners, willing and able to learn so that they will generate new knowledge. The lack of ideologies or knowledge and other resources are a significant cause of lecturers not adopting or integrating technology into their teaching and learning. Amory (2010) indicates that their study discovered hidden ideological conflicts in educational technology as a field of practice and also in theory. This study focuses on lecturers' perspectives to ensure that, if there are hidden perspectives, they should be unveiled.

Sometimes lecturers may not have a platform to express themselves about the challenges and the successes of using educational technologies in their teaching. Studies such as this one create a platform on which lecturers can express themselves. Unwin et al. (2010) argue that some lecturers

may be knowledgeable about LMSs, but their level of usage is low. Everyone involved, especially the university management, must work towards finding answers to the low usage of LMSs. Mtebe, Dachi, and Raphael (2011) emphasise that a critical issue in ensuring interest in new technologies in education is that of lecturers' attitudes (ideologies or perspectives). Lecturers cannot succeed without ideological-ware because ideological-ware does not come from outside of them like hardware or software resources (Khoza, 2015b). Similarly, Andersson and Grönlund (2009) calls this ideological-ware a 'motivation'. They argue that there is a link between motivation and other e-learning factors. The reasons for success or failure of educational technologies or LMSs are simply linked to "personal motivation" or "lack of motivation" (Andersson & Grönlund, 2009). Lecturers must be motivated and encouraged to use Moodle in their teaching and learning. Motivation and encouragement may come from the university management and/or their colleagues.

The question is thus: are lecturers aware of their perspectives or ideologies that drive their motivation to adopt and use or not adopt and use Moodle in teaching and learning? Being aware of their ideologies or perspectives may motivate lecturers to positively accept the integration of technologies into education. Ideological-ware is, in this case, equated to professional perspectives. Only knowledge and the availability of resources can make one positively teach by using Moodle. Knowledge can motivate lecturers in their teaching and learning. Thus, working without ideologies and many other hidden conflicts may cause lecturers to not adopt the use of educational technologies. Ahmad et al. (2010) caution that there are about seven stages of concern (awareness, informational, personal, management, consequence, collaboration, and refocusing) that lecturers experience before they finally decide to integrate educational technologies into their teaching. These stages of concerns constitute lecturers' perspectives and ideologies which require attention to ensure that lecturers integrate technologies into their teaching and learning. Students, lecturers, and management must work together and, if possible, conduct action research projects to reveal hidden ideologies, thereby ensuring successful implementation of a curriculum.

Various ideologies or perspectives are held by users from various communities, as such lecturers must work together to ensure common ideologies. Merryfield (1998) and Schultz and Schultz (2016), similarly caution that, often, lecturers' actions are influenced by their colleagues —much

of lecturers' behaviour is as a result of imitating the behaviour of their colleagues. Selwyn (2012) opines that anyone seeking to make sense of lecturers' ideologies or perspectives and educational technologies should consider not only thinking about technology but the society as well. Thus, conducting research like this one may reveal lecturers' hidden ideologies and thereby improve instructional design for effective pedagogical use (Govender & Khoza, 2017). This may also ensure that management learns lecturers' ideologies which ensures technological implementation becomes effective in education. It is essential to understand lecturers' educational philosophical dispositions for the development of appropriate education technology design and practice (Amory, 2010). This may further ensure that lecturers establish approaches to help one another understand the best methods to deliver their lessons through educational technologies (Moodle).

3.4 Lecturers' content perspectives

Waters-Adams (2006) believes that it is common sense to assume that what a lecturer knows will influence their teaching. Therefore, to improve their effectiveness is surely to make sure that they have the 'right' knowledge of their subject content. When studying academic experiences of understanding the subject matter and its influence on teaching and learning, Prosser, Martin, Trigwell, Ramsden, and Lueckenhausen (2005, p. 137), find that:

> *Academics who experience their subject matter in less integrated ways experience their teaching in more information transmission and teacher-focused ways, while those with a more integrated and holistic experience of understanding their subject experience their teaching in more conceptual change and student-focused ways.*

Lecturers need experience of teaching from both understandings (teacher-focused and student-focused). In the case of Moodle, it is recommended that lecturers use a more student-focused approach because this platform will allow students to work on their own most of the time. Moreover, Moodle includes features that are of interest to students, for instance, chat room, discussion forum, quizzes, and emails. These features awaken students' interest in Moodle, as they are similar to those they use every day.

3.4.1 Module topics

A number of authors have indicated that Moodle is advantageous to both students and lecturers because it allows them to work anytime and anywhere (Isaacs, 2013; Mtebe et al., 2011; Thijs & van den Akker, 2009). Moodle allows for such through the 'chat room' and discussions forum in which students interact through conversations. These features allows students to talk to one another. With chat room, students can talk to their lecturers and their fellow students to catch up on daily activities. Chat room is a platform which participant use to ask questions or to chat to a certain individual in their class during the lesson without interrupting others. Features such as chat room should be used by students, at the encouragement of the lecturer. This feature is an application similar to WhatsApp, Facebook, and other social networks. However, students will need to understand that Moodle and its features are meant for academic purposes. Students should not misuse these platforms by using them to chat about private and personal matters.

Isaacs (2013) noted that there were lecturers who indicated that students should not be allowed to use such a platform (LMSs), especially with cell phones as they could lose focus in the lecture room. Even the use of laptops or computers for teaching and learning may cause students to not concentrate on lecturers' teachings. While the lecturer is teaching, students may be busy with their cell phones or laptops and sometimes not listen to the lecturer. Before technology there was daydreaming, and doodling in notebooks. Students didn't need technology to be distracted. . Some students are able to multitask. Mtebe (2015) explains that online teaching and learning is not here to replace lecturers, but to supplement the old style of teaching. Lecturers develop and share digital learning materials online. Digital technology is here to enrich teaching and learning and also to help our local students upgrade to international learning standards. Features such as the discussion forum help students to help one another with their academic work while working from their respective residences.

If Moodle is to be successfully implemented in teaching and learning, lecturers should think about teaching in ways that are quite different from what they have learnt from their own experience as students (Darling-Hamond & Bransford, 2005). It is possible that a large number of lecturers (especially digital immigrants) in this institution have not used online learning or digital technologies whiles studying as students. Lecturers therefore need to learn to integrate online

resources into their teaching. Features such as the discussion forum require a great deal of time because a lecturer is expected to respond to many questions and help students with their work. Darling-Hamond and Bransford (2005, p. 363) explain that lecturers usually work "with many students at once and have to judge multiple academic and social goals requiring trade-offs from moment to moment and from day to day". It may thus be a challenge for lecturers to attend to all their students at the same time on the discussion forum, if they have a huge number of students. However, this is possible for lecturers teaching postgraduate modules, because they usually supervise a small number of students. A lecturer is expected to attend to every student's work and comment on it, making a heavy workload for lecturers. However, when lecturers expose students to the use of Moodle, students can help one another with assignments; lecturers may only need to deliver the overall comments. This is happening even with face-to-face teaching and learning. Students, before submitting their assignment to their lecturers, first consult their friends for help.

With online features such as Moodle's discussion forum, lecturers' workload can be minimised. In each group of students some are capable enough to understand a lecturer the first lecture. Such students may help minimise the workload for the lecturer by commenting on other students' drafts. This allows students the opportunity to learn more. Many students may wish to comment on their fellow students' assignments. By the time they help a fellow student with their assignment, they invariably add to their own learning. A lecturer may only look at students' comments, verifying or approving them before giving the go-ahead to the student (owner of the work) to work on fellow students' comments. This is one platform that can help students enjoy learning, especially at postgraduate level. At this level, students are exposed to critical thinking and analysis which may help them as they start to publish their own work. According to Isaacs (2013), participating in discussion forums increases students' motivation to learn. It also enables students to undertake further research on their subjects. Andersson and Grönlund (2009, p. 5) posit that "highly motivated students perform well in most cases in which non-motivated students tend to drop out". Lecturers should adopt educational technologies in order to motivate students to take their studies further. Using Moodle to motivate students requires good planning from lecturers in which they ensure that they include all or most of the answers to the questions, as asked by Thijs and van den Akker (2009), when planning a curricular spider web.

3.5 Lecturers' pedagogical perspectives

As there are many teaching strategies, so are there many perspectives that lecturers hold about teaching. Waters-Adams (2006) argues that, in teaching and learning, it is logical to assume that lecturers' perspectives may influence their actions in the lecture room. It is therefore crucial to improve lecturers' productivity by studying their pedagogical perspectives, ensuring that lecturers have the correct content knowledge (Waters-Adams, 2006). Having the correct content knowledge may help lecturers plan their lessons well. According to Khoza (2013), success in teaching or good teaching depends on good planning. More so, planning for teaching is not about only planning for the lesson of the day. It requires that many aspects be considered. Thijs and van den Akker (2009, p. 11) insist that the "core of a curriculum generally concerns the aims and content of learning". When planning their lessons, lecturers should at all times have aims for teaching. These aims should not only be about achieving the purpose of the lesson of the day; aims should go beyond that to see their students being productive in the field of work. Merryfield (1998) and Thijs and van den Akker (2009) contend that teaching and learning is not only about lecturers and their students. It involves other stakeholders such as trade and industry, trade unions, religious groups, social organisations, researchers, and of course politics.

With stakeholders having their own considerations and preferences on pedagogical views, Thijs and van den Akker (2009) caution that lecturers' perspectives should not override their planning for teaching. More so, their perspectives should not influence their planning for teaching. Lecturers' actions or decisions, as a result of their perspectives in education, may not only affect their students but may affect other people globally (Merryfield, 1998; Prosser et al., 2005). People throughout the world are affected because students will use their learned skills to assist people from a local to international context. It is therefore recommended that, when planning, lecturers should consider the curriculum concepts as developed by Thijs and van den Akker (2009) per their curricular spider web. Lecturers should enthusiastically be engaging with information. When planning, lecturers should have knowledge about their subject content. This may further ensure that, when planning, they have a clear vision of what they want to achieve as an outcome. Therefore, the planning should be rooted in two questions: the 'what' and the 'how' questions. The 'what questions' are concerned with the objectives and content components. Such questions are

usually given more attention than the 'how questions' that are concerned with pedagogy, educational materials, and the learning environment (Thijs & van den Akker, 2009).

3.5.1 Vision - individual, community, and content or professional

According to Khoza (2016b), lecturers' understanding of the university management's vision on Moodle may assist lecturers to have a vision when planning their lessons, thus ensuring that their students benefit from the use of Moodle. Khoza (2016b) opines that, when lecturers understand the teaching vision, they can easily identify relevant curriculum goals. Therefore, he advises that lecturers understand the Moodle vision in order to achieve the curriculum goals, i.e., to successfully teach their modules (Khoza, 2016b). Stürmer, Könings, and Seidel (2013) conducted a study using a pre-test/post-test design with the aim of improving and deepening the scientific understanding of conceptual knowledge acquisition and development of professional vision in lecturers' practices at universities. Their study argues that vision, in teaching, describes a lecturer's ability to notice and interpret student learning (Stürmer et al., 2013). Teaching with the correct vision, enables lecturers to tell whether their students are achieving the intended outcomes.

Lecturers' perspectives should therefore be in line with their vision for the use of Moodle, ensuring that they succeed in their teaching. To be successful and ensure that teaching and learning benefits students, Berkvens et al. (2014, p. 10) argue that planning with vision may ensure that it answers the following questions:

> *What do children need to learn? How do they need to learn? How do they need to be taught? What materials should be used? How much time is needed and in what settings or environments should learning take place? How should learning be assessed?*

Usually, however, only one or a few of the above questions are tackled, often in a rather inconsistent manner (Berkvens et al., 2014). The reason all these questions are not tackled stems from lecturers planning and teaching without vision. With vision, lecturers can integrate Moodle into their teaching, knowing that all the above-mentioned questions are answered. Covering all the questions when planning for teaching can ensure effective teaching and encourage participation from students (Stürmer et al., 2013).

Berkvens et al. (2014) suggest that the first and crucial question that lecturers should seek answers to is: why should teaching and learning at postgraduate level use Moodle or educational technologies? In other words, for what purposes do students need to participate in educational technologies? Khoza (2016b) and Berkvens et al. (2014) concur that this question can be addressed by considering these three main perspectives as the influence: pedagogical (personal talent and character development), societal preparation (citizenship and social skills development), and content (knowledge and metacognition development). These perspectives play a role; and each has an influence on lecturers' decision on whether or not to adopt Moodle in teaching and learning. Khoza (2016b) argues that in all three perspectives, vision is crucial and should not be left out. Each perspective influences teaching and learning in a certain way because cognitive process are applied. All three perspectives use the cognitive process to act. Individuals should plan with vision so that, if their planning does not succeed, other options can be perceived.

3.5.1.1 Individual or personal

Poropat and Corr (2015, p. 60) state that "individual differences in brain functioning affect perception and analysis of the environment and thus, to a large extent, both define and determine its influence". A different understanding of Moodle will lead to the individual vision of Moodle being different, according to individuals' perspectives. Lecturers, individually, have their own way of analysing Moodle depending on their background. Personal characteristics develop individual behaviour: individual lecturer influences, such as their attitude and fears affect their use of technology (Ming et al., 2010; Poropat & Corr, 2015; Proctor et al., 2016; Schultz & Schultz, 2016). The attitude that lecturers hold towards Moodle may affect the personal vision that lecturers should have on integrating Moodle into their teaching. For example, if lecturers have a negative attitude towards Moodle they may not even have a vision of Moodle. Negative attitudes can result in lecturers continuing to teach without vision (Khoza, 2016b). However, a positive attitude on Moodle may lead lecturers to have a good vision for Moodle. They may then use such visions in their planning to teach with Moodle.

Nistor, Göğüş, and Lerche (2013, p. 734) concur that the "influence of the predictors on behavioural intention and use behaviour is moderated by users' age, gender, experience, and by the voluntariness of use". Khoza and Manik (2015) state that age is a decider when it comes to the

use of Moodle. The more youthful lecturers are, the more acquainted and at ease they are in using Moodle. Some studies have, however, yielded opposite results. A study conducted by Ahmad et al. (2010) had the aim of evaluating gender and age invariants of the causal structure of Extended Technology Acceptance Model (TAME). The results of their study yielded ideas that convinced them "to conclude that gender does not interact with the exogenous variables to influence lecturer's use of computer mediated technology" (Ahmad et al., 2010, p. 275).

This leaves experience as one factor not found to be a hindrance in using Moodle to teach. Older lecturers have a different experience of teaching. Some are not at ease with the use of Moodle. Their personal vision may not be in full support of Moodle. Ming et al. (2010) asserts that some lecturers (older, or digital immigrants) have a negative perception of their online competence that results in their having low motivation to use Moodle. There is a need for a study on how experiences influence lecturers' integration of educational technology (Moodle) into teaching and learning. Lecturers should have a personal vision on Moodle which intertwines with the university management's vision of Moodle. This may enable lecturers to plan their lessons well, and maybe have a clear direction on how to use Moodle in teaching their modules.

It should be taken into consideration that how lecturers frame the 'how to use Moodle to teach' question depends greatly on their personal vision on how they conceive Moodle; and the way they envision their teaching with Moodle (Darling-Hamond & Bransford, 2005). Some lecturers share their visions with their colleagues. Amory (2010, p. 72) contends that individual perspectives function "within societal dialectical struggles reflecting the relationship between self and society and are a cultural product". Personal vision does not solely exist in an individual because an individual exists within the society. Individual vision may come as a result of the community vision. Khoza (2016b) admits that individual visions lead to reasons for an individual planning the design, development, and use of Moodle and should not only be driven by everyday individual experience, but should take heed of community and professional visions. Community perspectives and visions in education focus much on cultural universals; those aspects the community have in common, and perspective consciousness, knowledge, and appreciation of community's perspectives (Merryfield, 1998). Therefore, individual visions should become the foundation of community and professional vision (rationale or reasons) (Khoza, 2016b).

3.5.1.2 Community

With this vision, Moodle should be implemented according to the opinions or visions of the community. In other words, Moodle should be a product of the management together with lecturers and students' inputs. This may help implement the programme because it would cater for different visions, cultures, beliefs, and individualities. Though, one can argue that it is not recommended to work with the community's opinions because some opinions are not scientifically proven or researched. Lecturers and their students come from a variety of religions, tribes, and cultures, the combination of which makes it almost impossible to find a "fit-for-all" pedagogy (Tedre et al., 2010). The community vision makes it difficult to find teaching strategies that cater to all students from different cultures. As Khoza (2016b, p. 117) indicates, using Moodle from the community's perspective will yield negative results because teaching and learning according to community vision "is mostly influenced by opinions, local, every day, or general knowledge and oral conversation". It should be taken into consideration that opinions involve personal emotions. In the professional setting, only researched knowledge is acceptable because it provides valid facts. However, it helps to bring all stakeholders together before the programme is launched. This should be done to ensure that the programme is being implemented by the stakeholders who will own the programme and process. To honour their inputs, they will work hard to see the programme become a success.

Merryfield (1998) and Schultz and Schultz (2016) indicate that lecturers vary how they perceive their overall roles in planning instructions. Their behaviour will vary based on the situation and environment in which lecturers find themselves. The community should, at a minimum, have a common vision for a content to be planned for and taught. Community visions may differ, but should be close to one another's vision. This does not mean that all the community's needs and wishes must be integrated into education, but it will help to create a balanced and shared vision on education (Berkvens et al., 2014). If this is the case, we do need a community vision of Moodle so that when compiling perspectives we may deliver one working idea on how to teach with Moodle. This study aims at understanding lecturers' perspectives and vision on the integration of Moodle into teaching postgraduate modules. This study may uncover a platform for the community of lecturers to express their visions. University management may then work on lecturers' perspectives to find working visions suitable to the use of Moodle.

Currently, lecturers' opinions about what and how we should be using Moodle to teach students are divided: lecturers have their own concerns about subject-matter insights (Thijs & van den Akker, 2009). Such discrepancies make it difficult to move towards successful use of Moodle. As a result, the use of Moodle can be short lived or not fully utilised (Berkvens et al., 2014). To avert such, lecturers may need to ask for help on how to use certain features of Moodle from their colleagues. Amory (2010, p. 69) believes that "personal and societal transformation can be cultivated through fostering social collaboration, designing complex learning activities that include contradictions". This may motivate lecturers to study further, thereby generating more knowledge on Moodle. Berkvens et al. (2014) argue that a shared, common vision on the use of Moodle can inspire lecturers to use all levels and aspects of Moodle.

This can be achieved by ensuring that lecturers' lack of understanding of the vision regarding the use of Moodle is addressed, in order to promote effective teaching and lecturers' critical thinking (Khoza, 2016b). To ensure that lecturers understand Moodle, lecturers need professional or content knowledge that can be generated through research. However, Schultz and Schultz (2016, p. 400) argue that "we cannot expect data from research that involve no social interaction to be relevant to the everyday world, because few people truly function in social isolation". Khoza (2016b) clearly puts it that, in community perspectives or with the community vision, knowledge of Moodle is frequently generated horizontally: this is knowledge from simple sources or local known sources. Thus, there is a need for lecturers to generate their knowledge about Moodle from researched or scientifically proven sources. This may help them encourage their students to do more research to generate knowledge. As Khoza and Manik (2015, p. 190) remind us, "research is a key component of postgraduate studies and digital technology knowledge and skills are crucial to students' studies". This may guide lecturers towards professionalism which is then transferred to their students. Professional vision may prevent lecturers from struggling with the understanding of the subject content (Moodle). Lecturers must ensure that they have content knowledge so that they are able to use Moodle to teach.

3.5.1.3 Content or professional vision

Understanding the content requires lecturers to develop their professional vision on educational technologies. Lecturers' professional vision is informed by lecturers' understanding of what constitutes effective teaching and learning (Stürmer et al., 2013). Considering that 21st century students have grown up in a technological age of televisions, computers, and videogames, students of the digital era do not regard traditional lectures as the best way to learn (Martínez-Torres et al., 2008). If our current (21st) generation is growing up using technological apparatus, there is a need for lecturers to adopt the use of Moodle in their teaching to ensure our students enjoy learning. Enjoying learning suggests that students may fully dedicate themselves to learning. Malek (2013, p. 174) emphasised this when arguing that "technology will motivate students to work harder, to gain more knowledge and skills, and be more engaged, by so doing students will achieve higher grades, which in turn will increase their motivation to learn". This is what is expected and envisioned by HEIs in the lead-up to the introduction of technology in education to ensure that education institutions produce professionals who will have technology skills.

Tedre et al. (2010, p. 15) assert that "without competent professional staff, it is not possible to sustain an expected service that is required for e-learning". There is a serious need for educational institutions to ensure that lecturers are well informed about e-learning and have the required technological knowledge to ensure high-quality education. This may further assist the Department of Basic Education to introduce educational technologies in primary and secondary schools, because teachers would come from HEIs with the necessary skills. This change at the HEIs is not only for the purpose of teaching and learning in the HEIs but to ensure that students take their skills to their respective places of work. To ensure that students acquire necessary skills to integrate Moodle in their work places lecturers understand their vision and the institution's management vision about the introduction of the system. Once lecturers understand these visions and are motivated to integrate Moodle into their teaching, the curriculum innovation may succeed. Khoza (2016b) clearly states that the reason lecturers find it challenging to integrate Moodle into their teachings is that they continue to use Moodle without identifying and understanding Moodle's visions and relevant goals.

Moodle is not a software application that can be used by any person (such as Microsoft Office). Farrell and Isaacs (2007) argue that lecturers' training on the use of Moodle must involve much more than the development of computer literacy skills. Lecturers need to be equipped with technological knowledge to the point where they should "be able to design and adapt content materials to suit student needs, and to be aware of the ethics and dangers inherent in the use of technologies" (Farrell & Isaacs, 2007, p. 35). Possibly only those that are technologically knowledgeable will be able to live up to the above-mentioned requirements. Adapting Moodle to suit students' needs may ensure that the integration of the system in teaching is a success. Professional vision may raise awareness among lecturers on issues that lecturers should take note of when using Moodle.

Raising awareness suggests that lecturers should be aware of the technical aspect of Moodle. Thijs and van den Akker (2009) caution that there is also the technical professional perspective of Moodle. Technical professional perspective is referred to as the way to address Moodle challenges and how to successfully translate intentions into curriculum products; in other words, the method used in practice and that which leads to anticipated learning outcomes (Thijs & van den Akker, 2009). In addition, viable development of Moodle services is only possible when there are enough skilled people who are able to deal with the technical challenges of any technological apparatus to ensure effective implementation (Tedre et al., 2010). This suggests that lecturers need basic knowledge of information technology (IT) to work out minor challenges posed by the technological hardware.

Unwin et al. (2010) observe that one of the reasons lecturers might not use Moodle more frequently could be due to their lack of technical skills. For examples, lecturers may not be able to proceed with their teaching should Moodle become frozen during the lessons, unlike face-to-face teaching which may stop during the lesson as long as lecturers have all their teaching materials at hand. Nihuka and Voogt (2011) add that both lecturers and students may need basic skills related to troubleshooting to overcome common technical problems when using educational technologies. Without these basic skills, students (when resuming their work as teachers) may encounter challenges in using technologies to teach at school level. Teachers in the early phase of teaching, should have sufficient content knowledge. They should be able to troubleshoot minor technical

challenges to ensure effective teaching and learning. The goal of introducing Moodle at HEIs is to ensure they produce teachers that are technologically savvy to be able to use LMSs to teach.

3.5.2 Goals (aims, objectives, outcomes)

According to Khoza (2016b), because lecturers need to be successful in using Moodle in their teaching, they should start by identifying and understanding their vision for using Moodle. They then need to identify relevant goals from their subject content. Poor Moodle usage amongst lecturers results from their having no vision on the use of Moodle. If there is nothing that lecturers have envisioned and that they want to achieve as an outcome, Moodle can be ignored. Lecturers need to understand that having clear goals for their subject content is crucial because it improves their practice and may help their students' learning (Marzano, 2009). With clear goals, lecturers will work with Moodle, having full understanding of Moodle and its benefits for students, as well as for themselves and their profession.

Berkvens et al. (2014) argue that a dearth of broad education goals makes it more difficult for lecturers to create consistent and specific content choices. On the other hand, Marzano (2009) perceives that goals are more operative when they are explicit, yet students should at some point perceive such goals as difficult, but not impossible. Lecturers should set specific goals for Moodle. Such might help them achieve what they have planned. However, Berkvens et al. (2014) and Marzano (2009) state that one of the challenges lecturers encounter in creating specific goals for teaching and learning is that they are regularly only provided with general academic goals, such as university standards for Moodle use. If lecturers find it difficult to understand the general or broad goals, they will encounter challenges when they narrow them to specific goals for the purpose of teaching and learning. Procedurally, once lecturers have understood the general goals "they then have to translate these general statements into more specific declarative and procedural learning goals" (Marzano, 2009, p. 3).

Mtebe (2015) avers that lecturers' failure to use Moodle in their teaching is because lecturers, when implementing Moodle, do not set the goals. Lecturers need to set teaching goals and ensure that the set goals are being attained. According to Kennedy (2006, p. 22), the goal "of a module or programme is usually a specific statement of teaching intention". Marzano (2009) differentiates

goals into two groups. The first is the ‘performance goal’ which requires students to accomplish a certain score; the second is the ‘mastery goal’ which asks students to master content. Lecturers should therefore ensure that they set specific goals so they are able to reflect at the end of the lesson. This may lead to the improvement of the system, and ensure that students get the appropriate information that will help them develop their skills. In order to do this, lecturers should understand that specific goals impact student achievement more than general goals (Marzano, 2009). Understanding the difference between the two goals might enable lecturers to correctly set the aims and/or objectives of using Moodle to teach.

3.5.2.1 Aims or objectives

Aims serve as a drive for teaching because lecturers will know what to teach, and why, instead of teaching for the sake of teaching. Teaching and learning without purpose does not motivate lecturers and students to enthusiastically participate in education. Lecturers should ensure that they have an aim in using Moodle, despite the university’s own aims of introducing the teaching and learning tool into teaching and learning. According to Kennedy (2006), the aim of a module or programme is a broad general statement of the teaching intention, i.e., it indicates what the lecturer should want to see their students achieve at the end of the lesson. With the use of Moodle, lecturers should ensure that their students gain ICT skills and are able to work independently on their research studies. According to Dewey (2001), lecturers should use Moodle in their teaching with the aim of enabling students to continue their education. Postgraduate studies start at Honours degree level. Successful usage of Moodle from this level may enable students to further their studies to doctoral (PhD) level.

The aims and objectives of using Moodle can be approached from different perspectives (Berkvens et al., 2014). Such perspectives, according to Berkvens et al. (2014) and Thijs and van den Akker (2009), are the society or community, student, or individual, and subject or professional perspectives. Together, these perspectives determine the educational objectives. Such perspectives must not be taken lightly when planning to use Moodle for teaching and learning. When lecturers plan, they should consider the community, because this is where the student teachers are going to offer their services after the completion of their studies or degree. Thijs and van den Akker (2009) argue that, when planning, there should be some anticipated aims and content to equip students for

their role in tomorrow's society. Lecturers' aims should be to see their students equipped with skills that will enable them to be productive. With reference to the subject or professional perspective, Mtebe et al. (2011, p. 289) assert that Moodle aims should be to "increase access to higher education, improve the output of research and publications, improve teaching and learning, including curriculum design and delivery strategies, improve consultancy and services, and social responsibility".

We need professionals who are able to use technology in the teaching profession with ease, particularly at school level. Mtebe (2015) opines that, if lecturers decline the use of Moodle, they do not understand the anticipated benefits of the system. There is a need for lecturers to understand the benefits of Moodle use, because Moodle is not used only for the sake of students they teach but for the learners in schools after student teachers have graduated. One crucial benefit of using Moodle, as stated by Andersson and Grönlund (2009), is that Moodle is seen as a recruitment strategy to increase the number of students with access to higher education. Should the number of students who drop out in higher education decreases, this may indicate that Moodle has successfully been achieved. The aim of using Moodle is to help students access higher education; it should not end there. It is important to ensure that it produces positive outcomes.

3.5.2.2 Outcomes

Once lecturers have identified and understood the vision for using Moodle, they also need to identify relevant goals from their subject content. Lecturers then need to have aims (individual aims, community aims, or professional aims) of using Moodle to teach their students to ensure that their students gain knowledge and skills as the outcomes of learning with Moodle. As has been clarified by Adam (2004) and Kennedy (2006), a learning outcome is a statement set by lecturers about what they expect students to know, understand, and be able to do at the end of a period of learning. Lecturers who have successfully done their work in the teaching profession should have good outcomes from their students. Setting goals correctly may help lecturers improve their practice and also improve students' learning performance. Most importantly, it may reduce students' dropout rates (Mtebe, 2015).

Lecturers must seek strategies to make their students understand, like, and enjoy Moodle, to lower students' dropout rate. This can be attained by lecturers themselves being committed to the use of Moodle in teaching and learning. Lecturers should constantly strive to produce students who will exhibit a mixture of knowledge, skills, abilities, and positive attitudes on Moodle or ICT. However, it should be emphasised that students' understandings can be attained through lecturers' success in setting their teaching aims and objectives (Adam, 2004). Kennedy (2006) believes that Moodle knowledge and skills may also assist students when learning through the system and, most importantly, with being active participants in student-centred learning. Students should be afforded opportunities of learning using Moodle as a learning platform, especially with their postgraduate studies. Adam (2006, p. 6), when defining learning outcomes, states that "learning outcomes are concerned with the achievements of the student rather than the intentions of the lecturer".

3.5.3 Lecturers' role (facilitator, mediator, instructor, or manager)

While the South African educational context is largely dominated by theoretical rather than the practical activities, a lecturer, just like a teacher, must teach students. The major purpose of teaching is to transmit information to students so that they will be able to teach one another and be good citizens (Bandura, 1979). The role of the lecturer is to educate their students using one or more of the lecturer's roles mentioned above, depending on the type or needs of students they teach. Yet, the face-to-face method of teaching is gradually losing its value. What was once said by Schultz and Schultz (2016) has been realised; an education system that is lecturer-centred undermines self-efficacy and self-confidence in intelligent students. The introduction of technology into the education sector may bring about the anticipated changes — empower students to conduct research and study on their own in order to be good academics. This innovation requires lecturers and their students to change the teaching and learning method from lecturer-centred to student-centred. An and Williams (2010) indicate that some lecturers who use technology tools, such as Moodle, in their teaching often integrate it into their old practices (face-to-face) as a means of gradually introducing students into the system.

Few institutions that have recently introduced technology, or institutions that do not use online learning at all, have lecturers who integrate educational technology into their teaching. However, lecturers need to be technologically literate if they should integrate technological tools for teaching

and learning. Lecturer-centred teaching is a method of instruction where the lecturer is the source of knowledge. Conversely, student-centred learning sees students work independently to generate knowledge. This calls for lecturers to review their roles in teaching and learning. In previous years it was known that the role of the lecturer was to present lectures to students. With the 21st century generation, things have changed. Now that technology is being introduced to the teaching and learning institutions, students stand a better chance of quickly understanding how to use educational technology equipment because technology is their native language (Buckingham, 2013). Students are expected to be active participants in their learning. According to Buckingham (2013), the net generation is hungry to express themselves through technology usage; and for discoveries that they can use with their own learned technology skills, for self-development. The Net Generation is savvy, independent, investigative, communicative, inventive, intrusive, accepting of diversity, and socially cognizant. Even the role of the lecturer has to change from being the source of knowledge to a facilitator, mediator, and/or instructor.

3.5.3.1 Facilitator

Mtebe et al. (2011, p. 291) postulate that Moodle "can accommodate different learning styles since its applications allow for information to be presented in a variety of media formats". Lecturers need to equip themselves with a variety of teaching styles to accommodate the diversity of students' learning styles. As for postgraduate students, they are expected to conduct research, especially those that have enrolled in degrees at Master's and PhD level. Even at Honours degree level there are modules that serve as an introduction to research that are used to prepare students for their future studies. However, Andersson and Grönlund (2009) indicate that there are discussions on which teaching styles are appropriate for e-learning; and many discussions concern a shift from a traditional or lecturer-oriented approach to a student-oriented approach, in which students take full responsibility for their learning. The introduction of Moodle in teaching postgraduate modules is one way to ensure that students are responsible for their learning.

Khoza (2012) stresses that the use of Moodle presents opportunities to develop autonomous students. Therefore, the role of the lecturer is to be a facilitator who helps students understand how to use Moodle so that they will be able to use it to complete their studies. The lecturer, as a facilitator, is not expected to teach students through the traditional or lecture-oriented approach of

teaching. According to Adam (2004) and Khoza (2012), facilitators need to build students' confidence: using Moodle for learning requires students to be more independent than when using the traditional or lecture-oriented approach to learning. If lecturers can be facilitators of their students' learning, students may become equipped with research skills. This may help students continue with their studies, possibly resulting in them publishing books and journal articles.

Some lecturers have not adapted their courses to e-learning courses. On a similar note, Tedre et al. (2010, p. 13) indicate that most lecturers in "higher education institutions never used modern e-learning tools in their own studies, and hence have no previous knowledge on how those technologies could or should be used". Johnson et al. (2000) contend that students' satisfaction can be positively impacted on the use of Moodle only if lecturers are transparent with their use of Moodle, ensuring that the functions of Moodle are both reliable and convenient. The lecturer's role should be that of a facilitator and coach. Yet, Adam (2002) advises that lecturers, when planning use of Moodle to teach, should set the learning outcomes. This should be done because, when teaching towards certain learning outcomes, the role of the lecturer shifts towards being a facilitator of the learning process (Adam, 2002).

3.5.3.2 Mediator

Lecturers should present Moodle to their students as a tool necessary for teaching and learning in the 21st century. Lemke (2001) argues that lecturers should afford students opportunities to use Moodle so that students may change their perspectives about the technologies because they are meant to supplement and support face-to-face teaching method. Lecturers should also act as advocates of Moodle. It rests upon lecturers as mediators to ensure that they present Moodle as an alternative teaching method to the traditional method. To ensure that students indeed alter their perspectives on Moodle, lecturers must present Moodle as a positive alternative. In so doing, students may see the need to change from the traditional method of teaching and learning, thereby adopting Moodle.

Waters-Adams (2006) remarks that there could be an association between classroom environments and a lecturer's perspectives on the beliefs about Moodle. This is only possible if students are allowed time to explore Moodle. Such may even change the classroom environment because

students may become knowledgeable about their modules. As indicated by Reese (2015), Moodle encourages students to study on their own. Students may have more facts to discuss in the lecture because they have studied. This is one of the core requirements of Moodle: to create students who can be creative or critical thinkers. All that is required from the lecturer is to manage students and to provide instructions so that students do not deviate from the core curriculum.

3.5.3.4 **Instructor or manager**

Being knowledgeable may enable lecturers to instruct their students on Moodle use for learning their modules. It has been argued that some students come to universities without any knowledge of computers. Such students may not be able to work with Moodle while they struggle with computers basics. It is good that students register for a module that teaches computer basics in their first years of university study. This suggests that lecturers will not struggle to use Moodle with their students. Once learnt and mastered computer basics from the module offered that teaches computer basics students can then work use Moodle for learning because they would know how to use a computer. Mastering computer basics can help students even if it happens that they change their institutions of learning to cope on the new institution because HEIs use different LMSs. Lecturers should ensure that students understand how Moodle is used in each institution. Most importantly, students should not shouldn't be in a position where they feel they need to drop out because of a lack of support for their studies.

Prosser et al. (2005) maintain that lecturers perceive their teaching as concentrating on either their own activities as lecturers, or on the transferring of certain knowledge or skills to students. Johnson et al. (2000) found that student satisfaction depends largely on the effectiveness of the instructor and instruction rather than on the technology used for instruction. This is indisputable. Indeed before the advancement of technologies, face-to-face or instructor teaching method was vital, and students used to understand and favour it. However, during the years in which the above two studies were conducted, technology was not as ubiquitous. Today, younger students adapts quickly to the technologies that advances every day and they learn best with it.

Studies revealed that amongst the issues that fails the process of integrating educational technologies into teaching and learning is lecturers' resistance to change to e-learning (Tedre et

al., 2010). Lecturers commenting on the use of LMSs have offered many reasons for avoiding technology. Some are willing to learn and remain current with modern educational demands; others have still not been decisive on whether to adopt new technologies and methods. From basic education to HEIs, the "emphasis moves from the content (what staff teach) to the outcome (what a student will be able to do)" (Adam, 2006, p. 12). For the shift from content to outcome, lecturers should be willing to change from lecturer-centred to student-centred methods of teaching and learning. Students are not passive in their learning environment. Students should be offered opportunities to express themselves because they bring their own perceptual experiences to learning environments (Adam, 2002).

3.5.4 Teaching and learning activities (student-centred, lecturer-centred, and content-centred)

3.5.4.1 Student-centred

Andersson and Grönlund (2009) raised a concern about the teaching and learning activities used by lecturers during a course: it patently affects the use of Moodle. In order to avert this, the type of teaching and learning activities used by lecturers should be decided on in advance. Lecturers should decide whether their teaching and learning activities are either student-centred, lecturer-centred, or content-centred. This may serve to ensure that everyone (lecturers and students) in the learning environment know their responsibilities. It has been witnessed that, despite the availability of Moodle, some lecturers still teach their courses using the lecturer-centred or face-to-face method (Ssekakubo et al., 2011). This does not promote the use of Moodle by students. It has been said in many studies that Moodle should be student-centred (see Shelton, 2014). Andersson and Grönlund (2009) further caution that there is a need for interesting learning interactions between lecturers and students. Teaching and learning should be more interesting to students so they are able to deliver positive outcomes of their learning. This may enable students to personalise or own their learning and show innovation through learning.

It has been said that "students should be actively involved in the planning and management of their own learning, progressively taking more responsibility as they develop as independent learners" (Adam, 2008, p. 13). Moodle is one of the teaching and learning platforms that can enable students

to manage their own learning. Especially at postgraduate level, a lecturer is not expected to run lectures on a daily basis, teaching students the content and expecting students to submit their assignments as hard copies. A lecturer is expected to show students how to use Moodle (using discussion forums, how to submit their tasks on Moodle, how to use the chat rooms to communicate with the lecturer and their fellow students, and how to work on the quizzes, *inter alia*) thereby allowing students to work on their own. Adam (2008) further opines that the use of Moodle promotes the idea of a lecturer as a facilitator or manager of students' learning process, understanding that learning takes place outside the classroom.

Students at postgraduate level are taught research skills, therefore, students are expected to show such skills. Research skills include being critical of any text that is written and published by other researchers. Adam (2006) stresses that learning outcomes form a fundamental part of an educational change agenda that can be shortened as the phrase 'student-centred learning'. Students can thereafter express their academic and intellectual skills by critically discussing a topic introduced by their lecturer on the discussion forum. This may further develop their technological skills, because students will be exploring Moodle on their own when trying to submit their comments to the discussion forum. Johnson et al. (2000) argue that students will be positively satisfied with the use of Moodle only if the use of Moodle is transparent, reliable, and convenient to them. Moreover, the course taught on Moodle should be specifically designed to support the learner-centred approach (Johnson et al., 2000).

Adam (2002, p. 5) comments that, when lecturers teach, they should understand that "students construct their own meaning by talking, listening, writing, reading, and reflecting on content, ideas, issues, and concerns". As students bring their own meaning of technology gained from the use of their cell phones, they may make meaning of Moodle in different ways. Lecturers should support them, and ensure that they allow students opportunities of using Moodle. Prosser et al. (2005, p. 138) contends that lecturers "have different understandings of what knowing a subject involves and consequently represent the subject to students differently". Therefore, lecturers' knowledge should be transferred to their students. Once lecturers expose students to independent Moodle use, students will show learning outcomes through their work. Adam (2006) considers that a learning

outcomes approach focuses activity on the student and away from the lecturer. Prosser et al. (2005, p. 138) conclude by stating:

> *Lecturers adopting the more lecturer-focused perspectives lack an awareness of a more student-focused perspective in the situation in which they find themselves, while teachers with more student-focused perspectives have an awareness of the more teacher-focused perspectives.*

3.5.4.2 Lecturer-centred

Kennedy (2006) suggests that the traditional way of designing modules and programmes is to start with the content of the course; typically lecturers decide on the content they intended to teach. From the textbook or course book lecturers choose which content to teach as it is not all the information on the textbook is taught. This suggests that lecturers know exactly the relevant information that is supposed to be taught on a module. Just like planning for a module lecturers should have been allowed opportunity to be part of the Moodle designing team. Lecturers would have understood Moodle better and they could have developed enough confidence to use the system for teaching. Understanding the Moodle and having confidence to use it would have ensured the success of the system. As a result Moodle would have been a programme to promote critical thinking and learning independently (Buckingham, 2013). Moodle is designed to allow students to learn independently because it was created to promote the student-centred approach (Farrell & Isaacs, 2007).

