AN EXPLORATION OF POSTGRADUATE LECTURERS' REFLECTIONS ON THE USE OF MOODLE IN TEACHING BUSINESS STUDIES AT THE UNIVERSITY OF KWAZULU-NATAL, SOUTH AFRICA

By

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This dissertation is submitted in fulfillment of the requirements for the Doctor of Philosophy degree in Education and Curriculum Studies at the School of Education, College of Humanities, University of KwaZulu-Natal, Durban, South Africa.

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Date of submission: 05 October 2020

Abstract

This dissertation presents a qualitative action research study of four lecturers reflecting on their teaching of Business Studies modules using the Moodle learning management system at a university of KwaZulu-Natal. This study employed a critical methodological paradigm. The main purpose of undertaking this study was to explore the lecturers' reflections when teaching Business Studies modules. Consequently, reflective activity, artifacts and one-on-one semi-structured interviews were employed to generate data. The study used non-probability sampling methods, comprising purposive and convenient sampling. Four accessible lecturers with relevant experience and expertise in teaching Business Studies were selected. The study used deductive and inductive processes in identifying ten themes. The findings indicated that lecturers were driven individual, community and expert reflections. Lecturers' use of Moodle is predominantly dictated by community reflections. Lecturers could not state the guidance and training they had been given by the university on Moodle. Although there is a policy in place, some lecturers are non-compliant with such, in that they do not use Moodle for incorporating all reflections when teaching their modules. This study recommends that the university amend and reinforce the existing policy to ensure compliance by all lecturers.

Keywords: Competence-based curriculum, performance curriculum, reflections, Moodle, Learning Management System, Virtual Learning Environment, Curriculum, Critical paradigm.

DECLARATION – PLAGIARISM

I, Sifiso Muhle Mlaba, declare that:

1. The research reported in this thesis, except where otherwise indicated, is my original research.

2. This thesis has not been submitted for any degree or examination at any other university.

3. This thesis does not contain other persons' data, pictures, graphs, or other information, unless specifically acknowledged as being sourced from other persons.

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    being sourced from other researchers. Where other written sources have been quoted then:

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Date: 05 October 2020

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Student number (213570073)

As the candidates' supervisor, I agree to the submission of this thesis

Signature: _____

Date: 05 October 2020

Prof. Simon Bheki. Khoza

Acknowledgements

I thank Almighty God for providing me with the strength and direction which made me focus and succeed in life. The power and strength to complete this dissertation was all bestowed through your Grace and Mercy.

I would like to express my earnest appreciation and gratitude to my supervisor Prof S B Khoza. His guidance from the Master level to PhD level improve my confidence. The sessions we had equipped me with knowledge and skills to face many challenges in life. This was truly a lonely journey.

Finally, I would like to thank Dr. C.B. Mpungose, Dr. S. Zuma and Dr. T. Zuma who motivated me to defend my proposal and continue with my PhD when I felt like giving up. Mr. Gilbert Nxumalo deserves my gratitude and a special mention for his contribution in terms of resources and input into my study. To my BCM colleagues at work who have been my family away from home. Your kindness, cooperation and collegiality has gone a long way. My words of gratitude go to all the cohort members who contributed to my study through their constructive criticism during cohort sessions. I would also like to thank Mrs. Lydia Weight for her contribution in editing my work.

<u>Dedication</u>

I dedicate this work to my late father, Mziyahloma, my late grandfather, Mlungwana, my late grandmother, MaMpanza, and my four late brothers (Bhekumuzi, Mbuyiseni, Vusumuzi, and Kwazikwenkosi).

My wife Nompumelelo Mlaba kept me focused through her support and perseverance while I spent sleepless nights when stressed and pressure mounted.

A pillar of my strength Khethiwe Mlaba my mother who raised me after the passing away of my father. You made me believe that education is the key to success. You raised me with pride and dignity. Thank you, **NoNkosi.**

My sisters (Zibuyisile and Nonkululeko) and my brother (Sabatha). Your support and kindness have encouraged me to study further. My brothers, Khayelihle (Tallman) and Mxolisi, who always show confidence in whatever progress I make in my life; I love You All! (**MaXimba, BeSuthu**).

To my sons, Thubelihle, S'thabiso, Manqoba, Zenzele, and Sizakahle, this should serve as a motivation to try your best and to persevere. It should be a constant reminder that without education, life becomes an insurmountable hurdle. Therefore, I commend to you, take the tune and proceed from where I left off.

Table of Contents

List of Figures

List of Tables

Table	Page Number (s)
1.1: Concepts and Propositions of TPACK	19 – 20
3.1: Comparison of Competence and Performance Curriculum	77 – 79
3.2: Curriculum pillars, Propositions and Proposed Questions	79 - 80
3.3: An Overview of Moodle Components	99
3.4: Flexible Evaluation	112
3.5: Differences between Developmental and Cumulative Evaluation	115 – 116
3.6: Composition of a Final Mark	117
4.1: Configuration of Technological Knowledge, Experience and Resources	150
4.2: Configuration of Pedagogical Knowledge, Experience and Types of Curriculum	152
4.3: Configuration between Content Knowledge, Experiences and Types of Curriculum	152
4.4: Application of TPACK framework with Authors, Study Summaries, Discoveries, and Identified Gaps	157 - 180
4.5: Configuration of TPACK components with reflections	181
4.6: Contextualising the TPACK Theory needed by Moodle	193
5.1: Nature of a Qualitative Research Approach	219 - 220
5.2: A Summary of the Nature of Qualitative Research Approach	222
5.3: Participants' Profiles	228 - 229
5.4: Features of Artefacts	229 -230

CHAPTER ONE
THE SUMMARY, BACKGROUND, AND OBJECTIVES

1.1 Student Statement

This statement outlines my personal, professional, and societal levels of growth as an individual in relation to the experience acquired as a professional. I grew up in a family of four siblings, being the third eldest. I was raised by a single parent (mother) who reiterated the pronouncement that without education you will be nothing. Respect and independence play a huge role in one's life. Bad behaviour was always discouraged; and attending church was compulsory every weekend. This presents my identity from my background of a poor family. I studied Business Economics (currently called Business Studies) from Grade 8 to Grade 12 prior to the introduction of Curriculum and Assessment Policy Statement (CAPS). When I was studying for my Grade 8 at Umdlamfe High School in 1988, I developed an interest and love for Business Economics. The Business Economics teacher taught the subject so well that I passed it at all grades. I also decided to take it at a higher grade to qualify for exemption. With Business Economics, Accounting and Economics taken at higher grade, I passed my matric with exemption. I intended to study Personnel Management at a South African university.

In 1996, I enrolled at Indumiso College of Education where I studied for a secondary teachers' diploma, taking Business Economics and Typing as major subjects. In 1998 I passed Business Economics with distinction. I assisted other students in the subject at college. In August 1999, I started teaching Business Studies and Economics at Sonyongwana High School, as a governing-body paid teacher. On my arrival, I discovered that learners had not been taught the subject from term one. The teacher who was assigned the subject was not qualified in the subject. I had to teach from the first to the last chapter for both subjects. I used to spend my afternoons at school preparing and teaching students. Of 12 students, 100% passed in Business Economics and 8 (67%) students passed Economics. In 2001 we were joined by a departmental head for Commerce and one Economics teacher. After the analysis of results, I was full-time assigned to Business Economics, owing to my performance and qualification. Business Studies had contributed to the welfare of local students and society. While growing in the subject, I was also upgrading my qualifications, because I wanted to achieve better results. I wanted to become a role model to my students. This presents a societal reflection for teaching the subject, because at this time I was focused on students and community needs.

I was selected as Centocow cluster coordinator in the subject. In 2003 I became the provincial core training team member for the transition to the new curriculum by the Department of Basic Education. I conducted workshops in various districts until 2007. From 2000 to 2014 I was involved in the subject which is now called Business Studies, as marker, senior marker, deputy chief marker, chief marker, and finally, as internal moderator. In 2001, I enrolled at Unisa for a Higher Diploma in Education. My major subjects were Business Economics and Information Technology. I passed both subjects with distinction. Thereafter, in 2013, I decided to conduct a study on the implementation of the CAPS by four Grade Ten teachers in the UGu district. This was after I had completed my BEd Honours at University of Zululand.

In 2004 I was promoted to departmental head at Mavangana High School. I taught Business Studies and produced good results. In 2008 I was promoted to the Harry Gwala District as Deputy Chief Education Specialist for Business, Commerce and Management Studies. I am fully in charge of Business Studies, hence I participate in material development, memo discussion, conducting of workshops, and school support visits. I was elected the provincial chairperson of subject advisory in 2012, and served until 2015. I chaired meetings, was involved in moderation, delegated duties, and distributed materials to other subject advisors. In 2012, Harry Gwala District achieved 89.44 % for matric results which made it number one, nationally. I also attended national subject advisory meetings and memo discussions. In 2009, I partook in the establishment of the Harry Gwala Economic and Management Sciences Educators' Association (HGEAMSEA). This involves Business Studies, Economics, Accounting and Economic and Management Sciences (EMS). My involvement in cluster, and promotion to higher levels, then introduced me to a level of understanding my profession as a leader. Such involvement helped me to implement the policies of the Department of Education.

I assisted district teachers in developing Business Studies subject-improvement plans, programmes of assessment, files, subject policies, lesson preparation, and assessment as a specialist in the subject. This further provided me with an opportunity of acquiring more knowledge and content on the subject. I had the opportunity of going deeper into my professional reflection on the subject. During these sessions I assisted teachers and other colleagues with line spacing, using the justification key to align paragraphs and drawing of graphs. These are the skills I learnt while I was doing my master's degree.

In 2013, I decided to enroll for Master degree in order to gain more knowledge and experience in the subject. I conducted a research on the subject at university level. The aim was to explore the implementation of Business Studies by four Grade Ten teachers in the UGu district. Through this study, I acquired technological skills, research methods, and content knowledge. These further developed my personal, professional, and societal reflections for accomplishing goals in life. I started to reflect on things differently in terms of different levels of understanding. In 2016, I started the lonely journey of the PhD, focusing on exploring lecturers' reflections on the use of Moodle when teaching their modules. Some lectures did not use Moodle in teaching their modules at university of KwaZulu-Natal whilst the group of students they teach are used to technology. This happened whilst there is policy on the use of Moodle to teach postgraduate students. This indicates non-compliance to the policy. Through this project I have learnt that teaching requires reflections at three levels which include the personal, professional, and societal reflections (Khoza, 2016a). The curriculum spider web indicates the ten curriculum pillars on which teaching rests (Van den Akker et al, 2009). Through the TPACK theory, I learnt that teachers should have mastered content and pedagogy, and technological knowledge.