Kennedy (2006) indicates that, in the traditional teaching approach, lecturers plan how to teach the content and then assess the content. According to Kennedy (2006, p. 18), "this approach to teaching is commonly referred to as a lecturer-centred approach". With the lecturer-centred approach to teaching "many students do not feel they are capable of finding information or coming up with answers or solutions themselves" (Tedre et al., 2010, p. 14). The lecturer-centred approach places the lecturer on top in the teaching and learning environment. Adam (2008) clearly states that the lecturer-centred teaching approach has proved to be too focused on the lecturer instead of the student. Students may therefore find it difficult to continue with their studies to postgraduate level after their first degrees because they lecturer-centres method of teaching does not help them develop independence which is a requirement for postgraduate students. Many students seem to

be satisfied with their first degrees, their reasons being that a postgraduate course is difficult. At postgraduate level, students are required to develop research skills. The use of the lecturer-centred approach may not help students develop research skills. One may concur with Andersson and Grönlund (2009) that the lecturer-centred approach to teaching does not promote students' critical thinking skills. Consequently, this disadvantages students in distance learning because they have to work independently. Students find it difficult to work alone at postgraduate level because they are used to being led, hand-in-hand, by their lecturers. Andersson and Grönlund (2009) posit that this is a commonly stated reason for students failing a course or dropping out — students feeling alienated.

Adam (2008) argues that the lecturer-centred approach to teaching is a challenge, especially with the use of Moodle in teaching and learning. Lecturers should not use a lecturer-centred approach when employing Moodle to teach. Although lecturers may have knowledge of Moodle or modules' content, they should ensure that students have the freedom to use Moodle to learn. Thus, the management at the HEIs has a duty to find a way to help lecturers move from theory (lecturer-centred) to common practice (student-centred) (Adam, 2008). The use of Moodle requires that students be fully engaged in their learning. This may only be possible if lecturers allow students to work on their own to master Moodle.

One disturbing issue is that some lecturers, especially those that still use the lecturer-centred approach, perceive a lecturer as a source of knowledge. Moreover, Prosser et al. (2005) clearly explains that such lecturers' teaching approach is focused on their own activities as lecturers (lecturer-focused) in being the source of information while students are passive recipient of knowledge. According to Adam (2002), such lecturers view students as 'empty vessels'. Learning, on the other hand, is regarded as an additive process. Students find it difficult to work on their own because they have not been expose to independent learning (Tedre et al., 2010). Today, students are regarded as partners with their lecturers, students come to class with certain knowledge. In most cases, the knowledge students bring to the learning environment is raw. It is the duty of the lecturer to work with students to develop their knowledge. Moodle has been introduced to ensure that the technological knowledge students have is facilitated and expanded on by lecturers.

Tedre et al. (2010) opine that, in order for students to be successful in using Moodle, they should have sufficient time on the computer. They must first read lecture material on the screen, search the web for additional readings, and then complete their assignments. Lecturers should cease "being the centre of epistemological knowledge, directing the learning process, and controlling students' access to information" (Adam, 2002, p. 3). Students should search for information on their own. This may enable students to master the content they are learning. By searching for information on the web or elsewhere, they will learn to be critical of what they are searching for and what they should present.

3.5.4.3 Content-centred

Focusing on Moodle as a programme is one challenge that some lecturers are unable to deal with. As a result, they do not use Moodle as a teaching programme, instead taking the lecturer-centred approach when teaching their modules. A content-centred approach requires the professional perspective of lecturers so that the correct method, language, and many other crucial features of Moodle are utilised. Mtebe (2015) indicates that communication tools embedded in Moodle, such as discussion forums, chat room, and e-mail, are underutilised. Research has revealed that the lack of content or Moodle knowledge is one of the reasons such communication tools are underutilised. Fajet et al. (2005) states that, with respect to professional competence or perspectives, good lecturers are meant to have ample knowledge of the content area (Moodle) in order to be effective teachers. Some lecturers do not use these communication tools because they do not have enough time dedicated to these tools.

It requires that a lecturer dedicate time for communicating with students. The discussion forum and the chat room are features of Moodle that bring live communication between the lecturer and students in online learning. With regard to the understanding of Moodle and how it should be used, Andersson and Grönlund (2009) raised some concerns about content available on Moodle. This includes the activities undertaken when using Moodle, the support functions provided, and Moodle's delivery mode. These three concerns are critical, and may determine whether the use of Moodle in teaching becomes a success or a failure. The activities (communication tools) have already been briefly discussed above. The 'support function' is very critical if the use of Moodle should be a success because support is necessary for both lecturers and students. Students may not

succeed in their academic work when using Moodle if lecturers do not support them. Once students have been initiated into discussion forum and chat room use, students may continue to help one another by discussing the topic themselves, with the lecturer only facilitating the discussions. Lastly, lecturers should use the correct mode of Moodle to teach their modules. Taking care of the above-mentioned concerns on Moodle use may help lecturers understand the correct teaching and learning environment that should be applied when using Moodle.

3.5.5 Teaching and learning environment (face-to-face & online)

The most crucial issue that lecturers and stakeholders in the education sector should realize is that teaching and learning should take place in inspiring environments. Moreover, lecturers should ensure that they plan for interesting learning activities and that they provide and utilise adequate teaching and learning materials when teaching (Berkvens et al., 2014). This may capture students' interest and encourage them to use all available learning materials. This may also encourage students to be involved in practical activities that will make them understand the theoretical work they did with the lecturer during their discussions. Berkvens et al. (2014) indicates that, internationally, many youth do not experience inspiring learning environments. Many of them struggle in their first years at HEIs because they have not used particular learning materials before.

Some students at postgraduate level find it difficult to cope with the use of Moodle. At undergraduate level students are only taught basic computer skills, so they are able to type their assignments (especially those who have not used computers at secondary schools), and how to prepare PowerPoint presentations for presentation purposes. Students from rural areas, in which there were likely no computer labs, solely rely on the lecturer to teach them because that is how they learned at school.

3.5.5.1 Face-to-face teaching

Now that there is technology designed for teaching and learning, lecturers need to infuse online or e-learning platforms with their face-to-face teaching methods. As indicated earlier, online or e-learning platforms are not meant to completely replace traditional teaching methods but to supplement them. Therefore, face-to-face teaching methods should be used for its benefits which cannot be obtained through online learning platforms. It is common that, "many teachers feel

difficulties with transferring their courses from traditional into e-learning courses" (Nihuka & Voogt, 2011, p. 3). On the contrary, Johnson et al. (2000, p. 29) claim that:

> *Traditional or face-to-face instructional environments have been criticized because they encourage passive learning, ignore individual differences and needs of the learners, and do not pay attention to problem solving, critical thinking, or other higher order thinking skills.*

Indeed, teaching and learning should encourage the above-mentioned skills. For students to be competent in the world of work, and for South African education to be considered among the best of the international family, academics from South Africa should be able to think critical and integrate technologies in their activities. The face-to-face teaching method is good because it equips students with knowledge; however, if knowledge cannot be put into practice it is without value. Educated people can think critically in order to help solve problems and offer solutions.

The face-to-face learning environment may also be recommended for teaching students how to verbal express their views in public without being shy. In face-to-face environments, students' discussions are conducted orally, which helps students to gain confidence to face a group or to stand in front of groups of people. Face-to-face contexts are considered among the best methods because of the 'instructor support' provided. In their study, Johnson et al. (2000) have found that some students advocated for face-to-face course formats because of the instructor support that is relatively higher Face-to-face lecturers give their students full attention, supporting them in every way possible provided they are teaching in lectures with a small number of students. However, it should be noted that inspiring learning activities do not depend solely on the availability of the lecturer to offer students support. As such, online learning platforms like Moodle are introduced in teaching and learning to add skills students wouldn't ordinarily gain from traditional teaching methods. Depending on the lecturer, face-to-face teaching method may promote indolence and a sense of entitlement in students. On the contrary, online learning encourages students to learn independently to develop critical thinking.

Berkvens et al. (2014) argue that learning opportunities in motivating environments also exist outside learning institutions, and often have greater benefits than those inside the lecture room. If

students work in their respective spaces outside the lecture room they may feel more comfortable, and that can motivate them to put more effort into their work. Students are expected to surf the net on their own to search for information in order to complete their activities. Lecturers can now develop and share digital learning materials via the Internet (Mtebe, 2015).

3.5.5.2 Online

Online teaching and learning environments require the professional perspective from lecturers being slightly different from the face-to-face approach. Khoza (2012) comments that the difference in online and face-to-face teaching and learning is determined by the resources and the strategies used in teaching either of the two. Correspondingly, Lwoga (2012) concurs that online learning refers to the strategy or plans, development, and delivery of instructional materials through technologies to enhance and support teaching and learning activities. The content delivery through technologies marks the difference between the two teaching methods. Face-to-face teaching methods promote dependency in students because the lecturer provides the learning strategies and is considered the source of knowledge. Online learning allows students to access opportunities to develop into independent self-directed learners (Khoza, 2012).

According to Khoza (2012), online teaching and learning utilise certain resources similar to face-to-face teaching and learning. These resources make the two teaching and learning platforms to complement one another. Khoza (2012) further suggests that online resources are divided into technology in education (TIE), which is referred to as the hardware and software; and technology of education (TOE). The resources determine the teaching and learning strategy that is used by lecturers when teaching. A lecturer who is using chalk and a chalk board is using the traditional method of teaching and learning. A lecturer using an Internet-connected computer and a projector is using online teaching and learning. Online learning has equal benefits as traditional teaching and learning method. There are some benefits or skills that are learned from traditional method and are not learned from online, thus these two methods should be used simultaneously. However, there are some challenges with online learning that hinder the academic community from fully accepting it (Johnson et al., 2000).

There are many positive characteristics of Moodle or online learning, Unwin et al. (2010) assert that, with online learning, students can access a range of materials electronically to supplement more traditional methods of teaching and learning through books and face-to-face consultations with their lecturers. It is expected that, because online teaching and learning has good characteristics, the educational community should adopt it and use it for teaching and learning to enhance traditional teaching and learning. Yet, Johnson et al. (2000) agree that there are also challenges associated with online teaching and learning. They caution that, before online teaching and learning can be adopted by the majority of the public and educational community, these challenges must be addressed. Tedre et al. (2010) concur that the greatest challenge experienced when using online learning or Moodle is getting lecturers to feel at home with online learning software, methods, and pedagogy. One most crucial challenge is "how to meet the expectations and needs of both the lecturer and the student and how to design online courses so they provide a satisfying and effective learning environment" (Johnson et al., 2000, p. 31). There are some lecturers who do not feel comfortable using Moodle to teach.

Nihuka and Voogt (2011, p. 3) insist that, to overcome such a challenge, lecturers should be "pedagogical supported when designing students' activities and instruction so that e-learning doesn't include just delivery of content". Lecturers should not be left on their own to use Moodle. Although they may have attended some short training on how to use Moodle, they should further be supported, especially when implementing Moodle in the lecture rooms to ensure they succeed in using the system for teaching.

3.5.6 Accessibility (physical, financial, and cultural)

Online teaching and learning has brought hope and opportunities for everyone to study wherever they are. Access to education in previous years was difficult because, in accessing HEIs, students needed to have all the resources. Some could not register for postgraduate studies because they were required to attend lectures or contact sessions. However, now things have changed. Thijs and van den Akker (2009) claim that the current opportunities presented by ICT provide a new desire for change. The availability, adoption, and the use of Moodle or online teaching and learning assist students to change their perspectives. This should extend even to the public at large, who should have the desire to change to the use of technology. This calls for all educational stakeholders to

change their perspectives and adopt educational technology. Today more people have access to education because of the opportunities provided by ICT. Only a few people have no access to education because they do not have resources to access education. Having access to education is not restricted by financial problems. Access also depends on numerous aspects, from the physical (is it possible to reach a school?) to the financial (is the education affordable?) to the cultural (is the programme socially acceptable?) (Berkvens et al., 2014).

3.5.6.1 Physical

Every student should be at a learning institution learning, and a lecturer should be in the lecture room teaching. However, the problem is the distance between the student and the institution. Andersson and Grönlund (2009, p. 6) argue that accessibility "refers not only to whether one has physical access to a computer and an Internet connection, but also to the reliability of the connection and the bandwidth – basically everything that is needed to access the full range of the content needed". The physical aspect of accessibility deals with the infrastructure, and any other tangibles. It is not only a computer that can help students to access education online. Using online teaching and learning requires that both the lecturer and the student be connected on the Internet. The student may want to learn using online learning, only to find that the area in which he or she lives has no fast Internet bandwidth. In rural areas, some have poor bandwidth. This disadvantages students who wish to continue with their studies. They may visit home during holidays and wish to continue with their assignments, as with those at a distant workplace.

In South Africa, students funded by any provincial Department of Basic Education, after graduation, are placed in any school within that particular province. Students may wish to continue through to postgraduate studies after their first degree, but because their place of work is far from universities they may be reluctant to continue or give up on their studies entirely. As stated by Nihuka and Voogt (2011), this is one of the key challenges with accessibility. It is the meagreness of ICT infrastructures which affects lecturers' and students' access to educational technologies. Using Moodle for teaching and learning requires physical or technological apparatus. Some students, especially those that study long-distance, depend on cyber-cafés to access lecture notes and submit their assignments.

Nevertheless, Johnson et al. (2000) indicate that, for many, online teaching and learning is perceived as a major intervention because it provides opportunities for every student in distant and in disadvantaged locations. Isaacs (2013), Mtebe (2015), Nihuka and Voogt (2011) and Unwin et al. (2010) are of similar opinions that African universities experience serious problems with the use of Moodle or ICT by the paucity of computer stations and access to affordable high-speed Internet connectivity. The main issue that affects students at HEIs is that some, if not most, students on the continent are not computer literate when they enter universities due to the environment they come from (Tedre et al., 2010). Berkvens et al. (2014, p. 12) assert that "students living in rural areas are the ones that experience challenges when using online learning due to poor internet connections". We may rely on cell phones because they have been upgraded to do much of what a computer can do. However, some web pages cannot be displayed easily on every cell phones. Moreover, it is not every student who can afford a Smartphone, especially students from rural places and those from indigent families.

According to Thijs and van den Akker (2009), with Moodle, learning can take place anywhere, inside or outside the school building. With the necessary technological apparatus, students can access information and learn anywhere. The lack of technological apparatus and internet connections is one challenge for students that makes them not being able to complete their activities on time. As a result students a large number of students enrol for postgraduate studies, too many of them leave or drop out before completing their postgraduate studies. Some stop at Honours level (Berkvens et al., 2014). One of the main reasons for such is that, in many developing countries, most students who enrol for postgraduate studies have no ICT-related knowledge or skills except for the basic computer knowledge gained in undergraduate studies (Tedre et al., 2010). Knowing how to open, shut down, or login to a computer, with some knowledge of how to type assignments does not make one knowledgeable of computers. Knowing how to use a few features on one's cell phone to surf the Internet does not make one computer literate.

The dearth of computer skills can be a major limitation for learning, especially for students who are entirely new to computers (Andersson & Grönlund, 2009). The lack of computer skills can cause a lack of confidence in the use of Moodle, including its learning materials and equipment (Tedre et al., 2010). Having confidence, when using computers, accounts for much of the

predictive influence of academic achievements (Andersson & Grönlund, 2009). One cannot have excuses for not submitting assignments on time. This is possible only if HEIs develop policies that provide opportunities for every student to learn in both formal and informal settings (Berkvens et al., 2014). The reason for developing such policies is to assist both lecturers and students overcome challenges they may encounter when using Moodle for teaching and learning. Policies may go further to include the procedure for funding students who want to study at postgraduate level. Without such policies continuing to postgraduate level is unlikely for some students because they have no money to pay the fees for postgraduate studies (Berkvens et al., 2014).

3.5.6.2 Financial

Finances should not be a hindrance to students who want to study further than their undergraduate degree. The adoption of Moodle is one means of helping to lower the financial strain encountered by students. Students pay a great deal of money to travel to their institutions for consultations and sessions. Through online learning students can spend less money consulting with their lecturers. They can also download lecture notes, videos, and PowerPoint presentations used to present lectures. Berkvens et al. (2014) maintain that students should have access to education, irrespective of their background, financial status, or gender. Every student or any person who is willing to learn should have access to education without obstacles.

Tedre et al. (2010) indicate that the income of many universities in developing countries are reliant on student fees, donations, and government support. South Africa is one of the more fortunate countries in African in that education in HEIs is funded by the government. Students from a low socio-economic background can study free of charge. Financially, students have nothing to worry about. Even at postgraduate level there are many foundations and companies that fund students' degrees. In previous years, many students were not able to continue with their studies or to reach Master's or doctoral level; now this is possible. Alexander (2016) explains that, in pursuit of his higher education qualification, he had limited access to tertiary institutions. The limitations were owing to course requirements, additional tertiary qualifications for career advancement, and the methods of instruction that constituted external barriers (Alexander, 2016). The course requirements were often prohibitive.

Financial problems lead to many students leaving universities, if not, lagging behind with their academic work. This has been revealed by Berkvens et al. (2014) who argue that, while enrolment for postgraduate students in many universities has risen, too many students leave universities before completing their postgraduate studies or qualifications. While many reasons may cause a high postgraduate dropout, the main cause is financial: a lack of finances denies people access to education. For example, with online learning it is recommended that students have their own laptops; however, owing to a lack of finances, they cannot afford to buy laptops. Otherwise, an ample number of available workstations on campus is a *sine qua non* if Moodle is to be effective, especially where students do not have their own laptops (Tedre et al., 2010). To avert this challenge, there is a need for allocated funds to ensure that additional computers are available on campus. This will allow students more hours to access the Internet, and ensure that lecturers are fully committed to the use of Moodle so they are able to support their students. Support is needed in many different ways because students come from different backgrounds and they have been taught differently on Internet use.

3.5.6.3 Cultural

Culture has to do with a particular society, especially when considered in relation to that particular community's beliefs or ways of life. Andersson and Grönlund (2009) remark that the community or society hold many values and beliefs that influence the use of technology in education. Not all people in the academic fraternity understand the use of online learning through Moodle. When doing my undergraduate degree, I came across one student who did not use any social network because she learned from her community that social networks teach bad behaviour to children. How can such a student enrol in a postgraduate course if she must use Moodle's discussion forums and chat room features? A similar question was asked by Straub (2009): why does one individual choose to adopt a technology while another resists? Obviously, there are social influences on the decision one takes on whether to adopt Moodle as a teaching and learning method (Straub, 2009). This calls for the change of perspectives in individuals: such can happen if people allow themselves time to learn more about Moodle.

Learning more and understanding what is meant by Moodle or online teaching and learning may help people accept the need for the adoption of Moodle. Straub (2009) is convinced that there is a

need for people to understand what is meant by the term 'innovation'. This is because Moodle, or online teaching and learning, is an innovation created to improve teaching and learning and help students access education from anywhere around the world. However, innovation does not necessarily mean something better, or that the new idea is more beneficial to an individual (Straub, 2009). Tedre et al. (2010, p. 15) argue that "successful African education is in an educational system that is truly national, democratic, modern, and authentically African". This statement is influenced by culture because Moodle, or online teaching and learning, is not an African invention. Moodle should be aligned with African culture if it is to be successfully implemented on the African continent.

More so, if Moodle is to be successfully implemented in Africa, there is a need for digital learning materials relevant to the local curricula (Farrell & Isaacs, 2007). South Africans should be creative enough to invent their own technological tools to be used for teaching and learning. Although Moodle has been borrowed from the developed world, it has been modified to suit the African context (depending on the country adopting Moodle). Still on the issue of 'localisation', Andersson and Grönlund (2009, p. 6) need clarification, asking to "what extent the technology and software should be adapted in order to fit local culture and languages". Conversely, Farrell and Isaacs (2007, p. 15) assert that:

> *The Association of African Universities states that the development and application of ICT in African higher education institutions is critically important if the continent is to reduce the knowledge, technological, and economic gaps between itself and the rest of the world.*

It is obvious that reducing the gap is something that can take Africa years to achieve because we may not have experts that can do this activity within the continent. Moodle adoption, as a process, takes place over a period of time and is reliant on influences, such as: the characteristics of Moodle; the nature of the community (students and lecturers) in which Moodle is to be adopted; the role of lecturers as 'change agents'; and the management of universities (Ahmad et al., 2010). All the above-mentioned stakeholders come from different cultural context and have different perspectives on the use of Moodle. Kuiper and Berkvens (2013) caution that these differences should be known, so that, policy development will be adjusted according to cultural and perspective needs. Moreover, this calls for teamwork between the stakeholders to ensure that the

needs of all stakeholders are met. Teamwork may further enlighten stakeholders to understand or realise that 'one size does not fit all' (Thijs & van den Akker, 2009). Kuiper and Berkvens (2013) remind us that most African countries, including South Africa, are currently working to improve their education system. The adoption of Moodle into the university in this case indicates that they are still working on a plan to find effective solutions to make the system a success and used by all lecturers and students. Using Moodle is for one purpose — that lecturers and students will be able to achieve the required skills needed to live and work anywhere in the world in the 21st century (Kuiper & Berkvens, 2013).

3.5.7 Assessment (peer assessment, formative, and summative)

Assessment is one method lecturers can use to track whether what they teach has been understood by their students. Assessment can be used to determine the effectiveness of Moodle. To achieve this goal, the use of formative assessment is crucial for lecturers; it may help them detect students' challenges by using Moodle for assessment. If teaching and learning should be done using educational technology, the assessment for such teaching and learning should be online. Students cannot be taught using online teaching and learning and then assessed on paper. However, Vandeyar and Killen (2007) emphasise that the initiative may not succeed if teaching and learning is done through the use of Moodle or educational technology and its assessments are conducted using old methods (paper base). Similarly, Delandshere (2001) cautions that the use of Moodle for teaching and learning requires more technologically knowledgeable lecturers and students, as this further assists them to use online assessment.

Currently, the assessment strategy used on Moodle are the quizzes and the submission of assignments through the discussion groups. There should be an online platform on Moodle in which students can write their assignments and submit them. Lecturers would then mark those assignments online or the system mark the assignments and check plagiarism on the assignments. In terms of Moodle use, without assessment lecturers may not know whether students are progressing. Lecturers themselves may not develop because they may not know areas of development from their teachings. This claim concurs with that of Harlen and James (1997) that the aim of education is to bring about learning with understanding. Checking the understanding of

the content taught is done by means of assessing students. Whatever students offer as answers is what they understood from lecturers' lessons.

No matter the purpose of the assessments stated above, some lecturers still seem to not have captured the purpose of assessment, especially online assessment. Many strategies must be implemented to ensure that lecturers change their perspectives about assessment as a tool to improve their teaching and learning. Vandeyar and Killen (2007) argue that the disinclination of some lecturers to change their assessment practices in response to new educational technologies guidelines are as a result of the ingrained origins of assessment. According to Eyal (2012, p. 39), the traditional perspective of assessment is that the lecturer "sets the criteria for evaluation, plans assignments for students, collects information about the learning, and uses it to improve learning outcomes and plan future instruction". Even if assessment are done online, this will not change. It will still be the lecturer who sets the tasks according to their predetermined criteria.

For this reason, Eyal (2012) opines that if lecturers are to assess students with technological tools as alternative methods of assessment, they need to learn to step aside in order to facilitate students' learning. Lecturers should allow students to work independently to develop specific skills. Lecturers should further understand the purposes of assessment. Newton (2007) offered one such purpose to assess for decision-making. That is, the purpose of assessment is to support a selection decision for entry or to further studies at postgraduate level (Newton, 2007). According to Newton (2007), one of the most crucial purposes of assessment is the 'impact' level in which assessment is undertaken to ensure that students remain motivated to use online learning. Students may pass well at undergraduate level and enter postgraduate level. The use of Moodle or online teaching and learning at postgraduate level may discourage those who are not familiar with education technologies. Therefore, lecturers need to use online assessment, and ensure that they expose students to the use of 'online peer assessment'.

3.5.7.1 Online peer assessment

Considering that this study refers to a school of education, most of the students taught on this campus are educators and educators in the making. These student teachers should practice online assessment as a way of learning different assessment strategies. Students often fail, not because

they have not understood the content but because of the language used when assessing them. Therefore, Newton (2007) caution that, to avoid students being puzzled, assessment language should be clear and understandable to students. The Department of Education (2005) indicated that, when administering peer assessment, lecturers should ensure that assessment criteria are clear to students before the assessment process. This will ensure that students become accountable for their learning (Pryor & Lubisi, 2002). With Moodle, students can use the discussion forum as a platform on which students can assess their peers' work. Students read their peers' assignments and provide feedback on how their peers can correct their work according to lecturers' criteria.

Peer assessment can ensure that students develop their critical thinking abilities and they cannot blame their lecturer if they fail because they would have contributed to assessing their peers' work (Pryor & Lubisi, 2002). In this case, the role of the lecturer should be to monitor whether students' followed the set criteria and comments to support peer assessment, and designing self-assessment practices for students (McLoughlin & Luca, 2001). Lecturers should provide regular remarks on students' comments (McLoughlin & Luca, 2001). Pryor and Lubisi (2002), contend that the concept of peer assessment should be accepted by lecturers as it falls within the spirit of the new innovations (technology) within the education system. The use of online peer assessment may help students to better understand online assessment as a way of preparing them to utilise assessment when online teaching and learning is employed at primary and secondary schooling. Online teaching and learning at university level is one way of preparing student teachers for the still proposed and anticipated online teaching and learning for lower levels of schooling. According to Eyal (2012), peer assessment includes a great investment on the part of the student, and therefore deserves attention. Peer assessment empowers a student to understand various strategies and enables them to critically read and comment on another's work.

Pryor and Lubisi (2002) understand that the main beneficiary of peer assessment is likely the assessor (student) rather than the one being assessed. Lecturers should encourage students to participate in online peer assessment for their own benefit. At postgraduate level, it is common that a large number of students go on to work as lecturers at different HEIs. Some students are promoted at work and some work with the Department of Basic or Higher Education at the assessment department. Therefore, students need skills that include the ability to critically read a

peer's work. This starts with peer assessment. Students learn skills that they may use in formative and summative assessment. The main difficulty in the execution of assessment, as a means of enhancing teaching and learning, is the organizational and management skills required of lecturers (Eyal, 2012). Formative and summative assessment, whether in traditional or in the use of technological systems, requires the provision of feedback to students (Eyal, 2012).

3.5.7.2 Formative assessment

Formative assessment is one of the most crucial types of assessment because it helps lecturers track students' progress on a particular module in order to improve teaching and learning. Teaching and learning has never been an easy activity because it involves people with different capabilities. Their level of understanding is different; thus, lecturers should ensure that they use formative assessment to check students' understanding in order to adjust their teaching methods to cater for all students' abilities. According to the Department of Education (2005), formative assessment, also called informal assessment, is referred to as the 'assessment for learning' or 'daily assessment'. This type of assessment is meant to aid teaching and learning; it also helps a lecturer to find information on a student's progress during the course of learning. Formative assessment is referred to as assessment for learning because it is used to help a lecturer find other strategies to cater for all students.

Moodle that comes with its own challenges which students who are from deep rural areas in which the use of computers is not common find it difficult to progress well until they master the system. Thus, formative assessment may help lecturers detect students who are struggling to use Moodle and then assist them. This type of assessment is crucial, as indicated earlier on, because it is used to monitor students' understanding of content; it also enhances learners' progress (Department of Education, 2005; Newton, 2007). Students may not succeed at the end of the year if they learn without guidance in the right direction. Using assessment for learning assists students' learning in such a way that lecturers may discuss students' progress with them so that they know whether they are on the right track. Lecturers should set informal tasks to help students evaluate their understanding of content taught.

The Department of Education (2005, p. 5) indicated that "formative assessment should be used to provide feedback to the students and lecturers, close the gaps in students' knowledge and skills and improve teaching". The use of formative assessment on the use of Moodle may inform lecturers of certain successes and challenges which students encounter with Moodle. This is if all postgraduate students are to use Moodle to accomplish the institution's purposes. This is also part of improving their critical thinking skills. If they had not done that before, it could be a challenge for a student to undertake. The lecturer must look at students' comments and offer feedback on how students should assess their work. This is part of formative assessment: a lecturer will know students' cognitive abilities and will be able to help them when they lack information. The lecturer must have provided students with very clear assessment criteria against which to assess the text (Pryor & Lubisi, 2002). The purpose of doing so is that, at postgraduate level, learning is no longer about writing short question tasks. Students are expected to be critical thinkers in terms of writing their assignments.

To ensure that students' creativity is promoted by lecturers, Eyal (2012, p. 42) posits that "in advanced learning processes, especially in the digital environment, the lecturer's role as an assessor is to know when to step aside". Learning through digital technology is more practical than theoretical, thus it requires students to be hands on. Lecturers should show students how to accomplish tasks, then step aside. This may be one way of assessing whether students have understood what they were taught or still need help. Harlen and James (1997, p. 367) argue that the concept of 'real' learning extends the notion of learning with understanding to suggest that it "involves interaction with people, ideas, things, and events in the real world". Informal learning is supposed to be social: students can discuss their assignments as a way of helping one another. Students may not understand a concept in similar ways. The Moodle discussion forum allows students to communicate and explain how they understood the concept from lecturers' explanation.

The discussion forum allows students to publish their work to an audience (their peers), specifically those members in the same group (Eyal, 2012). They will peruse their peers' work and be able to detect some issues that need attention. In that process, students learn more and they gain all the assistance they need for final submission. This method is far better than the traditional presentation in which students present their work to the teacher only (Eyal, 2012). There are

students who are uncomfortable in standing in front of the lecture room and present their work to the whole class. Though it helps especially for postgraduate students because they are expected to do oral presentation of their work in educational conferences and any other academic gatherings. Whether online or physical presentation, students needs to be confident to present their work to their peers because the remarks from their peers and the lecturer can assist them to finalise their assignments. The use of online assessment and discussion platforms helps such students to gain confidence, provided they gain positive feedback from their lecturers and their peers. Using the discussion forum for students to publish their work, and to enable their peers to provide constructive feedback assists students to redo their work before submitting their final submission to their lecturers. With this strategy, students can be guaranteed to submit high-quality work for summative assessment.

The use of learning in a digital environment is recommended because it improves students' writing, communication skills, and enables high-level discussions (Eyal, 2012). Formative assessment allows students to articulate on their learning, helping them to develop skills of expression and social skills. Thus, students may feel comfortable to continue with their studies because they are not entirely alone on their journey.

> *In addition, this learning method makes it possible to equip students with the cognitive skills necessary for the information age, and skills that are vital for coping with the vast quantities of information, for example: problem solving, critical thinking, creativity, self-learning strategies, meta-cognition, reflective thinking, social discussion skills, team work, and personal skills, such as persistence, curiosity and initiative* (Eyal, 2012, p. 40).

According to the Department of Education (2005), formative assessment builds towards summative assessment. Lecturers should therefore not only focus on summative assessment. It becomes a problem if lecturers place more emphasis on summative assessment because of the benefits thereof. Students may not do well on summative assessment if they have not been given assistance in formative assessment. The Department of Education (2005) and Eyal (2012) advise that feedback should be provided to students after formative assessment has been undertaken, even if it takes the form of whole-class discussion, or teacher-learner interaction.

3.5.7.3 Summative assessment

The four conceptions of assessment held by Vandeyar and Killen (2007) explain or state the purpose of each of the assessment types. They indicate that assessment is useful because it can provide information for improving instruction and learning. This first conception of assessment is directed to lecturers: by using assessment, lecturers can be able to improve their teaching strategies to ensure that every student is developed. The second conception is directed to students: assessment can be used to hold students accountable for their learning. This is considered summative assessment because it either fail or promotes students, to show how they have worked during the course of the year. With this assessment, lecturers must also account for the failure or progress of students. As stated by Vandeyar and Killen (2007), summative assessment is a process by which lecturers and schools are made accountable for the performance of students. Students can use formative assessment as a build-up to their summative assessments. Students should not look to the lecturer to tell them how to work. Results from their formative assessment would motivate them to take responsibility for their performance. This can be one of the motives behind the adoption of Moodle as it promotes independence from students.

Summative, also called formal assessment (which the Department of Basic Education (2006) titles assessment of learning) provides lecturers with a logical way of assessing how well students are progressing in a particular module. Assessment of learning is used to assess the overall learning of a student for the purpose of promoting the student to another level. However, summative assessment is not only used for promoting students. It informs or helps lecturers improve the curriculum and instructional planning (Avery, 2012). If lecturers notice that students have not performed well, it is up to them to discover the source of the problem. Once a lecturer has analysed the final results, when planning for an upcoming semester or year, they will need to improve in areas in which previous students experienced difficulties in their module. This may help lecturers improve their teaching and ensure that students clearly understand the content.

Lecturers should ensure that they provide very clear assessment criteria against which students are assessed (Pryor & Lubisi, 2002). When analysing the results, lecturers may need to correctly adjust the curriculum as directed by students' performance. With the use of educational technology as

assessment tools, it is possible that some students, especially those not computer savvy, may miss some information. As a result, they may not answer all the questions as required. Should such students fail, do we need to adjust the whole programme? The answer is no, we need to clarify the process until students understand it. Shepard (2000, p. 10), argues that:

> *When assessing students our main objective should be to modify our cultural practices of assessment in order that students and lecturers look to assessment as a source of insight and help instead of an occasion for meting out rewards and punishments.*

Yet lecturers look to assessment as a means to an end. Thus, lecturers should examine assessment as a source of insight and help, so that students achieve their goals for learning. If lecturers do not do so "they may tend to absolve themselves from responsibility for learner failure by blaming the learners' socio-economic conditions or lack of ability" (Vandeyar & Killen, 2007, p. 102). Lecturers need a reasonable amount of time to teach their modules during the course of the semester or year. This allows lecturers to select compatible areas to assess students. Students should be taught how they will be assessed at the end of the year so they can familiarise themselves with the various assessment strategies lecturers will use. The use of formative assessment in such cases may be of great help as will the length of time to answer questions. Extra time should be allocated to students who are unfamiliar with computers.

3.5.8 Time

Time is a crucial factor in teaching and learning. Lecturers have a set time frame in which to complete their syllabus. Students also have a required time frame to complete their academic journey. If teaching and learning is done via Moodle, lecturers should help their students to work with Moodle so they are able to complete their degrees within the specified time. Mtebe (2015) opines that if students perceive Moodle as difficult to use and find it to be non-user-friendly, students may spend more time learning how to use Moodle than learning the content. By so doing, students may not be able to complete their academic journey within the given time frame. Moreover, instead of students spending time learning how to use Moodle, they may feel frustrated and some may even drop out. This especially occurs at postgraduate level because students already have their core degrees which may make it easier for them to drop out.

Andersson and Grönlund (2009, p. 5) reveal that "students say they feel stressed and that they have big problems in arrangement of the time for the program due to conflicting priorities with work and family commitments". For postgraduate students, it may be easier to drop Moodle if it costs them more time because it is not user-friendly. Most students at postgraduate level are already working and have families. Such students need something that will keep them moving forward instead of being stuck in place. If students want to achieve good results at the end of the year they should spend more time learning (Andersson & Grönlund, 2009). This suggests that time is one factor that decides the way in which people will perform on their work.

3.6 Conclusion

For the curriculum to be successfully implemented through Moodle, the above curriculum concepts should be considered. In any teaching and learning institution all the propositions for each concept are utilised. Without these propositions, teaching and learning may not be successful. An interpretive study was conducted by Orland-Barak and Yinon (2007) on three student teachers who reflected on their understanding of the connection between their theory and practice in their teaching and learning environments. Their study reveals that connection theory and practice is important in any process that is intended to put curriculum into practice by integrating digital technology. The concepts above and their propositions should be connected at all times, especially when planning lessons, to ensure effective teaching and learning.

The study concluded that the connection between lecturers' professional perspectives and personal perspectives helped lecturers develop grounded theories of practice and practical theories of curriculum (Orland-Barak & Yinon, 2007). According to Shulman and Shulman (2004, p. 259), in order for a lecturer to successfully implement a curriculum supported by technology, such a lecturer should be "a member of a professional community who is ready, willing, and able to teach and to learn from his or her teaching experiences". The previously discussed concepts and their propositions may not be understood without being studied. If lecturers need to understand these concepts in order to integrate them into their teaching, they should study them. This may further ensure that lecturers develop a framework for reflection on curriculum implementation that is supported by technology.

Once lecturers are aware of the above-mentioned concepts, it can be easier for them to understand how to use TIE or TOE by integrating them into their teaching. As suggested by Koehler and Mishra (2009), understanding of technology and its pedagogic strategies is crucial when presenting TPACK. This chapter discussed the curriculum concepts which it is believed if they can be understood and effectively implemented teaching and learning through Moodle can be a success. The use of Moodle may then be a success, and more people may adopt Moodle. To add to these concepts, the next chapter will present the theoretical framework for this study.

Chapter Four
Theorizing the Framework for Perspectives

4.1 Introduction

Without theory on the use of technology, the whole idea of using Moodle in teaching and learning will have no direction and may not be understood by lecturers. Thus, lecturers' lack of technology understanding may lead to failure in the use of Moodle for teaching and learning. There must be a theoretical framework present in order to clarify to lecturers the idea of Moodle and how it should be applied in teaching. Therefore, the framework used in this study will guide lecturers on how they are supposed to integrate Moodle in teaching and learning. Adams, Cochrane, and Dunne (2012) articulate that theory is an idea about a social group or a plan that intellectuals use to structure perspectives or facts, in terms of research. The purpose of using theory in this research study is to ensure that lecturers, as a social group in the intellectual fraternity, have a clear understanding of how to integrate Moodle in teaching and learning.

This study used Technology, Pedagogy, and Content Knowledge (TPACK) as a framework to help lecturers realize the knowledge they require to incorporate Moodle into their teaching (Koehler & Mishra, 2005, 2009; Mishra & Koehler, 2006; Schmidt et al., 2009). Teaching with technology is a challenge in our institutions because there are students from different contexts. Therefore, lecturers need knowledge of technology in order to assist particular students who have never been exposed to technology before. Harris, Mishra and Koehler (2009, p. 393) recommend "using the TPACK framework as a way to think about effective technology integration, recognizing technology, pedagogy, content and context as interdependent aspects of lecturers' knowledge necessary to teach content-based curricula effectively with educational technologies". It is crucial that lecturers have knowledge on how Moodle can be integrated into teaching and learning. It is for that reason that TPACK has been adopted for this study; to help lecturers understand how they can integrate technology to enhance face-to-face teaching. Especially when considering that social and institutional contexts are usually unsupportive of lecturers' exertions to integrate Moodle into their teaching (Koehler & Mishra, 2009).

Any challenge that lecturers encounter during their integration of Moodle is leading to either acceptance or none acceptance of the system by the users. Any aspect that is unsupportive to lecturer's efforts of integrating technologies results to lecturers abandoning the system. Acceptance requires lecturers to have understood each component of Moodle (technology, pedagogy, content, and context) so that they can have strategies of dealing with students from various contexts with various technological knowledge. It is common that some lecturers can be well versed on Moodle yet due to one or more of the above-mentioned issues they find it difficult to integrate Moodle into their teaching. Accepting Moodle and integrate it in teaching and learning requires that the users have a clear understanding of the system and all the challenges that comes with the system in order to work out strategies to deal with the challenges. TPACK on its own explain the knowledge requirement for users to use Moodle. As alluded to that users can be versed on Moodle but fail to accept it. It is for that reason that this study included the technology acceptance model (TAM) to provide the exact contextual factors that users need to take care of in order to accept the system for use. Therefore, for the purpose of this study, TPACK is linked with TAM to further understand and explain lecturers' reasons of integrating or not integrating Moodle into their teaching.

Adams et al. (2012) further assert that theory is used broadly and is sometimes used synonymously with philosophy to describe peoples' perspectives. Theory is seen as synonymous with philosophy because it also brings about ideologies on basics such as the nature of existence (how Moodle came about), knowledge (TPACK), and perspectives (TAM), on how lecturers should integrate Moodle in their teaching. Combining the two frameworks is for the purpose of further explaining more of the reasons that leads towards integration or none integration of educational technologies in teaching and learning. As indicated earlier, there are lecturers who are versed on technology but for various reasons they fail to integrate Moodle into their teaching. TAM could assist to uncover other reasons that may exist as a result of lecturers' integration, or lack thereof, of Moodle into their teaching. This confirms what Ary et al. (2006, p. 45) stated, that a "theory is a set of interrelated statements, principles, and propositions that specify the relationships among variables". Theories should be applied in the academic world in order to help academics alter their ways of thinking from what their communities taught them.