In my teaching profession I was using technology as hardware and software only, but not for teaching. This is the situation I have observed from Business Studies teachers in my district. One of the challenges is that most schools are not fully resourced with data projectors and do not have laptop or desktops for this purpose. It is even worse with software programmes, because schools have to pay for such. Currently, schools use technology for administration purposes. They use the South African Schools Administration and Management Systems (SASAMS) − clerks are trained to use this system. I have further learnt that each curriculum pillar has three propositions. Each relates to either a personal, professional, or societal reflection. Understanding the curriculum pillars also made me realise the importance of time management in whatever I do. I have sound knowledge of content I present in workshops and know my audience. These three aspects relate to personal, professional, and societal reflections.

I have learnt that the curriculum comprises levels, forms, and types. Levels are presented as supra, macro, meso, micro, and nano. The forms include the intended, implemented, and attained. Types of curriculum are the horizontal/competence and vertical/performance curriculums. This advocates the importance of understanding the content and using the methods in conjunction with technology. The content, pedagogical, and technological knowledge

propositions are to be aligned with reflections as expert, individual, and community reflections, respectively.

While I was doing PhD I started the WhatsApp group for Business Studies teachers in the district. This platform is used to share teaching strategies, subject content material, announcements for workshops, editions or corrections on material, and for managing the subject, including capacitating teachers. This assists me to reflect on the progress and know who does not have any particular material. Sometimes teachers submit information relevant to the subject through this group. At times they share videos or jokes of acceptable standards.

Jones et al. (2010) conducted a survey study on 596 first-year undergraduate students, using a questionnaire instrument to explore the experiences of students as they embarked on a university e-learning course in all five participating institutions. This study used purposive sampling to select most accessible participants. This study aimed to critically view the knowledge of a distinctive cohort described as the net generation and digital natives. It also explored the age-associated variances between first-year students. The study indicates that, although there is sound age-related variance among the sample, it is simplistic to define first young students born after 1983 as a single group. The study further found that the group cohort is not the same in its use and understanding of innovative tools. There are important variants amongst students within the net-generation age group.

The study reports a novel group of people born in the 1980s when digital tools were first entrenched in communal life. These young individuals having grown up with computers and the Internet are said to have a normal ability and high levels of expertise in using original technologies. Older persons are described as being at least one step behind and incapable of grasping the new types of digital technologies. A generational move has consequences for methodologies in learning. The new cohort needs quick access and rapid rewards, is intolerant of linear thinking, and shows a new capability for multitasking.

The generation gap adds to the importance of the use of Moodle in teaching different modules. Lecturers and institutions of learning have a duty to transform in reaction to the presumed demands of this innovative group of students. Modern students are termed net generation, digital natives, and millennials. University lecturers must be well acquainted with technology so that their teaching practice is addressing the needs of the net generation group. Therefore,

owing to the rise in number of students in Higher Education (HE), the teaching space cannot be stretched. Lecturers deal with different groups of students for different modules. The universities therefore need to offer alternate methods of teaching to make accessible space for all students. Deployment of the Moodle learning management system can be a resolution to this predicament.

(Khoza and Manik, 2015 p. 205) state that "technology-in-education (hardware and software) is beneficial if users have acquired proper training because it assists in their motivation which is the most important ingredient for successful ICT integration in education". Technology bridges time and the spatial gap. I observed that not all lecturers are using Moodle. A transformation plan would align the phasing in of Moodle and the training of postgraduate lecturers on the use of Moodle in teaching modules. Therefore, lecturers' reflections serve to provide the university with necessary data on the use of Moodle by postgraduate lecturers.

Khoza and Manik (2015) revealed that students in higher education institutions were identified as digital natives; whereas the lecturers were born prior to the digital age and were known as digital refugees. Students require content understanding for their future; and lecturers have content knowledge at their disposal. This therefore requires the integration of the two parties with the purpose of enhancing better teaching using Moodle by lecturers; and better subject achievement by students in their respective disciplines. This advocates a group of lectures who are not at ease with their transition to digital technologies; most of them lacking technical and professional support in the digital tools.

Lecturers are expected to be proactive in comprehending particular tools known to their students before they suggest their use to students (Khoza and Manik, 2015). These researchers further imply that this may reduce resentment, in turn, increasing the success of technology adoption and integration into the curriculum. Barron et al. (2006) raise a concern that, if teachers are not knowledgeable on technology, this may produce undesirable student achievement. Barron et al. (2006) elaborates that technology-in-education enhances education instructional success, dynamic learning, writing abilities, critical thinking, individualization, student enthusiasm, versatility for students with distinctive prerequisites, collaborative learning, communication skills, multisensory provision and diverse teaching.

Therefore, as an individual I have scrutinised every statement or situation in terms of three levels of reflections. I also understand that none of these reflections is perfect; a proper justification must be provided. I am in a better position to read an article or a study and position it according to either personal, societal or professional reflection. Therefore, decisions I take are based on the understanding that my everyday life revolves around these three reflections. My interpersonal relations have improved. At times when I want to relate to professional reflection but other people are from the societal world, I have to teach them, or adapt to the situation. I scrutinise the policies of the department and simplify them for others. I also respect everyone's opinion; I understand the position they come from. My understanding has moved from the descriptive to the philosophical level. I look at what is existing, critique it, and present what is not discovered by the existing literature. I also understand that the 'what', 'how' and 'why' questions, as informed by research questions, are associated with reflections. These terms progress from lower cognitive thinking to a higher cognitive order.

1.2 Introduction

This section outlines the title of the research project, the aim of the study, a brief motivation, review of literature covering the ten principles of the curriculum spider web, the location of the study, objectives, research questions, research design and methodology, sampling, research paradigm, data-generation methods, data analysis, trustworthiness issues, limitations, and ethical issues. The study generated themes through the literature review that include lecturers' reflections, Moodle as a resource, ambitions, lecturers' capacity, evaluation, content, times, learning environment, communal support, and learning tasks. The study is framed by three reflections, namely, individual, community, and expert reflections. The critical, technical, and practical reflection by Van Manen (1977) forms part of the literature. At basic education level, the subject is called Business Studies, as offered from Grades 10 to 12. At tertiary level, the subject is known as Business Management. For the purpose of this study, the term Business Studies be used because curriculum knowledge, as one of the topics, incorporates the CAPS.