Adams et al. (2012) link context to the application of theory in research just to alert researchers that they should not take context for granted when conducting research studies that involve human perspectives. According to Adam et al. (2012), context can be one of the determining characteristics for the application of theory in research: studies that deal with humans include people from different contexts and those who may have different perspectives on the use of Moodle. Different lecturers completed their studies from different schools and different higher education institutions in different years should indeed have different perspectives about the use of Moodle in teaching and learning. Therefore, it is knowledge that may bring about a clear understanding of Moodle to lecturers. Context play a critical role in our lives, work and even decisions we take to address our challenges, therefore it needs to be broadly understood. Adams et al. (2012), note that the test of effectiveness of the context is the production of a strong and replicable explanation of the perspectives or social phenomena.

4.2 Technological, Pedagogical and Content Knowledge (TPACK)

Figure 4.1 represents the context on the TPACK structure and clearly explains the role played by the context in the formation of this framework. Not only for the purpose of this framework but in the actual teaching and learning. Context plays a crucial role in determining the integration of technology in teaching and learning. A thorough look at Figure 4.1, it is clear that context has a large space in which the three rings are built. All knowledge (technological, pedagogical, content) together form TPACK, which is generated from the context in which one learns about and uses technology. Depending on the context or the community in which one learned about technology, one applies and perceives technology according to the perspectives of their context. Whether we like it or not we cannot talk about the use of Moodle without considering lecturers' (communities) perspectives.

Context has an influence in peoples' perspectives. As people we replicate what we grew up to believe is true. The adoption of educational technology by lecturers may depend on the context in which a lecturer is coming from. If a lecturer studied at primary and secondary school in a rural context, they are likely to perceive the system according to what their context taught them about technologies and they cannot adopt educational technology the same as one who was born and studied in a different context. Communities have their own perspectives on technology. Such

perspectives are transferred to the younger generation. Adams et al. (2012) note that theory urges researchers to think more carefully about their taken-for-granted values, their motivation, and their place in the research process. Research studies should have a theoretical framework that will guide researchers and inform the way they view whatever they are studying. Researchers should not take for granted the aforementioned issues (context) from participants when generating data. This may ensure that a study conveys all the factors that impede lecturers from adopting and integrating Moodle in their teaching. It may help to gain knowledge of why some lecturers gladly adopt and integrate Moodle in their teaching while other do not accept Moodle at all.

According to White Paper 7, international perspectives suggest that information and communication technologies (ICTs) play a significant role in the alteration of education and training (Department of Education, 2004). As a result of the upsurge in the use of technology, most HEIs utilise technology to enhance teaching and learning. Most HEIs use technology in their teaching and learning through the use of LMSs. One of the most common LMSs being used by some universities is Moodle. Moodle is an open-source LMS that universities and many other institutions use to add web technology to their courses (Khoza, 2013). One of the universities in the province of KwaZulu-Natal, South Africa, has adopted Moodle as its online LMS to teach both undergraduate and postgraduate courses.

However, one of the perturbing factors is lecturers' professional perspectives of teaching with technology (Moodle) and whether all lecturers within the said institution will accept the proposed transformation. Accepting the transformation suggests that lecturers can or will integrate Moodle into their teaching. It is thus crucial to study lecturers' perspectives in order to discover what they think about using educational technology to teach; some lecturers have been using the face-to-face teaching method for a long time. While other lecturers enjoy using Moodle, some lecturers may find it difficult to integrate Moodle to teach their modules. Considering this, teaching with technology comes with some challenges that lecturers should overcome. Overcoming such challenges requires that lecturers have knowledge of educational technology and how it should be incorporated into teaching and learning. The truth is, however, that not all lecturers have knowledge on the use of educational technology (Moodle). Koehler and Mishra (2009) opine that lecturers often have insufficient (or inappropriate) knowledge of how to use digital technologies

(DT) for teaching and learning. Many lecturers earned their degrees during a time when educational technology was at a very different stage of development (Koehler & Mishra, 2009).

Lecturers' perspectives and their technological content knowledge apply if they are to use online teaching. Lecturers' technological knowledge may determine the way they come to terms with the use of Moodle in teaching postgraduate modules (Khoza & Biyela, 2020). The knowledge lecturers have on Moodle may drive them towards the integration of Moodle in their teaching. Equally so, if lecturers do not have knowledge about Moodle they may hesitate or not accept the use of Moodle at all. As a matter of practice, however, most of the technologies under contemplation are newer and digital and have some inherent properties that make applying them in straightforward ways difficult (Koehler & Mishra, 2009). The institution concerned has upgraded Moodle from version 2.6 to version 2.9. Thus, the features that come with the new version may impede some lecturers from using the system.

According to Khoza and Manik (2015), DTs are found to be more attractive to a younger (which includes students) than older group of people (usually lecturers). This does not mean, however, that age is a decider on lecturers' use of Moodle. Those lecturers who may fully utilise Moodle are those trained during the digital era (digital natives), compared with those trained before the advancement of technology (digital immigrants). Digital immigrants must study more about Moodle to gain knowledge on how Moodle should be applied in teaching and learning. TPACK is one framework that can help lecturers with knowledge on how to integrate technology into their teaching. Digital natives may not fully know technological language; however, it helps that they were born and raised during the technological era. For one to successfully teach with technology, one must be technologically knowledgeable. According to Harris, Mishra, and Koehler (2009), technological knowledge (TK) is similar to the notion of Fluency of Information Technology (FITness). However, it may be difficult for some lecturers, especially digital immigrants, to successfully integrate Moodle into their teaching, because some may lack FITness. Harris et al. (2009, p. 398) further opine that "FITness goes beyond traditional notions of computer literacy to require people's professional perspectives or to understand IT broadly enough to apply it productively at work and in their everyday lives (society)". Therefore, lecturers' development and understanding of TPACK is vital for effective teaching with technology (Koehler & Mishra, 2009).

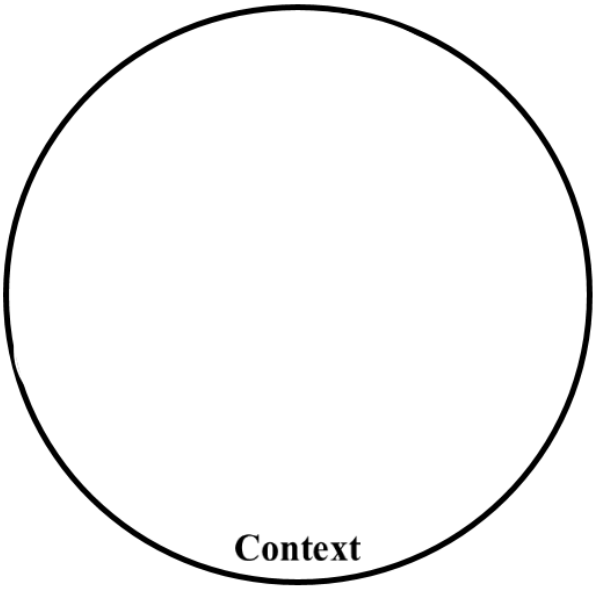

Figure 4.1: Contextual ring from TPACK

The figure above represents the context. The other interdependent knowledge components or rings are influenced by the context (Harris et al., 2009). The knowledge components (technological, content and pedagogical knowledge) need context on which they will be based. From the figure above, it is clear that the context is the source of every knowledge as the other three knowledge components will be assembled within the context or circle component. The figure above is the bigger ring from the structure that forms the TPACK theory. The context ring above is the one that accommodates the three knowledge components which indicates that knowledge is generated from the context (academic or general context). In the previous paragraphs much has been said about the context in which the three knowledge components are situated. Context plays a vital role in teaching and learning. As such, TPACK is a theory focused not only on the integration of technology in the education system but also on what knowledge is required in order to teach with technology. Koehler and Mishra (2005, 2009) clearly say that they value lecturers' technological knowledge. They argue that this knowledge should not be isolated or independent from the contexts of teaching and learning. Context should always be considered in teaching and learning activities, thinking beyond the lecture rooms for teaching and learning. It further includes contexts from where lecturers come, and their perspectives on the integration of Moodle into teaching postgraduate modules. Most crucially is the institutional context that plays a critical role in

determining whether Moodle can be a success or not. Understanding lecturers' perspectives as produced by their context may help one understand how they generated technological, pedagogical, and content knowledge. This may further provide a clear understanding of why lecturers apply Moodle the way they do in teaching and learning.

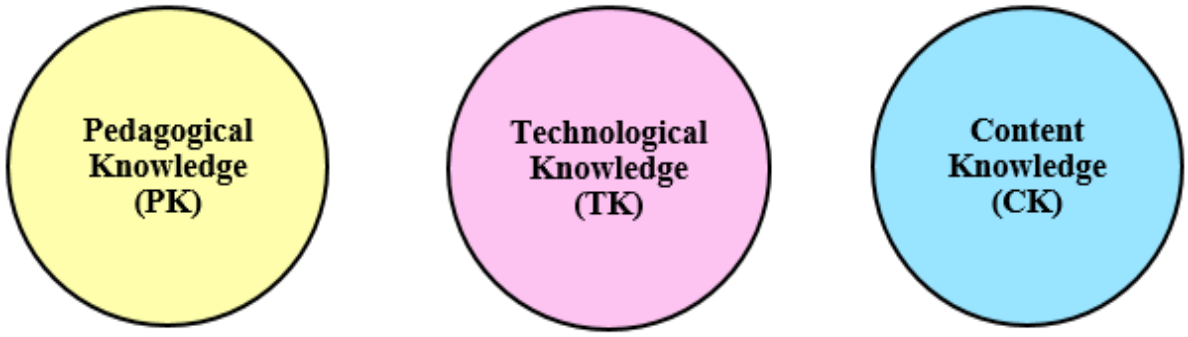

Figure 4.2: Knowledge rings from TPACK

The three knowledge components, as indicated above, are technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK). The rings above represent the types of knowledge that a lecturer should acquire in order to be successful in teaching. Without such knowledge one may find it difficult to integrate technology into teaching. The three rings are equal in size — knowledge components should be equally acquired by lecturers. Lecturers should not only acquire one or two of the knowledge circles, but all the knowledge as indicated above. The aforementioned knowledge components will later be linked to create more knowledge components. If a time comes in which any two of the knowledge components above have to be linked, and it is discovered that a certain lecturer has no understanding of one set of knowledge, it will be difficult for that particular lecturer to integrate Moodle to teach their modules. Thus, it is necessary that lecturers have a thorough understanding of these components from the point where they are segregated.

A lecturer may not be able to understand additional knowledge components that come from the combination of any two separate components if the lecturer has not understood these knowledge components independently. Therefore, one may advise that lecturers acquire or carefully study each of the above-mentioned knowledge components. It is knowledge that makes one a successful

lecturer. The three rings TK, PK, and CK, are the core issue or concerns in this theory. Lecturers should grasp their meaning to ensure they not misunderstand or misinterpret the concept of TPACK. Historically, teaching and learning was about the elders teaching the young how to survive and become responsible citizens. Therefore, any invention that aids in teaching people could be referred to as technology. This began as teaching aids such as books, chalk, and blackboard. Later, people started to use more advanced technologies such as computers, iPads, Smartphones, and digital cameras.

Today people consider computers and Internet connections as technology. These are the devices that require one to have a certain skill to utilise them, and especially to teach with them. People needed to acquire knowledge to know how to use chalk and chalkboard to teach. However, as technology is constantly changing, the nature of technological knowledge (TK) also needs to change over time (Mishra & Koehler, 2006). Angeli and Valanides (2009, p. 154) contend that technology seems to have taken over in the education system, "the issue is no longer whether lecturers should incorporate technology in their existing practices, but how to use technology to transform their teaching with technology and create new opportunities for learning". For lecturers to teach with technology for the purpose of creating new opportunities for student learning, they need FITness. Khoza (2019), Khoza and Biyela (2020) as well as Mishra and Koehler (2006) support that TK includes knowledge on how to connect computer hardware, installing and removing software programmes, and being able to operate Moodle features.

Harris et al. (2009, p. 398) assert that, unlike content and pedagogical knowledge, technological knowledge is difficult to define because "it is always in the state of flux". However, in trying to clarify the difference that exists between being computer literate and FITness, Harris et al. (2009, p. 398) state:

> *Technological knowledge or fluency in technology therefore requires a deeper, more essential understanding and mastery of technology for information processing, communication, and problem-solving than does the traditional definition of computer literacy.*

If lecturers are to successfully integrate Moodle into teaching, they will need to be more knowledgeable on technology. With Moodle it is not only about social perspectives, such as submitting the assignments on the system, or using the forums to chat with students. Mishra and Koehler (2006) contend that it will be a problem for lecturers to concentrate only on certain aspects or features of Moodle, and not how it is used in its entirety. To ensure successful use of Moodle, lecturers need to understand their technological content and how to use technology in their teaching.

In this case the content is Moodle. Lecturers should have a knowledge of Moodle as a teaching and learning aid that will be used to teach postgraduate modules. Apart from lecturers having technological knowledge, they need to have content knowledge of what they will be dealing with on Moodle. Technological knowledge is all about the understanding of how to work with the hardware and software that constitute a computer. Once lecturers have a knowledge of computers as devices, they must gain knowledge of the content that they will be using to teach through such technological apparatus. Therefore, content knowledge (CK) is referred to as the lecturers' professional perspectives or knowledge of the system to be used for teaching and learning. Mishra and Koehler (2006) advise that lecturers' knowledge of Moodle should include knowledge of central particulars, concepts, theories, and procedures within Moodle. Without knowledge of such features, lecturers may not be able to deliver the content in a way that will benefit their students. Moodle is a software that lecturers should be utilising to teach their modules. Lecturers are expected to have knowledge of the concepts, theories, and procedures applicable to the use of Moodle. Lecturers should understand technology theories such as TPACK, TAM, Connectivism, and many other theories that explain educational technologies and e-learning to devise pedagogical strategies that can make Moodle more interesting.

Mastering Moodle content and its theories may help one study more about Moodle and develop a variety of pedagogical strategies that can be used to teach with Moodle. Since lecturers cannot only rely on the basic knowledge given to them during the training, they need more knowledge about Moodle. Once lecturers have gained TK and further understand the content of Moodle they need to develop pedagogical knowledge. Pedagogical knowledge (PK) is "the lecturers' deep perspectives on the processes and personal perspectives or methods of teaching and learning"

(Koehler, Mishra, & Cain, 2013, p. 14). According to Mishra and Koehler (2006, p. 1027), a lecturer with profound pedagogical knowledge "understands how students construct knowledge, acquire skills, and develop habits of mind and positive dispositions toward learning". This is vital knowledge that lecturers need when integrating Moodle into their teaching and learning.

Moodle has been purposely designed to accommodate a participatory style of learning — it is designed to promote student-centred learning (Barr et al., 2008). To ensure that students are able to use Moodle in their own convenient time and space, lecturers need to provide their students with the necessary skills. This requires PK from lecturers to ensure that they study their students well in order to understand how their students construct and acquire knowledge. Lecturers must develop PK so that they are able to adapt their lessons to accommodate every student and ensure that each student masters the use of Moodle so as to use it independently. Thus, PK is indeed a key to ensuring that students gain knowledge and find the use of Moodle interesting. Lecturers need to ensure they understand each component of TPACK to ensure that they inform students about Moodle and it purpose so that students will find the system interesting.

Each of the knowledge components has been briefly discussed, keeping in mind that "viewing any of these components in isolation from the others represents a real disservice to good teaching" (Koehler et al., 2013, p. 17). The TPACK framework also suggests that the three knowledge components and teaching/learning contexts have a role to play, individually and together (Koehler et al., 2013). The three knowledge components also need to be discussed together; without them being linked, they cannot produce TPACK as a framework. The above knowledge components will be linked to one another to form more knowledge because of the understanding that teaching and learning requires one to have all three knowledge components to be a successful lecturer. More so, lecturers will need to combine the components to develop more technological knowledge so they are able to produce more teaching strategies when integrating Moodle into their teaching. Mishra and Koehler (2006) say that the foundation of the framework (TPACK) stems from the understanding that teaching is a highly intricate activity that draws on many kinds of knowledge. Lecturers should not only have the basic knowledge of technology but they should have a deep knowledge of technology, including its pedagogy. To be a successful lecturer one must have relevant technology and pedagogical knowledge of the content to be taught, especially in the

education department; technology is extensive, and it is not similarly applied in different departments. TPACK is introduced as a theory to ensure that lecturers develop an understanding of how to use technology in teaching and learning.

Each knowledge component can be linked with another to produce other knowledge components that will finally produce TPACK. For instance, TK merged with CK produces technological content knowledge (TCK). TK merged with PK produces technological pedagogical knowledge (TPK) and PK merged with CK produces pedagogical content knowledge (PCK). These extended knowledge components deliver new perspectives that may deepen lecturers' knowledge of Moodle usage. The figures that represent the extended knowledge components are presented below.

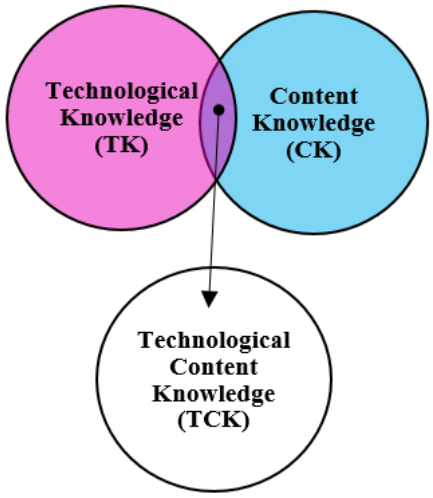

Figure 4.3: Combination of TK and CK to form TCK

Teaching with technology is complicated, especially when the challenges newer technologies present to lecturers are not considered (Koehler et al., 2013). Before lecturers can understand TCK they need to first understand TK and CK. This may ensure that lecturers are able to deal with new knowledge that results from the combination of the two knowledge types. Some lecturers fail to understand or use some features in technology devices if they are upgraded; they lack understanding of the basic technology knowledge. Moreover, lecturers' perspectives should be studied because their perspectives may not withstand the challenges presented by new technologies. Thus, teaching with technology requires certain knowledge (TPACK) if lecturers must overcome the challenges that come with new technologies in a given context.

As technology evolves in our everyday lives, lecturers must be able to adjust their perspectives on new technologies in order to adapt to new technologies so that they do not avoid teaching with them. TK is about understanding the technological devices; and CK is the professional perspective of the content to be taught. TCK is then "an understanding of the manner in which technology and content influence and constrains one another" (Koehler et al., 2013, p. 16). This depends on whether one understands technology. If one understands technology, it can be simple for the lecturer to fit the module content into Moodle and make learning interesting to students. One may argue that the lack of TK makes it difficult for one to fit the module content into Moodle and as a result one cannot manipulate the content because they lack TK. Khoza (2013) opines that technology, especially in education, must be unpacked and defined to ensure that lecturers are clear about the concepts, rather than simply understanding Moodle as technology in education.

Khoza (2013) notes that technology in education is divided into tools or machines (hardware) used for teaching (e.g. computer, SMART board, overhead projector) and materials (software) used in conjunction with the tools to carry information (e.g. computer CD/DVD, overhead projector transparencies). Understanding such apparatus may ensure that lecturers determine how these tools can influence the content to be taught. Lecturers should therefore be taught to understand how such devices and their perspectives influence the integration of Moodle in their module contents. Briefly, lecturers should understand that they are not teaching Moodle or strictly how to use Moodle: they use Moodle to teach. In that case, the content they are supposed to teach lies in their disciplines or courses. Thus, TCK ensures that lecturers understand how the presentation of their content is influenced by the use of technology when compared to face-to-face presentation. Koehler et al. (2013, p. 16) caution that lecturers "need to master more than the subject matter they teach; they must also have a deep understanding of the manner in which the subject matter can be changed by the application of particular technologies". Lecturers should understand that their acceptance and use of technology can be influenced by their perspectives. Understanding such changes may ensure that lecturers develop a good pedagogical knowledge when using technology.

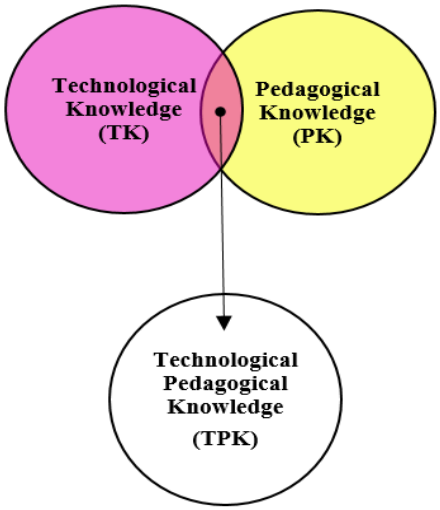

Figure 4.4: Combination of TK and PK to form TPK

Just like introducing to students a new lecturer who will teach a certain module during the year, teaching and learning will arrive and change. The new lecturer may bring new perspectives and use different pedagogy. This also applies to introducing technology in teaching and learning which, for a long time, was conducted face-to-face. For example, the use of overhead projectors and PowerPoint presentations did not often involve the students in teaching and learning. Lecturers had to display information to a large number of students in a hall or lecture room, with the lecturers being the source of knowledge. However, Moodle was designed to ensure the involvement and active participation of students in their learning. Thus, lecturers are expected to develop a technological pedagogical knowledge (TPK). TPK equips lecturers with understanding of how teaching and learning can alter when perspectives on specific technologies are used in specific ways (Koehler et al., 2013).

Teaching and learning can change as a result of using Moodle, because using computers allows students to work independently. This is new to some lecturers, especially when applied to full-time contact students. Harris et al. (2009, p. 395) caution that educationists understand that "introducing new educational technologies into the learning process changes more than the tools used and that this has deep implications for the nature of content-area learning, as well as the pedagogical approaches among which lecturers can select". Lecturers may then have to use new strategies when planning for student-centred teaching and learning. Lecturers' perspectives have implications on their acceptance of technology usage. The traditional method of teaching or face-

to-face teaching may not be the same as teaching with technology. The pedagogical strategies changes when using Moodle compare to face-to-face, and therefore lecturers should be able to understand the differences, so that they may not lose focus. Knowledge of Moodle is essential but it is not enough without knowledge of the proper pedagogical strategies to use in each content area (Harris et al., 2009). Therefore, the TPACK framework suggests that integrated knowledge of technology, pedagogy, and content is an important condition for active and pioneering classroom teaching using technology (Abbitt, 2011).

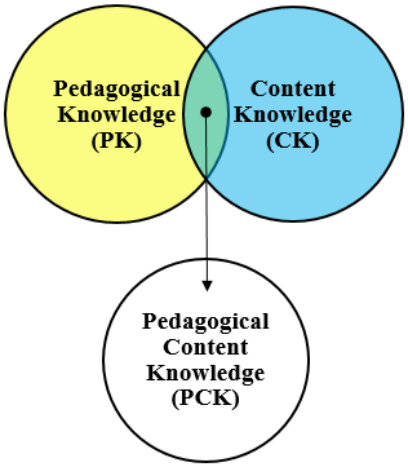

Figure 4.5: Combination of PK and CK to form PCK

All knowledge components (TCK, TPK, PCK) are formed through the combination of each or more of the main knowledge components (TK, CK, PK) which seem similar. Successful implementation of Moodle relies on lecturers' understanding of such knowledge components. These knowledge components leave nothing that a lecturer may need to ensure that students enjoy learning with Moodle. Moreover, a lecturer may be a good lecturer because they cater for all types of students, attending to their different educational needs. To cater for students' educational needs, lecturers should use PCK because it is concerned with lecturers' devising methods in which they represent Moodle concepts to students. Moreover, PCK asks lecturers to devise alternative pedagogic approaches and discover alternative ways of looking at the same idea or problem (Koehler et al., 2013). Lecturers with PCK plan their lessons on time. They ensure that they unpack all concepts to guarantee they have different meanings to present to students so that every student understands the Moodle concepts and/or module content.

Mishra and Koehler (2006) caution that, for teaching, PCK is further concerned with the lecturers' pedagogical methods, their knowledge of what makes concepts difficult or easy to learn, knowledge of students' prior knowledge, and the impact of their perspectives. If so, PCK is crucial to the integration of technology in teaching and learning. This knowledge covers most aspects that hinder the use of technology in teaching and learning. Aspects such as 'students' prior knowledge' are important for lecturers to address when using Moodle. This may help students understand that there are technological applications meant for socialising and there are applications meant for academic purposes. Considering that Moodle includes chat room and discussion forum, students should be made aware that they should utilise these tools for academic purpose than for personal use. It has been said that there is a need of FITness from lecturers in order to integrate Moodle into their teaching. This is similarly required from students if they wish to use Moodle effectively. It is common knowledge that students have some technological knowledge generated from various sources. Some have technology knowledge from their smartphones, some from computers at home, and some have studied basic computer literacy at school. Though, it should be noted that FITness goes beyond this point of knowledge to require students and lecturers to know more about technology.

It has been indicated that technology is broad and incorporates different concepts depending on the context in which it is implemented. Students may have their own computers and are using technology with the little knowledge they have, yet Moodle is a different software. Lecturers should not rely on students who assure them that they can work with Moodle on their own. Lecturers should add to the little that students bring. Lecturers should change both their and their students' perspectives of TK to ensure they know how to use technology in teaching and learning. One of the challenges for both lecturers and students is that they do not have a thorough knowledge of what they are changing to. Understanding Moodle concepts is key for lecturers so that they will be able to unpack such concepts to their students. Every computer software has its own concepts that must be well known by its users, ensuring effective technology use. Knowledge of Moodle concepts may ensure successful Moodle use. On the other hand, lack of knowledge of such concepts may hinder Moodle usage in teaching and learning. Sufficient knowledge will boost lecturers' confidence if they are in front of their students because they will be able to answer every

question their students ask. Lecturers should be cautious of students' prior knowledge because if it does not fit in with the teaching and learning context, students can become frustrated and find Moodle difficult to use.

According to Harris et al. (2009), TPACK accentuates the bonds between technologies, curriculum content, and specific pedagogical approaches. Thereby demonstrating how lecturers' perspectives of technology, pedagogy, and content can interact with one another to produce real discipline-based teaching with educational technologies. The institution should ensure that lecturers understand how to use technology so they are able to integrate it into the content they teach and their pedagogical strategies.

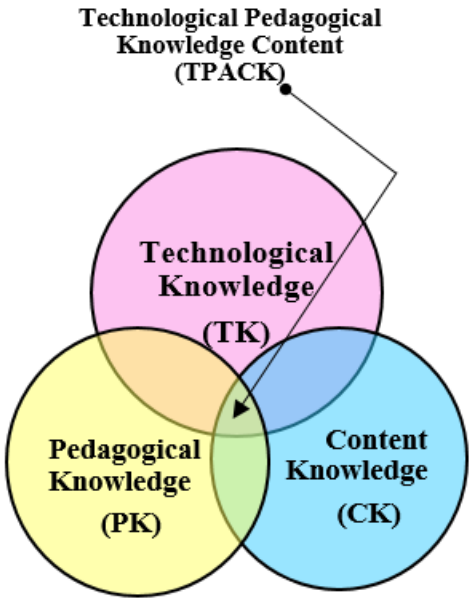

Figure 4.6: TPACK outside the context

This chapter presented three independent knowledge components and paired them. Individually, the knowledge components raise awareness among lecturers about knowledge they should acquire before integrating technology into teaching and learning. Once combined, they present knowledge of how to use technology in teaching and learning. Koehler and Mishra (2005, p. 132) contend that "introducing technology to the educational process is not enough to ensure technology integration since technology alone does not lead to change". Lecturers must change their perspectives on integrating technology into teaching and learning. The combination of these independent

components sheds light on aspects that need to be considered if teaching and learning is to be digitalized. Through TPACK, lecturers can gain rich knowledge on how to use Moodle for teaching and learning. It is for this reason that independent knowledge components have been linked to form TPACK and placed within the context of teaching and learning. The figure below represents the combination of all three knowledge components that together form the TPACK theory within the context of teaching and learning.

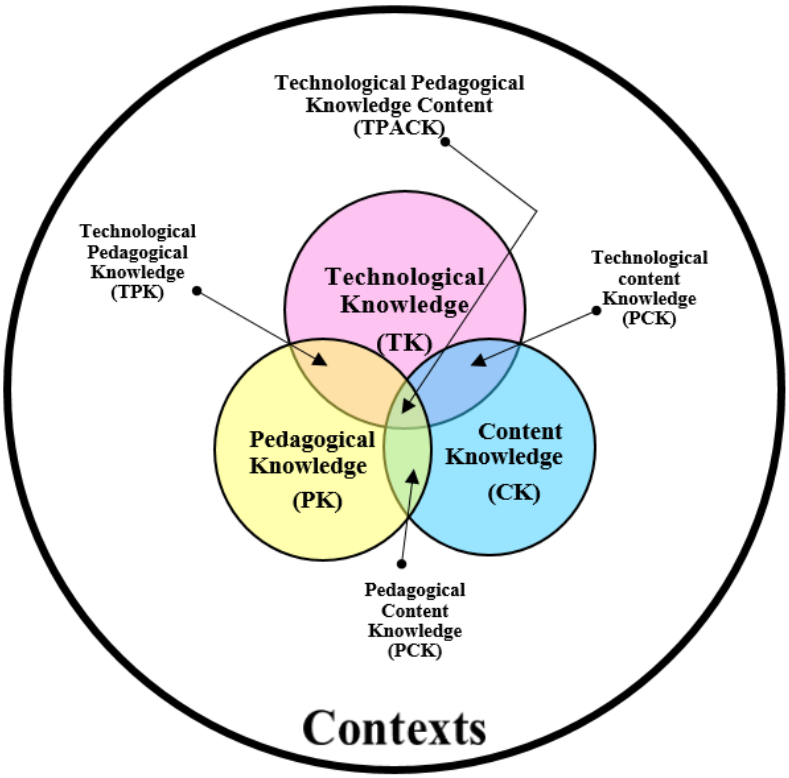

Figure 4.7: The TPACK framework and its knowledge components (Koehler & Mishra, 2009)

Mishra and Koehler (2006) proclaim that a conceptually-based theoretical framework of the connection between technology and teaching can change lecturers' perspectives as well as the pragmatic approach of teacher education, teacher training, and lecturers' professional perspectives. The introduction of Moodle may change lecturers' perspectives and may help many lecturers, especially digital immigrants to develop their digital skills and become fluent in technology (Harris et al., 2009). It may help students who want to enrol with this university but find distance a hindrance. Moodle can help lecturers to connect with their students. TPACK, as a framework that

provides knowledge of how to use Moodle, can be helpful to student teachers planning professional development by illuminating what lecturers and their students need to know about technology, pedagogy, content, and their interrelationships (Harris et al., 2009).

Many students do need to further their studies to postgraduate level, yet, as with many people, 'change is always a challenge'. It is easy for students to further their studies at the same institution in which they obtained their first degree. This is because there is a belief that students already understand their lecturers, the academic needs of the institution for teaching, and the teaching and learning methodologies. In moving to a new institution, a student will have to familiarise themselves with the above-mentioned issues. However it is crucial for students to experience new challenges in order to be aware of how to deal with various challenges in various environments. Changing institutions of learning can come with challenges to students but it will expose them to new environments and new people. Such can cost a student a full year, not having progressed well in their studies while learning or adapting to the new environment. In the work place students will have to deal with people from different places and they must be able to work with such people despite of their understanding of the world different from theirs. However, this does not suggest that there is a significant difference between institutions. However, many students are coming from areas far from the learning institutions.

Thus, if such students are to be accommodated, there is a need for programmes like Moodle to ensure that students access education in different places. Some people depend on their work to be able to pay their tuition fees. They cannot leave their work to further their studies. Thus, this emphasises a need for e-learning whereby students can enrol and interact with their lecturers on daily basis despite the distance. In addition, lecturers need TPACK as the framework to provide knowledge on how to integrate technology into teaching. It is knowledge that allows one to develop intellectually and therefore change from one method of teaching to another.

Without TPACK it can be difficult; and some lecturers may not accept the integration of Moodle into teaching. This study contends that in order for lecturers to accept the integration of technology into teaching, they need to be knowledgeable of how they can manipulate technology to fit it with their teaching. This may help lecturers develop their professional perspectives and/or FITness, and

they may more easily accept the initiative by the university. Therefore, this study proposes that TPACK has an influence on lecturers' acceptance of technology in teaching. The technology acceptance model (TAM) will be linked with TPACK to clarify how these two models influence each other.

4.3 TPACK and TAM

Common sense tells us that a professional job requires skills or qualifications. Teaching should be provided by qualified personnel. Using technology to teach requires personnel with technological knowledge. Lecturers have been given Moodle to teach postgraduate modules. The question is, do all lecturers in this institution have TK to integrate Moodle into teaching their modules? This question is raised because lecturers who do not have TK may not readily accept the integration of technology into teaching. Thus, it is up to the institution and lecturers to ensure that lecturers have knowledge of how to integrate Moodle so that lecturers accept the use of Moodle for teaching. A person that is knowledgeable in a particular field of work will gladly accept any innovations that come with technology because the person understands that this knowledge will help them cope with the changes.

Moodle comes with features that require technologically knowledgeable personnel to perform them. Lack of knowledge, as per TPACK specifications, may lead to difficulties in integrating Moodle into teaching. For lecturers to accept Moodle they need to be convinced that Moodle will make their work easier. This study contends that TPACK has an influence on lecturers' technological acceptance (TAM). TPACK influences lecturers' motivation which develops lecturers' attitudes towards Moodle use. If lecturers have TPACK they can be motivated to accept and use Moodle. Alternatively, lecturers without TPACK may not be motivated to use Moodle. For both types of lecturers, the attitude may lead to whether they integrate Moodle into their teaching. Figure 4.8 represents TAM as developed by Davis (1986). However, the model has been modified to include TPACK as a knowledge domain or professional perspective.

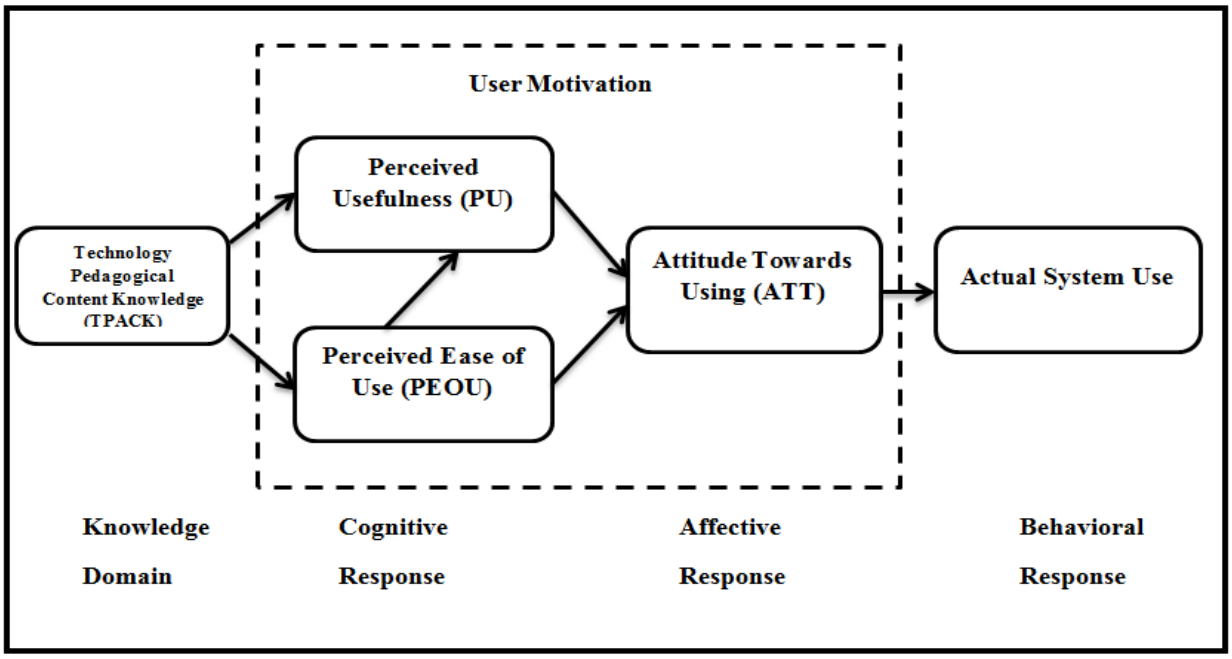

Figure 4.8: The combination of TPACK and TAM (Davis, 1986)

Moodle was introduced in 2015, effective from 2016 as the medium of teaching and learning from undergraduate to postgraduate level at the institution in which this study was conducted. According to Davis (1986), TAM was developed with the purpose of testing the proposed system (Moodle); in this case, whether lecturers are motivated or not to accept and use the system. However, in the university being studied, it does not appear that there have been previous studies to test if lecturers accept Moodle or not. Moreover, they have never been put forward to voice their perspectives on Moodle so that alternative strategies can be devised to assist them to successfully integrate Moodle. This study argues that the focus should not only be on finding out the reasons for lecturers not accepting Moodle but also on finding ways to improve lecturers' acceptance of the system (Davis, 1993). This study focuses on lecturers teaching postgraduate modules. Moodle was intended to be officially used to teach postgraduate modules from 2018 at the institution under study. Those lecturers teaching undergraduate modules were to start to integrate Moodle when teaching postgraduate modules in 2018. However, it should be noted that if they had not positively accepted the system from 2016, they would experience difficulties when using it to teach postgraduate modules in 2018.

The institution adopted Moodle to be used as a mode of teaching and learning from undergraduate to postgraduate level to digitalise teaching and learning to cater for students that are not on full-time contact. The institution wanted to improve teaching and learning to the standards of the 4IR and help students develop research skills. Davis (1993) indicates that the actual performance improvements perceived by the institution through the introduction of technologies into teaching and learning are the benefits that comes with these systems. However, these improvements will not be achieved if lecturers fail to accept Moodle. This study argues that the knowledge domain has an influence on lecturers' acceptance and integration of Moodle into teaching. This study theorises that lecturer's behavioural intention to use Moodle is determined by TPACK which directly affects TAM's two beliefs: perceived usefulness, defined as the extent to which lecturers believe that using Moodle will enhance their teaching; and perceived ease of use, defined as the extent to which lecturers believe that using Moodle will be struggle free (Venkatesh & Davis, 2000). Indeed, successful integration of Moodle can depend on the knowledge possessed by the implementers. The usefulness of Moodle cannot be realised if implementers have no knowledge on how to integrate the system or how to apply various pedagogical strategies. It is likely that Moodle would be abandoned if lecturers do not possess the required knowledge to integrate it into their teaching.

This study argues that using Moodle without knowledge on how to use it would always be a struggle to lecturers and students. Therefore, knowledge domain advances that a lecturer should have technological knowledge of how to use Moodle from devices to pedagogical methods. The cognitive domain purports that once lecturers have TPACK they will then have to process that knowledge to ensure that Moodle is useful and easy to use. TPACK is used in space of external variables from the original TAM structure and now termed knowledge domain in this model because TAM consists of four variables (PEOU, PU, ATT, and USE). The four variables are explained as the user motivation. This suggests that though lecturers may possess TPACK it is not enough to integrate Moodle into their teaching. They need an affirmation of PU and PEOU so they will develop a positive ATT in order to integrate Moodle into their teaching. It is for that reason that TAM is linked with TPACK, so as to explicate that there are more issues to be considered in the quest to discover the reasons lecturers treat Moodle the way they do.

Davis (1993) cautions that, as researchers using TAM, we should first pinpoint lecturers' perspectives to be able to address the situation. These four variables in the context of teaching and learning are explained thus: TPACK with PU and PEOU are cognitive responses. ATT is an effective response. Actual system usage is a behavioural response. PU and PEOU are referred to as professional perspectives because the cognitive domain requires one to have a professional understanding of Moodle. They are directly influenced by TPACK because TPACK deals with knowledge which one cannot acquire without studying. ATT is referred to as personal perspectives, the attitudes residing within an individual. Emotions lead a person to develop certain attitudes towards a subject. These attitudes may result in lecturers choosing whether or not to use Moodle. Whether a person uses Moodle is now a social issue. Many people are now involved as a result of individual attitudes towards the use of Moodle (actual system use).

TPACK does not directly affect the personal or social perspectives of lecturers towards Moodle use. Instead, it affects these variables indirectly, via professional perspectives of Moodle (Davis, 1986; Davis & Venkatesh, 1996). This suggests that knowledge, or the lack thereof, determines whether people are able to do the work they are expected to do. In other words, TPACK influences lecturers' professional perspectives because it is TK that determines whether lecturers find the system useful and easy to use. Only TPACK can determine that. If perceived ease of use and usefulness are positive or negative, the result is that lecturers develop an attitude towards the system that will determine whether or not they use the system (behaviour). For the purpose of this study, TPACK and its knowledge components TPK, PCK, and TCK have been established to affect PU and PEOU. These knowledge components, together with TPACK, will be discussed to clarify the theoretical stance for this study, as they appear on the figure below.