1.3 Purpose of the study

The purpose of the study was to explore the reflections of postgraduate lecturers on the use of Moodle in teaching Business Studies at university of KwaZulu-Natal.

1.4 Background to the study

My observation of the importance of technology while I was doing my master degree arouse my interest to further my studies at PhD level. The use of technology saved on traveling, space and time to complete my work away from the university. I further want to explore on the use of Moodle in teaching Business Studies at university of KwaZulu-Natal. This was because the university introduced Moodle as a learning management system as from 2016 to 2018 at a staggering approach.

Orland-Barak and Yinon (2006) conducted a case study on student teachers using observation and grounded theory processes. The first phase entailed hermeneutic rounds of adjacent explanatory interpretations of each paper, to find recurring themes that appeared from student teachers' acknowledgements of their learning as related to the 10 regulatory questions of the task. The succeeding phase involved the identification of sets of learning that related to links/gaps that student teachers recognised. Gaps identified were between theoretic ideologies of pedagogy and the classroom discourse designs typical of their teaching. This study aims to discuss the influence of an original method planned on learners' reflections on their personal learning environment dissertation, for their knowledge of the associates among philosophy and practice.

This study reports on three typical circumstances of student teachers' education. The associates showed by student educators amongst philosophy (ethics of education) and practice (the learning environment dissertation designs that described their philosophy) were deduced as: (1) knowing how preparation fits theory; (2) linking philosophy and practice to produce grounded philosophies of practice; and (3) designing real-world philosophies. The paragraph above shows that individual, community, and expert reflection were considered.

The study also indicated that the organisation of the module was beneficial to both novel and complicated understanding of the link between philosophy and practice. Such apprehensions remained greatly distinctive in nature. The study further reports that teachers' thoughts remained mostly ironic, intense, and refined, showing complex stages of expression of links between model and profession. The study defines and deduces how respective student educators replicated personal dialogue. It theorised on whatever types of associates among philosophy and profession each student educator demonstrated as a result of the meeting between philosophy and practice. Having indicated this, nonetheless, the problem of how much

power practicing educators must provide, in order to replicate their activities remained valid. The study used only the case study style of which action research could have been instrumental in changing the practice. Interviews could also have helped to find the teachers' perspectives and to assist the researcher to use various sources of information to ensure trustworthiness of results.

Van Manen (1995) states that teachers should be willing to incorporate technology into the teaching situation. They should consider reflection as a tool for understanding the three reflection levels, namely, technical, practical, and critical. Technical reflection improves understanding and abilities required to achieve educational goals. These are also called hard/software resources. Technical reflections may therefore be pertinent during the planning stage. Practical reflection takes place when teachers are trying to strike a balance in applying what they have acquired during the training level at a classroom level. They may not be familiar with classroom situations. Practical reflections are therefore relevant during the teaching time. Schiro (2013) claims that to apply critical reflection for critical thinking, broad reading of and cooperation by other academics in one's subject is important. Hayon (1990) indicates that verbal and written reflections are relevant in providing comprehensive appreciative of the phenomenon being investigated.

For personal reflections, it is imperative that lecturers know how the use of Moodle impacts on their daily delivery of modules to Business Studies. On societal reflection, lecturers may understand how the other stakeholders feel about their approach to teaching Business Studies using Moodle (Khoza, 2015a). In content reflections, lecturers may be able to differentiate whether they teach Business Studies for their own academic knowledge or to ensure that the module is taught according to the guidelines. Khoza (2015a) states that lecturers should be exposed to different learning environments with different logic and reflections. Such may enable them to channel their lessons into proper technological, pedagogical, and content experience. Hence the reflections are on the usage of Moodle in teaching Business Studies which is part of the university curriculum. It is therefore important to discuss curriculum pillars.

The ambitions are specific to the teacher/facilitator's intentions (Mpungose, 2017; Makumane, 2018; Zuma, 2019). Ambitions are relevant if the module is teacher-centred; whereas the outcomes are relevant in a learner-centred approach module. Barron et al. (2006) concurs with Khoza (2015c) that effective application of technology in the learning environment requires a clear determination of ambitions to support the implementation of a module. Technology must

meet the curriculum needs/demands. Newby et al. (2011) point out the significance of three teaching mechanisms, namely objectives, students, and learning environment, important for the educational preparation process. They further emphasise the significance of planning teaching founded on the set of methodical, coherent phases, starting with goals and objectives of the instruction. This relates well to the use of Moodle because it speaks to the learning environment. The teaching is designed for a particular learning environment, in this case the use of Moodle in teaching Business Studies in a classroom. Therefore, teaching may require the use of resources to facilitate teaching in a learning environment.

Luckin (2010) defines resource as a whole range of different tools and applications. The researcher further elaborates on devices as digital information for communication which include both hardware and software. Luckin (2010) further defines Moodle as an open source, online courseware platform that runs under key operative methods invented by Martin Dougiamas at Curtin University in Australia. Moodle offers all the essential tools for teachers to generate a simulated learning environment via the Internet. Moodle is a system transcribed in PHP and disseminated under the GNU common open license, which is an unrestricted open-software learning administration method. It is a web-platform designed aimed at interaction between students and teacher, allowing discussion forum, place for curriculum, lesson plans, tests, and feedback from teacher (Luckin, 2010). It is effective and appreciated, especially by those who combine work with studies, since they do not have time for school after work. Students can do their assignments on a weekly basis on the platform and according to the schedule.

Khoza (2015c, p.180) defines a resource as "any person or thing that communicates learning". This includes hardware (HW), software (SW) and ideological-ware (IW). However, IW influences the choice to use hardware or software devices. Özbek (2016) presented an article at the 7th International Conference on New Trends in Education. The article presented Turnitin as an instrument not just to identify and prevent plagiarism, but also to give constructive comment and evaluation of significance to learning. The study indicates that once Turnitin is used as a method of developmental evaluation, it will not only prevent plagiarism, but will also improve student learning. Such will lead to further excellence of student work. Turnitin is defined as a web-based copy-detection software created in 1998 by four UC Berkeley students as a peer assessment tool. In 2000 the programme presented a plagiarism-avoidance facility. Currently, it is used by 15,000 organisations and 30 million students. Turnitin is one of the highest regularly used copy-tracing software programmes, globally. It is used in 140 countries.

Turnitin creates novelty accounts on submitted work that shows similarities between presented work and the work kept in records, the Internet bases, journals, publications, inter alia. The study explains that the method uses colour-coding to indicate the proportion of submitted text matching other work. It connects to the literature that was copied from in a popular active sheet. The works on Turnitin discloses that, in many instances, the uniqueness statement created by Turnitin is used as a way of developmental response, as well as evaluation. Nevertheless, novelty accounts reveal the ratio of copy in a presented work and does not offer response on the content, institute, and further features of the learner's work. Turnitin is similar to a Learning Management System (LMS), except that the selection to upload the course content is not provided. In this sense, it allows the supervision of students' work at a distance, which saves time and space.

Students can observe their own improvement, assisting one another in the learning course and even deliberating with their peers. Turnitin can also be incorporated into LMSs. Turnitin therefore addresses the individual, community, and expert reflections. This is advocated when it is used by lecturers to monitor students' work and give feedback. It is used by students to submit their work. Turnitin assists students, including in discussions with peers, used as a learning course, and to create reports. Although Turnitin is used to detect plagiarism in students' work, in numerical subjects such as Mathematics it may serve as a memorandum. It shows exactly the expected response and the source. Turnitin is a tool to detect copying in some subjects. However, it can be used as additional content provision in other subjects. This serves as an advantage to students, while it may pose a dilemma to lecturers. Turnitin should be viewed as detecting copying instruments as well as an instrument that enhances learning.

Budden (2016) conducted an interpretive case study on a small group of university master's students, using semi-structured interviews, document analysis, and an online reflective activity. The study adopted purposive and convenience sampling to select the most reachable participants. The study intended to acquire an understanding and clarification of the e-resources students mostly use to undertake their theses, and the crucial features that back such practices. This method incorporated knowledge of the issues of expert, community, and individual, which offered a diagnostic view in discovering the ground for their selections of e-resources. The study reports that some e-resources were preferred above others, as these were dictated by ideological-ware (IW) resources. E-resources were investigated in terms of hardware (HW), software (SW) and ideological-ware (IW) resources.

Using e-resources was initially informed by philosophies of the study, models, and the literature (IW resources) in building of students' theses. Devising a stable comprehension of IW resources confirmed that students were capable of upholding the real aims of research by excluding e-resources that would corrupt their conclusion. Accordingly, the research objectives were attainable, which showed that they were able to successfully complete their theses and obtain a master's degree. The study suggests that curriculum courses and programmes should be geared by potential IW resources to support the enactment of HW and SW e-resources.

Schwab (2016) posits that the word "revolution" means rapid and drastic change. Changes have happened in the past, while innovative tools together with new methods of observing the world have prompted a philosophical transformation in fiscal methods and public organisations. Change was hailed as a result of a sequence of industrial uprisings started during the second part of the 18th century. These marked the move from physical control to automatic control. Currently, the Fourth Industrial Revolution (4IR), and improved mental control, is supplementing social production. The initial industrial revolution extended from around 1760 to 1840. It was prompted by the building of railways, then the discovery of the steam locomotive, ushering in automatic manufacture. The second industrial revolution, from later in the 19th century to the beginning of the 20th century, promoted by the initiation of power and the assemblage route. The third industrial drastic change started during the 1960s.

The computer or digital revolution began with the improvement of semi-conductors, processer computing (1960s), individual computing (1970s and 80s), and the Internet (1990s). Digital technologies that have computer hardware, software and systems at their core are not original, but a disruption by the Third Industrial Revolution. They are becoming more refined and therefore changing communities and the worldwide economy. Lecturers teaching Business Studies need to be well acquainted with software and hardware resources, such speaking to their technological knowledge.

The use of software and hardware relates to community reflection which impacts on lecturers dealing with students. Changing societies relate to providing relevant content using appropriate strategies. Such touches on ideological-ware resources. This in turn, relates to expert reflection, as it directly speaks to content used, and strategies to transform the societies. As lecturers are engaged in research, they must understand the innovations that come with the 4th Industrial

revolution. This will keep them in line with technological changes around the globe. Lecturers will then meet the needs of the digital community they teach in universities.