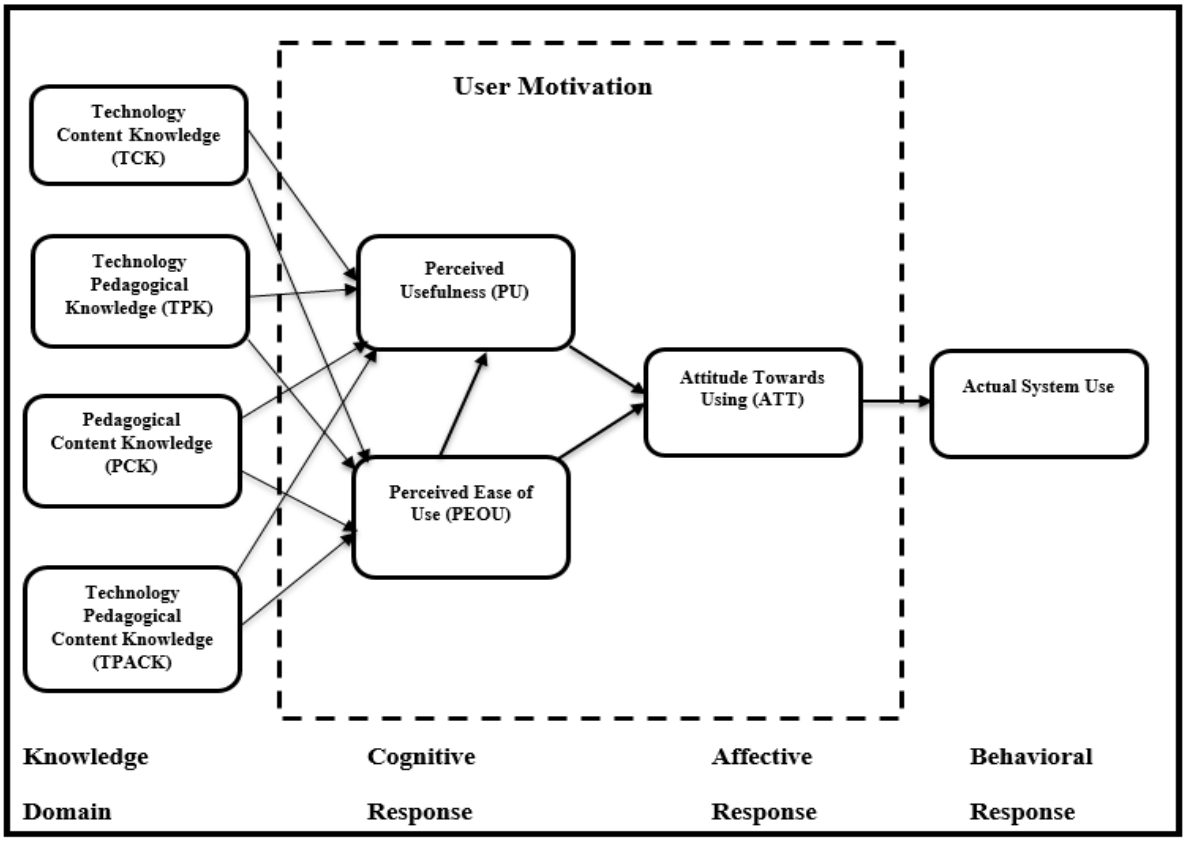

Figure 4.9: Modified Technology Acceptance Model (Davis, 1986; Mishra & Koehler, 2006)

This study theorises that with TPACK, or just being fluent in technology, may encourage lecturers to accept the integration of Moodle while teaching postgraduate modules. TK may ensure that lecturers accept the integration of Moodle in their teaching because they will find the system easy to use. Davis (1986, p. 25) defined perceived usefulness as "the degree to which lecturers believe that using Moodle would enhance their job performance". Understanding this definition, lecturers need to be convinced that using Moodle in teaching will enhance their teaching. Using Moodle to teach can be interesting to students and it may help students improve their performance. Prensky (2001a) asserts that today's students are no longer the people the old education system was designed to teach. Most 21st century students are no longer interested in face-to-face learning: the institution uses Moodle to enhance the traditional face-to-face teaching method (Schoonenboom, 2014). Khoza (2015b, p. 124) asserts that 21st century "students learn (achieve learning outcomes) when their learning environment is in the form of e-learning signals (e-learning environment)".

Furthermore, Prensky (2001b) argues that teaching and learning via digital technology is one good way to reach digital natives because 'digital' is their native language.

Students of the 21st century find Moodle useful in enhancing their performance. This is similar with lecturers, who, just like their students, should believe that using Moodle can enhance their teaching. Perceived ease of use is defined as the degree to which lecturers believe that using Moodle to teach would free them from physical and mental effort (Davis, 1986). Prensky (2001a) provides an example of using the traditional method of teaching which requires physical strength; indicating that digital immigrants (usually lecturers) might need to print out a document written on the computer in order to edit or mark it, rather than editing it on the screen. When teaching and learning was about 'chalk and talk', lecturers would write three pages of notes on the chalk board for students to copy. Using face-to-face method of teaching required lecturers to mark the paper, check for plagiarism, and check the referencing style for adherence to format. These activities and others were energy draining for lecturers. Technology enhanced teaching and learning reduced all these workload from teachers by using various software that can either mark students work, check for plagiarism and many other activities that were done with hand by lecturers and students.

With TPK, a lecturer can ask students to log in to Moodle and upload their assignment to Turnitin, with quizzes the system marks and awards students their scores. Moodle comes with many features that make it easy for both the lecturer and the students to work on their academic activities without using much physical effort. Once lecturers and students master these features, they can integrate Moodle into their teaching and work with ease. This requires a lecturer to have TCK to teach without anxiety over how to summarise a textbook for students' notes. Teaching and learning should not have much challenges to avoid students and lecturers develop an attitude towards their activities. However, this does not imply that working with Moodle will always be without problem, as Moodle has its own challenges.

4.4 Weaknesses or shortcomings of TPACK and TAM

The institution adopted and introduced Moodle as an official LMS to be used for teaching and learning at all levels of teaching and learning in this institution expecting that lecturers would accept and use the system. This study opted for TAM and TPACK as the theoretical frameworks

guiding this study, considering that some lecturers were unversed in the use of the system or Moodle. Although these frameworks have each been regarded as useful in helping technology users understand the required knowledge to accept and integrate technology in different professions, they are not without their weaknesses (Archambault & Barnett, 2010). For the purpose of this study, TAM is considered the key framework, as indicated that the Moodle cannot be implemented if not first being accepted despite users having the required knowledge of the system. Yet, results did not meet management's expectations. TPACK also has its weaknesses, yet TPACK was used to supplement TAM. Aspects such as contextual factors that are considered key features in accepting technology, are left out of TAM.

The development of TAM from the Fishbein and Ajzen (1975) model (theory of reasoned action [TRA]) has excluded the contextual influence as well as the knowledge and the social component that has influence on users' acceptance of technology (see Bagozzi, 2007; Lee, Kozar, & Larsen, 2003; Lim, 2018; Lim, Lim, & Phang, 2019). The development of TAM by Davis (1986) left out the aspects indicated above and hypothesised that lecturers' perspectives determine their attitude toward using Moodle and are the main contributing factor on whether lecturers actually use the system. Attitude is said to be influenced by two key perspectives (the usefulness and ease of use of Moodle) which are influenced by external variables (Davis, 1986; 1993). The model is not specific on the external variables that are referred to as factors influencing the usefulness and ease of use of Moodle. Depending on the institution or organisation in which TAM is applied, the external variables will be determined by the needs of that particular institution or organisation. On using Moodle to teach, it was postulated in this study that TPACK determines the ease of use and the usefulness of Moodle for acceptance purposes. As a result of the missed factors from TAM, this study theorised that TPACK determines ease of use and usefulness the revised model as indicated in Figure 4.9.

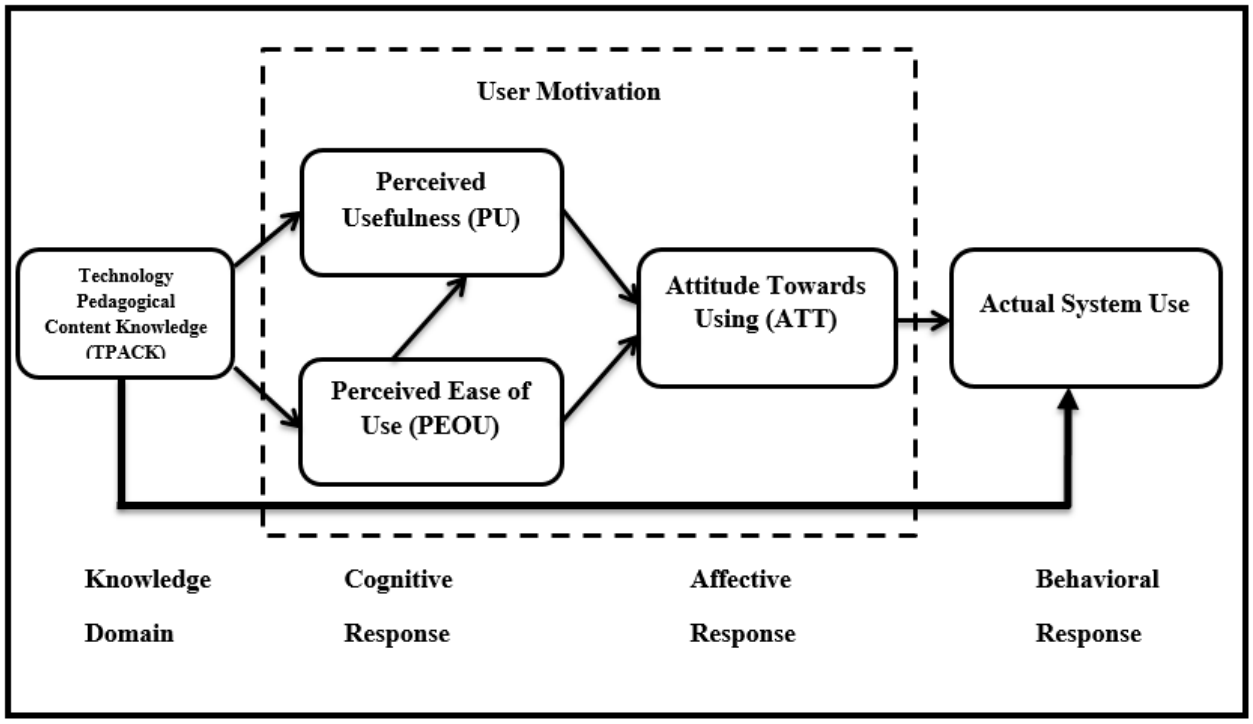

Figure 4.10: The influence of TPACK on actual use of Moodle

According to Davis (1986), unlike the original TAM in which external variables have no direct influence on the actual use of Moodle, this study postulates that TPACK has a direct influence on Moodle usage. Lee et al. (2003) offer a situation in which a manager tells lecturers that they should accept the use of Moodle because Moodle is easy to use and useful. However, lecturers might not have any knowledge on how to integrate Moodle into their teaching. A lack of the knowledge factor is one weakness of TAM, especially when applied in education. The question is, how can Moodle be easy to use if the users (lecturers and students) have no knowledge of the system? Once a system is not usable, because of a lack of knowledge, it will not be considered a useful system; instead, it will become abandoned. Therefore, TPACK is the one aspect that can make Moodle easy to use and useful to lecturers, thus developing a positive attitude toward Moodle among lecturers. Moreover, knowledge can be motivation on its own to encourage lecturers to accept and use Moodle.

To integrate Moodle into teaching, lecturers should understand that "there is no 'one best way' to integrate technology into [the] curriculum. Rather, integration efforts should be creatively designed or structured for particular subject matter ideas in specific classroom contexts" (Koehler

et al., 2013, p. 14). The module content knowledge has not reflected how lecturers should incorporate the module when using Moodle to teach. The only focus is on how Moodle should be used by lecturers. Some lecturers are of the opinion that there are modules that cannot be taught on Moodle. Therefore, the critics of TPACK argue that when experienced lecturers consider teaching a particular topic on a certain module using Moodle, the methods of doing so are considered part and parcel of the module content (Archambault & Barnett, 2010). Similarly so, when considering using Moodle, the knowledge domain should be added to the equation as a natural part of teaching and learning, making it difficult to separate the module from Moodle (Archambault & Barnett, 2010).

When lecturers and students are introduced to Moodle, they should be taught how to integrate their modules on Moodle. TPACK does not specify how modules should be integrated on Moodle; it only teaches lecturers about the TK they should possess in order to use Moodle. Angeli and Valanides (2009) articulated that even lecturers with teaching experience and knowledge of some computer programmes, without specifically being trained on how to teach with Moodle, cannot perform to their best when designing computer-mediated lessons for their students. When lecturers are taught how to use Moodle, they should also be taught to design their lesson so they work with Moodle. It may happen that they use the lesson plans they prepared for face-to-face teaching to teach with Moodle. Archambault and Barnett (2010, p. 1660) argue that if it is not possible for lecturers to be taught in a manner that they can infuse their modules on Moodle as they plan their lessons, then "the conceptualization of TPACK may need to be different for every imaginable content area, including module domains within each of these areas".

4.5 Way forward

The two frameworks can serve as a good start for the purpose of adopting and using Moodle in teaching and learning. However, there is a need to elaborate more on some features in each framework to ensure a deeper understanding of the factors contributing the acceptance and integration of Moodle into teaching and learning (Lee et al., 2003). Moodle cannot really be accepted using the external variables that were hypothesised in the original TAM. The extension of TAM by Venkatesh and Davis (2000) has discussed a number of external variables. Yet they are too broad to be applied in teaching and learning, and especially to lecturers needing to accept

and use Moodle. The exact needs of lecturers in teaching and learning should be infused and critically deliberated on when adopting Moodle in the education profession.

Specific strategies and knowledge to help lecturers integrate the module contents into this framework is needed to ensure that it not only focusses on technology knowledge but includes module content knowledge. Lecturers are supposed to use Moodle to teach certain module contents and not specifically just teaching students how to use Moodle. This should be well planned before lecturers are taken to professional development training. The findings of this study revealed that the training attended by the participants failed to capacitate lecturers with the exact knowledge on how to integrate module contents into Moodle. In the same vein, Koehler, Mishra, and Yahya (2007) argue that the traditional methods of technology training for lecturers (mainly workshopping) are ill-suited to capacitate lecturers with deep knowledge that can assist them on becoming intelligent Moodle users.

4.6 Conclusion

The institution's administrators should ensure that before lecturer's use Moodle all other responses, including the knowledge domain from the redesigned TAM structure, are taken care of. However, the most crucial aspects to be considered are lecturers' perspectives or their attitudes towards the introduction and use of Moodle. Lecturers with TPACK may provide university administrators with assurances that lecturers may accept the introduction of Moodle. With TPACK, lecturers may gladly accept Moodle because they will be sure of PU and PEOU. In this era some lecturers may appreciate teaching and learning that will require less effort. Thus, technology allows lecturers to teach their students even if they are outside the lecture room. Moodle can indeed enhance their teaching, because a lecturer will be certain that no student may lack information because they missed a lecture as a result of other crucial commitments. Students will simply log in to the university learning portal and check for updates and assignments.

Lecturers must consider TPACK and accept the use of Moodle in their teaching to ensure that they encourage their students to further their studies. 21st century students are known as digital natives, which means they learn better through technology. This institution may see increased student enrolment at postgraduate level once technology is accepted and is well used by lecturers. PEOU

is not only applicable to lecturers but to students as well. Students find it physically challenging to drive long distances, going to learning institutions to attend contact sessions. Both lecturers and students must be relieved of this challenge of expending too much effort to access education. This could be the reason that a large number of students, after graduating with their undergraduate degrees, do not further their studies to postgraduate level, especially students from and in remote areas.

Lecturers' perspectives on the use of Moodle are determined by the manner in which they perceive the system (whether it is easy to use, useful, or not at all useful). Some international universities use LMSs to teach and also to accommodate students who study over long distances. The institution being studied here has adopted Moodle as its LMS to enhance teaching and learning. However, Venkatesh and Davis (2000) caution that despite remarkable advances in hardware and software capabilities, underutilisation of the system may continue. The institution in question has invested heavily to ensure the success of this system. With the success of the system they may consider introducing online or distance learning. This can be worthwhile in order to make it easier for students who live far from the educational institution.

However, Venkatesh and Davis (2000, p. 186) further state that "low usage of installed systems has been identified as a major factor underlying the 'productivity paradox' surrounding lacklustre returns from organizational investments in information technology". To ensure lecturers accept and use the system, lecturers should be taught about the importance of the system and the future plans of the institutions which led to the introduction of the system. This may ensure that lecturers understand the value of the given system and their support positive perspectives in the use of the system. Venkatesh and Davis (2000, p. 192) assert that "even effective systems can fail to garner user acceptance if people have difficulty attributing gains in their job performance specifically to their use of the system".

Technologies frequently come with their own requirements (one of them being knowledge on technology) that limit the content that has to be taught and the nature of possible representations (Mishra & Koehler, 2006). Abbitt (2011) notes that TK, as well as developing outlooks and perspectives, are qualities of the individual lecturer that inform and influence the decisions they

will make and behaviour they will exhibit on the use of technology in teaching. Lecturer's perspectives depict their attitude towards the use of Moodle. Should it happen that their perspectives be negative, they will not use Moodle in teaching and learning. Davis (1986), the actual use of Moodle (USE) refers to lecturers' direct use of Moodle in the context of teaching. Davis (1986) further commented that the features of Moodle (chat rooms, discussion forums, emails, quizzes, uploading of lecturer notes, and many others) in turn, affect the degree to which lecturers actually use Moodle. The characteristics of Moodle have an effect on how motivated lecturers are to use the system, which in turn affects their own use or non-use.

Chapter Five
Research Basis and Procedures

5.1 Introduction

When conducting a research study, its foundational plan or procedure aims to describe the structure of that particular study and further guide the manner in which such a study should be conducted. Thus, this chapter explores the research design and procedures employed in this study as the basis on which this study is entrenched. There were a variety of research methods from which I had to choose to structure and conduct this study. Different research designs utilise different tools for various reasons such as experiments (quantitative) or for the description (qualitative) of a situation. Boudah (2011) articulates that methodologies in a research study help a researcher to achieve the purpose of the study. The purpose of this study was not to determine the origin and influence of lecturer's perspectives on Moodle usage, but rather to report on what already exists within teaching and learning when lecturers use Moodle. This study reports on lecturers' actual perspectives and their experiences of using Moodle in their teaching. Although the research did not completely ignore such issues (the origin and influence of lecturers' perspectives), it should be noted that the origin and influences of lecturers' perspectives are not the main focus of this study. The main focus of this study is to explain theoretical and lecturers' perspectives of Moodle from the educational technology and LMS theories. This study further reports on the activities reviewed on Moodle and on how Moodle is used by lecturers and their students. More so, lecturers were asked questions and to report on their perspectives of integrating Moodle into teaching postgraduate modules.

To achieve the purpose of this study I selected the interpretive parading and a case study as a research design because it uses methods that allows for more qualitative data to be generated from the participants concerned. This study is a descriptive or a qualitative study because it aims to explore, understand, and report on the lecturers' perspectives on their use of Moodle in teaching and learning. Lodico et al. (2010) asserts that studies conducted using a qualitative research style should allow participants to express their perspectives. Yin (2013a) stresses that a research method is a logical plan (set of procedures) that directs the researcher in the data generating, analysing,

and interpreting process. Such a plan is a critical one as it guides the researcher to manoeuvre from the start to the finish of the study through the plan.

Thus, this study is grounded in the interpretivist paradigm. Being a qualitative study, it employed a case study as a research style. Purposive with convenience sampling teamed with snowball sampling were used to select participants for this study. Face-to-face unstructured interviews, open-ended questionnaire and Moodle review were methods used for data generation, and inductive reasoning for data analysis. Each of these processes and many others are discussed in the following sections to further explain how this study generated data about the lecturers' perspectives. Yin (2003, p. 20) opines that "before a researcher can start conducting a study, he must have observed something happening maybe in a way that needs attention". Researchers may ask themselves questions about what they have observed. The best way to gain answers to their questions is by conducting a study. Lecturers' use of Moodle in teaching and learning is a process that should be cautiously undertaken in discovering lecturers' perspectives.

The previous two chapters presented theoretical and conceptual ideologies which serve as a guide to this study. This chapter elucidates on how these ideologies were crafted into themes and categories that guided data generation and data analysis as presented in the next chapter. This chapter presents a chronological research procedure that not only addresses the objectives but also the questions that steer this study. The objectives and the critical research questions are stated in Chapter One with the emergent themes discussed in the next chapter. Each study has limitations, as research deals with people who cannot be moved in any direction without their consent. Therefore, trustworthiness and ethical issues underpinning this study are discussed in the study to provide clarity on how they were addressed.

5.2 Interpretive paradigm

This study employed the interpretive paradigm. The objectives of this study are to understand the perspectives of lecturers on Moodle in teaching. To achieve that goal the interpretive paradigm was adopted in this study. Hesse-Biber and Leavy (2011) argue in support of this study that, getting to understand lecturers' perspectives is not possible without their interpretations of the situation in which they find themselves. These interpretations can be obtained through the experience and

perspectives of the lecturers involved, and should be valued as crucial sources of information (Hesse-Biber & Leavy, 2011). One should first know what is broken before it can be mended. Once lecturers' perspectives on the integration of Moodle into their teaching are known (positive or negative), action can be taken to address challenges, should there be any. Keeping in mind that Moodle will be accepted differently by lecturers because they come from different contexts.

It is critical that first we understand their perspectives as they may be influenced by their social, individual, or professional perspectives. This could help to address these perspectives, considering the lecturers' experiences. As Hesse-Biber and Leavy (2011) note, interpretive inquiry puts more emphasis on understanding the situation, interpretation of the situation by the people involved, and its social meaning. This study employed the interpretive paradigm because studying a phenomenon at face value may leave out important information that could be of help to bring about change. Some lecturers have worked for a long time at this institution. Thus, it may also be about how they perceive teaching using the traditional method compared to teaching using online methods. Moreover, it is likely that one method has been experienced more or less than the other and may have more influence. Some participants have many years of teaching experience without using Moodle. Merriam (2009) and Cohen et al. (2007, p. 21) also agree that "the context of the interpretive paradigm is to comprehend the personal world of human experience". Using an interpretive paradigm may reveal their perspectives because the interpretive paradigm accepts that reality is socially constructed (Merriam, 2009).

Experience is drawn from the social context in which people interact with other people and objects. This study focuses on lecturers' Moodle usage, drawing data from an individual lecturer to understand each lecturer's perspectives. Their perspectives may help reveal what is unimagined by the university management. Bertram and Christiansen (2014) assert that the purpose of the interpretivist researcher is to understand how people make sense of their place of work, the tools they use to work and also their colleagues. As a PhD student, I may later work at a higher education institution (HEI) or else use technology to teach at a primary school or secondary school. Most of the HEIs now use learning management systems, therefore this study may help me with the knowledge I need to work at the HEI. Moreover, it is recommended to first understand the

perspectives of the lecturers who have been in the field for a long time so that I will learn from their challenges, if there are any. For this reason, this study used the interpretive paradigm.

5.3 Qualitative research

A researcher needs to understand the purpose of their study in order to be able to use the correct research style and method of research to accomplish the purpose. In this case, the introduction of Moodle as a compulsory medium of teaching and learning at postgraduate level may have caught some lecturers off guard. Some lecturers may struggle when it comes to integrating Moodle into their teaching. Others may have certain perspectives on the integration of Moodle into teaching and learning. Yet, their perspectives might not have been heard by the university administrators. The reason for studying perspectives is to raise an awareness among lecturers and management on how Moodle is used in the Department of Education within this institution. To avoid the consequences of Moodle failure by letting lecturers use Moodle without first knowing their perspectives on the programme before it starts to roll.

The study used qualitative research in order to gain an understanding of lecturers' perspectives. If these perspectives are not understood before actions are taken, some lecturers may develop negative attitudes towards the use of Moodle. It is more difficult to change peoples' attitudes than to anticipate solutions that avoid negative attitudes. Merriam (2009) believes that research concentrated on discovery and understanding from the perspectives of people being studied will bring about change in peoples' lives. Studying lecturers' perspectives is the only means of getting to know their perspectives on the use of Moodle in teaching. Once lecturers' perspectives are heard, more support may be offered to help them implement Moodle in teaching postgraduate modules. Depending on the perspectives lecturers have (whether positive or negative), doing so may change their perspectives about technology in education.

This study used a qualitative research style because the aim is to provide an in-depth description of lectures' perspectives of Moodle and the manner in which both their perspectives and Moodle impact their teaching and students' learning. Ary et al. (2006, p. 420) state that qualitative research "seeks scientific explanation that includes the discovery of laws governing not only the behaviours of the physical world but also human behaviours". While the policies that led to the introduction

of Moodle in teaching and learning in this institution may be good polices that proposed change and promote moving with time, this may not hold true with lecturers. Provided they are the ones implementing the programme, they are responsible for the challenges and successes. Not every lecturer's challenges or successes are noted by the university administrators. Acknowledging the challenges and successes of certain individuals can be of help and can be used as a best practice for some and possibly more of the lecturers who may be experiencing difficulties with Moodle.

Merriam (2009) and Springer (2010) state that qualitative researchers are interested in understanding how people interpret their perspectives, how they hypothesise their worlds, and in what they attribute their perspectives. For this reason, it was important to use qualitative research in this study as the study itself needs to understand lecturers' perspectives. Moodle has been available at this institution for a long time, yet there were lecturers who were not making use of it. Now the university has passed a policy making Moodle compulsory in teaching undergraduate and postgraduate modules. Lecturers' perspectives on this matter must be studied in order to maximise their pragmatic approaches and benefit students. Merriam (2009) refers to this research method as applied research; it is undertaken to improve the quality of practice of a particular discipline. Martens (2010) believes that qualitative researchers study the phenomenon in their natural settings with the aim of making sense of the phenomenon according to the understanding of people in the situation. Research studies states that case study is one of the research styles that best fits in with qualitative research.

5.4 Research design

5.4.1 Case study

In trying to generate as much data as possible to ensure full understanding of lecturers' perspectives on the use of Moodle in their teaching, a case study research style was employed in this study. Springer (2010) and Yin (2003) assert that a case study attempts to understand the case in relation to real-life situations. Understanding peoples' feelings and experiences cannot be guaranteed if such data can be generated through ticking of boxes in questionnaires. The concerned is a critical study considering that it explores people's perspectives. Ary et al. (2006), Cohen, Manion, and Morrison (2007) concur that case studies provide an in-depth description of a

situation. Therefore to ensure that the aim of this study is achieved that is to understand lecturers perspectives a case study was an option because of its qualities of providing in-depth description of the context and perspectives. It should however, be noted that "case study research can serve many different purposes and can be conducted with different goals with respect to generalizability and related issues" (Hesse-Biber & Leavy, 2011, p. 258).

Hesse-Biber and Leavy (2011) further state that there are three types of case studies (intrinsic; instrumental; multiple case studies), each serving a different purpose. As argued by the advocates of case studies, they do not aim to generalise the conclusions related to the positivist paradigm (Hesse-Biber & Leavy, 2011; Stake, 1995; Yin, 2013b). A case study is employed as a method for this study because it is concerned with how and why lecturers perceive Moodle in the ways they do (Noor, 2008). The differences between what was intended by the institution as they introduced Moodle as a compulsory teaching and learning platform and what lecturers actually do with Moodle is a concern (Noor, 2008). Yin (2013b) further notes that case study evaluations may limit themselves to descriptive or even exploratory objectives. Of the three types of case studies listed by Hesse-Biber and Leavy (2011), the intrinsic case study was chosen because it is conducted with the purpose of holistically understanding a particular case.

As with any research methodology, there are always advantages and disadvantages in using certain methods to undertake a research study. Atkins and Wallace (2012) concur that there are advantages in using a case study; yet they also note that there are some pitfalls that researchers should be aware of. One of the advantages of using a case study is that case studies do not generalise their findings. According to Hesse-Biber and Leavy (2011, p. 262), transferability is possible in case studies only "if a researcher can produce a thick description of the case to be able to transfer conclusions from one case to another based on fittingness". It might happen that other institutions are experiencing a similar issue with their lecturers; but because peoples' perspectives are context bound, we cannot generalise from their findings. As a result, a study of this kind had to be conducted at this particular institution to understand lecturers' perspectives, devising contextual solutions that may suit the lecturers within their context. Lodico et al. (2010, p. 159) assert that a "case study seeks to situate a case in its historical, social, and cultural context". A case in Gauteng province may not be the same case in KwaZulu-Natal province or any other province, although

the topic may be the same. People's perspectives may not be the same because of their context and social background. Case studies do not generalise the results or findings from different contexts. Many studies have been conducted exploring lecturers' experiences and perspectives, but because they have been conducted in different contexts it makes it necessary to conduct a fresh study in this institution.

Another advantage or characteristic of a case study is that it focuses on one situation which allows a researcher the opportunity to generate large amounts of data. As stated by Springer (2010, p. 407), "the case study is advantageous because of the richness of information that results from the intensive focus of one situation". Swanborn (2010) asserts that a case study is intensive because a researcher focuses on one instance of the phenomenon in order to study the phenomenon in depth. A case study is employed in this research because this study will not generalise its findings but uses first-hand information from the participants. This further suggests that other institutions may need to ensure that their context is similar to this one in order to generalise on the findings of this study. Case studies have both advantages and disadvantages. Springer (2010) states that the disadvantages of a case study are that the studies rely on single case which may include many people as participants. Although it relied on participants' perspectives, to overcome that, as a limitation of a case study, I used literature that presented different perspectives on the topic being studied. Participants provided the information based on their perspectives but literature extended the information generated from them by giving more information on similar problems experience globally.

5.4.2 Sampling

The rationale behind qualitative research is that it is all about generating data with the purpose of generating comprehensive understanding. For this reason, qualitative research (unlike quantitative research) usually works with a small sample (Hesse-Biber & Leavy, 2011). Qualitative research works with a small sample because it produces large amounts of data that take the researcher longer to analyse and interpret. Garg (2016, p. 641) further cautions that "including a larger sample would lead to wastage of resources, risk that the true treatment effect be missed owing to heterogeneity of large population and would be time-consuming". Many participants are involved who may provide similar information. A researcher will spend much time analysing the interview responses,

only to find out that all the participants have given the same information. Qualitative research intends to examine the process or meanings which individual lecturers ascribe to their given social context. Qualitative researchers select people who are directly involved in a certain case, thereby avoiding generalizations. This study strictly focusses on the Department of Education from the said institution. The participants were purposively selected from different disciplines within the department.

Bertram and Christiansen (2014) state that sampling is a decision the researcher must make, selecting which people, settings, and behaviours to observe. Therefore, sampling for this study was drawn from lecturers from the Department of Education in the institution being studied, in order to understand how they perceive Moodle and its use in their teaching. Merriam (2009, p. 76) indicates that sampling goes beyond "selecting people to be interviewed to include the sites to be visited, even the events and the activities to be observed and documents to be read". To ensure that issues such as accessibility, time, and financial constraints do not become an obstacle, purposive with convenience and snowball sampling were used to select the participants. Below is the brief profile of the participants purposively sampled for this study.

Table 5.1: Participants' Profile Information

Participant	**Teaching Experience (Years)**	**Cluster or Discipline**	**Modules**
Lecturer 1	3 Years	Social Science Education	Accounting, Economic and Management Sciences (PGCE)
Lecturer 2	4 Years	Education Studies	Professional Studies (Honours' and Master's students' supervisor)
Lecturer 3	9 Years	Language and Arts Education	English Mother Tongue and Poetry

Lecturer 4	3 Years	Education studies	Educational Studies (Honours' and Master's students' supervisor)
Lecturer 5	7 Years	Education studies	Foundation Phase Modules (Master's and PhD students' supervisor)
Lecturers 6	12 Years	Social Sciences (History Education)	History Education (BEd. Honours, Masters' and PhD students supervisor)

5.4.2.1 Purposive sampling

Purposive sampling involves making a specific choice about which people, activities, and documents to include in a study. Moreover, in purposive sampling, the researcher targets a specific group with the understanding that the group does not represent the whole population but instead a chosen group of people (Bertram & Christiansen 2014; Merriam, 2009). This institution has five campuses with many departments and disciplines. I purposefully selected the Department of Education because this study is based on the discipline of curriculum studies within the Department of Education. This study focuses much on the lecturers' implementation of the curriculum using technology or Moodle. For this study, the aim was to gain a minimum of eight participants from different disciplines within the department. Yet, owing to prior commitments from lecturers, only five lecturers participated in this study. These participants were purposively selected because the purpose was to gain their personal perspectives. In other words, these participants' perspectives do not represent the whole community's perspectives but instead those of the chosen individuals. The targeted community or participants for this study were postgraduate lecturers teaching undergraduate modules too. Resources such as books, journal articles, and the university LMS (Moodle) were studied. These resources were purposively sampled because they have the relevant information that represents themselves.

I selected the Department of Education within the institution as the location to conduct this study. This is the department within the institution in which I spent my years of postgraduate studies. Here I learned that Moodle is not fully integrated into postgraduate teaching and learning by some lecturers. During the first year of my postgraduate studies I used Moodle with one of the lecturers to learn, while other lecturers were not fully integrating Moodle when teaching their modules. At the time, Moodle was used at lecturers' discretion because it was not a compulsory teaching and learning tool. Participating lecturers were selected with the aim of understanding their perspectives on the integration of Moodle in teaching postgraduate modules. Qualitative research studies are about understanding the individual meanings that people express about their social contexts (Hesse-Biber & Leavy, 2011). Revealing their perspectives may help other lecturers reconsider their perspectives in order to improve their practices when using Moodle in teaching postgraduate modules. As such, it was convenient for me to work in this environment because of its familiarity, which saved me time. Bertram and Christiansen (2014) also state that purposive sampling is done through convenience sampling. Merriam (2009) clarifies that convenience sampling is about choosing the sample based on time, money, location, and availability of sites or respondents.

5.4.2.2 Convenience sampling

Bertram and Christiansen (2014) state that purposive sampling is frequently done by convenience sampling in order to overcome instances in which selected participants do not arrive at the interview session. As this study focusses on lecturers in the education department, this is one campus that specialises in education or teacher training. Owing to some lecturers' work commitments, they were not available to participate in this study. The anticipated minimum number of participants was eight. Some participants that were requested to take part in this study indicated that they could not make it to the interview because they were already out of the institution on festive holidays. While others indicated that their modules are not taught on Moodle so they do not use it. This included modules such as Mathematics, Physical Sciences, Accounting, and other practical modules. Some lecturers could not take part because they were on study or sick leave. This resulted in the anticipated minimum number not being reached. It was also a challenge to get other people to participate due to workload that was ahead of them as they were planning for 2020 academic year. To encourage participation, an alternative sampling method was used in order to get the minimum number anticipated.

5.4.2.3 Snowball sampling

After few attempts of no success to get more lecturers to participate in this study, I decided to speak to some of the lecturers that agreed to participate to help me get more lecturers to participate. This type of research method for acquiring sample or participants to participate in a study is called snowball sampling. According to Cohen et al. (2007, p. 116), "in snowball sampling a researcher identify a small number of individuals who have the characteristics in which they are interested". Although I purposefully identified potential participants for this study, I could not achieve the minimum number of eight as anticipated. Hesse-Biber and Leavy (2011) advise that, if such occurs, a strategy to address this challenge was to opt for one common simple technique, i.e., snowball sampling. Cohen et al. (2007) further states that the available participants are then positioned as informants to pinpoint, or put the researcher in touch with, others who qualify for inclusion in the study and they, in turn, identify others. This is a technique I employed since some identified participants were no longer available to take part in the study. This resulted in fewer than five participants being available. When trying to get other lecturers to take part in this study, it was difficult since some were busy with exams, marking and some preparing for the upcoming academic year. Cohen et al. (2007) and Hesse-Biber and Leavy (2011) articulate that a researcher can ask help or rely on the available participants and position them as personal networks for referrals to identify other potential participants who qualify for inclusion in a particular study.

It was difficult to obtain the anticipated number of participants. Therefore, I spoke to some lecturers who had agreed to participate in the study, explaining the situation to them. They then suggested other lecturers who they thought would be available and might agree to take part in the study. That was of great help; the suggested participants agreed to take part in this study, providing five participants for the study.

5.5 Data-generation plan

Table 5.2: Data-generation Plan

	Focus	**Objective 1**	**Objective 2**
Why are the data being generated?	Understand the perspectives of postgraduate lecturers on using Moodle to teach postgraduate modules.	Understand lecturers' perspectives on the implementation of Moodle.	Explain lecturers' perspectives of Moodle that lead to their decision to use or not use Moodle to teach the postgraduate modules.
What is the research strategy?	Questionnaires with open-ended questions, unstructured interviews, and Moodle review, were used to generate data.	Questionnaires with open-ended questions, unstructured interviews, and Moodle review, were used to generate data.	Questionnaires with open-ended questions, unstructured interviews, and Moodle review, were used to generate data.
Who (or what) will be sources of data?	Postgraduate lecturers from the Department of Education, drawing from various disciplines within the department; Moodle, books, and journal articles.	Postgraduate lecturers from the Department of Education, drawing from various disciplines within the department; Moodle, books, and journal articles.	Postgraduate lecturers from the Department of Education, drawing from various disciplines within the department; Moodle, books, and journal articles.
How many of the data sources will be accessed?	Five lecturers teaching various postgraduate modules.	Five lecturers teaching various postgraduate modules.	Five lecturers teaching various postgraduate modules.
In which are the data to be generated?	Data was generated from a Department of Education, from the postgraduate lecturers who are teaching	Data was generated from a Department of Education, from the postgraduate lecturers who are teaching	Data was generated from a Department of Education, from the postgraduate lecturers who are teaching

	modules in various disciplines.	modules in various disciplines.	modules in various disciplines.
How often was the data generated?	Data was generated through unstructured interviews, with the lecturers using open-ended questions. Owing to time constraints only one session was used for interviews with the lecturers and more than once Moodle was reviewed. The interviews took about an hour at most with each lecturer. I then visited Moodle to check the participation of the lecturers and the students on the learning site.	Data was generated through unstructured interviews, with the lecturers using open-ended questions. Owing to time constraints only one session was used for interviews with the lecturers and more than once Moodle was reviewed. The interviews took about an hour at most with each lecturer. I then visited Moodle to check the participation of the lecturers and the students on the learning site.	Data was generated through unstructured interviews, with the lecturers using open-ended questions. Owing to time constraints only one session was used for interviews with the lecturers and more than once Moodle was reviewed. The interviews took about an hour at most with each lecturer. I then visited Moodle to check the participation of the lecturers and the students on the learning site.
How will the data be generated?	The data was generated through open-ended questionnaires, and unstructured interviews which were recorded.	The data was generated through open-ended questionnaires, and unstructured interviews which were recorded.	The data was generated through open-ended questionnaires, and unstructured interviews which were recorded.
Justification of this plan for data generation:	This study is a qualitative study, therefore, as a researcher in a qualitative study, I	This study is a qualitative study, therefore, as a researcher in a qualitative study, I	This study is a qualitative study, therefore, as a researcher in a qualitative study, I

	aimed to gain in-depth understanding of the lecturers' perspectives about the integration of Moodle into their teaching. It was important that the lecturers be asked open-ended questions on an unstructured interview so that they provided authentic perspectives.	aimed to gain in-depth understanding of the lecturers' perspectives about the integration of Moodle into their teaching. It was important that the lecturers be asked open-ended questions on an unstructured interview so that they provided authentic perspectives.	aimed to gain in-depth understanding of the lecturers' perspectives about the integration of Moodle into their teaching. It was important that the lecturers be asked open-ended questions on an unstructured interview so that they provided authentic perspectives.

5.5.1 Data-generation methods: Interviews

This study used interviews and Moodle review for the first set of data generation. According to Bertram and Christiansen (2014), an interview is a conversation between the researcher and the respondent. The conversation between the two people is conducted by the researcher with the purpose of gaining more qualitative data on a specific topic from the perspective of the individuals or respondents (Hesse-Biber & Leavy, 2011). The researcher further elucidated that in-depth interviews usually take place with one session per participant (Hesse-Biber & Leavy, 2011). I spent about an hour with each participant discussing the topic, asking various sub-questions drawn from the main research questions. This was done so that the lecturers would have sufficient time to express themselves and provide their full perspectives on the situations in which they find themselves when integrating Moodle into their teaching. Martens (2010) explains that interviews allow the researcher to bring in broad questions. As the session continues, other questions emerge after the researcher is sensitised to the meanings the participants bring to the situation. There are three main research questions that were used to frame unstructured sub-questions, thereby prompting lecturers' perspectives on integrating Moodle into their teaching.

Martens (2010, p. 371) further accentuated that unstructured interviews "allow the respondents' concern and interests to surface, providing a broader lens for the researcher's gaze". Subsequently,

unstructured interview style was used during interviews. This study utilises case study methodology within the qualitative research style. In qualitative research, the aim is to obtain a deeper understanding of the participants on a given question or topic. To gain in-depth data from the participants I had to probe for clarity on some responses, eliciting more information by asking follow-up questions. Ary et al. (2006) state that unstructured interviews are interviews in which the researcher chooses an area of interest to find answers from the participants. While questions are formulated, the interviewer may modify the format or questions during the interview process. Interviews ensured that I gain the information I was hoping for, because the participants were not limited in answering the unstructured questions. Bertram and Christiansen (2014) refer to interviews as the guided conversations in which researchers have certain expectations of answers they want from the respondent, and have designed particular questions to be answered. Moreover, using unstructured interview questions helped and allowed participants to tell their own perspectives in relation to the given topic or question (Bertram & Christiansen, 2014).

Participants were free to talk about their perspectives on Moodle use when teaching their modules as the research topics and the questions require. Despite the success achieved to generate data through interviews, there are some disadvantages with interviews that should be taken into consideration. Challenges with interviews include participants not giving trustworthy answers. Another weakness is that it will result in different information being generated from different people, making it difficult to analyse results (Cohen et al., 2007). Thus, it is advisable with case studies using unstructured interviews to have a small sample so as not to distort participants' answers. Despite the disadvantages there are also advantages of interviews. Martens (2010) states that one of the advantages of interviews is that more insight is gained from the interaction of ideas among the participants. Similarly, Cohen et al. (2007) assert that the strength of unstructured interviews are that they increase the relevance of questions and interviews can be matched to individuals or situations.

Of critical note is that participants indicated they are not using Moodle to teach their postgraduate modules. However, they usually use Moodle to teach their undergraduate modules. They stated a number of reasons for not using Moodle to teach postgraduate modules. Amongst their reason they stated that students at postgraduate prefer calling their supervisors on phone or send them emails.

Therefore they presented their perspectives on Moodle in teaching both undergraduate and postgraduate modules with most of their perspectives referring to the use of Moodle in teaching undergraduate modules. Some participants even indicated that they have not used Moodle to communicate with their postgraduate students. Instead, they communicate with their postgraduate students using emails and telephone calls. The phasing in of national lockdown resulting from the outbreak of COVID-19 has changed the way activities are undertaken in our daily lives. Participants indicated that they were not using Moodle for teaching and learning. As a result of the lockdown, teaching and learning had to be conducted online. It was then necessary to make a follow up with the participants to find out how are they teaching during the lock down. In adhering to the lockdown regulations physical or face-to-face interviews are not permitted on level 3 of the lockdown. I then had to send the open-ended questionnaire to the participants for them to answer. I requested that they add me into their classes on Moodle to review their interactions and activities on Moodle.

5.5.2 Moodle review

I was added to an undergraduate Moodle classes by one of the participants. It was evident that indeed Moodle is used in teaching undergraduate modules because participants did not having any postgraduate Moodle class. Although not exactly an observation: I logged into the learning site and reviewed activities that happened some time before. Observation takes place when an observer generates data from the activity in a live and naturally social situation (Cohen et al., 2007). In this type of data-generation method, the aim was to review and analyse the interactions or the realism of Moodle usage between the lecturer and their students from the LMS. This was one of the methods I perceived as a crucial support to the interviews as could not only rely on participants' words. Bertram and Christiansen (2014) caution that during interviews participants may not always reveal all relevant information. Through observation, a researcher can generate more of the required information. Thus, Moodle review was one of the methods used to verify that what participants said during the interview was really what they experienced in their teaching. In my letter to the participants I explained that I would use two methods for data generation and requested they add me to their Moodle classes. Regrettably, only one lecturer of the five added me to her undergraduate module Moodle class.

Some participants committed to add me to their classes yet they did not do so. I was not informed of the reason for not being added. Though I explained that I was not going to be an active participant in their classes because I do not know their modules. As such it would have been impossible for me to participate in their discussions. The screen shots in Chapter Six, figure 6.1 from the class list of the participant who added me indicates that I am added as a 'non-editing teacher'. This means that I am a passive participant in the class. Springer (2010, p. 389) asserts that "a passive observer does not interact with the participants he or she is observing". I observed the interaction between the lecturer and her students on the learning platform. It is said that the easiest way to generate information is to observe (Springer, 2010). Merriam (2009) notes that the duration of the total amount of time spent generating data through observation is determined by the problem being investigated. There is no ideal amount of time to spend observing, nor is there one preferred pattern of observation. I was somewhat familiar with the setting (Moodle). I reviewed the interaction and communication that took place between the students and their lecturer in order to generate data and draw conclusions based on lecturers' perspectives of Moodle usage.

Merriam (2009) cautions that observation must be systematic in order to address the research questions so that a study can produce trustworthy results. As a researcher I have to report exactly what transpired from the learning site because routine observation differs from research observation. Research observation focuses on certain activities especially that are of concern to the researcher because human perspectives are selective (Bertram & Christiansen, 2014; Merriam, 2009). There was no specific time or pattern followed in reviewing the learning site, which means that the reviews were unstructured. Bertram and Christiansen (2014, p. 74) state that "an unstructured observation means that the researcher does not go through a check list ticking off boxes or rating particular activities she sees occurring, but writes a free description of what she observes". Since this study is a qualitative study, unstructured observations of Moodle were a good data-generation tool, allowing me to write free descriptions. However, Cohen et al. (2007) note that observation can be a powerful tool but it does have its difficulties. Bertram and Christiansen (2014, p. 78) remark that one of the challenges of observations is that "it is practically impossible for any person to observe everything that is happening in any situation". This is true, especially when the observer observes the live interactions between people. Yet, in this case I was able to review everything because it was recorded by the system and did not change on a daily basis.

Whatever is done online (via discussions on the discussion forum and chat room) is recorded and saved by the system and can be retrieved later.

These types of data generation qualify for this study. This study uses the interpretive paradigm which relies on and requires qualitative information to understand participants' behaviour or perspectives on their workplace.

5.5.3 Questionnaire

The outbreak of COVID-19 came as a surprise to all. It led to the country enacting a National lockdown which restricted the movement of people and mass gatherings. Peoples' gatherings were limited to fifty participants at a time. Such regulations affected the education system as lecture rooms usually accommodates more than fifty people. Therefore, schools and universities in the country had to temporarily close. However, to save the academic year, other methods of reaching students had to be utilised to continue teaching and learning. Universities in the country including the university in this case has LMSs which they use to teach students. Though, lecturers on the first set of questions during interview indicated that they are not effectively using Moodle to teach. Then the lockdown compelled lecturers to use Moodle to teach because it was the only available mode of teaching and learning during the lockdown. It was imperative to go back to the participants and find out how they are conducting their teaching during the lockdown since teaching and learning had to continue despite the lockdown.

To observe the lockdown regulations and restrictions, a second set of questions in a form of questionnaires with open ended questions were sent to lecturers to respond. They were requested to freely write their perspectives from their experiences of using Moodle during the lockdown. It is for that reason open-ended questionnaire were sent to them. Cohen et al. (2007, p. 321) states that "open questions enable participants to write a free account in their own terms, to explain and qualify their responses and avoid the limitations of pre-set categories of response". Open questions were used because this study is a qualitative case study and it explores lecturers' perspectives. Understanding the complexities of open questions, few questions related to teaching and learning during the lockdown were given to participants. Questions were clear and easy to follow to be able to be answered without participants being confused on how to respond to the questions. Cohen et

al. (2007), indicates that open questions can lead to inappropriate information; some questions may be too open-ended for the participants to understand what kind of responses is being required. Open questions are also challenging when it comes to analysis, "the data are not easily compared across participants, and the responses are difficult to code and to classify" (Cohen et al., 2007, p. 321).

5.6 Data analysis

Bertram and Christiansen (2014, p. 115) define analysis as "separation of the whole into pieces for the purpose of a study". Ary et al. (2006) and Cohen et al. (2007) concur that data analysis in qualitative research involves organising and reducing of data, and looking for important parts. This is because not all generated data is suitable for inclusion in a study. Atkins and Wallace (2012) maintain that as we conclude generating the data, including the writing-up stage, we should ensure that we make thorough decisions about which data to present in order to argue for or against our perspectives. The important parts should be the information that directly answer the research question, in order to make meaning and avoid detracting from the data on hand. Dey (2003) articulates that, without analysing the data, researchers would rely on their understanding of the situation or emotions instead of the raw data generated. Research projects start with a definite set of values and thoughts on the reality of our participants in their social spaces, which guides the way we set our research questions and design our research (Hesse-Biber & Leavy, 2011). Data analysis should include more than one method in order to avoid bias on our analysis. Yet, this study used only inductive reasoning for the data analysis.

Bertram and Christiansen (2014) argue that through inductive reasoning data analysis starts from specific observations, meaning it begins from the raw data that has been generated. In this study the raw data were transcribed verbatim to ensure participants' voices were not misinterpreted. Then I interacted with the data after recordings were transcribed from the voice recorder. Their perspectives were categorised according to their similarities. Thereafter, data were analysed using a guided analysis. Cohen et al. (2007) emphasise that guided analysis starts with data, which are then analysed and reviewed to enable the themes to emerge from the data. After a thorough interaction with the data it was then discovered that some emergent themes included the curricular

spider web concepts. Emerged themes were used to interpret the findings as presented by the participants.

As this is an empirical study, I further used the literature to discuss the data generated from the participants and to back up my arguments. This was done because the main purpose of this qualitative research is to unequivocally generate new ideas and new explanations from the participants in order to make meaning of their actions (Dey, 2003; Gibbs, 2007). This may help participants to work towards change in order to better their practices. Dey (2003) further elaborates that habitually qualitative research seeks to expose the ways in which people interact in order to change their situations. Inductive reasoning is said to be more open-ended; and the categories emerge from the data (Bertram & Christiansen, 2014).

During data analysis it was discovered that participants apply the curriculum concepts in their teaching. Though they do so obliviously. The fact that their responses yielded data that produced themes relevant to the curriculum concepts is an indication that they apply the curricular spider web concepts in their practice. In this end, whether integrating Moodle or through face-to-face teaching, the reality is that teaching and learning is about implementing the curriculum. Thijs and van den Akker (2009) note that in teaching and learning nearly all curriculum components play a critical role. Chapter Three discussed, in detail, the curriculum concepts which made it easy for data analysis in Chapter Six as some of the themes presented referred to the curriculum concepts. Integration of technologies in education reinforce that recent opportunities presented by ICT provide new inclinations towards change (Thijs and van den Akker, 2009). Educational technology and technological acceptance theories were used to elaborate on the lecturers' perspectives as generated.

As with other research studies, the theoretical framework was key in serving as a guide to this study. Gibbs (2007, p. 5) cautions that "it is very hard for analysts to eliminate completely all prior frameworks". Prior knowledge, or the theoretical framework, helps a researcher and also the participants understand why they behave in a certain way. As I was analysing the lecturers' perspectives, the theoretical framework also explained some perspectives as expressed by participants. Moreover, Bertram and Christiansen (2014) note that the theoretical framework

influences the study's design, data generation, and analysis. Gibbs (2007) also notes that data analysis does not only occur after the data has been generated − it starts in already existing documents as well as in previous studies. This is how the theoretical framework and other existing studies on a particular topic influence the study design, data generation, and its analysis.

Considering that the purpose of this study is to understand lecturers' perspectives on the use of Moodle. This study serves as a platform for selected participants to declare their perspectives to university management. Moodle was introduced for teaching and learning without first knowing how lecturers perceive Moodle and how it can be developed for successful implementation. As a result, lecturers experiences both failure and success when integrating Moodle into their teaching. It is crucial to undertake research studies that will assist the university management know the state of teaching and learning. Given the vast challenges emanating from the programme itself and the students that must use the programme also the context and many other issues related to the use of Moodle in teaching and learning. Focus should not only be based on lecturers but contextual factors, students and the management to ensure that all these stakeholders come together to find a way to implement the system. Therefore, the results or data from participants will serve to open a platform for other studies to emerge with the purpose of helping improve the implementation of Moodle. Other reasons and facts on the value of this study and its data, as presented in Chapter Six, are also stated in Chapter Two.

5.7 Ethical issues

Ethics is a prominent part of the substructure of the research process — from the time of the framing of a research topic to the analysis and publication of the research results (Atkins & Wallace, 2012; Cohen et al., 2007; Gibbs, 2007; Hesse-Biber & Leavy, 2011). The explanation of ethics above indicates to the researchers the importance of ethics. Should the issue of ethics not addressed properly it can make a study unsuccessful since it has numerous effect on research process. Thus, in every step of the research process, the researcher should not lose track of research ethics (Gibbs, 2007). In addition, researchers are cautioned that the personal nature of qualitative data means that researchers should be mindful of any potential mischief and distress their study might cause participants (Atkins & Wallace, 2012; Gibbs, 2007). As researchers embark on a study, they should gain the necessary documents that authorize them to conduct a study and to

work with people. This includes the ethical clearance from the institution in which the researcher is undertaking the study, and a consent form from the participants that will be taking part in the study.

Cohen et al. (2007, p. 51) advise that "a major ethical dilemma is that which requires researchers to strike a balance between the demands placed on them as professional scientists in pursuit of truth, and their subjects' rights and values potentially threatened by the research". To achieve such a balance in a study, I applied for ethical clearance from the University at which I registered to undertake this study. I further drafted a consent letter and distributed it to those participating in the study with the understanding that informed consent demonstrated respect for participant's individuality (Atkins & Wallace, 2012). Since participation was voluntary, Bertram and Christiansen (2014, p. 50) suggest that participants receive a clear explanation of what the research expects of them, so that they can make an informed choice whether to participate voluntarily in the research. Therefore, the letter given to the participants explained to them the nature of the study and the role they had to play in this study. Participants were also informed of their rights to take part in this study and to freely withdraw at any stage should they wish to. It was also indicated that participation was voluntary; and the only benefit of participation was learning from the findings; there were no material benefits in participating.

The letter also explained to the participants that they were safe in terms of their identity, meaning that their words would not be used against them at the end of the study. The information generated from this study will remain between the researcher and participants: confidentiality was prioritised. Participants' real names were not used in the reporting of the findings; pseudonyms such as Lecturers 1 — 5 were used so that participants remained anonymous. Participants were not forced to expose information they did not wish to expose: their human rights to freedom of expression were respected. Participants accepted the use of the digital-recorder to record interviews to ensure that their words could not be altered during the data analysis process.

In all processes, ethics were considered so as to protect the participants and produce trustworthy results. Cohen et al. (2007) offers that each phase in the research structure raises ethical issues. Ethics in research does not concern only the participants, but all stages of a research process. Stages

of research include interpreting secondary sources (literature) because those are people's voices. Literature or quotations whether direct or paraphrasing should be well cited and referenced because a study will be considered unethical if a researcher included other people's words without proper citation and referencing. Research methods and terminology should not be confused for example, using positivism paradigm concepts in interpretive paradigms would make the study as untrustworthy. Similarly, Hesse-Biber and Leavy (2011) note that "the moral integrity of the researcher is a critically important aspect of ensuring that the research process and a researcher's findings are trustworthy and valid".

5.8 Trustworthiness

Trustworthiness is as important in qualitative research as it is in quantitative research. Typically, qualitative research is more concerned with human demeanour or experiences (Ary et al., 2006) than quantitative research. Cohen et al. (2007) state that qualitative researchers should consider credibility, dependability, confirmability, and transferability to authenticate its trustworthiness.

5.8.1 Credibility

These issues were assured from the beginning of the study to the data generation and data analysis stages. Applying the correct procedure, especially on a chosen paradigm, and applying all the methodologies and concepts related to the interpretive paradigm on a study, ensured credibility. Yin (2013b, p. 324) suggests that "the data source and methods types in particular are likely to strengthen the validity of a case study evaluation". However, Mabuza (2018) argues that measuring the exactitude of qualitative findings is not easy, yet this is a crucial concern for it to be usable. Equally so, Cohen et al. (2007) maintain that it is impossible for any research to be 100 per cent valid; noting that this is mere wishful thinking. To ensure that the data generated is of high-quality, and trustworthy, I first asked "can the readers be confident about my research design, interpretations, and conclusions? Are my findings believable (credible)?" (Ary et al., 2006, p. 498). Since credibility is concerned with the truthfulness of the study, I ensured that errors are addressed in the research design, when in selecting the participants, and in considering the context of the study. This was achieved by checking with the supervisor in almost all the chapters drafted to ensure correctness and credibility.

Researchers in any research study, whether qualitative or quantitative, need to assess and validate that their study results are reliable (Golafshani, 2003). Moreover, research is usually conducted with the goal of finding a plausible and credible outcome (Morse, Barrett, Mayan, Olson, & Spiers, 2002). In most cases, ensuring credibility of the findings is done by taking the data generated or the results to the participants so that they can validate their data. However, in this case, credibility was achieved by using one of Cohen et al.'s (2007) strategies: prolonging the engagement with participants during interviews. I checked with them during the interview whether they needed to add or reduce any information from their said perspectives. They confirmed that they presented their perspectives as they experienced Moodle during teaching and learning.

5.8.2 Confirmability

According to Morse et al. (2002, p. 17), confirmability is "the process of checking, confirming, making sure, and being certain". Conducting research is a process that needs inputs from others, especially experienced persons, to help check and confirm whether all the processes followed were correct, or whether there is a need for adjustment. This can also help in averting issues like the inclusion of researchers' personal attitudes to the findings, which could create bias on the study. Thus, confirmability helped the researcher ascertain that results were unbiased and can be trusted. Morse et al. (2002) further note that, in qualitative research, confirmability refers to the methodology used during the design of research to confirm reliability and validity of a study.

Ary et al. (2006, p. 502), notes that "…qualitative studies expect variability because the context of studies changes". They further state that, for the researcher to investigate dependability or confirmability in the study they must use strategies such as comparisons and triangulation. Cohen et al. (2007, p. 141) contend that "triangulation is defined as the use of two or more methods of data collection in the study of some aspect of human behaviours". For data generation, two methods were used in this study: interviews and Moodle review. This was done with the understanding that relying on one method of data generation could distort or bias the findings of the study (Cohen et al., 2007). Using only interviews can limit findings because participants can forget to mention some of the issues that are critical. Thus, it was necessary get access to the online classes for review to confirm data provided by participants during interviews. Cohen et al. (2007) also notes that there is a *theoretical triangulation* in which a researcher draws upon different

theories instead of relying only on literature to confirm participant perspectives. This study utilised TPACK to argue and confirm that the lack of technological knowledge leads to the lack of TAM in the lecturers. Therefore, readers may need to understand this argument in order to transfer such a study to their context or to the broader context.

5.8.3 Transferability

Leung (2015) offers that "most qualitative research studies, if not all, are meant to study a specific issue or phenomenon in a certain population or ethnic group, of a focused locality in a particular context, hence generalizability of qualitative research findings is usually not an expected attribute". Yet, Ary et al. (2006) and Cohen et al. (2007) offer a different notion, stating that qualitative research can be transferred if a researcher has provided a dense enough description of the study for readers of that particular research to decide whether transferability is possible. One of the major reasons qualitative research does not generalise its findings is that it deals with people's perspectives, which change over time. Moreover, the historical background of one context may not be the same as another. Therefore, the findings of this study may be transferable only if the context is similar to the one in which this study was conducted. Leung (2015) lists the circumstances under which a qualitative finding can be generalised, stating that one study can be transferred to another if it is judged by similarities between the time, place, people, and other social contexts. A full description of this study (see Chapter One) has been detailed, and this chapter explains the methodology used to conduct this study, allowing readers to decide whether they can use this study in a different context from the research site.

5.9 Anticipated problems or limitations

There are a number of factors that can cause limitations to any study. Bertram and Christiansen (2014) mentioned a number of issues that can cause limitations or influence the data generation in any research. The issues of ethics can be a limitation to a study if they are not handled well. The researcher's social or professional position *vis-à-vis* the participants also plays a critical role. The context in which the study is conducted can be a problem to the study. The most crucial factor that causes limitation to a research study is the time, and many other issues that may cause problems as the research is carried out. These limitations usually occur during the data-generation process

(interview and observations) session and, critically so, these issues may affect the dependability and legitimacy of the study results (Cohen et al. 2007).

Finding relevant sources to contribute to the literature chapter was one of greatest challenges and took a great deal of time, leading to a delay in the process. As these sources were identified, a programme called EndNote was used to ensure that the citations and referencing were correctly implemented; incorrect referencing and in-text citations may affect the reliability of the study. It is crucial to secure participants on time and ask the consent to participate in a study on time because looking for people to participate on a study by the time you need to generate data may cause limitation to the study. Being explicit on the research methods and expectations helped in recruiting participants to the study. Understanding that it can take time to find substitutes if it happened that participants withdraw from the study. Therefore, being explicit about the study expectations to the participants prevented withdrawals from participants and during the study there were no withdrawals. A clear procedure was followed when recruiting participants. Some participants took a great deal of time to respond to the call which delayed the data generation process. The professional position of the researcher could be another factor that can create a data generation delay. Participants are supposed to be flexible and participate in any study, provided they have information on the research topic. Therefore, I ensured that I created a healthy relationship with participants in order that they freely provide information.

Time was one critical factor that limited the study at many different stages. It took much time to study the topic and understand it before starting the actual process. The time in which data were generated was also critical because this process was conducted after the exams. I had to wait until exams were completed to avoid interrupting the academic process, as per the information provided when applying for ethical clearance. During data generation some lecturers were not available as they were finalising their marking and preparing for the upcoming academic year. As a result, and to ensure dependability and validity of the study, many activities were conducted in a short space of time to guarantee that the process was complete.

5.10 Conclusion

In a quest to obtain the true perspectives of participants on their Moodle use for teaching I had to follow a certain procedure that includes, observing lecturers teaching, talking to them about their experiences in a form of interview. Such a procedure is called research, which I have undertaken to generate information about lecturers' perspectives of Moodle usage in teaching and learning. Research process has a number of stages that a researcher should undertake with cautions. Therefore, this chapter presented the methodology employed to address the research objectives, and answer the core research questions that instigated this study. Briefly, this study detailed the description of the research design, the paradigm, sampling, data-generation plan, data analysis, as well as the limitations that jeopardised the validity of this research. The next chapter presents the findings that were generated using the methodology delineated in this chapter.

Chapter Six
Breakdown of Lecturers' Perspectives and Considerations of the Generated Data

6.1 Introduction

The introduction of Moodle as a compulsory teaching tool to be used by lecturers in teaching postgraduate modules was the main motivation for this study. This research was conducted with the aim of understanding lecturers' perspectives on the proposed alterations made by the university management in this particular institution. Considering that for a long time HEIs in South Africa have been trying to introduce the use of LMSs in different institutions with some institutions succeeding at a low use rate and some not succeeding due to lecturers resisting the systems (Khoza, 2020b). Thus, this chapter presents the breakdown and subsequent discussions of the data generated from participants during non-lockdown and during lockdown periods in order to understand their perspectives on the use of Moodle in their teaching. A second set of questions using questionnaires were sent to participants to respond about their perspectives on their experiences of using Moodle during the lockdown. Participants' perspectives provided information on their use of Moodle, its successes and challenges. Participants indicated how the use of Moodle during the lockdown helped them change their perspectives about the system as it is the only mode of teaching available during the lockdown. Participants indicated that the use of Moodle during lockdown helped them to devise different strategies that helped them improve their teaching and learning through technology use. To understand participants' perspectives of Moodle usage in detail, a number of issues were considered that may have resulted to their perspectives. The issues presented as sub topics were derived from the participants' perspectives. For this study to arrive at a sound understanding of lecturers' perspectives it was crucial to scrutinize their perspectives in order to find out their challenges and successes. However the findings were not limited to the participants' perspectives as Atkins and Wallace (2012) and Yin (2013b) caution that studies of this kind should not be restricted to lecturers — it should also scrutinise the probable interaction between lecturers, their context, and their profession .

The previous chapter presented the research plan and procedures applied to address the objectives and find answers to the research questions that guide this research study. This chapter presents the data generated using the three techniques of data generation as explained in the previous chapter. Thus, participants' perspectives in the form of discoveries are scrupulously presented and subsequently discussed. The discoveries are discussed using the themes that emerged from the sub-questions and from the conversations or the data generated from the participants. The last sections that responded on the effect of the lockdown on lecturers' use of Moodle presented the findings responding to the questionnaires, the responses were not themed like the first set of responses. Chapter Three presented the curriculum concepts indicating that they are key and should be known and used by students, teachers, and lecturers in teaching and learning to ensure the stability of the profession (Thijs & van den Akker, 2009). It was also indicated that those curriculum concepts, when understood and well implemented, may make it easier for lecturers to understand how and what information they should teach their students. This may help lecturers achieve their teaching rationale. However, it appears that participants apply these concepts in their teaching and learning as they indicated issues related to these concepts without realising that they were referring to the curriculum concepts.

During the analysis it was discovered that participants were referring to curricular spider webs' concepts. It is for this reason that some themes in this chapter refer to the concepts as stated in Chapter Three. However, in this chapter these concepts are briefly discussed to present the participants' responses or perspectives, more details on these concepts are discussed in Chapter Three. Keeping in mind that the use of Moodle is design for curriculum implementation which requires one to have knowledge of the curriculum concepts. Thus, their perspectives or responses were discussed and substantiated as per the curriculum spider web perspective.

This study was guided by the main research questions, as stated in Chapter One with each question having sub-questions used to probe for clearer answers. The sub-questions produced the following themes from the participants' responses: lecturers' perspectives on using Moodle; lecturers' perspectives on accessibility challenges when using Moodle; lecturers' technological knowledge; perspectives on lecturers' and students' participation in Moodle; perspectives on using Moodle for assessment; perspectives on time used on Moodle for teaching and learning; and the impact of

using Moodle for teaching and learning. Lecturers' application of Moodle, according to these themes, was discussed in relation to the literature, the curricular spider web concepts, and their perspectives. The first theme is concerned with lecturers' perspectives and their reasons for using Moodle in their teaching. Thus, this theme seeks to understand whether lecturers' rationale for using Moodle stems from their own perspective, the community perspective, or the content perspective.

Each of these perspectives allow lecturers to use Moodle differently. As such, the reasons for using Moodle may arise from different perspectives. The conceptual and theoretical framework — TPACK and TAM, together with the literature — were used to explain the perspectives as presented by participants. It will be easier for readers to accept the authenticity of participants' perspectives if they are supported by literature or theory. The manner in which lecturers perceive Moodle motivates them to draw conclusions on how they can effectively manipulate it to work with their needs. Whether these perspectives are known or unknown, there is a reason behind everything we do, such as with the use of Moodle for teaching and learning. The university management has perceived Moodle in a certain way and decided to introduce it as a teaching and learning management system. Exploring lecturers' perspectives is one way of getting to understand their stance on the introduction of Moodle as a teaching and learning media.

6.2 Lecturers' perspectives on Moodle as a teaching and learning platform

For a great many years, lecturers have used the face-to-face teaching method. Therefore, there are participants that perceive Moodle as challenging when compared to traditional teaching methods. Perspectives drive lecturers' use of Moodle because of the experience they have in teaching. Teaching with Moodle requires lecturers to have first perceived Moodle a certain way. More so, they should have a knowledge of it, or they will abandon the system if they do not understand it. Lecturers and their students may abandon Moodle if they use it without having perceived it to be difficult and lack confident in it that it can assist the produce good result at the end of their teaching and learning. Thus, if lecturers are to successfully use Moodle, they should first understand from which perspective they come, and understand what their perspectives advocate when using Moodle. One can argue that lecturers should familiarise themselves with technology so they are able to further adjust Moodle to fit in their contexts. This may ensure that lecturers understand the

importance of Moodle in order to maximise their use of the programme. The importance and the reasons for using Moodle should not be viewed from one perspective only, but from all perspectives, i.e. from student, discipline, and lecturer development perspectives.

There was a reason for the Moodle invention and for university management to adopt and introduce Moodle as a teaching and learning management system. This creates a need for users to study more on Moodle to understand such reasons, especially those that are loathe to use Moodle; maybe they can change their minds after they have understood the theoretical perspectives of educational technologies. Knowing the reasons for using Moodle may draw them back to this core question: Why should they integrate Moodle in to their teaching? This question may help them review their perspectives in order to do the right thing in their work. Users use Moodle for different reasons depending from which perspectives they perceive the system. In searching for answers from participants, all perspectives were considered before making informed judgements.

Participants have given their perspectives on their understanding of the purpose of Moodle. Their perspectives indicate that participants have gained their knowledge of Moodle from different sources. From the data, it was evident that there were participants that do not have the technological knowledge needed to integrate Moodle into their teaching. Those participants explained the purpose of Moodle from their personal interpretation of Moodle. Yet, perspectives are people's interpretations of the conditions in which they find themselves (Cox, 1997). The lack of knowledge of a concept may cause one to use personal perspectives to interpret a concept.

The following accounts serve as an indication that indeed some of these participants have little understanding of Moodle. Responding to the question on the purpose of Moodle, Lecturer 1 said: "*we cannot run away from the fact that the fourth industrial revolution (4IR) is here. We are using technology these days … we are trying to prepare our future teachers".* Lecturer 1 continued to say that, *"the government is trying to introduce this technology in some schools it could be rural or urban schools"*. Lecturer 2 added: *"…currently, internationally all the universities are moving to online learning systems. It teaches us to be technologically advanced ... we adopted it because we have seen other universities adopting it, because according to me, they* (referring to the university management) *should have sat down and have strategies of how can we develop lecturers*

so that they can actively use the system". The issue of developing lecturers to understand the system for effective use is amongst the reasons this study was undertaken. In Chapter Four, it has been argued that technology users should possess a certain knowledge so that they can be independed when using Moodle. TK can also enable users to devise strategies on how the system can be further developed so that it could enable them to actively use the system.

One can tell that all these interpretations are participants' personal perspectives of Moodle. If these participants were knowledgeable about educational technology, including Moodle, they would have given the purpose of Moodle from its professional perspective. In all the above accounts, there are none that comes close to the purposes of Moodle according to the studies that were published by different academics on Moodle. This suggests that these participants may have not given themselves time to read about Moodle or any other LMS. The university managements' reasons for introducing Moodle are not known to these participants. These perspectives as stated by the participants indicates that there is a flaw that needs to be addressed before a critical time comes where lecturers will be compelled to use Moodle for teaching. According to participants' perspectives, despite all the above accounts from them, Moodle has already been phased in. It is expected to be used in all disciplines within the campuses. There may, however, be some modules that are difficult to teach on Moodle. If such modules are to be taught on Moodle, lecturers would need TK so that they can adapt Moodle in order to cater for such modules. Lecturers need the background knowledge of Moodle to be able to teach their modules, because one day students will need this information in their workplaces.

Taking from participants' accounts on their understanding and definition of the reasons for the use of Moodle, one may wonder whether participants are using Moodle in a manner that can motivate students to participate in this programme. According to his explanation, Lecturer 1 has just learned general information about educational technology or LMSs and linked it to Moodle. Indeed, the 4IR is here, and the education system needs to alter and integrate technology. Yet, changing to 4IR cannot be a sole reason the university has adopted Moodle for teaching and learning. From the accounts of Lecturers 2 and 3, it would be for a wrong reason for the university management to adopt Moodle simply because they have seen other institutions doing so. There are technical perspectives as well as lecturers' knowledge of technology that must be taken into consideration

before Moodle can be adopted for use. Asiri (2012) notes that Moodle helps by "increasing the quality of learning, providing learners with technological skills and encouraging learners to be more interactive, promoting teachers and students' performance and motivation, and removing the limitations of time and space in instructional processes".

These are the benefits that come with Moodle for both lecturers and students including the development of the teaching profession. Every university aspire to produce students with technological skills and ensure lecturers are able to use technology to teach their students. Yet, the findings tell a different story. Considering theories of educational technology, especially TPACK and TAM which espouse that lecturers should have technological, pedagogical, and content knowledge in order for them to be able to accept and use educational technology (see Chapter Four). TK can assisted lecturers to deal with the technical challenges of the system instead of relying on technicians. Yet, lecturers have not been given thorough training on the use of Moodle. They rely on experts employed by the university to assist them with the technical challenges of Moodle. However, relying on technicians is not an option. Concerned, Lecturer 4 indicated that: *"there is only one person for the entire university who is a technician for Moodle and Turnitin. So, when you need I.T related assistance they are not able to assist you at that moment".* TAM argues that for lecturers to accept technology in their work, it should be useful and it should be easy to use. Yet, it seems not to be so for the lecturers who participated in this study. This suggests that more training is indeed needed for lecturers if Moodle is to be successfully integrated into teaching and learning in this institution.

It is a problem for teaching and learning if lecturers use their personal understanding to interpret Moodle. A lecturer may point out to students that Moodle is used in this university because other universities in the country use Moodle. Another lecturer tell students that Moodle is used because there is a need for teachers who are technologically advanced. This may be true and valid but stronger reasons will motivate students to subscribe to the use of Moodle. Otherwise, these interpretations will produce a society that has incorrect perspectives of educational technology.

The second proposition or perspective of this concept is the social perspective. According to Khoza (2016b), lecturers who employ the community perspective of Moodle take into consideration the

community or society visions or motivations. It is advisable that lecturers supplement social perspectives which they generate from their colleagues and the society at large with professional perspectives so that they do not only rely on or use social reasons for using Moodle. Social or community perspectives are mostly influenced by lecturers' personal sentiments, often limited to everyday or common knowledge and people's discussions (Khoza, 2016b). From personal accounts, as indicated by the two participants above, it is possible that these participants wished to discover the purpose of Moodle from their colleagues, discovering that even their colleagues have no clear understanding of the system.

According to Lecturer 1, they interpret Moodle the way they do because they "*know only the basics of Moodle…".* This is one reason that motivates lecturers to consult their colleagues in trying to find more information on Moodle. They need to be encouraged to seek professional perspectives of Moodle through researched sources. Lecturer 1 said: "a*s for me, some of the things that I know about Moodle I've learnt them through asking some of my colleagues or young academics who understands Moodle better that I do. Yet, I doubt if they can tell you the theoretical perspectives of educational technology".* Considering his reasons for using Moodle, he can be correct to say that he doubts whether his colleagues have a profound knowledge of educational technologies and the theories around that. It is because of lack of technological ant its theoretical knowledge from the participants that they are unable to effectively integrate Moodle in their teaching. Lecturer 2 summarises the information he gathered from his colleagues about Moodle. Lecturer 2 continued to say: "*they say it is a monster and not user friendly".* A monster is how lecturers perceive Moodle and this is what they say about Moodle as they talk to one another. However, Lecturer 4 is not in harmony with his colleagues on how they perceive Moodle. He contends that what the other lecturers say, *"is a statement that comes from a comfort zone".* By the statement "from a comfort zone" he believes that lecturers are fully comfortable with the so-called traditional method of teaching and learning. They have used this method for a long time and have themselves been taught through this method. Therefore, one may put forward that they need to shift away from their comfort zone and adopt Moodle for their teaching.

Moodle was designed to be used for teaching and learning. In spite of this, Moodle does have its challenges but they can be dealt with only if lecturers have knowledge of Moodle and if they are

willing to use it. Lecturers seek advice and learning from one another about Moodle. Lecturer 3: "*I've spoken to some of my colleagues they also agree that it* (Moodle) *is not really a good move".* According to this participant, there are other lecturers within this academic community who do not support the integration of Moodle into their teaching. However, it is understandable that lecturers may not uniformly accept Moodle. They come from different contexts with different perspectives and knowledge of technology. Participants indicated that they do use the system, but not to its maximum capacity. As Lecturer 4 asserts: *"Moodle often serves as a dumping site where we upload lecture notes".* There are so many reasons participants have that led them to use Moodle as a dumping site. Earlier on Lecturer 3 with some of his colleagues indicated that they do not think Moodle is the right tool to be used for teaching and learning. The fact that some of these participants and some of their colleagues are comfortable in using face-to-face teaching method makes them not venture in to alternative ways of teaching and learning. The only reason participants indicated as the reason the use Moodle as a dumping site is because they do not know much about the system and how to use it effectively. They also reported that their students are not interested in using the system for learning, therefore they only use it to post notes for students to download. This kind of act should be avoided at all costs. Using the system as a dumping site does not improve the system and it makes it difficult for the university administrators to pinpoint aspects to improve from the system. It further does not improve educators and students technological skills to the expected level. Therefore, this emphasises the need for internal training to help lecturers better understand Moodle. Further endanger the future of the system because the system is at risk of being totally abandoned.

Accounts from these participants should be a lesson for management, to ensure they develop lecturers so that they are equipped with TK. Developing lecturers to acquire TK will be an indication that the administrators have introduced Moodle for a good course. Follow ups are also a crucial aspect to be considered by the administrators to ensure they prove to lecturers that the system was not introduced for reasons as indicated by Lecturer 3 that *"…apart from that the university want to be seen moving with time, creating paperless. That is what they say"*. The statement "that is what they say" may indicate opinions from other lecturers as they converse about Moodle. This suggests that management has a huge responsibility to bring lecturers on board, or Moodle will continue to suffer. Lecturer 3 continued to say: "c*olleagues experience frustrations*

when they must use Moodle". Amongst the frustrations lecturers experience is mentioned by Lecturer 4 when he says *"there are I.T related issues that are frustrating".* These frustrations are a result of lecturers having no clear direction on how to integrate Moodle into their teaching. To use Moodle, it is recommended that lecturers should be technologically knowledgeable. The word frustrations means that the participants are able to understand the system and resolve minor challenges when teaching with Moodle. Their frustrations suggests that these participants and some of their colleagues will continue to abandon Moodle for as long as they experience frustrations with the system. Conversely, their current or traditional methods, such as face-to-face methods do not frustrate them. Theoretically, this situation contradicts TAM, which insists that the use of Moodle should be effortless, in order for lecturers to accept it (Davis, 1989).

With an alternative perspective, Lecturer 5 said: "*just like others* (the community) *at first I thought of it* (Moodle) *as a dumping site where people would dump anything that has got to do with the students … until I wanted to know, at least you know me I don't just let things pass my face without wanting to know what is there and what it is used for".* The realisation of this participant that using Moodle as a dumping site is not even helping her to develop as an academic to cope in the changing world. As alluded to that technology is changing even the manner in which we teach. This participant took courage to want to know more about Moodle and how she can use it better for teaching and learning. Though, a programme can be challenging, but if users can do like this participants to stop looking at it at face value, its purposes can be attained. This is the kind of mentality that is needed from lecturers. Lecturers that will not be pushed to do something; lecturers that will not wait to be spoon-fed; lecturers who want to know more about objects presented to them.

This participant has took a decision to seek more information on Moodle in order to familiarise themselves with the system, especially now that Moodle is said to be a compulsory teaching and learning tool in this institution. Moodle should not be used by lecturers to only assist with management and distribution of course content. Lecturers should use Moodle to allow students opportunities for collaboration and participation (Bagheri et al., 2013; Barr et al., 2008). Momentously, Moodle should not be a dumping site of resources. Lecturers may have their own reasons for using Moodle in their teaching. They may take advises from their colleagues and the

academic community, but they should also seek for more knowledge from published sources on Moodle. They should not only rely on the institution to provide them with the information on Moodle through internal training. As Lecturers 1 and 2 articulated that: *"Moodle was made compulsory without doing enough to capacitate us to understand Moodle".* Compulsory phasing in of Moodle as a teaching and learning too can be regarded as a management strategy to ensure that lecturers and students utilise the system. It was also alluded to that Moodle has been there in this institution for a long time but it was not fully utilised by lecturers and students. It is the role of the institution to train users on how to use the system but if faculty realise that the management is not doing enough to capacitate them, the onus is on them to find a way to learn about the system. Lecturers themselves should work on their own to search for information on Moodle and discover how to use it for teaching and learning just as Lecturer 5 did. The university offered lecturers and the community of scholars only a brief document to serve as a guide on the basics of Moodle. Moodle is a standard programme, with each campus expected to draft rules or policy on the use of the programme. This puts the system at risk of being unused by both lecturers and students or of being used in a ways different from its purpose. To avert such risks from happening the institution can provide the policy and lecturers further seek information guided by the university policy on the use of the system.