The 4th Industrial Revolution, nevertheless, does not consist of smooth and linked technologies and structures. The scope is broader. Happening concurrently are influences of more discoveries from general classification to nanotechnology, from renewables to huge computing (Khoza, 2020). It is the blend of these technologies and their interface across the substantial, digital, and natural spheres that marks the 4IR as essentially diverse from earlier changes. In the current revolution, evolving skills and wide-range invention are spreading quickly and more broadly than in former times, and to other parts of the globe. One of the foremost connections among the human and numerical uses empowered by the 4IR is the Internet of things (IoT) – at times called the "Internet of all things". In its simplest form, the IoT can be defined as the correlation between things (products, services, places) and persons that is made likely by linked technologies and numerous platforms.

The 4th Industrial Revolution links the physical, digital, and biological elements which are tangible features (Khoza, 2020). Therefore, it links well with the use of Moodle in teaching Business Studies. It relates expert reflection to digital use of software and hardware resources (community reflection). This links well with technology-in-education. Biological elements relate to human beings which relates well to ideological-ware as lecturers use Moodle to teach the content. This relates to individual and expert reflections on the use of Moodle.

Barron et al. (2006) indicate that there has been a tremendous lack of technological proficiency among lecturers. The study recommends that lecturers need to juxtapose technology and theories; preparation and planning classroom and experience; teaching, learning and syllabus, evaluation and appraisal; efficiency and expert practice and public, moral, legitimate and social matters standards in order to integrate technology with education. This challenge may have resulted in the introduction of Moodle to all postgraduate modules in South African universities. Postgraduate lecturers require capacity building in the usage of Moodle in the learning space. The ongoing in-service training for lecturers, and subscription to magazines and journals, may improve the professional and pedagogical expertise of lecturers on the use of Moodle.

Khoza (2015c), and Budden (2016) suggest that ideological-ware should drive the learning environment: learning is not about the technology itself but about ideology. These studies

further suggest that teachers are expected to understand the ideology behind any curriculum before applying their technological knowledge. Postgraduate lecturers teaching Business Studies should first understand the ideological-ware behind the use of Moodle. It is not only about teaching Moodle but about teaching the Business Studies pedagogy using Moodle. Khoza (2015c) indicates that, when lecturers and students use the hardware, software and ideological-ware, it is important for them to understand that the word 'ware' means awareness. Khoza (2015c, p. 124) further explains that "hard-ware and soft-ware about 'doing the right thing' and ideological-ware is about' doing the thing right". He further comments that lecturers and students may have to choose either to use hardware or software; however, ideological-ware is compulsory for any teaching environment. The use of technology may require understanding and clear definition of the society in which the lesson will be delivered.

The community approach plays a vital part, releasing the lecturer from teaching in order for him or her to have enough time to accommodate individual students and their problems (Prophet, 1995). Beck et al. (2000) indicate that student negotiation in the learning environment can help students work in society situations; improving communication and higher-order thinking skills. The lecturer's responsibility may be influenced by the learning environment setting.

According to Dada et al. (2009), comment group work should not be taken as one-size fits-all in any learning environment; it is part of the teaching methodology but not suited for all classroom settings, lecturers, or curriculum programmes. Hoover (2014) avers that twinning of students enhances social interaction which promotes a learning environment culture. The times allocated for teaching and learning play a vital role in planning and teaching of lessons. More time for planning is needed when applying teaching to relevance models (Beck et al., 2000). More time should be allocated for evaluation, since evaluation requires planning of a task followed by the criteria to be used when assessing students' work. The correlations should exist between the time span, the type of activity, and coherence. Altrichter (2005) points out the importance of giving lecturers enough time to initiate learning devices. Time allocated should cater for both teaching and evaluation.

According to Khoza (2013a), it is important to use the integrated evaluation and testing forms. These are sequenced to ensure the student's achievement level in order to provide appropriate feedback. The issue of including attained learning outcomes, formative and summative evaluations should be prioritised. Dada et al. (2009) further emphasises that the evaluation used

in the learning environment should provide an opportunity for feedback to the students. Evaluation should show a reflection and understanding of instruction and learning that has taken place at a particular time. Evaluation should address the tasks that have been taught.

According to Roehrig et al. (2007), lecturers should use the tasks not only to communicate knowledge but also to cultivate students' capabilities to both complete and comprehend the study. According to Hoover (2014), the learning environment organisation and instructional management should cater for both academic and behavioural aspects of teaching and learning. The studies further indicate that the teaching technique applied in the learning environment involves all students in tasks which are challenging to students. Lecturers should constantly engage with students using Moodle in seeking new ways of making their lectures more relevant and intellectually stimulating to their students.

Amory (2010) conducted a case study on three groups of twelve-to-nineteen-year-old black orphans from Soweto. The study explored a learning computer video game in teaching and learning; using a questionnaire, reflective journal, and a round-robin conversation. Results revealed that participants acquired innovative information, noticed that the game facilitated their education, recognised the objective of the task, and deliberated on how they might support their society. The results defend the use of games as devices to mediate learning. The study illustrates two aspects of learning from games and learning with games. Results further indicate that learning from games requires technology knowledge; and a large proportion show positive results. Technology here works as a tool. In learning with games, members were keen, and they persevered to finish the activities, operated both independently and cooperatively, and applied what they learnt to other contexts. Such information advises that, through a cooperative play project, a learning-with-tactic tool becomes a mental device, and this leads to significant learning.

Learning from games relates to community reflection as students communicate using technology. Learning with games links well with expert reflection as technology acts as a cognitive tool which leads to learning. Drilling and supporting students relates to strategies used to teach students which also links well to expert reflection. Instructions therefore relate to individual reflection, coming from the lecturer as personal aims or objectives. Learning tasks require technological knowledge (community reflection), content knowledge (expert reflection), and pedagogical knowledge (individual reflection) from the teacher in order to ensure proper teaching.

Lecturers must understand that, in teaching students, having technological knowledge means understanding that technology-in-education relates to software resources. Moreover, using technology in teaching means understanding technology-of-education which relates to ideological-ware resources (Govender and Khoza, 2017). The study therefore, through learning from games and learning with games, covered all three reflections. Business Studies lecturers must therefore know when they administer tasks using Moodle that such must encompass all three reflections.

1.5 Location of the Study

The research study was conducted at university of KwaZulu-Natal Edgewood campus, Durban, South Africa.

1.6 Objectives

- To establish the university lecturers' reflections on using Moodle in teaching Business Studies postgraduate modules.
- To explore why university lecturers, have particular reflections on using Moodle in teaching Business Studies postgraduate modules.
- To learn by the lecturers' reflections on using Moodle in teaching Business Studies.

1.7 Research Questions

- What are university lecturers' reflections on using Moodle in teaching Business Studies postgraduate modules?
- Why do university lecturers have particular reflections on using Moodle in teaching Business Studies postgraduate modules?
- What lessons can be learnt from the lecturers' reflections on using Moodle in teaching Business Studies?

1.8 Research Design and Methodology

This is an action research on four university postgraduate lecturers teaching Business Studies at university of KwaZulu-Natal. The study aimed at eight Business Studies lecturers at university of KwaZulu-Natal teaching postgraduate students. The study adopted convenient and purposive sampling methods to select the most accessible and qualified lecturers in

Business Studies. (Berg, 2004, p. 195) comments that "an action research represents a viable, practical strategy for social sciences studies requiring systematic, organised, and reflective investigations". The action research is characterised by reflective, recurring, real, shared, participatory action, centering on the change-research style (Maree, 2013). The method stimulates the experimental style in which individuals and groups contribute to a study of a subject or phenomenon (Berg, 2004). An action research involves systematic steps of planning, observing, acting, and evaluation (Maree, 2013; Kemmis and McTaggart, 2005). Action research allows people to work together to produce some positive changes (Berg, 2004, p. 201). He also indicates that action research is aimed at empowering people and enabling personal and community reflection. It enables access to perceptions of those who are not in control, allowing them to share information with those who are in control.

Kemmis and McTaggart (2005, p. 273) aver that "action research creates a way of reinterpreting our own views of action research as they develop practically, theoretically, and pedagogically over time". Creswell (2014) comments that action research presents a transformative worldview, as it associates itself with an agenda for change, which is a more political approach. Action research focusses on social matters such as emancipation, oppression, disproportion, power, and hostility. Maree (2010) indicates that some of the challenges of action research are that the researcher regards participants as outsiders, which limits the accessing of insightful data for the research. This perception does not encourage participants to own the process.

Spending time with participants in informal meetings was used during the introductory sessions. Action research is the most suitable research style aimed at educational change and improved teaching practice. An action research is relevant for the use of Moodle in teaching of modules at a university, as this speaks to a reform type of a teaching practice. An action research most suited to this study used the reflective activity, focus group, and semi-structured interviews to generate data. This approach ensured my role in a study as an observer, partner, and contributor to the study. Action research promotes critical thinking representing itself in civil as well as real steps for transformation.

1.8.1 Critical paradigm

Terre Blanche et al. (2006) indicate that a critical paradigm views reality as shaped by social, political, cultural, and other dynamics. The critical paradigm can be seen as an authority word for a set of diverse orientations to research. It is critical in two ways: first it challenges both the post-positivist and interpretivist paradigms. Second, it is critical of the unequal and discriminatory ways in which the social world is organised. Scotland (2012) maintains that the critical paradigm is anti-foundational; it attacks reality. People are not only in the world, but also with it. Reality is alterable by human action. The critical paradigm seeks to address issues of social justice and marginalisation. The emancipatory function of knowledge is embraced. Various theoretical perspectives of critical enquiry include: Marxism, queer theory, and feminism. The critical paradigm is culturally derived, historically located, and influenced by political ideology: knowledge is not value-free.

The critical paradigm asks the axiological question: what is intrinsically worthwhile? Thus the critical paradigm is normative; it considers how things ought to be; it judges reality. The ideal aspirations of the critical paradigm may never be realised; however, a more democratic society may materialise. Moreover, a critical paradigm is the ontological position historical realism. Historical realism is the view that reality has been shaped by social, political, cultural, economic, ethnic, and gender values; reality that was once deemed plastic, has become crystallised. Realities are socially constructed entities that are under constant internal influence.

A critical paradigm therefore involves reflection-on-action, as it judges reality which is something that is in existence. A critical paradigm is pertinent to the study, as the study uses primary and secondary information which provides historical background. The study also incorporates the community reflection as the social, political, ethnic, and cultural perspectives speak to community reflection, embracing the emancipatory knowledge which then relates to expert reflection. The critical paradigm incorporates the individual, community, and expert reflections which are frames of reference for this study. The individual reflection is also embedded in the action of judgement of realities, which is the activity of an individual.

Scotland (2012) outlines the shortcomings of the critical paradigm in that it exposes how political ideology is inextricably interwoven with knowledge, nevertheless, problems exist. Critical research has an agenda of change; it is often not supported by existing regimes. One way to control research is through funding. Knowledge production is influenced by politics.

Often the critical paradigm is not favoured by existing policymakers. A dialogue of equals is virtually impossible, as power differentials between researchers and participants exist. The transformation in the participants' lives may not be insignificant or non-existent. Once participants become critically aware of their situation, change may not be possible. Dependency may succeed as blissful ignorance is exhausted. Some participants' lives may be changed for the worse.