Lecturers' understanding of the reasons for Moodle usage in teaching may increase the number of lecturers to use it. The reasons can be found on the policy once available to ensure all lecturers are equally understanding what is expected of them. Lecturer 4 believes that Moodle cannot serve its purpose *"…if there are few people who understand the programme in such a huge institution".* He continues to caution that such a lack of understanding yields *"…a problem because there is no uniformity towards how we use Moodle for students".* This suggests that lecturers use Moodle according to their own understanding of the programme. Those who do not have any reason for using Moodle will not use it. It is indeed a problem if lecturers within the same institution are using Moodle differently, and for different reasons. The success of Moodle usage depends on lecturers having similar understandings of Moodle. It may differ slightly as modules have different needs, especially modules that are practical and may need different approaches, but ultimately the use of Moodle should be uniform for all disciplines.

From participants' accounts, it seems that participants have no common understanding of Moodle within the same campus. This poses a challenge on the future of the system. Each participant has their own understanding of Moodle. Of all the participants, only two showed that they share an understanding of Moodle. Lecturer 4: *"…for me yes, I understand it* (reason) *but I don't think my other colleagues and the institution have spell it out clearly. For me I understand that Moodle is a learning site of engagement, we need to engage with the students through discussions, they have to complete assignments on Moodle and we have to upload extra resources and engage with them. A bit of tutoring where I create a chatting page for them to assist one another".* Likewise, Lecturer 5: *"it is for communication and teaching purposes. It is not only me who can talk or teach students using Moodle site. Students themselves can also communicate to one another…"* These accounts are a clear indication that these participants have an understanding of the purpose of Moodle. Indeed, to engage students on the use of Moodle lecturers should be understanding the system broadly so that they work towards fulfilling its purposes. Barr et al. (2008, p. 127) indicate that:

> *Moodle is not like most LMSs that are instructor-oriented and largely concerned with how course content is delivered, Moodle is based on a learner-oriented philosophy called social constructionist pedagogy, in which students are involved in constructing their own knowledge.*

Lecturer 1 understands that he can use Moodle to *"…communicate with my students simultaneously. Even if the student have a problem, they can throw the question in Moodle so that we will share the same problem with the whole group of students".* Though, Lecturer 1 confessed his lack of in-depth knowledge of the system saying: *"though I might not understand it holistically but in terms of teaching and learning method I can say Moodle is a good tool".* Lecturer 1 mostly uses Moodle for uploading notes, which others refer to as using Moodle as a 'dumping site'. However, he cannot be entirely blamed for such an act. Since he indicated that he does not understand Moodle in its totality. It is up to him to ensure that he generate as much information as possible to know more about the system so that he will use it to fulfil its philosophy of 'social constructionist pedagogy'. As for Lecturer 4, from his accounts, he mentioned a few crucial activities and uses of Moodle; most especially that of engaging students. Barr et al. (2008) emphasise that Moodle should not only be used for sending notes to students.

This is what participants said when they were asked to state the purpose of Moodle. Despite participants indicating that somehow they have a knowledge of the system, they still need to continue study the programme to gain more knowledge. It was evident from their responses that some of them created their own reasons to explain the university's purpose of adopting Moodle. They also share similar concerns that they did not receive full training on Moodle before they were to use the system. However, as lifelong learners, lecturers can research and discover more about Moodle themselves. Yet, they did not do that to learn more about the system. Many reasons can be related to them not have conducted their own research studies to know more about the system. As alluded to earlier on that they were so comfortable with their old method (face-to-face) of teaching. The documents posted on the university website about Moodle only indicate basic information such as how lecturers can add participants to their class. The documents do not have sufficient information, including the reasons for lecturers and students to use Moodle. This may have had a negative impact on lecturers' integration of Moodle in their teaching and learning.

Participants in this study are of the opinion that the college management committees should have been given time to draft their policies before Moodle was phased in. This would have allowed them an opportunity to interact with the policy and suggest alterations that would have helped them more easily integrate Moodle. The university management should have also drafted the main policy document to guide all the colleges. The use of Moodle in teaching and learning enhances a knowledgeable society; helping with large classes which pose a challenge to interactive teaching (Vithal, Dhunpath, Subbaye, Freeman, & Mutala, 2016). This is indeed true, and it should be made clear to lecturers, so that they can develop an interest in integrating Moodle into their teaching.

The sampled campus from all the campuses of the institution being studied in this case produces educators who will one day be expected to use ICT at the schools in which they will work. As they go to work they do not need to start at a foundation to learn about LMSs because that will delay the progress of the learners. They need to know now the basics and the reasons of integrating educational technologies in education in order to explain such to their learners. While other participants expressed their own understanding of Moodle, Lecturer 3 stated: "*I have never known what the purpose was initially. I don't know, apart from that the university want to be seen moving with time, creating paperless".* Not knowing the university's reasons of introducing Moodle as a

teaching and learning tool indicates that the students too does not know such reasons. Reasons for integrating Moodle in teaching and learning are critical to users because they serve as drive towards the implementation of this system. The dearth of knowledge on basic information, such as the purpose of integrating Moodle in teaching, are the reason this participant and others shy away from using Moodle. To use a particular programme, lecturers should know the purpose. Moreover, the purpose reveals the importance and the need for that particular programme.

From the invention of Moodle, Dougiamas and Taylor (2002) opined that lecturers should understand Moodle as a teaching and learning tool related to constructivism, particularly social constructivism, and social constructionism. The theoretical stance of a particular programme must be understood so as to ensure that it is used according to its purpose, especially the use of Moodle features. It is crucial for participants to understand constructivism and social constructionism in order to use the features correctly. Moreover, TPACK states that for lecturers to successfully use Moodle, they should have knowledge of Moodle as a programme; its pedagogical strategies and its content knowledge. This may further ensure that participants use Moodle to achieve their goals when using the system. Unfortunately, because participants lack an understanding of Moodle and the rationale behind its adoption, they are not able to hypothesise objectively on the use of Moodle. As a result, Moodle is not achieving its purpose. Its use is even poorer than anticipated. Some participants even feel it is better to go back to their roots, i.e. using traditional methods.

6.3 Lecturers' perspectives on accessibility challenges of Moodle

For ease of use, Moodle should be accessible to both lecturers and students and free from obstacles that may hinder teaching and learning. However, according to Lecturer 3 when explaining his perspectives on Moodle use: *"it is limiting and it's not accessible as university want us to believe it is".* It is common knowledge that any new system comes with challenges until one is well equipped with knowledge to operate the system. Limitations are found in any programme, it only requires the users to familiarise themselves with the programme in order to overcome its limitations. Tedre et al. (2010) add that critical challenges experienced by lecturers when integrating Moodle into their teaching are often social, cultural, and educational challenges. Similarly, data from this study revealed that challenges encountered by lecturers preventing them

from using Moodle to its full potential are minimal training and a lack of continuous physical and financial support, as well as an unsupportive teaching and learning culture.

6.3.1 Training and continuous support

Before people commence with a new system they need to undergo training that will equip them with skills required to operate the system. According to the teaching and learning report, in 2014, tutors in one of the campuses of this university were trained to use Moodle. Later on, in 2015, the training was extended to lecturers (Vithal et al., 2016). Lecturers received one hour or less training on Moodle. According to participants, the training provided was not sufficient to help them understand and use Moodle.

For example, research was conducted in different universities in the African continent to unearth challenges encountered by HEIs when integrating technologies into education. From the research it was reported that a lack of initial or continuing training for lecturers on the integration of technologies, was a challenge in most of the institutions sampled (Isaacs, 2013). Had thorough research been conducted by the university management, alternatives to address the challenges would have been suggested. Training and continuous support is required because Moodle is a large system that needs a broad understanding in order to be used to its maximum potential. More so, the training should not only be about how to use Moodle — it should also equip participants with detailed information about the system as a whole. Lecturers may then become enthused and be less anxious when using the system.

Challenges and successes of Moodle are known by lecturers' because they are the ones directly involved on daily use of the system. Poor training was reported by most participants as a challenge that contributed to them not knowing much about the system. Lecturers 1 and 2 stated poor training as one crucial reason that made them lack a proper explanation or interpretation of Moodle: "*we received a training that was not enough to capacitate us to understand Moodle".* By the same token, Lecturer 4 emphasised that the purpose was missed: "*I don't think it* (Moodle) *serves its purpose because there was also a lack of proper training".* Lecturer 1 offered: *"The one* (training) *that I attended, I think it was just an hour session. We had to struggle and we have to learn this by ourselves".* More disquieting is what lecturer 4 said on the issue: "*I don't think they have selected*

the best team to administer the roll out of the programme. So, when I went to these training I realised that I know better than the facilitator". It was not a good start if the training did not fully equip participants for integrating Moodle into their teaching. Training is one crucial aspect that should have been well planned to ensure that full and necessary information was disseminated to lecturers. This would have helped participants alter their perspectives on Moodle.

When introducing a new system or programme, the type of training provided to users determines the use or non-use of the programme. According to Davis (1986), the introduction of Moodle to test whether lecturers would accept the system would be determined by the way in which the new system is demonstrated to the lecturers. First impressions are crucial to convince people to accept a particular proposed change. The training should also ensure that it clearly explained the need for Moodle, the challenges of the system and ways to deal with them, and many other important issues. This is done to ensure that lecturers are convinced that the new system will work to help them achieve their main goals. Lecturer 4 complained that Moodle does not currently serve its purpose. The purpose should have been well explained at the training session, so that lecturers understand the system, not from the practical perspective only but also from the theoretical perspective.

It seems that the university wanted to move quickly to keep in step with modern educational thinking. Training focused on how to use the system rather than what the system is, and why the system should be used. The university management assumed that lecturers would search for more information about Moodle on their own. Yet lecturers are already overwhelmed by workloads, research, publications, and the many other academic duties required of them. They then find it challenging to integrate Moodle into their teaching, preferring instead to use their tried and trusted teaching methods.

When asked whether he has a broader knowledge of Moodle, Lecturer 1 responded: *"that is the biggest challenge, as I have said earlier on that the university has not yet done enough to actually teach us the theoretical background of Moodle. What was in fact the intention of this programme and when did it started? What they usually do is to tell us how the programme works".* Students need to know what this programme is before they can fully adopt it. Students from undergraduate level on have used computers to type assignments and to conduct research. Yet, Moodle is different

from any office package. This suggests that students cannot rely on their basic computer knowledge to use Moodle. However, Lecturer 1 was positive that such challenges can be solved when they said: *"if the university can hire a person who understands the programme to come here and introduce it effectively to the lecturers and give us enough time and also introduce it to students".* This statement, "*…a person who understands the programme…"* substantiates what Lecturer 4 articulated, that the university employed trainers that were not mot much knowledgeable about the system. It should have been people who understands the system or people who are mostly using the system for teaching and learning. There may not be specialist of the system within the institution but surely there are few individuals that have used the system and understand it better. Training is for the purpose of passing knowledge to the trainee by the trainer. Lecturers did not gained any knowledge from the trainings they attended because their trainers were not knowledgeable about the system. As a result, participants think adversely about Moodle; and they now find it difficult to use.

Lecturer 2 notes that: "*Moodle was introduced to lecturers as one-size-fit-all. All of a sudden it is there and everybody is compelled to use it. Whether you know or you do not know how to use it but you are compelled to use it".* This suggests that there were many mistakes from the university's side in the manner in which they introduced Moodle. Moreover, when introducing Moodle, the management did not consider lecturers TK levels. Though short trainings were provided to lecturers to learn the basics of Moodle before they could use it for teaching and learning, it was critical to first do the trial or to check the understanding of the lecturers before they start to use it for teaching and learning. Failure to do the assessment on lecturers understanding of Moodle after the short training is the reason lecturers were not in favour of the system. Introducing the system equally to all the lecturers without having checked their understanding of the system after the training was one of the reasons lecturers disagreeing that Moodle is an option for teaching and learning. Therefore, the management should not expect participants to accept the idea as they failed to plan a good way of introducing it to lecturers.

Lecturer 2: *"…people end up copying what others do when they are using Moodle. Not using Moodle according to what I want to use Moodle for. If someone is posting slides on Moodle then I will ask him to teach me how to post slides and it ends there".* It usually depends on whether the

colleague is interested on what the other colleague is doing for them to ask each other to teach them how to perform an activity on Moodle. It is also confusing to students because students talk with their friends outside the lecturer rooms. If a certain lecturers is using certain features of Moodle with their students and other students are not using the features with their lecturers, students will lose confidence to their lecturers and the system. Students are learning fast, they can see lecturers that are not fully understanding the system. Lecturer 2 expresses that some participants are not knowledgeable about the system when stating that they ask their colleagues to show them how to perform certain activities that they do not know. Using Moodle because one has seen what others are doing, without understanding, is dangerous for these participants.

Coping from others is as a result of the lack of knowledge of Moodle from its broader perspective from lecturers. Indeed, their accounts verify that they do not use Moodle because they do not know much about the system and they do not know how to use it. The kind of mentality and knowledge they impart to their students is that *"Moodle is a conduit for us to convey messages to our students"* (Lecturer 3). This is the manner in which they use Moodle. It raises many questions as, according to the teaching and learning report, "the institution is acutely aware of the tendency to use LMSs as materials repositories rather than innovative teaching tools" (Vithal et al., 2016, p. 93). If the institution is aware of the manner in which lecturers are using Moodle to teach, the question is what are they doing to ensure lecturers correctly use the system? To this period Moodle is still not being successfully implemented but the institution is not doing much to assist lecturers overcome their challenges of Moodle. The fact that they know the problems that leads to the failure of the system is an indication that solutions are there with the management. Thus the management only needs to arrange further training with people who are knowledgeable about the system to teach lecturers how to use the system.

Lecturer 3 added to Lecturer 2's statement, that they are compelled to use Moodle although not knowledgeable about the system: *"there is another problem, not all of us know about those things. I think this is the same problem we are facing with the DBE in which we expect teachers to do wonders in class but there is no ongoing or continuous support system from them. Once in a while we were trained on that as far as Moodle is concerned, but there is no proper concerted effort from the university to make sure Moodle becomes the order of the day for all of us. Well we use it*

because we don't have course packs we are forced to use it but I do the minimum (uploading marks and assignments) that's all". The word "compelled" is repeatedly used by participants, meaning they are expected to use Moodle without being trained, in other words being forced to use an unfamiliar system. Thus, the manner in which Moodle has been introduced should be reviewed so that a better way is devised and employed to ensure that lecturers accept Moodle in future.

Participants do not completely discard Moodle, but they denounce the manner in which it was introduced. Their accounts confirm that the currently employed approach by which to introduce Moodle has made it difficult for them to accept it. Participants also believe that there are some ways in which this can be resolved. Lecturer 3 believes that one way to overcome such challenges is: *"if the university were to design a programme that would really help us change our attitudes first … they've got to take some of us step-by-step to make us understand why we need to change, how we are going to change, who is going to help us change, how are they available. We need to know all these things".* Lecturer 3 is correct, because change is a process and a process involves many stages. According to Berkvens et al. (2014), one or all the above issues is usually addressed before introducing the system. However, in this case it was addressed in an unsatisfactory manner, making it difficult for participants to adopt the change, resulting in Moodle being abandoned (Berkvens et al., 2014). Therefore, lecturers must be given a platform to express their perspectives on the system and how to implement it. Lecturers are at an advantage because they spend much time with their students and know them better than management. Management only knows students' behaviour through their results or through a report from students' representatives, drawing conclusions about students' needs. Once lecturers are involved, they may suggest relevant solutions as per students' needs. The use of Moodle also raises physical and financial challenges for both lecturers and students.

6.3.2 Physical and financial support

Usually physical challenges refer to challenges that utilise tangible apparatus that both lecturers and students need in order to access Moodle. These included laptops or personal computers, Internet connection, and many others. Without such apparatus or ineffective use thereof, there is no access to Moodle. Moodle is a technological software that requires computers and an Internet connection. If lecturers wish to be successful in their use of Moodle for teaching and learning they

must have the right equipment. Also, students need such equipment in order to communicate with their lecturers and interact with their fellow students. To gain such equipment one needs to be financially stable. The challenge is when a lecturer would like to work with students using Moodle and students do not have computers or an Internet connection, because they do not have funds to buy such equipment. These are amongst the challenges that lecturers reportedly encountered that hindered successful integration of Moodle for teaching and learning.

According to participants, the poor access of Moodle by students is one challenge that discourages them from integrating Moodle into their teaching. Participants experience many challenges with students. Some students do not know how to use computers, whilst others do not bring their laptops to the lecture room. Lecturer 3 mentioned that the problem lies with the students in most cases: "*I remember some time ago students went on a strike demanding laptops because they were claiming they can't access Moodle. They were complaining that the university has brought about new change, they've got to use Moodle but they don't have laptops. So, the university went out of its way and provided laptops to them. Guess what, in a class of 120 students you'll be lucky if 5 students are carrying their laptops with them".* Lecturers 1 and 5 verified this, stating their satisfaction on the issue of physical equipment: *"…the good thing is that each and every student in the campus has a laptop and Internet connection".* However, Lecturer 2 stated that at the beginning of the year, *"some students do not have laptops and they don't have skill to use a computer. So, it become difficult if you ask them to go and download an article from the learning site".*

Moodle requires the use of computers. It is therefore indeed a challenge if students do not bring their laptops to the lecture rooms. This is one challenge that discourages participants to the point that they think it is better to continue using chalk and the chalkboard (traditional teaching methods). It is worrying that students were provided laptops to use for their leaning but they do not bring it to the lecture rooms. Unlike instances where students were expected to buy the laptops themselves because they would say they are not affording to buy the laptops. Then if 5 out of 120 students brings their laptops into the lecture room, what does this mean exactly? Lecturer 2 indicated that some students are computer illiterate and therefore find it difficult to use their laptops. Such students may not bring their laptops because they will still not use them until they

are proficient. Despite these explanations, students were supposed to bring their laptops to the lecturer rooms so that they can get help on how to operate them from the lecturer and their fellow students.

Participants should also understand that a laptop or computer can do many things other than teaching and learning. The fact that students have laptops but they do not bring it to the lectures room is an indication that students have demanded laptops from the university to use them for other purposes either than doing their academic activities. It is difficult to work with students who do not have laptops in a space in which they were supposed to have their laptops. Students must be made aware that the laptops provided to them by the institution are for academic use. Those who lack computer skills should be taught how to use computers so that teaching and learning is not delayed. Lecturer 2: *"it will take almost a week for them to get the article, so if you go to the lecture hall and talk about that article some of them would have never seen that article. In that way teaching and learning becomes difficult".* Though, students are provided with laptops they continue to believe that lecturers will come to the lecture room to teach using the traditional method of teaching. It is crucial that students are made aware of Moodle and its purposes that resulted to the university providing them with laptops. If students are not aware of the purpose of Moodle the challenges experienced by lecturers in the lecture rooms will continue to exist until both lecturers and students are fully knowledgeable about Moodle.

On a similar note Lecturers 3 and 5 concurred: *"on the lecturer's part you find it difficult, you go to the class and you hope everyone got access to the material that you want to work on. Students, not even half of the class, have their laptops with them. Those who claim to have access to Moodle would be relying on their cell phones and it becomes difficult to teach".* Lecturer 3 concluded by stating that *"it is limiting and it's not accessible as university want us to believe it is".* Lecturer 2 concurs with Lecturers 1, 4, and 5: *"some of the challenges I identified that could be a contributing factor is that er… The majority of students here come from rural context where there are poor resources. Some of them don't understand how to use a computer basics. I think these are the challenges that the university need to look at".* Tedre et al. (2010, p. 14) indicated that "…generally speaking our students are not computer literate when they enter the university". The problem of students not knowing how to use computers is the reality of the African countries. It requires a

careful plan when students must be introduced to the use of computers for learning, considering the contextual factors of the African countries. We have in the country places that are rural where the use of computers in schools is only for teachers and not all of them use computers. Tedre et al. (2010) stated that in many developing countries, most students who join higher learning institutions have no ICT-related knowledge or skills at all. As alluded to that this poses a challenges that are expressed by participants when saying some students do not bother to bring their laptops to the lecture room for learning. According to Tedre et al. (2010), the reason behind that is that our students come from a variety of religions, tribes, and cultures, the combination of which makes it almost impossible to find a "fit-for-all" pedagogy with Moodle. This suggests that there is a lot of work that needs to be done if Moodle should be successfully implemented by both lecturers and students.

Funding helps people access various materials live up to the standard of their lives. To be able to access education, one must have funds; because there are many necessities needed for one to access Moodle. There are scholarships, financial aid, bursaries, study loans, and many other financial institutions that provide funds to students so that they can access education. This should not be taken for granted; the funds given to students from these institutions should be exclusively used for academic purposes. In as much as there are financial institutions funding our education, we should not take lightly that *"we are not at the stage where we are financially stable and our students are not financially stable", as* Lecturer 5 stated. She continued to caution students that they should: *"know that the money that they have should be for academic needs".* Using money wisely and for relevant purposes may help students solve their financial needs to access Moodle. Students have many academic needs. They should be concerned with the need to have funds to solve them.

As for financial challenges, Lecturer 1 also indicated that, *"it is a big problem because even those who attended ex-model C schools, sometimes you find that some of them are not funded by the National Students Financial Aid Scheme (NSFAS). Maybe they don't have laptops in that way they can't access anything".* This indicates that, without funding, students will have difficulties in accessing education. It is additionally challenging to a lecturer who is expected to use Moodle to teach their modules if students do not have laptops to access Moodle. Though, most students have

laptops, there are a number of individuals that may not have computers or laptops. It is not all about having a laptop, students also need ample time to practise how to use a laptop at one's own pace in a conducive space. Students can be referred to the ICT labs, only to find that space is limited. Lecturer 1 continued to mention that unfunded students: *"rely on their friends or they come to me for some notes. In that way after I have uploaded the documents I also have to make copies for them".*

Universities in the country do not accommodate all their students within their campuses where most of their resources are available to help students access Moodle. Usually some students are accommodated off campus and some come from their homes to campus. Such students can only access the Internet if they are on campus. Once they leave the campus they will need data bundles to access Moodle. Referring to such students, Lecturers 2 and 5 indicated: *"it is frustrating because students can't access it owing to the lack of data bundles for Internet connection".* Confirming this, Lecturer 2 indicated: *"for Moodle, students need to have data bundles to access it. At times students will come to you and say, 'I didn't download or I haven't seen your post on discussion forum because I didn't have data bundles to access the programme'. What can you say?"* This is challenging, according to these participants, because they have to spend time trying to help students access Moodle to gain learning materials. Those that had access to the programme early and downloaded the learning materials will be far from those that could not access the system on time. A lecturers will then have to extend the submission dates to accommodate those that accessed the information late. Though labs are always full, students should also be encouraged to use the computers available at the ICS labs to access Moodle, downloading the articles and any other information posted by the lecturers on Moodle. Lecturer 5 understands students' culture, especially if they have not done their assignments: *"students sometimes buy the data bundles but they don't use it for academic purposes".* In addition to the laptops provided to students they should be provided with modems which will be loaded data for internet access, especially those that are residing off campuses.

6.3.3 Teaching and learning culture

As the institution is in transition to integrate online to face-to-face teaching and learning, this process provides a perfect opportunity for the management to study the teaching and learning

culture within the institution. The culture upheld by lecturers and students often collides, and may hinder the transition process. However, this is usually caused by being in a certain space for a long time which makes people comfortable in that particular space. Once people are in a comfort zone they may find it difficult to try new interventions. Yet, one should understand that everything around us changes with time. One then needs to adapt to new conditions. Transitions from face-to-face to online teaching and learning is delayed by the culture upheld by lecturers and students. This then becomes a challenge for either of them to successfully use Moodle; these cultures hinder them from using Moodle.

6.3.3.1 Teaching culture

Lecturers are considered role models to students. Whatever they say goes, and whatever they do, students are likely to copy. This was also confirmed by Lecturer 5: *"at times students will look at us as their lecturers and would do what we do".* These participants should at all times strive to be perfect if they want students to aspire to their behaviour. Once they have negative attitude towards the system and avoid it when they should be integrating it into their teaching, students will follow suit. These participants need to change the way they perceive technology and stop comparing it to traditional methods of teaching. However, Koehler and Mishra (2005) argue that the introduction of Moodle to the educational process is not enough to make lecturers change, because technology alone does not lead to change. Consequently, literature revel to us that resistance to change is the most difficult part of implementing a new technologies when using e-learning for teaching and learning more than infrastructure issues (see Tedre, 2010 & Lwoga, 2012). Lecturer 4 is of the notion that *"lecturers need to convince themselves to need the programme for a purpose. Moodle has its problems I cannot dispute that but I think it's mainly their attitude*".

Apart from the fact that they did not receive thorough training that could have helped them change their perspectives on Moodle, the way in which these participants responded to Moodle results from a culture of teaching that they have been accustomed to for a very long time. Lecturer 3 courageously said: *"…maybe I am old fashioned and I am stuck on my old fashion ways of teaching and I don't want to move to experience new things. Why change if what I am doing produces the results that are required".* Producing the required results from face-to-face method of teaching to this participant is a fulfilment without having tried Moodle and see whether it improve or reduce

their performance. Though our long used methods have been producing required results we need to try new methods to see how they can improve our performance. This participant see no reason to adapt to new interventions because he is indeed comfortable with his long used teaching and learning methods. Face-to-face method of teaching have become culture and they want to preserve it. Barr et al. (2008) backs his actions, stating that a lecturers would agree to transition from their current teaching methods to Moodle provided they can achieve similarly successful results with Moodle. However, they should understand that the introduction of Moodle is not here to do away with their culture; it is here to boost it (Erol, 2016). This suggests that they should integrate the system in to their teaching and see the results, if the results are opposite to what they usually achieve when using face-to-face they then can consider not to adopt Moodle.

Lecturer 3 further stated that: *"besides the fact that personally I am not technologically savvy. I don't believe in these gadgets when I teach. My gospel is that if you are a teacher you should rely on yourself. Your subject matter should be within you or here* (referring to mind). *Know your stuff so that even if you had to teach under a tree you go there and teach".* The truth of the matter is that Moodle does not change the content of the module. It only affects the teaching method for delivering the content online. The module content will remain the same. The cultural teaching method of the lecturers will still be applicable, with some alterations. If a lecturer can go "teach under a tree" this means he can also teach using Moodle. Teaching under a tree has not changed the content of the module but has changed the space from the lecture room to the tree. So, it is with changing from face-to-face to online. Students will receive the same content when travelling, when under trees, or anywhere at any time.

One thing that participants ought to understand is the rationale behind the use of Moodle. As stated by Koehler and Mishra (2005), the main role of the lecturer when using Moodle is that they now have become facilitators and problem-solving experts, rather than experts in the module content. Lecturer 4: "*we have moved away from the teaching and learning culture in which students will read just to broaden their knowledge to know more about their phenomenon and to have strong arguments".* This is the kind of teaching and learning culture that we should adopt, so that students will be able to stand on their own in the near future. Lecturer 5 advised on the previous comment, stating that as lecturers: *"I think we need to change our perspectives in terms of thinking and find*

ways because we cannot be standing in front of the students and be preaching all the time. If you are not going to use these tools that means you will only be preaching. Imagine if you happen to be a preacher in a church it might be 50% of the people that are listening to you. I know the culture of our students I will make sure that I interact with them". It therefore becomes a challenge for lecturers to integrate Moodle into their teaching if indeed they have not changed their minds about their own teaching methods.

Despite all that has been said by Lecturer 5, Lecturer 3 still maintained his stance: *"I don't see it taking any one anywhere, I really don't. It's a destruction of Mind"*, although Lecturer 3 was not specific on how Moodle can confuse the students. One may argue that, instead of Moodle addling the minds of the students, it will develop them. Lecturer 4 partially supported him with some facts: *"students won't know how to write and there is a cognitive benefit of writing. I think it is going to have a negative impact on our students. Also, the issue of spelling because computers have auto spelling correct".* This may be true, but to what extent I am not sure. It has been repeatedly mentioned that Moodle does not intend lecturers to completely do away with handwriting, but to enhance face-to-face teaching and learning methods. Moreover, there is cognitive benefit in discussions that take place among students on Moodle. One can argue that students must still know how to write. Once students type a word incorrectly and the computer autocorrects this, they can learn from those corrections. Moreover, it will not be all the time that students will use computers to write their work. There are times they will use their handwriting, especially when they draft their work.

To corroborate his argument, Lecturer 3 opined: *"you know as researchers and educationists we draw from wisdom of previous thinkers. There were no gadgets back then but people were coming up with brilliant inventions that still rock the world even today. The introduction of gadgets confuses teachers and make them think they have to work less".* Again, this is all about how one was introduced to Moodle. Lecturers must be able to differentiate between using computers to teach and using the traditional method, i.e. the paper-based teaching method. When we teach our students, we develop a certain kind of learning culture which they will have to use in the near future. If lecturers say it is good to use rote learning then students will accept that and use it.

6.3.3.2 Learning culture

Moodle use is suffering in the hands of lecturers and students because of the way they perceive Moodle compared to traditional teaching and learning methods. This is due to how students were made to understand the purpose of teaching and learning from the outset. Thus far, students have internalised the old method of learning and they understand it to be an easy way of learning. Students' responses to Moodle are not satisfactory and as a result Moodle is not flourishing as may have been expected. One may have expected that students born in the technology era would accept Moodle and enjoy using it more that their lecturers. Surprisingly, students are not as interested in Moodle as one may have envisaged. What is currently happening is the opposite. Lecturer 4 stresses that lecturers *"are so attached to this thinking that teaching is for the tests".* This is the kind of culture that has been instilled into students. As a result, students always want to work for marks and less for knowledge. Lecturer 4 continued: *"you will never win with students if you do not attach anything that will do with marks, that is what I realised".* Again, the manner in which Moodle has been introduced and explained to students has made them think of Moodle itself as a module.

As a result, students shy away from using Moodle because they are afraid they may fail, not being sufficiently technologically savvy. Students should be taught that Moodle is not a module on its own. Using Moodle does not come with tangible incentives but it helps develop a student in many ways, especially their critical thinking skills. As they participate in the discussion forums, students learn to think critically rather than always reading their notes and cramming for exams. It is clear that Moodle has not been well explained to students just like it was not explained to lecturers. Participants' accounts below inform on how they use Moodle and how they teach their students to understand Moodle. When asked if participants do make students aware of the benefits that come with Moodle, Lecturer 2 responded: "*Even if you tell them two or three will go there. They don't care for developmental purposes only for assessment purposes".* The only way to make students log in to Moodle is to tell them that they will earn marks for doing so. Students think that they earn marks because they have logged in to the learning system. Yet students can download the notes and write their arguments on paper and still earn marks. Lecturer 2 added that: *"they will be aware only if you tell them that they should go to discussion forum for the sake that they will get marks after they commented, that is when they will login".*

Lecturer 4: "*the manner in which I do it is that I make it compulsory, although I realised that sometimes not all of them login. What I do is I make weekly, monthly or quarterly quizzes. When we complete a chapter, I make a quiz for that chapter. So, everyone has to login and out of one hundred percent (100%) I allocate ten percent (10%) for the quizzes".*

The manner in which these participants introduce Moodle to students is the reason students will never understand the exact purpose of Moodle. Students are supposed to use the system for learning the module content so that they will be able to participate in discussions and other projects on the system. It will be easy for students to participate in activities that will award or earn them marks on Moodle if they have been using the system for learning throughout the month or quarter and even a semester. The culture of learning for marks is what Moodle is here to do away with, so that students learn to develop skills in their academic life or journey. Students are forced to use Moodle; if they don't use it they lose marks. The manner in which Moodle is used affects the degree to which students actually use Moodle. As a result Moodle is at risk, to the extent that the students may not adopt it (Davis, 1986). Yet, the exact purpose of Moodle is that:

> *It highlights the existence of two distinct learning styles: separate knowing and connected knowing. Connected knowers tend to learn cooperatively, and are more congenial and more willing to build on the ideas of others, while separate knowers tend to take a more critical and argumentative stance to learning* (Dougiamas & Taylor, 2002, p. 3).

This is the kind of mentality or learning culture that Moodle advocates. The use of discussion forums is meant to ensure that students work as connected knowers, so that they will build from their fellow students' ideas as they critique one another's ideas. This helps students to express themselves, understand that they are protected by the availability of their lecturer within the group or the forum. As a result, students develop their critical thinking skills. It is then that they can earn marks because they have developed such skills, not earning marks because they have logged into the system and thrown in one or two sentences as comments — sentences that might not even state a strong argument.

It was discovered that, because of the manner in which these participants use Moodle, students do not consider the system worthwhile for learning. As a result, Lecturer 3 suggested: "*if we were to find a way of making it the main tool for their learning in terms of teaching, assessment, and everything else then I think it would have a respect it deserves".* Students cannot be entirely blamed for the way in which they perceive Moodle; it is because of the way Moodle is explained to them. There is an outcry that students do not even bring their laptops into the lecturer room to use them to study. Lecturer 3 stated a number of reasons that students do not bring their laptops in the lecture room: *"they don't bring them in class and they say they are heavy or cumbersome to carry. So, what's the point?"* Lecturer 4 opined: "*for me it is all about the teaching and learning culture".* The culture of learning for marks should be avoided so that students will use Moodle as a teaching and learning tool not a module. Do participants understand their roles on the use of Moodle for teaching and learning? If Lecturer 3 asks: "what is the point?" one wonders who should make it a point that students bring their laptops to the lecture room and for what purposes.

6.4 Participants' perspectives on technological knowledge

Technological knowledge is a staple requirement for lecturers if they use Moodle to teach their modules. However, most of the participants in this study have asserted that they are not technologically knowledgeable to the extent that they can confidently integrate Moodle due to the lack of understanding the theoretical perspectives of technology. The only knowledge they have is basic knowledge on how to use the system and that is not enough to further influence students to use the system. Mishra and Koehler (2006) indicate that current research on educational technologies are concerned with the requirements of lecturers for appropriately integrating technology into their teaching. Among the requirements, the one that receives great attention, is lecturers' technological knowledge. However, participants in this case, indicated that not much was done to ensure that they have technological knowledge before commencing using Moodle. The suggested solution to this is: "until we examine the impact of computer technology from a theoretical perspective, we will continue, myopically and unsystematically, to define the isolated pieces of the puzzle in our separate classrooms and discrete research studies" (Mishra & Koehler, 2006, p. 1018). The success of Moodle usage is contingent on technological knowledge from both the lecturers and their students in order to effectively use the system. If the system is used more by lecturers than their students, then the possibility is that students may not understand the system

(Dougiamas & Taylor, 2002). It should be noted that using Moodle is not intended only for lecturers but it is also meant for students.

On that note Lecturer 1 indicated that: *"we still have a problem because Moodle is still new to us".* Some participants may be using Moodle for the first time to teach and they are not familiar with Moodle. It is advisable that they search for information to become technologically knowledgeable in order to use Moodle. For some participants it is not possible to help students understand Moodle and how to integrate it in their learning, because they themselves are not technologically well-informed. Lecturer 5 said: *"…but the issue was, it was a situation of saying as a lecturer are you computer savvy or are you computer illiterate? If you are computer literate you can use it easily but if you are not then it's one of those cases that is really about university lecturers and students' technological knowledge that enables them to use Moodle"*. By 'university lecturers and students' Lecturer 5 was referring to lecturers using the traditional teaching and learning method. More so, Lecturer 5 agrees that it depends on whether lecturers have computer skills as to whether they can use Moodle. The issue of lecturers being computer literate or illiterate is another factor that should be considered because it also serves as an obstacle for some participants wishing to use Moodle.

The truth of the matter is *"we are not well trained and some of us are computer illiterate. They are computer illiterate in such a way that they can't be able to learn to use all the functions of Moodle, so that is in which the problem lies",* said Lecturer 2. Lecturer 3 confessed: *"…I am not technologically savvy".* These are the issues that lead to the use of Moodle not being a success. If a lecturer is not computer savvy and they are expected to use Moodle, how can such be achieved? This may lead to lecturers relying on other people, whom they refer to as technology experts. Lecturer 2 continued to say: *"there is no one responsible for Moodle in this campus and that was my outcry".* Lecturer 3: *"again I don't think it's my responsibility to push students to use Moodle".* The fact that they are not well informed about Moodle does not take away their responsibilities of being mentors to their students. It is not about pushing students to integrate Moodle in their learning but it is about using Moodle so that students will use it too.

Lecturer 1 said: *"there should be some lecturers employed to teach the students computer literacy infused with Moodle from first year until their fourth year".* If, according to Lecturer 1, students should be taught about Moodle and how to integrate Moodle in their learning, lecturers should be afforded the same privilege. For the university to introduce Moodle with many students not familiar with Moodle and how it should be integrated in teaching and learning suggests that it is supposed to be the lecturers' responsibility to introduce students to Moodle. This is one issue the university management needs to consider if Moodle is to serve its purpose. It is good that participants understand the challenges experienced by students when they use Moodle to access information. Lecturer 1: *"the majority of our students here come from rural context where there are poor resources. Some of them do not understand how to use a computer. I think these are the challenges that the university need to look at. I think soon after registration students need to be taught the basics of computer".* There is a module called 'computer literacy' in which students are taught computer basic skills. Thereafter, Moodle is a teaching tool allocated to a lecturer to help them teach their module. It is crucial that students should know how to use Moodle so that Moodle can indeed promote constructivism as intended (Dougiamas & Taylor, 2002).

Lecturer 3 explained that: *"having Moodle is one thing and getting students to use it properly is quite another".* Once lecturers understand the real notion behind Moodle, teaching and learning may become easier for both lecturers and students. Lecturer 1: *"some complain that they are still trying to understand and learn this thing. Because the intention is to pass students I must offer that extra support. Sometimes I refer the students to those who understand Moodle better for assistance".* Seeking assistance from others is an option, especially when a lecturer is still trying to learn and understand Moodle. Lecturers should also understand that "Moodle can assist lecturers to transmute their teaching practices and provide students with real learning experiences by facilitating student discussions" (Vithal et al., 2016, p. 93). Lecturers' failure to articulate the real reason for Moodle, can cause students to not participate in the learning system. It is up to the university management to ensure that Moodle is known to the lecturers, who must teach their students and engage them on the learning platform.

6.5 Lecturer's and student's interaction on Moodle

Participating on the learning platform (Moodle) was reported by participants as one of the challenges that contributes most to the abandonment of Moodle use in teaching and learning. Learning strategies that are effective with online teaching are analogous to those that are used in a traditional classroom (Gautreau, 2011). As a result, participants may see no necessity to participate on Moodle, instead preferring traditional classrooms. To overcome such, Moodle should be used to its maximum potential to ensure that, as the mode of content delivery both students and lecturers understand Moodle to facilitate communication, group discussions, and collaboration in their teaching and learning (Gautreau (2011). According to participants, students do not bother with using Moodle for learning. They are still interested in learning using traditional methods. Participants think there are many reasons for both lecturers and students not participating in Moodle. Lecturer 1 said: *"as I teach PGCE I also infuse the traditional method because you cannot use Moodle alone, it goes hand-in-hand".* Lecturer 4 concurs: *"again I think it depends on what you are teaching, you can't teach everything on Moodle. Let us say you are teaching postgraduate students… Moodle works best with them because the majority of them had been exposed to computers they understand how to write arguments".* Infusing the traditional method of teaching while using Moodle is a prerequisite because Moodle is not a total substitute for the traditional teaching and learning method. Lecturer 1 is correct to use both online and face-to-face teaching methods in his modules. Yet, the question is, between the two methods, which method is given precedence and for what reasons? Indeed, the two methods should not be completely separated.

In this case, despite the modules taught, the dominant teaching method is face-to-face because it is less challenging to lecturers who have been using it for a long time. This is a clear indication that the modules can be presented using Moodle. However, participants see no need to use Moodle because their old method of teaching produces the required results. Yet, it is not about producing results, it is about exposing students to independent learning so they develop critical thinking and other skills that may help them on their academic journey. As for Lecturer 2, he can be correct in saying "there are modules that cannot be taught on Moodle". However, to what extent this statement is true is difficult to tell until a study has been conducted that can probe modules to check which ones can be taught on Moodle and which cannot.

Lecturers also think that Moodle is not helping them meet their goals for teaching in that they are "using basic digital technologies to enhance their learning, more often than not they are interpreting e-learning simply as accessing information from the web" (Unwin et al., 2010, p. 4). At the moment, participants only post notes and information on Moodle for students to download. They have not fully engaged students on the use of Moodle. In Moodle's design, for its main purpose, its features and how it is proposed to be used, all modules can be taught on Moodle. A lecturer can also post any activity for students to attempt. If they fail, a lecturer can post a solution with a recorded voice to inform students on how to solve that particular problem. However, according to the participants, students do not participate in Moodle to discuss the topics or activities on their own before the lecturer elaborates in the lecture room. Figure 6.1 indicate how often students access the system and the dates they accessed the system. These are the indications of how frequently students and their lecturers engage on Moodle.

Figure 6.1 below also indicates the number of students enrolled for this particular module and how often they access Moodle. However, this figure represents an undergraduate module and students enrolled for this particular module. The participant indicated that this year she had not communicated with her postgraduate students on Moodle. Noting that Lecturer 4's postgraduate students *"…don't communicate with me using Moodle in postgraduate. They rather sending me emails or because they are at postgraduate they also have access to my cell phone so, I normally communicate with them using calls"* she said. *"I think it is the issue of years because you are still very young and you are very much wanting to know about technology whereas getting older your interests lies somewhere else. Either than that, this year I haven't communicated with my Masters students on the Moodle site".* This is one challenge most of the participants have indicated, that their postgraduate students do not use Moodle for learning. As a result, lecturers use their experience of using Moodle for their undergraduate modules because it is used similarly with postgraduate modules. There is only one class that appears on this report instead of 5 as the participants are 5. Only one participant added me and the figures below indicate their activities on Moodle.

Scrolling down this page I discovered that some students last accessed the system a month prior to the date of the screen shot. As I was reviewing the module I also discovered that students did

not engage in any discussion, whether on their own or with the lecturer. Students simply logged into the system to check for posts. The system indicates that they had been logged onto the system for only a minute or two before logging off. It is not clear whether they are uninterested, or whether they just logged in to check the posts, download posted notes, or seek activity topics. Many students, the system indicates, have never logged in; yet there are assignment questions and projects posted on the system. Some projects were posted on the discussion page, but they were not discussed.

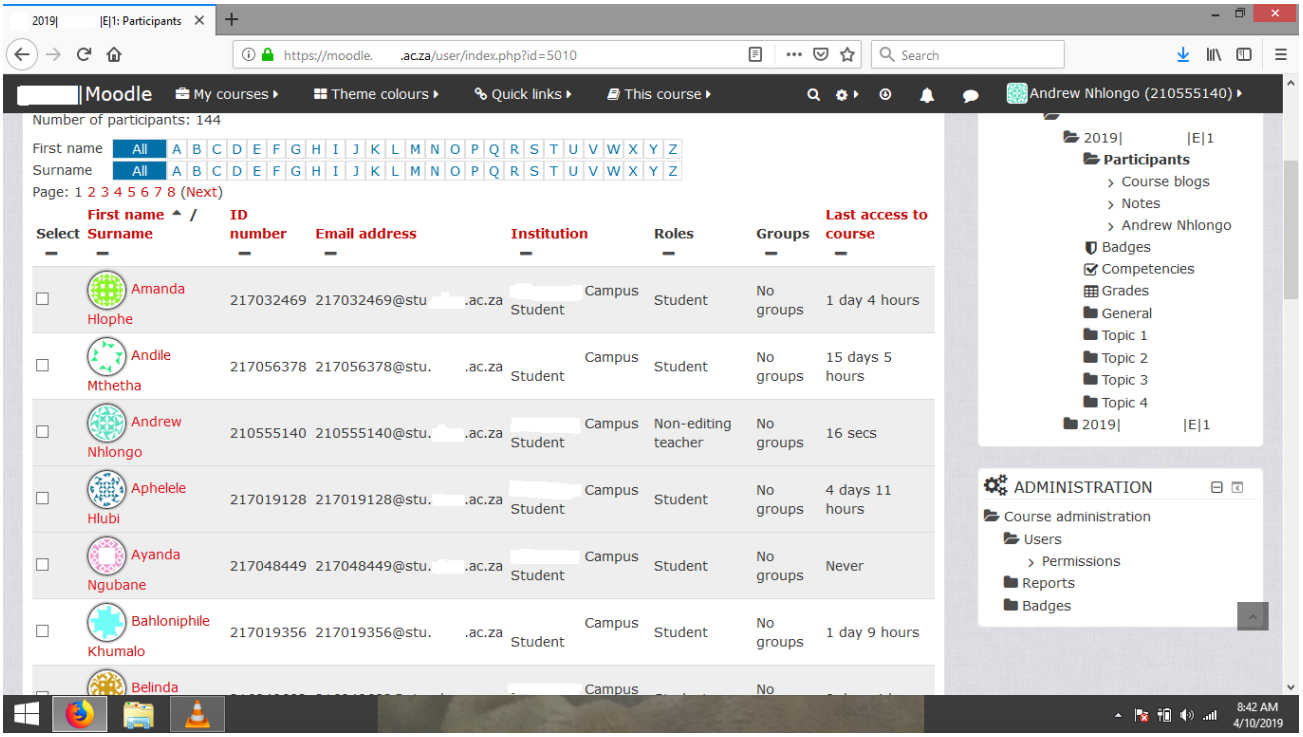

Figure 6.1: Students enrolled for the module on Moodle

Lecturer 3 raised a concern about students participating on Moodle: *"the fact that we have Moodle in place doesn't necessarily mean everything is suddenly ok and students are using it or can use it".* Once again it is about being well informed on Moodle. Figure 6.1 indicates that there are 144 students enrolled for this particular module. The access dates indicate that some students took longer to login to the learning site. Some students have never logged in. This is one of the participants' main concerns – students do not log in to the learning system to access information and engage in online discussions. This makes it difficult for lecturers to rely on Moodle, because many students lag behind with information.

Lecturer 1's work strategy and how he helps his students participate on Moodle: *"I will upload the notes so that when they come to the lecture room we will discuss the notes. Even the tutorial activities because we do have the tutorials activities via this programme …in the lecture room we do those calculations or problem solving, if they are struggling I upload the solution on Moodle".*

However, this is not always the case for some participants, as Lecturer 2 said: *"when you give them an opportunity to discuss a topic amongst themselves and share ideas they don't even care".* It may also happen that there is no engagement on Moodle by both lecturers and students because lecturers post activities on Moodle and discuss them face-to-face in class. Lecturer 5 articulated: *"they are not very much computer savvy; they don't communicate with me using Moodle in postgraduate modules. They rather send me emails or communicate with them using phone calls".* It is obvious that these students are not completely computer illiterate, nor are they well informed about Moodle. If they can send an email, it means they can send a chat, or participate on discussion forums on Moodle. Accessing email is similar to accessing Moodle. All it requires is that a student logs in and sends a message.

Figure 6.2 indicates the summary of students that viewed the topics posted on Moodle. According to the screen shot, fewer than 5 of the 144 students (approximately 3.4%) viewed each of the topics on different occasions. Topic three was sent as a topic for discussion. However, only two students viewed this topic, and there were no discussions that took place for that topic. There is a need to find a strategy to encourage students to participate and use Moodle. If not, Moodle will be a failure at this institution. Heeks (2002) notes that the total failure of the use of online systems is a result of the systems never being used, or the system being used but immediately abandoned because of challenges encountered and left unaddressed. Also, the university management should view Moodle and check how it is used by lecturers, thereby maximising its use.

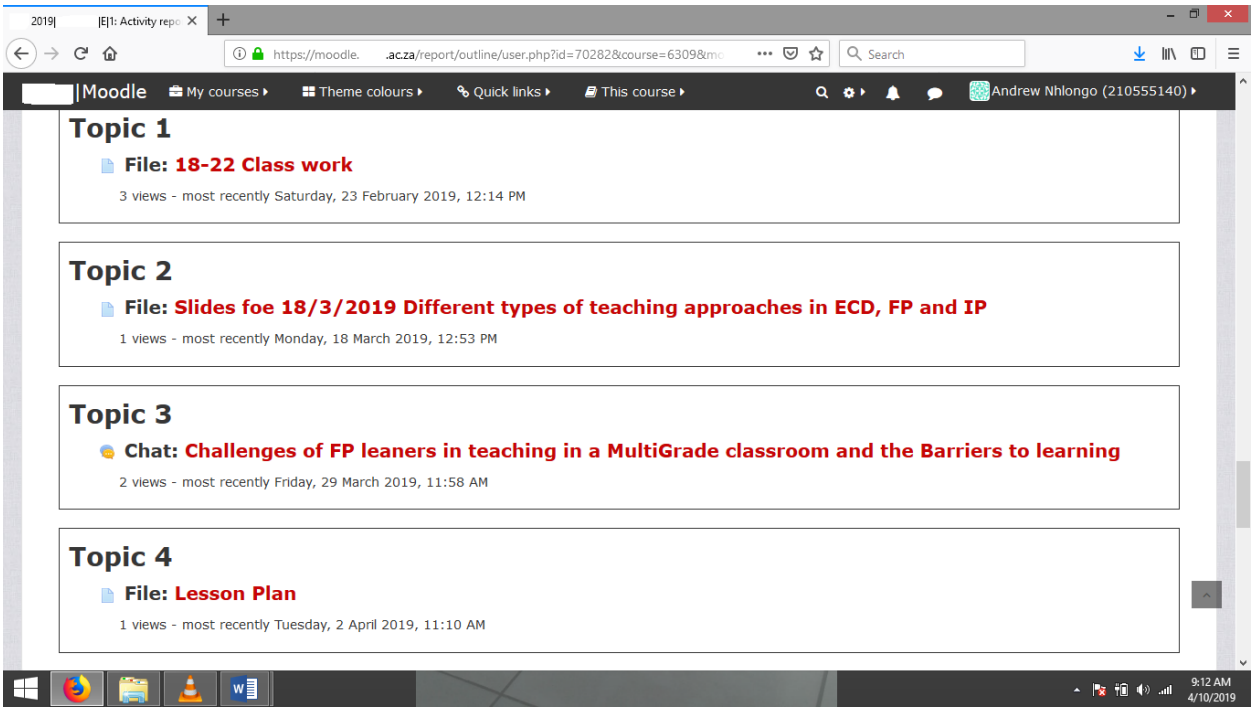

Figure 6.2: Summary of students' views on various topics

Participants have stated many reasons as the cause of Moodle not being used as projected. Out of the 144 students enrolled for this module, fewer than 5 students viewed each topic. Students understand that their lecturers will provide them with this information in the lecture room. Therefore, they do not feel the need to use Moodle to access information and to learn. The numbers, as indicated in this figure, indicate that, currently for students, Moodle is not an option for learning. There must be radical strategies to ensure that Moodle is well understood by both lecturers and students. Then we may see a change in the current numbers, as reflected in this screen shot. The lockdown made participants to fully use Moodle and they realised the importance of the system and they used it to teach and not using it as a dumping site. Students too had no other option than to learn how to use the system on the spot in order to continue with their studies during the lockdown. Participants think that assessment should be conducted on Moodle as one way of drawing students' attention to Moodle participation.

6.6 Perspectives on the use of Moodle for assessment

Moodle has numerous features that can be used to teach, including the discussion forum in which a lecturer can have a conversation with their students. As a norm, once students are taught, they

should be assessed to check their understanding of the content they learned. With Moodle, there is also a feature (quiz) in which lecturers can assess their students. The quizzes are used to assess certain sections of their modules. Moodle can be modified to add a feature in which lecturers can assess a full module using Moodle. With that, participants were of the opinion that if Moodle could be used to assess the whole module, the system would be accorded the status it deserves by both lecturers and students. Lecturer 3: *"I guess if we were brought to a position as lecturers in which even assessment is Moodle based maybe our students would take it serious as opposed to what is going on now. For as long as it remains like that very few students will have respect for Moodle".* According to Davis (1989), if Moodle does not help either lecturers or students perform their jobs, it is not likely to be favourably accepted. According to the participants, students do not use Moodle to learn. Participants believed that there should be some ways in which their students can be made to use Moodle. One strategy is that Moodle should be used to assess students. This may also provide impetus to some lecturers to learn more about Moodle.

It is clear that participants recommend that assessment be conducted online to ensure that lecturers and students use Moodle. Lecturer 4 articulated that lecturers should not let discussions be solely left to students but: *"we need to engage with the students through discussions, they have to complete assessment on Moodle and we had to upload extra resources and engage with them".* These participants realised that students would be encouraged to use Moodle if assessment could be done via Moodle. Lecturer 4 posits that, as lecturers, "they need to be part of the discussions and ensure that they assist students, guiding them on how to take part in the discussions". Thus, they need to familiarise themselves with Moodle and ensure that they participate in order for them to be leading examples to their students.

Lecturer 1 was concerned about students not participating on Moodle stating that: *"If they do not use Moodle to access the documents I uploaded, that will affect their assessment because they need to use those notes to prepare themselves for formal or informal assessment"*, considering that assessment seems to be key in teaching and learning. It seem participants are convinced that students can fully participate on the use of Moodle if assessment can be done through the system. Vandeyar and Killen (2007, p. 102) opine that educators who perceive" assessment as a useful means of gathering data upon which to base decisions about learning and their own teaching, will

attempt to make assessment an integral part of teaching". However, the focus should not be more on assessment as a means to getting students to use the system. Even if assessment can be conducted on Moodle lecturers themselves should be in a position to fluently teach using Moodle. Considering the notion of FITness according to Harris et al. (2009) when using Moodle to teach will ensure that assessment is correctly administered. Passing and failing students is determined by assessment in which students are assessed to check their understanding of the content they learned. Students should not fail their modules because of the systems faults and inability to operate the system to write their exams. This suggests that students themselves should acquire FITness when using Moodle for them to be able to write their exams on the system. If using Moodle to assess modules can be of help to ensure that both lecturers and students participate on Moodle then the university management should consider these suggestions. This would prevent Moodle from being a failure despite the university having invested considerable funds in developing the system.

It is a common statement that *knowledge is power*. Yet it is a different story altogether for Lecturer 2, taking from his statement saying: *"not all of us* (lecturers) *can use all the functions or features of Moodle… If you can ask me all the features of Moodle I cannot give or tell them. The only thing that I know is to upload files for students. When it comes to quizzes I do not know how to set a quiz, I do not know how to set a discussion forum but those functions are there"*. It is disturbing that there are participants who do not know how to set quizzes, yet they are supposed to assess the students on some of the aspects they have taught their students. Lecturer 5: *"I don't have large classes in which I would have tests that they write using Moodle. In fact, the quizzes. In as much as there are quizzes but for me I use it for communication and teaching purposes".*

If students can spend time responding to questions posed on the discussion forum or chatting to a lecturer or students on the chat space they can complete their assessment on Moodle. The use of quizzes is an additional indication that exams or tests can be conducted online. Though this can be challenging, especially to students who do not often use computers because they may not have a required typing speed to complete their activities on time. The shortage of computers to equal all the students who will be writing different modules in a single day or sharing exam centre at s certain time. South Africa at the moment is experiencing shortages of electricity, should it happen

that it cuts off while students are writing their exams it could be a delay and can spoilt the exams if the institutions does not have generators as backups. Undergraduate students may experience challenges working on a computer owing to their backgrounds. Therefore, assessing students online can be time-consuming for them, however, with postgraduate students, they may save time when assessed online.

6.7 Perspectives on the time used to teach with Moodle

Time is one crucial factor that impacts on teaching and learning, especially in the use of Moodle. On a daily basis, online teaching and learning has a different time frame compared with traditional teaching and learning. According to participants, using Moodle for teaching and learning seems time-consuming for lecturers because students are not familiar with Moodle. Some lecturers, equally, are not computer savvy and some do not know much about Moodle. It takes them time to become proficient on Moodle. Lecturer 4 confirmed this: *"Moodle takes much of the lecturer's time but once students are accustomed to it the lecturer's work is going to be easy".* Lecturer 3: *"…you upload notes on Moodle or assignments then two weeks later students come to you and they didn't see it because they don't check it".* Lecturer 5: *"I cannot say it saves us time. It saves time only for the students that have seen the work that I have sent. If they haven't then it means I would have to go back and do the same thing that I have done. In that way I haven't saved time".*

The above accounts make it clear that, for Moodle to be effectively used, and to save lecturers time, students should frequently log in to the system to be updated on the daily activities. It is disturbing for lecturers to have to spend time waiting for students to submit an assignment, only to find that students have not completed the activity because they did not see it on Moodle. The screen shot above indicated that some students log in to the system after some time, while others have never logged in. Thus, teaching and learning suffers. As a result, Moodle may end up not being used. It is crucial to ensure that lecturers and students are accustomed to Moodle so that the system can be used to its fullest. This may help in saving the time that is being lost, as lecturers have indicated.

Lecturer 4 further added: *"I think we should not depend solely on Moodle given our context because in the Department of Education we accommodate, I would say 80% students who are*

coming from quintile 1 and 2. So, basically those students they come here with no computer knowledge. They just have a brief knowledge of cellphone and a computer here and there but they are not computer literate. So, they struggle". This is one of the issues that should be considered. Internet connection for students when at home is another factor that wastes time: students can often not access Moodle while at home. Postgraduate students are expected to work on their own in their own space. If they come from areas where there is poor Internet connection they may struggle to complete their work on time. When they come to campus they may be late for submissions. As they continue with their work they may need to send assignment drafts to their supervisors, to check whether they are still on track.

Lecturers 2 and 4 concurred that: *"yes there are challenges, say you create a module and it doesn't appear on students, it only appear to you as a lecturer and you don't know how to fix it".* This is a technical challenge that lecturers should be aware of, knowing how to troubleshoot the system. If a lecturer creates a module and it does not appear on the students' page, a lecturer may spend a week thinking that the students have seen the module on Moodle, yet they have not. Week later the lecturer realises that the module had not appeared on the students' page. Lecturer 3: *"you walk into the lecture room having your own copy of a poem and you believe everyone has a copy. To your surprise you can't go on because students do not have their copies"*. He further stated that it is either that students did not have access to the activities because the module did not appear to them, or they had not logged into the system. Lecturer 3, opined that Moodle is costing lecturers much time which they would have saved using the traditional teaching and learning methods. He gave the example of his students: *"particularly on my module, some time for tutorials you want to work on four poems at the same time and you have four groups that are working on different poems each. If students don't have these poems in front of them, how are you going to do it? So, you end up focusing on one poem that you were able to display on the board".* This is an indication that the success of Moodle is in jeopardy unless all these issues are dealt with immediately.

Work that should have been done in one day will be done over a week or more. This is because the lecturer wanted to work on four poems, yet could only work on one. He will have to spend other time working on the remaining poems. Using Moodle for teaching sounds like a good idea, but because students have not mastered the system it is costing lecturers more time. Thus, there

should be strategies that ensure lecturers and students understand Moodle and are able to use it in a way that can save them time.

6.8 Impact of using Moodle for teaching and learning

Migrating from one social space to another always comes with concerns; and it also comes with gratifications. As people get used to a certain environment they find short cuts leading to success. Some people may not completely be satisfied within their environment and they may want some aspects to be done differently. In this case, participants have to add technology to augment their teaching. To them, Moodle has an impact on their teaching. For some participants, Moodle has a positive impact on their teaching; for others, it has a negative impact on their teaching. This is common and expected, especially when people move from their known space to a new (unknown) space. Lecturer 4 stated that "*some of the lecturers are complaining that is how I can summarise it. Yet, what they are complaining about is what I and some of my colleagues are doing. They are not saying how can we do it but they say it is not possible. It is a statement that comes from the comfort zone".*

People work well in their comfort zones, having mastered short cuts to their success. It is challenging for some participants because they have to adapt to this new teaching and learning method that cannot simply be accomplished by horizontal understanding. Being in a comfort zone could be a disadvantage sometimes because people cannot see good things that may come their way. It is for that reason that participants have misgivings about integrating Moodle into their teaching, stating many reasons as negative impacts of Moodle on teaching and learning. Moodle should therefore be used in such a manner that students can benefit by using it, instead of disadvantaging them in the name of change. However, it is too early for participants to have come to such conclusions because there is still a long way to go. Participants should be patient and take their time learning how to use each tool Moodle offers. They should encourage students to use Moodle, while not forgetting to caution students about the positive and negatives of using technology in their learning.

Indeed, such problems can be overcome by lecturers going the extra mile in search of knowledge about Moodle and how they can effectively use it for teaching and learning. At present, Lecturers

2 and 3 indicated that using Moodle is frustrating. Both said that they experience the *"same frustrations, we were introduced to Moodle without being consulted. …Moodle have not impacted my teaching in any way. If anything at all had impacted my teaching negatively is Moodle because you go to class hoping and believing that students would access Moodle yet, they don't have laptops".* One can caution that participants should be patient with Moodle. While the university is working out strategies to ensure that every student gains the devices to access Moodle, participants should be searching for information on how to use Moodle. Being introduced to Moodle without being consulted is referred to as being introduced to Moodle without being trained to use Moodle. This is one concern all the participants raised on their perspectives, stating that it impacts negatively on their teaching. They are introduced to Moodle *"…without necessary understanding it and whose relevance is never known to us but we are expected to embrace it and run with it"* added Lecturer 3.

Some lecturers maintain that the introduction of Moodle as a supplement to their teaching and learning was not a good move. Lecturer 4 noted that: *"it depends on how the lecture is, whether he or she is computer savvy or not. If they are not computer savvy they have got all the negatives about Moodle".* This is indeed true. Some participants complained that Moodle has a negative impact on their teaching; others do not perceive it in that manner. Some participants indicated that Moodle is a good idea because it may help students progress well. Lecturers 2, 4, and 5 indicated that Moodle is a good tool to be used for teaching because: *"you are able to reach a broader audience of students and it provide communication instantly and provide feedback instantly".* More so, Moodle helps in *"preparing our students for the 4IR that has started outside in their working places",* added Lecturer 4. Therefore, participants should learn to accept technology in order to successfully use it in their teaching as it is here to stay. After participants used the system to teach during the lockdown their perspectives about Moodle have altered and they indicated that they have realised the importance of Moodle. They realised how easy it is to use Moodle and they promised to continue using the system after the lockdown.

6.9 The impacts of COVID-19 Lockdown on participants' perspectives of Moodle and online learning.

Since December 2019, the world has faced an unprecedented struggle against a global pandemic we are still working to eradicate today. The Coronavirus 2019 (COVID-19), which was first reported in China in December 2019, has now spread to every continent except Antarctica. Research centres (scientists) and health care providers in South Africa and around the world are working hard to understand this virus in order to find a vaccine to curb the spread of this deadly virus. This virus is spread from person to person through droplets in a sneeze or cough, body fluids, and contaminated objects and surfaces. To date, globally over 10 Million people have been infected and over 500 000 have died (as of 02/07/2020). In South Africa, over 159 333 people have been infected, and 2 749 people have died (as of 02/07/2020). Due to the COVID-19 pandemic, on 15 March 2020, South African President Cyril Ramaphosa declared a State of Disaster in the country and enacted a strict National Lockdown with effect from 26 March 2020. Currently there is no approved vaccine or cure for this virus. As a result of its persisting existence it has greatly affected the economy of the country because many industries and/or companies have closed, in line with lockdown regulations, as a means of preventing the spread of the virus.

Some industries are closing because they have no income and people are retrenched, so there are long term consequences of COVID-19 and the lockdown. However, to prevent job loses, the lockdown regulations were eased to allow companies to open and allow people to go to work provided they will practice personal hygiene, wear masks in public and observe social distancing. In addition, South Africa's educational system has been no exception to the lockdown especially as children are especially susceptible to the virus. Since the reopening of Schools on 8 June 2020, with only Grade 7 and 12 learners returned to schools, many schools in the country were temporarily closed due to COVID-19 infections amongst teachers and learners. Universities have phased in the second cohorts of students in level 3 with strict regulations to be adhered to if the spread of this pandemic should be minimised. The minister on his media briefing on the 23 May 2020 once indicated that under lockdown level 3, a maximum of 33% of the student population will be allowed to return to campuses. The COVID-19 pandemic has brought about a "new normal" in which people need to understand and accept to live with.

As time goes by it is evident that COVID-19 will be with us for longer than projected. Therefore, keeping schools and universities closed will interrupt the system, not only for the current, 2020 academic year but for the 2021 academic year as well. The COVID-19 pandemic and the lockdown have enormously and negatively impacted on traditional face-to-face teaching and learning practices within our schools and universities because of the restrictions on physical contact between people. It was not possible to keep the universities open because, according to lockdown regulations, only fifty or fewer people are allowed to gather at any time provided they maintain a social distance of at least 1.5 metres. Considering the population in our universities and the overcrowding in the lecture rooms, it was not possible to call all students back to campuses to continue with their studies. It was then suggested and announced that teaching and learning should continue through online models. According to Professor Asha Kanwar, President and Chief Executive Officer (CEO) of the Commonwealth of Learning, "online learning have become the only means for educational institutions to keep the doors of learning open during COVID-19 pandemic and lockdown" (COL, 2020, p. v). Various institution in South Africa made attempts to use online tools and platforms to try and achieve curriculum completion, however due to the inequality within our system many students just do not have access to online platforms. For some of them, this is an entirely new experience; with some lecturers too lacking the capabilities to successfully switch to online teaching and learning (COL, 2020).

The use of the Moodle platform for teaching and learning has been known to supplement face-to-face teaching and learning methods. In other words, online learning was the only method used during the COVID-19 pandemic and the lockdown because of regulations that prevent face-to-face teaching and learning methods (Mbalula, 2020). Since 2016, Moodle has been compulsory for teaching and learning for all the modules at all the levels (Khoza, 2020b). However, so far there has been resistance from academics to using the online systems introduced by the institution. The outbreak of the COVID-19 pandemic, which ultimately led to the unprecedented national lockdown, forced lecturers to use available online resources to teach (Khoza, 2020b). It was a challenge; not only for lecturers but also for students who had to learn and start using online systems they did not used effectively before the lockdown. However, using Moodle during the lockdown was the only option available if teaching and learning were to continue.

Considering the responses of participants from the first interview conducted before COVID-19 and the lockdown, lecturers did use Moodle for teaching and learning. However, the use of the system was not overly effective because lecturers had the option of using the face-to-face teaching method (Khoza, 2020a). The face-to-face teaching and learning method was preferred and used by the majority of academics because they reported that there were many challenges experienced with Moodle. The system was used at a minimal level because of their challenges, such as the lack of TK resulting from poor trainings provided to them before they could integrate the system into their teaching. Participants expresses their different perspectives about Moodle and how it is used and that they used Moodle differently depending on the needs of the day. However, once COVID-19 became a global threat and brought about a "new normal", teaching contexts changed and South Africa went to lockdown. For Universities because they have resources for online teaching and learning they had to use their LMSs to conduct their teaching. Some Universities provided students with data bundles to access the internet at their respective homes. Lecturers were compelled to use Moodle for teaching as it is the only option available if they were to adhere to the lockdown regulations. Within this new context, I approached the participants to see how are they coping with the new teaching and learning environment during the lockdown.

Unfortunately, not all the participants were able to participate in this second set of interviews because most were not scheduled to teach during the 2020 academic year. Only two lecturers were available to respond to the few research questions set to evaluate their perspectives of Moodle during the COVID-19 pandemic and lockdown. The first question asked if their use of Moodle during the lockdown has changed the way they perceive Moodle when compared to how they used the system before the lockdown. Lecturer 4 said: *"definitely my thinking and the way of doing things had to change drastically".* Lecturer 6 added: *"I already considered Moodle to be important, so my use of it during this time has confirmed my regard for it. I was never keen on video-conferencing, but I am learning to appreciate it".*

The lockdown created space for lecturers to understand Moodle and re-evaluate the system which they did not care much to use before the lockdown because they had other methods of teaching. DHET (2020) acknowledges that the delivery modalities of programmes in HEIs were predominantly lecturer-centred, and that there were limited uses of technology for blended learning

approaches. It gives hope that Moodle or online teaching and learning will be used after the lockdown because COVID-19 and the lockdown helped lecturers reshape their perspectives of the system. This was expected from lecturers some time ago; understanding the system and embracing it. It can be a challenge to learn about the system now that they only have it as the only mode of teaching, as it suggests that they will be under pressure to learn the system as they use it.

Learning the system and having to immediately use it could have been a challenge for lecturers and students. It is possible that there were students who were not versed with Moodle and had not mastered it. The COVID-19 pandemic and compelled universities and academics to use Moodle for teaching and learning because of the lockdown regulations. While lecturers considered using Moodle they had to also think of students who had not yet mastered the system. Therefore, the participants indicated that it would be better to use other modes of communication. Despite the use of Moodle, lecturers prefer using online communication platform that the majority of students use on their daily lives. It was reported that students use WhatsApp for communication which led to lecturers blending it with Moodle for teaching and sending notes to students.

Lecturer 4: *"I was quite aware that using WhatsApp was going to be much easier because 99% of the students on Campuses are on WhatsApp. Recording my lectures though I was limited in terms of the space where I had to send these videos to students but this approach taught me to be very precise in the recording of the videos".* Lecturer 6 explained: *"I had already been using Moodle for my lectures, even though I would conduct face-to-face lectures. Moodle was mainly for communication, posting notes, and keeping students up-to-date. What I have had to do differently is to incorporate Zoom lectures, and to use WhatsApp more".*

Lectures had realised that students are not using Moodle more often. Moreover students have many challenges if they had to use Moodle so the best way to introduce students to the use of Moodle is through the incorporation of social networks which students are familiar with. Mpungose (2019) qualitative case study proposed alternatives and the possible use of WhatsApp to supplement Moodle. The use of Moodle creates challenges during the learning process, since students struggle to use the system owing to their often disadvantaged school background; however, they are familiar with and good at using the WhatsApp social media platform (Mpungose, 2019). This suggests that lecturers should be creative enough to supplement or blend Moodle with other social

media platforms to reach a large number of students during the national lockdown. YouTube is another platform that can assist lecturers to send videos or clips to students. They can upload their video clips to YouTube and send the link on Moodle for students to just click the link and be directed to the videos. This can assist if the video is large and Moodle cannot open it.

It is a good initiative that lecturers are noticing that they cannot only rely on Moodle but should create alternatives to accommodate all their students because some would otherwise be left out. Unexpected times like lockdown resulting from COVID-19 was a lesson to lecturers that relying on one method of teaching will one day left them stranded and that can cause delays in students learning. It is for such reason amongst others Universities in the country were trying to introduce the use of online learning for both full-time and part-time students (see Khoza, 2020b). The pandemic revealed the gaps that exist within HEIs education systems. The fact that lecturers are now starting to reshape their perspectives towards Moodle is an indication that the system will be appreciated and be used more frequently after the lockdown (Makumane & Khoza, 2020).

The second question asked lecturers if they would continue to use Moodle for teaching and learning after lockdown when considering the situation and the experience they had gained. Both lecturers indicated that they would continue to use Moodle after the lockdown. Lecturer 6 stated: "*Yes, because I was already using it, so I will definitely continue using it".* Lecturer 4 explained: *"Yes definitely, especially because we all know that with COVID-19 there is no cure, therefore social distancing will be the only way until a cure comes around. I am fascinated by using Moodle but it has been the teaching and learning tool/space for quite some time".*

It has been easy for these two lecturers to use Moodle during the lockdown because they used the system to teach before COVID-19. Using Moodle to teach during the lockdown helped them reshape their perspectives of the system and find alternative solutions to the challenges they encounter when using the system. It is a positive sign to hear them confidently and positively stating that they will continue to use the system beyond the lockdown. This suggests that they have reflected on their perspectives about Moodle; as Khoza (2018) opines, when lecturers reflect, they interrogate their perspectives and how they use the system and correct mistakes that affect their practice. Continuing with the use of Moodle beyond the lockdown is an indication that lecturers

have observed and possibly thought of strategies to deal with the challenges of the system to ensure its success.

Lecturer 4 indicated that there are some concerns that should be considered if Moodle is to be successfully implemented over longer periods. This suggests that the lockdown offered Lecturer 4 an opportunity to critically analyse the system and discover issues of concern that should not be taken for granted if Moodle is to be used successfully in future. According to Lecturer 4, when only using Moodle full-time during the lockdown she discovered that it is, *"difficult to trace authenticity and honesty of the student and this compromises the teaching and learning content. If it has to be used for the longest time, there should be other ways of making sure that it can be trusted. Teaching and learning is a skill, it is quite difficult to learn the skill online".*

Uncovering such issues requires a critical individual who is not only using the system for the sake of teaching but one who will observe the system and students' behaviour towards the system. Students' behaviour towards Moodle can be one of the issues that have not been observed by many academics and such concerns are critical if the system should be used to its maximum potential. Much is possible when students learn on their own without lecturer supervision. The use of Moodle or online learning is invented to be a student-centred approach. Students can only be encouraged to practice self-discipline so they will dedicate their time to their learning and avoid misusing the system. There is a difference between students who have studied full-time and those who have studied part-time. Those that study full-time have their lecturers to explain concepts through the use of examples whereas those that study part-time learn to understand the concepts from the course notes, but there is always the risk of them misunderstanding the concepts. Especially first year students, whether undergraduate or at postgraduate level, introduced to the content. There are also students who do not give themselves time to learn or use the learning systems. As for the 'teaching and learning skill', the skills used in face-to-face teaching methods are different from the methods used for online teaching and learning. Therefore, it is critical that lecturers learn and master these skills so they do not undermine their own teaching when teaching their students. For now, lecturers need to be aware of the skills learned in face-to-face and skills learned in in online learning. Understanding these skills can help them not confuse students or misinterpret each of the teaching and learning methods.

Failing to understand these skills can be frustrating for both lecturers and students which can lead to goal failure when using Moodle because lecturers and students are used to face-to-face learning. As a result, students can find it difficult to learn to use a learning platform they have never used effectively before. Such a challenge can cause emotional stress and breakdowns for students because they will have more work to do on their own. It can also increase their fear of the technology and further increase their reluctance to use it. As such, HEIs are advised to provide psychological and emotional support to distance students, alongside continuous academic interaction, because these are keys to student success (COL, 2020).

When responding to how lecturers evaluation if students are using Moodle to stay connected and share their personal experiences during this time, especially considering how difficult this period is for their psychological health, respondents noted their students' reluctance to discuss the topic. Lecturer 6 stated: *"students are not really keen on sharing issues about their mental health. What I can only discern from their communication is that most of them are largely frustrated by the challenges that come with online/remote learning. I am sure that a number of them are having to deal with mental health challenges as a result, so I definitely think it should be a concern".* Lecturer 4 continued to caution: *"for mental strength students are quite challenged. They are looking at each and every single way of making sure that they can cheat the system. It is quite sad for their mental capabilities because, not all of them are able to cheat the system".*

This suggests that university management and lecturers should develop strategies to assist students so they find it easier to learn during the lockdown. As evident in the first interview where participants indicated that students do not make use of Moodle as expected. Figure 6.1 and 6.2 indicate that students do not login to the system to learn. Those that logged in only did so to download posted notes or assignment topics. Such led to academics becoming frustrated, anxious, angry, and resistant through technostress or cyber phobia (Khoza, 2020a). These frustrations can escalate since the lockdown compelled lecturers to use Moodle full-time for teaching and learning while not all of their students have mastered the system. It can be frustrating for students to use a learning platform they have not used before and those that have used it, have not mastered it. Students come from different places which can make it difficult for them to study in groups where

they can assist each other on their studies. This suggests that lecturers, after COVID-19 and the lockdown, will need to continue using the system to ensure students are equipped with ICT skills needed to integrate Moodle in their learning.

When asked if they see space to reshape their own perspectives about Moodle and teaching practices now that COVID-19 and the lockdown compelled them to use the system full-time, Lecturer 6 said: *"Definitely, it has been a learning experience and it will definitely change my teaching practices. I have always made it a point to know all my students, but I have been challenged to know more about them, besides their names and faces. I am also sure that the role of ICT in my teaching practice will be different from now onwards".*

From this response one can argue that the outbreak of COVID-19 and resulting national lockdown has opened a platform for people to revisit their perspectives about their work and lives. The lockdown revealed a long-standing gap in the education system. Khoza (2020a) opines that, for years, teaching and learning HEI leaders have unsuccessfully promoted the use of various kinds of LMSs with the aim of embracing a digitalised curriculum. However, on the ground, new users of these systems did not give themselves time to study and analyse the system in order to reshape their perspectives. This goes further to a point where they will change their perspectives towards their students by knowing and understanding them beyond knowing their names and faces. As indicated by the participant that he has been "struggling to know more about his students besides knowing their faces and names". It is critical for lecturers to have intimate relationship with their students instead of knowing them at face value. Now that students will be learning online a lecturer may not be able to see the students to read from their faces if they have challenges. Lecturers will need to learn and master ways to understand their students at a distance so they can help them where students are experiencing challenges.

Indeed it has been a learning experience for lecturers to teach using Moodle because of the lockdown. Now they will understand that the students they know from face-to-face teaching method are not the same students they teach online using Moodle. With online teaching both lecturers and students will need to understand that they are physically distant but emotionally connected to each other. Such connection or method allows for more invested and personalised

teaching, especially with lecturers that have large classes. Students now struggle on their own and they can even be emotionally and psychologically stressed because they have a challenge of coping with their studies on their own. Such feeling they have never experienced during face to face because they had an opportunity to consult or meet with their friends to discuss their activities and that relieves them.

For the system to be successful it requires that users reflect on their use of it in order to develop better ways of using the system and ensure that students use it. It also requires that users embrace the use of digital curriculum. The national lockdown left HEIs and academics with no other option than using online teaching. During this time, they had to reflect on the online teaching platforms in order to discover better ways to use the system and ensure they reach all students. For this reason participants indicated that when they encountered challenges with Moodle they opted for WhatsApp so as to ensure they were able to reach all students (Mpungose, 2019). As such, the lockdown presented lecturers with the time, space, and opportunity to think and re-evaluate their teaching methods. The lockdown further made it clear to lecturers that they need to be technologically savvy to cope in cases where unforeseen situations arises like the one of COVID-19. Being technologically savvy will assist lecturers easily understand any LMS and they will be able to present it well to students.

Using Moodle full-time will assist lecturers to understand the challenges of the system very well. All the challenges to be encountered by lecturers when using Moodle during the lockdown will help them devise and put in place strategies to overcome them in future when they opt to use the system. Every activity experiences challenges when executed. Section 6.3 to 6.3.2 discussed some of the challenges lecturers encountered when using Moodle during normal contexts (non-lockdown periods). It was necessary to raise the challenges they encountered during the lockdown because this would be a true reflection of the system since Moodle is used by both students and lecturers during this time. Unlike in non-lockdown periods as reported in the first interview and reflected in figures 6.1 and 6.2 that a small number of both lecturers and students were using the system. Pre-lockdown, challenges were more easily dealt with because there were alternative teaching and learning methods, such as face-to-face teaching and students were able to access the network on

campus. However, during lockdown, challenges became more significant; lecturers were required to state challenges they encountered when using Moodle during the lockdown.

"From my side, the challenges included Wi-Fi. I quickly ran out of the data that the university gave us, so I have had to install my own Wi-Fi at home. I also have the challenge of working from a home environment, which is not really conducive to professional conduct all the time. The other challenges are as a result of the students' challenges. Some do not have technology gadgets such as laptops and smartphones. Some do not have data, and the university has not always provided it when they need it. Some live in areas which do not have network coverage, so even if they have data, they struggle with connectivity. Some students struggle with IT skills and still learning" (Lecturer 6).

Lecturers should be given more data because they communicate with a lot of students using different modes of communication. Less data bundles cannot last them for a long time and that can frustrate them because connectivity was one of the challenges they have been indicating as a limitation for them when implementing Moodle even before the lockdown. Using their own Wi-Fi to connect can lead them to abandon the system because they will complain of using their own facilities to run the university activities. Lecturers should be allowed to work from their offices so that they can access internet connection from the university Wi-Fi. Level 3 of the lockdown allowed people to go back to work observing the lockdown regulations. Considering that COVID-19 and the lockdown took everyone unaware, in other words, no one was prepared to teach or learn using Moodle as the only method of teaching and learning. Now that people have reach that stage in life it is crucial that they adopt technology because it is the only way to work without breaking the lockdown regulations. With the COVID-19 outbreak and the introduction of the lockdown, people assumed there would be a vaccine or a cure for this pandemic but the delay in finding a vaccine or a cure could not be endured for long while there were other teaching and learning methods. If people knew that they would one day come across such a disease they would have prepared for it and they would have embraced digital learning so they could cope in times like this. Khoza (2020b, p. 2) asserts that "it was expected from people or lecturers that as institutions face a challenging situation such as the COVID-19 and the lockdown, they would see the sense in embracing a digitalised curriculum". However, this did not happen and as a result *"some students were struggling with IT skill…"* (Lecturer 6).

Lecturer 4 said: *"I have been quite computer savvy for some time, I have been teaching very well but it is a new way of learning for everyone — we all need to learn and adjust to this way. I am really not happy by not seeing my students — it feels very inhumane — but there is no other way. Also, Moodle has been improved throughout the years. I am hoping for the best as the times go by. I have already stated that there are issues of trustworthiness and credibility. Students have not made it easy by being dishonest. Our institution has been known by writing mass examinations, if students will be promoted through continuous assessments this approach allows so much uncertainty to most people".* Indeed, people need to adjust to this "new normal" because people were unaware that they would one day live in an environment that has brought many changes to their daily activities. As the new context feels so unnatural; the way people live and the way they do or perform their activities "feels inhumane" it is even more reason that we need to adjust to this new environment. COL (2020, p. 6) stipulates that "caring human support at a distance facilitates self-directed learning, reduces student isolation, and creates an environment for student engagements in learning". The use of face-to-face teaching method taught us to work best when we are in physical contact but we have the space to embrace some of the changes created by the national lockdown and social distancing because moving forward we will learn to understand that teaching and learning can also be normalised through Moodle's non-face-to-face technologies. Issues of trustworthiness and credibility will be addressed in time, while still using Moodle for teaching, so that users learn to trust the system. Through increased experience with the system, both students and lecturers will be better able to more quickly recognise and address challenges as they occur.

Lecturer 4 indicated that, *"Moodle and other learning platforms including Skype/WhatsApp and Google classrooms can be used for teaching and learning in the most fun way but "akukho soka lingenasici".* The Zulu adage "akukho soka lingenasici" (every man has their shortcomings) is an indication that participant agree and accept that these learning platforms come with challenges and limitations. Understanding this is a good sign for the future use of Moodle because lecturers will be prepared for any challenges that may arise with the system and be better prepared to address them without fear. It is good that the two participants revealed that the lockdown helped them change their perspectives towards Moodle. It is much more relieving and give hope that Moodle

will be used even after the lockdown because lecturers got time to think critical about the system. The lockdown made lecturers to realise that Moodle is not difficult to work with than they understood it to be before the lockdown. Using Moodle in such a short period and moving forward made lecturers to further embrace the system. It is satisfying to know that lectures have realised that there are other technological resources they can use to teach if Moodle present challenges.

6.10 Conclusion

This chapter has presented lecturers' perspectives on their use of Moodle for teaching their modules in non-lockdown and during lockdown periods. The university management should take into consideration that they have to devise a plan to help lecturers and students to understand Moodle in order for them to use the system. Should these perspectives (as reflected by participants) be taken for granted, Moodle will be a failure in this institution. The institution being studied in this case is is a large and prestigious university in the country, attracting academics and students from all over the world. Therefore, the introduction of online teaching and learning is a good initiative. It is necessary that there be online teaching and learning to ensure that students who are from other countries in Africa and outside of the African continent have access to education, even when not on campus.

Moreover, lecturers themselves travel to conferences and other types of gatherings. This should not interfere with teaching and learning just like the lockdown. Lecturers and their students can continue with teaching and learning through Moodle. However, it becomes a challenge if they lack technologica knowledge to use LMSs such as Moodle. They then have to rely solely on traditional methods of teaching and learning. Unforseen circumstances like the outbreak of COVID-19 that led to the national lockdown reveal the gap that exist in oureducation system. Moodle has not been introduced as a teaching and learning platform that will replace the traditional teaching and learning method. Moodle is used as a teaching and learning media that should enhance the traditional teaching and learning method and assist in instances such as the lockdown. When a lecturer has to travel, Moodle may be used to communicate with students back on campus. Moodle serves as a good communication tool because a lecturer can communicate with many students at the same time, using the discussion forum.

Students can all read what the lecturer is saying and they all can respond to the lecturer. With emails for communication, a lecturer sends one email message as a bulk mail, but the students' responses arrive separately. The lecturer then has to respond to each email sent by the students. This can take more time than the lecturer can afford. Yet, with the discussion forum, the separate questions are posted to a public group space so that the lecturer and participants can all read the responses; also, students, amongst themselves, can help one another with the answers to some of the questions. This can benefit both the lecturer and the students ensuring that teaching and learning does not halt even if the lecturer is away.

Chapter Seven
Summary and Recommendations

7.1 Introduction

The introduction of Moodle as a compulsory teaching and learning platform in this higher learning institution influenced the undertaking of this study. This study was conducted with the singular goal of exploring lecturers' perspectives of Moodle and how its use impacts on teaching and learning. To better understand Moodle and its purposes, literature was reviewed to conceptualise and categorise lecturers' perspectives. These perspectives were categorised as individual or personal perspectives, community or social perspectives, and professional perspectives. A theoretical framework was identified to explain the required knowledge when integrating Moodle in education, and lecturers' behaviours towards Moodle. The theoretical framework guided the data generation and analysis of the findings. As the generated data was presented and discussed in Chapter 6, this final chapter summarises the lecturers' perspectives, with the purpose of theorising and responding to the study's critical research questions as they are stated in section 1.4.3.

To discuss educational technology and technology concepts in relation to curriculum to answer the research questions, the literature review in Chapter 2 and the conceptual framework in Chapter 3 elicited data on Moodle and the curriculum. The study discussed the lecturers' perspectives to ensure that the research aims were achieved. Therefore, the research aims were achieved through various research methods which are summarised in this chapter. In addition, this is a qualitative study that employs an interpretive paradigm. With regards to the critical research questions, Hesse-Biber and Leavy (2011) note that qualitative studies usually ask questions that begin with words like *how*, *why*, and *what*. Researchers who employ qualitative studies do so because they seek meaning (Hesse-Biber & Leavy, 2011). The interpretivist paradigm includes guidelines which should be acknowledged by researchers from the initial to the final stage of the study. This paradigm accepts that "the social world is frequently being constructed through group interactions, and thus, social reality can be understood via the perspectives of social actors enmeshed in meaning making activities" (Cohen et al., 2007, p. 21). This paradigm further defined methods and language to use as the study progressed in order to produce acceptable results. This is a case study that

incorporated interviews and Moodle reviews to generate data from the participants to answer the main research questions. This was done to understand lecturers' perspectives as analysed and discussed in the previous chapter which will be fused and summarised in the next section.

7.2 Theorising the findings

The adoption of Moodle as the university's online teaching and learning platform was a well-intended initiative by university management. Technology is a language that is commonly spoken and well understood by the 21st century generation (or the Net Generation). Integrating technology into teaching and learning captures such students' attention, motivating them to study further. However, in this case it was a different story altogether as students were reportedly not interested in using Moodle to learn. On the other hand, the implementation of such an initiative rests in the hands of lecturers from different age groups. Participants revealed the challenges (amongst others) they encountered when integrating Moodle into their teaching: a lack of knowledge of how to integrate Moodle into teaching; poor training; and a lack of interest from students to learn with Moodle. All these challenges resulted in participants not using Moodle to its maximum potential. It also appeared, from the findings, that participants were integrating Moodle without TK as required by TPACK. Consequently, these participants were finding it difficult to accept Moodle.

Thus, TPACK and TAM were used to guide which literature should be included in this study, directing the data generation, data analysis, and further helping to avoid bias. These frameworks were identified after a thorough deliberation with literature. TPACK, on its own, advocates for certain knowledge which lecturers must possess in order to successfully use LMS for teaching and learning. Significantly, such knowledge is entrenched within a given context, in which lecturers spend much of their time living, socialising, and learning different perspectives on educational technologies. It is for such a reason that this study seeks to understand perspectives because they are also generated from society. For example, Lecturer 3 indicated that: *"the problem with our people is that they import every idea without necessarily understanding it and whose relevance is never known to us but we are expected to embrace it and run with them".* This is referred to as an attitudinal statement which threatens the acceptance of Moodle by the participants, especially those that do not understand Moodle.

It has been repeatedly indicated by participants that working on Moodle without a thorough knowledge on how to manipulate the LMS was a huge challenge they encountered when integrating Moodle into their teaching. It is through TK that participants should have had knowledge that would have helped them understand Moodle. The findings confirmed that TPACK has an influence on lecturers' acceptance and use of educational technology, specifically TAM. Figure 4.9 presented a modified TAM to indicate how TPACK influences the model, leading to lecturers' attitudes that affect their actual use of Moodle for teaching and learning. Before Moodle was first used for teaching and learning, lecturers' perspectives should have been tested to verify whether lecturers were ready to integrate Moodle (Davis, 1986). Davis (1993) has indicated that the focus of Moodle should not only be on eliciting reasons for lecturers not accepting Moodle, but should include understanding how to improve lecturers' acceptance of Moodle. By taking from the findings of this research, university management can devise a strategy to deal with the challenges expressed by participants and improve the use of Moodle.

This was one activity that the university management should have done before Moodle was implemented for teaching and learning. It has been indicated in Chapter 2 that there were few, if any, studies that probe lecturers' perspectives on the use of educational technologies. Especially in the South African, context very few studies had ever explored lecturers' perspectives on Moodle. Lecturers are important stakeholders in the curriculum implementation so, their perspectives are crucial. This was identified as a gap that needed to be filled in order for institutions to successfully implement educational technologies. Now that the participants in this study revealed their challenges, it is now up to university management to evaluate how many lecturers have integrated Moodle into their teaching practices. The numbers could assist in deciding whether to restart the process and follow the right procedure or let the situation as it is.

7.3 Reflections and implications of the lecturers' perspectives on Moodle

Perspectives of Moodle from participants led to an understanding of the reasons that cause them avoid Moodle and an understanding of why those who use Moodle have succeeded in doing so. Participants have indicated that they would like to integrate Moodle into their teaching, especially considering the benefits that come with Moodle for both lecturers and their students. During non-lockdown period four of the five participants admitted that Moodle was a good initiative taken up

by the university management, suggesting that they wanted to integrate Moodle into their teaching. Two of the participants after using Moodle to teach during the lockdown indicated that indeed the system is good for teaching and learning and they will continue using it after the lockdown. They understood that there was a need for change as we have entered the era of the 4IR. Participants themselves reflected on their prior teaching and learning. They may have done so to determine whether using a face-to-face method of teaching is acceptable under current circumstances (non-lockdown period) (Mezirow, 1990). While participants stated their perspectives during the interview sessions, they illustrated that they understood the era in which we live, socialise, teach, and learn, has advanced technologically when compared to the 20th century. Therefore, the use of educational technology is now a prerequisite for teaching and learning.

However, such technologies require them to be 'tech-savvy' in order to successfully use technologies to implement the curriculum. Mezirow (1990) opines that if lecturers were proficient with educational technology they would have new understandings of the system. Such understandings could enable them to elaborate, further distinguishing Moodle from other teaching methods. Their traditional frames of reference on teaching would have been strengthened, and they could have integrated Moodle to create new meaning (Mezirow, 1990). As a result of lacking understanding of Moodle, participants have perceived Moodle as a teaching and learning medium that squanders their teaching time. They have experienced many challenges that they are unable to overcome on their own. Moodle is not helping them achieve their main purpose of teaching. However, using Moodle during lockdown helped them change their perspectives towards the system. The challenges and the successes they experience when using Moodle during non-lockdown and lockdown periods have been detailed in the previous chapter. In the next section they are briefly reflected on. Dewey (2001, p. 145) articulated thus: "when we experience something we act upon it, we do something with it; then we suffer or undergo the consequences". The following themes emerged from the data; and more details about the benefits of using Moodle will be briefly reflected on, together with the challenges.

7.3.1 Lecturers' perspectives on accessibility challenges of Moodle

It has been indicated that Moodle is not completely new to some of the participants, especially those who have been working in this institution for some time. Those who have studied at this

institution before they started working as lecturers, would have used or seen Moodle before. Participants have indicated that they experienced many challenges with Moodle. Noting that they failed to understand Moodle and its purpose from the onset. It should first have been introduced with the purpose of testing so as to identify the challenges that come with the programme. Identifying the challenges would have helped management devise troubleshooting strategies. Support being provided to lecturers on an ongoing basis to ensure they do not lag behind. Following this, Moodle could have been introduced officially as the online teaching and learning medium.

7.3.2 Training and continuous support

Training and continuous support is key when introducing a new programme to users in any organisation. Through training and continuous support, users are equipped with necessary information to be able to implement the programme with success. According to participants in this case, they have been introduced to Moodle without sufficient training to help them understand the system for successful implementation. Participants allude to this as one challenge that contribute towards their unsuccessfulness in using Moodle. However, Koehler and Mishra (2005) contend that it is the way lecturers use technology that has the potential to change education. In this case, teaching and learning has not yet changed or shifted properly to online teaching since the 2016 introduction of Moodle. Moodle, as proposed by university management, has not yet begun to yield the intended changes. To realise the intended results there is a need for training that would help participants understand the intricate, multidimensional relationships of Moodle. The training should Further treat all the aspects of Moodle in a theoretically integrated method (Koehler & Mishra, 2005). This may help participants integrate Moodle with success because they will be knowledgeable of the system. Unlike the way they do currently, that they only use Moodle to download notes and send information to students.

7.3.3 Physical and financial support

Support, either physical or financial, is crucial to implementation success. In this case, physical support refers to physical apparatus that is required for both lecturers and students to use Moodle. This includes laptops, Internet connections, and all devices needed to access Moodle. The lack of these resources further perpetuates the lack of students' knowledge of how to use Moodle for

learning purposes (Isaacs, 2013). As a result, Moodle is not used because some students, especially those that do not have laptops, are left out of the system. Teaching with Moodle while other students do not have access to Moodle, suggests that the use of Moodle is not meant for every student. Those who do not have their own laptops have to listen attentively as the lecturer explains how to access Moodle. They later have to go to the campus ICT labs to try what the lecturer told them. As indicated by participants, they find it difficult to use Moodle because of those students who have no laptops or computers of their own. Students should rely on the university ICT labs for computers to access Moodle.

This inconveniences students, especially those residing or accommodated off campus. It was also reported that some off-campus residences do not have Internet connections. Thus, funds should be made available to financially support students to enable them to buy their own laptops and other hardware to access Moodle. However, the lack of financial resources has been reported as a major challenge, not only in South Africa but in other African countries as well (see Isaacs, 2013). Those who lack financial resources will progress at a slower pace and this further promotes social division. Moreover, the introduction of Moodle cannot serve its purpose. As stated by Khoza (2013), Moodle encourages students to become autonomous but students without laptops will continue to rely on their lecturers for information. Yet, Moodle could help students to move from a comparatively deskbound classroom experience to a more active, enquiry-based, online community (Khoza, 2013).

7.3.4 Teaching and learning culture

Teaching and learning culture has to do with the culture instilled into lecturers on methods of teaching and learning. As some participants were taught through face-to-face methods, they would prefer using similar methods as they understand them well. It is experience that determines how lecturers teach their own modules. According to participants, they should first have been thoroughly introduced to the online culture because they are more familiar with the face-to-face teaching culture. Once they understand Moodle, use it, and gain more experience with the system they can effectively use it. According to Nistor et al. (2013, p. 735), “with increasing experience, technology use becomes routine, which is less dependent on individual use intention”. Mezirow (1990) notes that experience shores up, extends, and improves our knowledge by strengthening

our perspectives on how Moodle is supposed to be integrated into teaching and learning. These participants need to use Moodle in their daily teaching, encouraging their students to do the same so they can gain more experience. From the findings, it appeared that participants have different perspectives of Moodle, depending on their teaching culture. Some perceive Moodle as a good system that benefits them and their students, while others were not supportive owing to their experience of Moodle in contrast to face-to-face teaching methods. Nistor et al. (2013) argues that professional cultures in education are typically perceived as the basis for attaining and applying knowledge and skills.

7.3.5 Lecturers' technological knowledge

Technology, according to Koehler and Mishra (2005, p. 133), "encompasses modern technologies such as computers, the Internet, digital video, and more commonplace technologies including overhead projectors, blackboards, and books". These technological devices are known to participants; however, integrating such programmes into their teaching was reportedly a challenge to them and students. In this case, participants' technological knowledge should be linked to their knowledge of Moodle as a programme to be used for teaching and learning. Koehler and Mishra (2005) propose that lecturers' knowledge of technology should be perceived as important. They further caution that, as lecturers use Moodle, they should understand that "it is not only about what technology can do, but also, and perhaps more importantly, what technology can do for them as teachers" (Koehler & Mishra, 2005, p. 132). This is the mentality or attitude lecturers should have when perceiving educational technology. Lecturers also need to understand that online programmes especially software in a computer are used differently. Learning how to use these technologies is crucial for both lecturers and students if teaching and learning are to be conducted online.

7.3.6 Perspectives on lecturers and students interacting with Moodle

Moodle is one platform that can offer students the opportunity of being active and taking charge of their learning. According to the findings from the participants in this study, students don't care about Moodle. It was also reported that some of the students are not computer savvy. From another perspective, this may be the reason some students do not log in to Moodle as reported by participants. It should be of concern to lecturers and the university management that students are

not on Moodle. Figure 6.1 indicates that students do not utilise Moodle. This is proven by the number of occasions in which students logged into the system. Even those who logged in, lacked information on what to do. Not only students but also participants, including youth lecturers, who stated that they do not use Moodle to its maximum potential. One major reason being that they are not knowledgeable about Moodle. They also argued that part of the problem is the propensity to judge Moodle solely as educational technology and not on how it is used (Mishra & Koehler, 2006). In an attempt to address the issue of 'use', management presented a one-hour training session. This did not sufficiently equip users with expertise on the programme. Therefore, focus should be on providing support to lecturers and their students so they may learn how such technology is used to encourage interaction on Moodle. If not, then assessment can never be conducted online because lecturers and students will lack even the basic Moodle knowledge.

7.3.7 Perspectives on the use of Moodle for assessment

Some participants proposed that Moodle should not only be used for teaching and learning but also to assess students. The educational system created a culture of learning for marks and students have been raised in it According to McLoughlin and Luca (2001, p. 418), "there are differences in the way assessment is conducted on campus that may not be appropriate for students studying in the off-campus mode, who have little contact with academic staff". There are universities that offer distance learning without online assessments. Such institutions enrol students for distance learning and have their LMSs, yet for assessments, they have a centre at which students write their exams. This may indicate that assessment cannot be implemented online at present. The use of Moodle to support multiple-choice quizzes offers better flexibility than traditional assessment, as it allows lecturers to check students' progress as the module continues to be taught (McLoughlin & Luca, 2001). One of the participants indicated that he sets the quiz a month after teaching his module in order to evaluate whether students have understood the content. Participants' suggest that Moodle be used to assess students and that it can be used to gain students' attention. However, Moodle as an assessment tool may not be effective at the moment, because most students, especially those from rural schools may have not mastered the required typing speed to finish their assessments on time.

7.3.8 Perspectives on time used to teach with Moodle

Time is a precious, limited, resource. In every activity that we undertake, there is a set time frame to complete the activity. A lecturer is allocated a module, and a specified time frame to finish the curriculum within a given semester. According to the participants, using Moodle does not help them save time as they are likely to have to repeat activities. Lecturers spend more time helping students with Moodle because students do not know how to use the system for learning. Lecturers have had to spend another time catching up with students who did not access activities on Moodle instead of teaching their modules. For teaching and learning to flow, both lecturers and students should be knowledgeable on how to use Moodle. Knowing how to use Moodle may ensure that students use the system in a way that it does not waste lecturers' time. Once students understand how to use Moodle, time may be saved, because lecturers will only be teaching the module. Lecturers further indicated that the technicalities of Moodle also take much of their limited time. For example, the twenty-four-hour waiting period when they send an activity to students via Moodle. It is evident from participants' perspectives that Moodle is not saving them time as envisioned by the university management. Time wasted have an impact on the overall time allocated for the module as some content may not be fully covered because of the shortage of time

7.3.9 Implications of lecturers' perspectives

Lecturers should not forget that knowledge is gained through a continual process, lasting from generation to generation (Siemens, 2005). As many institutions have opted to integrate technology into teaching and learning, lecturers need to stay current with developments in technology. TK is one sector which most lecturers (especially digital immigrants) have not acquired during their educational time. Yet now these lecturers are expected to teach students using educational technologies they themselves have no much knowledge on how to integrate into their teaching. The manner in which lecturers' approach and use Moodle has a particular impact on their teaching, and on how students receive education. This suggests that management should help lecturers with required knowledge so they are able to integrate Moodle. This may further help them to teach with Moodle in a manner that will interest students. Keeping in mind that the way students understand and perceive Moodle depends on how they are introduced to the system.

7.4 Addressing the research questions

When a researcher conducts a study, curiosity exists on certain actions performed by individuals. Individual actions are not known to anyone but the individuals themselves. In order to discover the reasons for such actions, research must be conducted. In this case, the low Moodle usage by lecturers and students at a Department of Education in a university in South Africa was a concern worth studying. It became an issue to be studied after the university proposed that Moodle be the official LMS at all levels of study. Such a proposal by the institution raised concerns on how Moodle would be accepted: lecturers had not been using Moodle before it became an official LMS.

In a quest to find answers, this study was initially guided by three key research questions as stated below. Sub-questions later emerged to help probe further for more clarity. Furthermore, literature was reviewed to gain a deeper understanding of similar issues faced from different contexts around the globe. A case study was conducted using interviews and Moodle reviewed as data-generation method to develop answers to the research questions. Thereafter, data generated from the lecturers were integrated with the literature to offer answers to these research questions.

7.4.1 Research question 1: What are university lecturers' perspectives on the use of Moodle in teaching postgraduate modules?

This question is framed to address the core issues or phenomenon, namely: the participants' perspectives. Their perspectives are the centre of this study because they are the deciding factors in their use of Moodle. The purpose was to determine the participants' position on the use of Moodle. Participants' perspectives should not be addressed from one perspective only, because they could be judged from a perspective that may not have influenced their actions. Participants' perspectives or responses to this question were:

- The manner in which Moodle was introduced to lecturers impacted how they understood Moodle. Moodle was introduced to lecturers as a one-size-fits-all technology.
- Moodle is used as a 'dumping site'. Participants indicated that they use Moodle to post notes for students to download.
- The lack of IT skills to deal with the technical needs of system delays can often hinder the teaching and learning process.

- Moodle does not help lecturers save time, instead it wastes much of their teaching time.
- Moodle is said to be a system that is easy to use provided users are knowledgeable of the system. In this case it is difficult for these participants to use Moodle because they do not have much knowledge of Moodle. It is also difficult for these lecturers to introduce their students to the system since they themselves had no knowledge and strategies on how to make Moodle interesting to students.
- Moodle should be used for more than teaching purposes and should include assessments.
- University management should have tested Moodle first, or learned from lecturers how Moodle could been made easier for the teaching and learning process.

7.4.2 Research question 2: Why do university lecturers have particular perspectives on the use of Moodle in teaching postgraduate modules?

This is a philosophical or theoretical question in which I theorised the reasoning behind the participants' perspectives. Each participant expressed certain perspectives on Moodle as influenced by their experiences. Theories of educational technology provided a clear direction as to how lecturers should perceive Moodle. Such theories were used to interpret or analyse the participants' perspectives. Once lecturers have possessed the necessary TK, they are likely to accept Moodle and to integrate it into their teaching. The findings revealed that participants have not mastered the required TK to understand and integrate Moodle. As they were responding to the question it was evident that other reasons these participants perceive Moodle the way they do were as the results of the following: The manner in which they were introduced to Moodle was not encouraging. They indicated that Moodle was introduced to them as one-size-fits-all. Yet, there are participants and other lecturers that should have been taken through the system, step-by-step, until they understood all aspects of Moodle. The lack of technological knowledge has been indicated as the major reason lecturers perceived Moodle the way they do. Participants have indicated that they lacked knowledge of how to integrate Moodle into their teaching. This resulted in them following how to do activities and processes from their colleagues.

Participants further indicated that they did not know the university management's reasons for adopting and introducing Moodle for teaching and learning. As such, they deduced that the reason

behind the adoption and introduction of Moodle was that the university should be on par with international standards. Briefly, they perceived it as a means of the university to keep up with 4IR.

7.4.3 Research question 3: What lessons can be learnt from university lecturers' perspectives on the use of Moodle in teaching postgraduate modules?

A research study is conducted for a certain purpose. This study was conducted with the purpose of bringing up a lesson for the participated or the general community for them to understand their perspectives and probably use these lessons to improve their practice. Perspectives have been articulated by participants, of which most of the perspectives unravelled challenges that needs to be addressed if Moodle is to be used successfully. As indicated earlier on that Moodle was anticipated to be an LMS that lecturers and students could easily understood and use effortlessly. Yet, that was not the case, instead Moodle seemed to be more challenging than it was thought. This has led to participants interpreting Moodle from the personal and community perspectives. That on its own is a lesson to be learnt that Moodle should be understood and interpreted from its content knowledge or technological knowledge. Interpreting Moodle from personal perspectives resulted in participants using inept methods of introducing students to the system. The statement from Lecturers 2 serves as an evidence that participants had no means of introducing students to Moodle. Lecturer 2 stated: *"I can easily try to compel them to use Moodle, especially when it comes to discussion forums".* The word 'compel' from this statement suggests that this participant did not have proper strategies to introduce students to use Moodle. One of the strategies participants use to encourage students to use Moodle is to allocate marks for those who participate in discussion forums. However, participating in the discussion forums should not be marked. Students should use Moodle to interact in order to develop communication, social and critical thinking skills. Below are other lessons learnt from the participants' responses to the research questions.

- Before introducing a new programme, it is advisable to first test it with users to discover the challenges they may experience and put trouble shooting measures in place. However, it was not so in this case. It is for this reason that TAM is said to be ideal to test new programmes.
- If users of a programme show no interest or the product itself does not produce expected results, the management should investigate the reasons. Participants have indicated that they were not helped to gain the necessary skills for integrating Moodle into their teaching. Thus,

making Moodle mandatory without training was one error needing to be addressed by the management moving forward.

- Introducing a programme and not ensuring follow ups on the progress of the programme to evaluate its challenges and successes may lead to the overall programme failure. We have learned from participants' perspectives that Moodle was introduced in similar ways to all the lecturers despite their different levels of knowledge.
- Lecturers will not accept educational technologies and tools the same way; they each perceive Moodle differently.

7.5 Recommendations: Future endeavours

Participants have stated numerous challenges that they experience as they integrate Moodle in their teaching. Such challenges need to be dealt with, and be overcome, to ensure acceptance and successful use of Moodle by lecturers and students. The findings in Chapter 6 state all the challenges and successes that lecturers experience in their quest to implement the curriculum using Moodle. To address the challenges, tactics are needed that may ensure lecturers use Moodle in teaching as an LMS which will introduce students to the 4IR (Koehler & Mishra, 2005). Failing this, lecturers in this department will continue to consider Moodle a 'dumping site'. Lecturers will simply post and download lecture notes for students. Below is the list of challenges and perspectives as articulated by participants, and subsequent recommendations to address the challenges:

- Participants indicated that they were introduced to Moodle with an assumption that they had a background knowledge of the system; however, they indicated that they had scant knowledge of Moodle. It is therefore recommended that the process is restarted but that action research studies be conducted to work with participants in order to develop a model that addresses the challenges currently experienced. This may also help with planning lecturers' professional development.
- Participants indicated that their implementation or integration of Moodle does not result in success or progress; there is still no continuous support to further develop lecturers' understanding of Moodle. Therefore, it is recommended that funds be allocated, along with a period of time, for the professional development of lecturers. Professional developmental

training should be conducted by people who fully understand the potential of Moodle within the context.

- Participants need to understand what is meant by enhancing traditional method strategies with Moodle. Lecturers should be provided thorough training on Moodle so that they are able to devise their own strategies for integrating Moodle into their teaching. This may further assist them in differentiating the strategies to be used for Moodle from the strategies for face-to-face teaching.
- Participants further indicated that students do not regularly if not at all use Moodle in their learning. As a result, lecturers use marks to lure students into using Moodle. According to participants, students are awarded marks for participating in discussion forums. As an alternative, lecturers should ensure that students are well informed about Moodle. Lecturers need to show students the educational benefits of Moodle and how it will improve their learning, so that they can develop their own interest in participating on Moodle.
- There was also a concern about the shortage of funds for students to acquire their own laptops in order to access Moodle. Some students can afford to buy their own laptops while others cannot. It may be a challenge to decide which students need help. The recommendation is that priority be given to those who cannot afford to buy the hardware. This can do away with the challenge experienced by lecturers who are forced to repeat activities because some students could not access information from Moodle without a laptop.
- It was indicated that there are students who do not carry their laptops to lecture rooms because they complain that laptops are heavy. Therefore, there should be a consensus between the institution and the students on the type of devices to be used because they are specifically for learning purposes. Alternatively, laptops only be given to students who need them.
- One negative factor is that some students are not computer savvy; this refers also to some lecturers. To enable improved awareness it was proposed that Moodle should be used from the first year of study to postgraduate level. Lecturers should be required to develop their computers skills. Students coming from contexts with little computer use, should be offered extra classes on computer literacy which includes Moodle.
- Moodle has been identified as one programme that does not help lecturers save time, while advocates for Moodle argue that Moodle can save time when implemented using the right strategies.

7.6 Limitations of the study

As with other studies, limitations are always present. Some are unavoidable while others can be mitigated. One of the challenges I encountered in this study was the time required for data generation. As per the application for ethical clearance, it was stated that data would not be generated during the study period as this could interrupt teaching and learning. Therefore, the data was generated during the school vacation period. This caused some difficulties because some participants were in the process of finalising their marking. Those who had finished marking had already gone home for the university break. Others indicated that they were on study leave.

Generating enough information to familiarise myself with the content of the topic was a limitation. I spent much time reading articles on the technological theories behind systems such as Moodle. This led to the whole process taking longer than anticipated. Thus, this caused limitations to the anticipated data. At any given point, limitations can have an impact on the credibility of the study. For example, a study is allocated a specific time frame to cover the topic. Once a study takes longer than the specified time makes the readers to consider the study outdated. A research study may be considered outdated because a research topic similar to this may be studied by other researchers in different places. Working with new participants that have joined the study in short space of time without having familiarised themselves with the topic also has an impact on the credibility of the study. New participants were recruited to the study because those that were recruited could not make it.

7.7 Study summary

This study was conducted with the aim of exploring lecturers' perspectives in order to understand their reasons for using (or not using) Moodle to teach their postgraduate modules. More data on using Moodle for teaching and learning during lockdown was added to evaluate participants perspectives of the system compared to non-lockdown. The rationale behind this study was that I had observed, during my first years of postgraduate studies (honours level), that not all lecturers used Moodle to teach their modules. However, at the time I was studying for the B.Ed. Honours, Moodle was not a compulsory teaching and learning tool — it was used at the lecturers and students discretion. About two years later, Moodle was proposed as the official LMS for this

particular university. The university made it the LMS without thought for preparation, training, the socio-economic status of students, their context and experiential backgrounds.

I decided to conduct this study at the Department of Education at this particular university. To gain understanding of lecturers' perspectives it was decided that an intepretive case study could yield the desired results. Purposive and snowball sampling methods were used to select the partipants, context, and other resources that were used as part of this study. Purposive sampling was used because I wanted to include each lecturer from each discipline within the department. Unfortantely, I could not get reach of all the participants as anticipated. Far fewer participants were included than I had expected. For data generation, interviews and Moodle review and open-ended questionnaire were selected as methods that fit well with interpretive case study methodology. One-on-one interviews, were used to gain understanding of participants' perspectives. The Moodle review process was used to verify what participants had said during the interviews. During interviews, participants confessed that they did not usually use Moodle in teaching their postgraduate modules, and instead used it during their undergraduate modules. Despite this, participants were encouraged to share their perspectives of using Moodle in teaching undergraduate Modules as they use the tools similarly with little difference from postgraduate modules teaching. Open-ended questionnaires were used to generate data during lodckdown as a means to observe the lockdown regulations which restrict physical contact with other people and the movement of people from province to province. On the second set of questions participants indicated that the lockdown helped them understand Moodle from a different perspective from how they perceived it during non-lockdown.

The findings presented participants' perspectives on using Moodle to teach undergraduate and postgraduate modules. The findings revealed many perspectives, some of which were disturbing. Some may even cause Moodle to fail if not swiftly attended to. This study discovered that Moodle was introduced as a one-size-fits-all technology for all lecturers despite their different background knowledge of educational technology. Which poses a challenge to participants or lecturers who have no experience with similar systems when they must integrate it in to their teaching. Participants indicated that they had no understanding of Moodle and were not sufficiently capacitated to confidently integrate the system into their teaching. As indicated by one of the

participants, they need to be taken through the process of how to change from their current perspectives of Moodle. Students have suffered the knock-on effect of their lecturers not understanding Moodle. Participants indicated that they merely use Moodle as a ‘dumping site’. Which results in students underestimating the system. These findings as briefed above should be taken in to consideration if Moodle is to be successfully integrated into teaching and learning.

To ensure the credibility of findings, triangulation of findings were supported by literature and the theoretical framework. Unfortunately, the findings from this study cannot be generalised. However, thorough details on the procedure of this study have been provided for those who may want to generalise on the findings.

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Appendix 1: Ethical clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

28 June 2017

Mr Andrew Hebron Nhlongo (210555140)
School of Education
Edgewood Campus

Dear Mr Nhlongo,

Protocol reference number: HSS/0753/017D
Project title: University lecturers' perspectives of Moodle usage in teaching postgraduate modules: A case study of a Department of Education at a South African University

Approval Notification – Expedited Application

In response to your application received on 12 June 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr SB Khoza
Cc Acting Dean & HoS: Professor Thabo Msibi
Cc School Administrator: Ms Tyzer Khumalo

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
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Appendix 2: Participants' consent letter

Dear Participant

INFORMED CONSENT LETTER

My name is Andrew H. Nhlongo. I am a Doctoral (PhD) student studying at one of the Universities in South Africa. You are kindly invited to participate in my study titled: **University lecturers' perspectives of Moodle Usage in teaching postgraduate modules: A case study of the School of Education**. The purpose of this study is to explore lecturers' perspectives of using Moodle in teaching postgraduate modules in the education department certain higher institution.

This study used only two methods of data generation (semi-structured interviews and Moodle review) and the plan for data generation will be as follows: I will have an interview conversation with you where you will share your perspectives about integration of Moodle into teaching and learning. The interview will be split in to two sessions where the first session will be for answering the questions and that will last for an hour, most. Then the second session will be after that data has been analysed so that together we will check for errors and ensure that the analysis reflect the exact words said by the participant. I will also request that you add me to your group of students or in your Moodle so that I will be able to observe the activities taking place on your modules on Moodle. This is for the purpose of the second method of data generation (Moodle review or observation).

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a participants' opinion.
- The interview may last for about 1 hour and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.

- There will be no limit on any benefit that the participants may receive as part of their participation in this research project;
- Data will be stored in secure storage and will be destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. There will be no penalties for taking such an action.
- The participants are free to withdraw from the research at any time without any negative or undesirable consequences to themselves;
- Real names of the participants will not be used, but pseudonyms such as participant A, B, and C will be used to represent participants' names;
- The research aims at understanding the challenges relating to lecturers' understanding of Moodle usage, and effects on students' academic endeavors.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment		
Photographic equipment		
Video equipment		

More details can be obtained by contacting the people listed below:

Researcher	**Supervisor:**	**Humanities & Social Sciences Research Ethics Administrator**
Name: Mr. A.H Nhlongo Cell: +27 72 136 8026 Email: mhlongoah@yahoo.com	Name: Prof. S.B Khoza Cell: 079 517 4399 Office Tel: +2731 260 7595	Name: P.Ximba HSSREC Office Tel: (031) 260 3587

Thank you for your contribution to this research.

DECLARATION

I…… (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT **DATE**

…… **……**

Appendix 3: Research questions

Using the questions to understand lecturer's perspectives of Moodle usage.

1. **What are university lecturers' perspectives on the usage of Moodle in teaching postgraduate modules?**

   - Do you think using Moodle as a teaching and learning media is a good move?
   - How is teaching and learning through the use of Moodle?
   - According to your understanding what is the purpose of Moodle?
   - Do you think at the present period it serves its purpose?
   - How and for what purposes do you use Moodle?
   - Are your students participating on Moodle, what does their responds to the use of Moodle mean to you?

2. **Why do university lecturers have particular perspectives on the usage of Moodle in teaching postgraduate modules?**

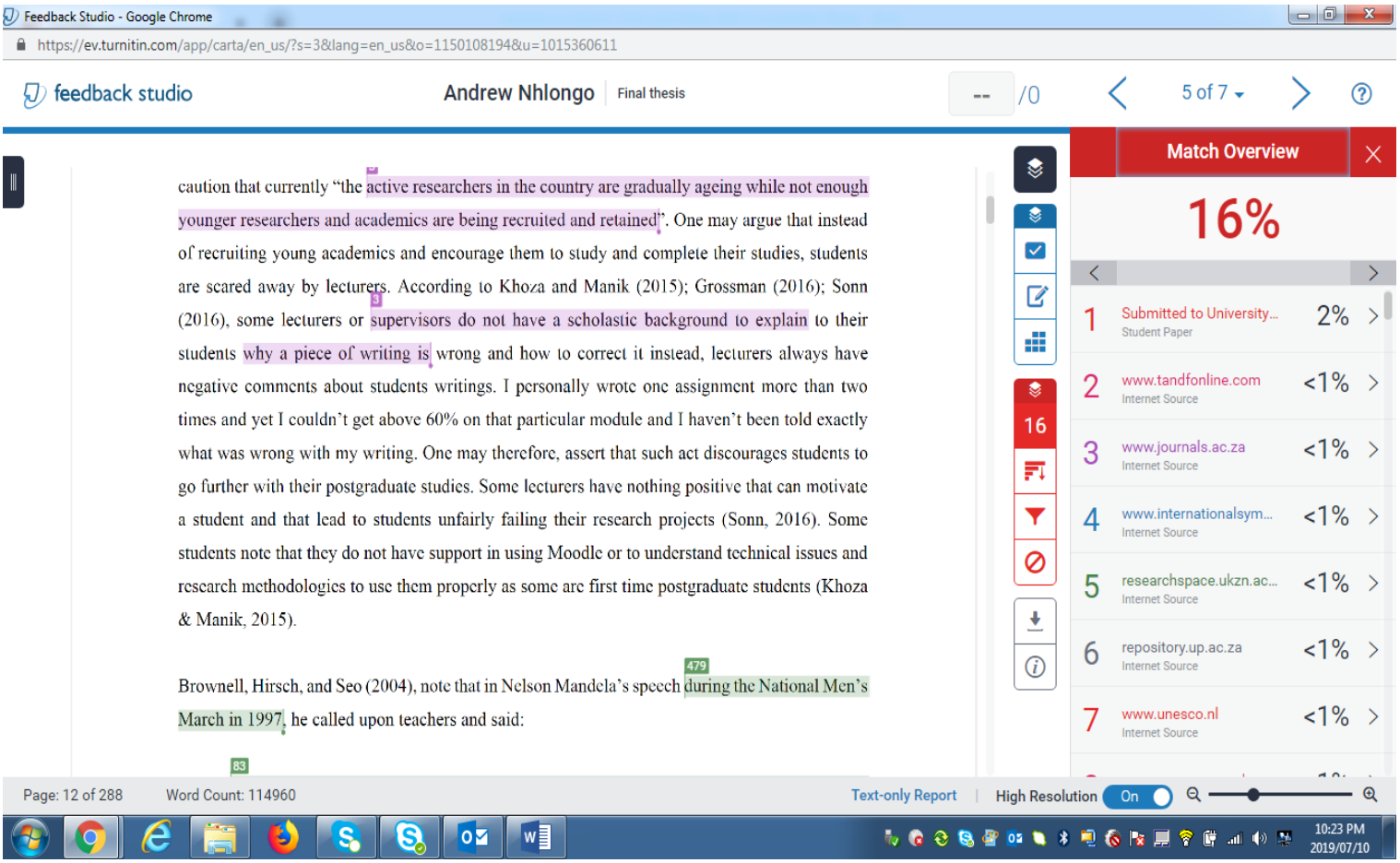
   - What is your understanding of Moodle?
   - Dou you encounter any challenges when using Moodle (*as a programme*)?
   - What are the challenges if any?
   - According to you, is it possible to overcome the challenges?
   - How can they be overcome?
   - What are the impacts of using Moodle in your teaching?
   - What have you noticed about others perspectives on Moodle usage.

3. **What lessons can be learnt from university lecturers' perspectives on the usage of Moodle in teaching postgraduate modules?**

4. **How the COVID-19 Lockdown has changed participants' Perspectives and relationship with Moodle and online learning?**

- Has your use of Moodle during this time changed your perception of Moodle and the use of other technologies in education?
- For the long term implementation beyond COVID-19, do you plan on using Moodle for teaching after lockdown?
- How are students using those spaces to stay connected and share their personal experiences during this time, especially considering how difficult this period is for their mental health? Mental health is a valid concern in education so it is also a professional concern.
- Do you see space to reshape your own teaching practices now that you have used the technology?
- What are the challenges you encounter when using the system (Moodle) to teach during this time?

Appendix 4: Turnitin report



Appendix 5: Editing Letter

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02 July 2020

To whom it may concern

Re: Thesis: *University Lecturers' Perspectives of Moodle Usage in Teaching Postgraduate Modules: A Case Study of the School of Education.*

This letter serves to confirm that I edited Nhlongo Andrew Hebron's paper before submission.

No content was added and little was changed by me during the process. Changes were limited to spelling and grammar, while content changes were identified and submitted to Mr. Hebron for review.

Please feel free to contact me should you have any further questions.

Christine Davis