The critical paradigm stereotypes participants in two ways: first, it often labels participants as fitting a specific marginalised group; therefore, homogeneous notions of identity are superimposed. Second, the critical paradigm does not acknowledge that different participants enter the research with varying levels of conscientisation. It naively assumes that populations are blind to the bidding of powerful regimes, further enslaving themselves in the process. Most of the leading authors in the critical paradigm have been male, prompting feminists to criticise the critical paradigm as excluding the voices and concerns of marginalised groups. Ironically, the critical pedagogy can be accused of maintaining the societal status quo.

In an attempt to overcome the challenges of the critical paradigm, Denzin and Lincoln (2008a) suggest the interpretive paradigm. The researcher's epistemological, ontological, and methodological premises may be termed a paradigm or an interpretive framework, a basic set of beliefs that guides action (Denzin and Lincoln, 2008a, p. 4). All research is interpretive; it is guided by the researcher's set of beliefs and feelings about the world, and how it should be understood and studied. The constructivist paradigm assumes a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent concrete understandings), and a naturalistic (in the natural world) set of methodological procedures. Findings are usually presented in terms of the criteria of the grounded theory or pattern theories.

Terms such as credibility, transferability, dependability and confirmability replace the usual positivist criteria of internal and external validity, reliability and objectivity. All the terms used in interpretive paradigm relate to action research design, therefore the interpretive paradigm can also be used in action research: it allows for the use of mixed methods.
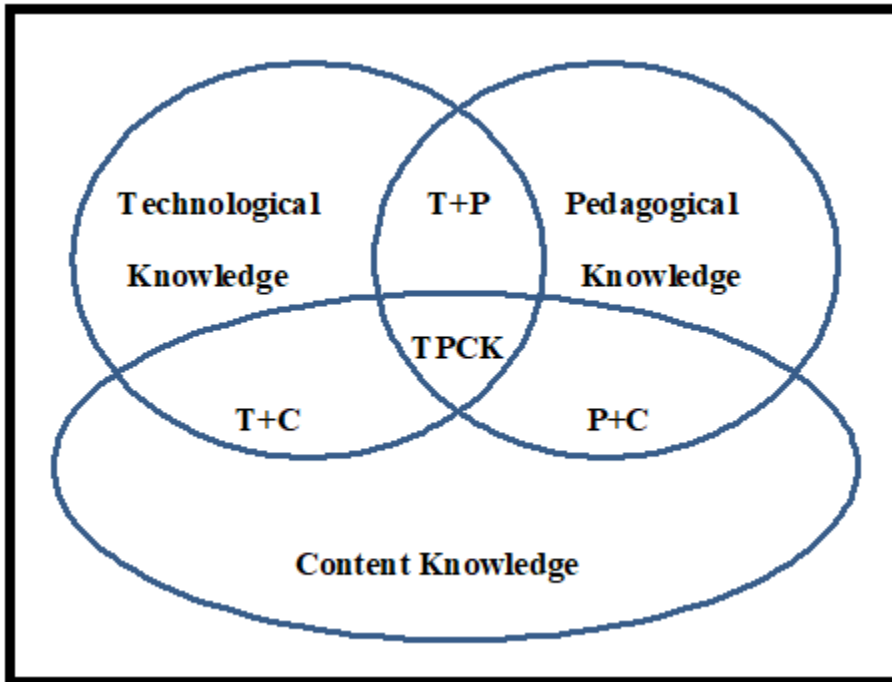
Figure 1.1 Conceptual framework (Koehler and Mishra, 2009; Khoza, 2015a)

This study was framed by the three key TPACT concepts (technological, pedagogical, and content knowledge) with their propositions.

Table 1.1 Table 1: Concepts and Propositions of TPACK
(Koehler and Mishra, 2009; Khoza, 2015a)

Concepts	Propositions
Lecturers' technological knowledge	Hardware devices Software devices Ideological-ware devices
Lecturers' content knowledge	Business Studies modules (pedagogical knowledge)
Lecturers' pedagogical knowledge	Reflections (individual, community, and expert) Ambitions (aims, objectives, and outcomes) Community (physical, financial, and cultural) Lecturer's responsibilities (coordinators, trainers, and scientists) Learning environment (closed, open, and specified)

	Tasks (natural, certified, and observation)
	Evaluation (developmental, cumulative, and uninterrupted)
	Time (fixed, flexible, and consensus)

1.8.2 Sampling

Khoza (2015b, p. 6) indicates that "purposive sampling is good in selecting a specific group with unique qualities". Lecturers' professional role, expertise, and experience in the teaching of Business Studies for a number of years were considered. This study used purposive sampling in which four postgraduate lecturers participated who are teaching Business Studies at a South African university. Convenience sampling was also used in selecting four postgraduate lecturers who are teaching Business Studies at university of KwaZulu-Natal. Eight lecturers were targeted to participate in the research. Fifty percent of the targeted sample participated in the study.

Cohen et al. (2007) define purposive sampling as a way of accessing 'knowledgeable people', meaning those who have in-depth knowledge about particular issues, perhaps by virtue of their professional role, power, access to networks, expertise, or experience. Christiansen and Bertram (2010) describe sampling as making decisions about which people, settings, events, or behaviours to observe. Maree (2012) defines convenience sampling as a condition in which the chosen group of participants is easily accessible at a reasonable cost to the researcher. For this study, participants were met during and after lecture hours by appointment, to avoid the disruption of teaching and learning.

1.9 Methods of Data-generation/production

Artefacts, reflective activity, and one-on-one semi-structured interviews were used as data generation methods; and field notes were taken. The participants answered research questions through a questionnaire on reflective activity, and through one-on-one semi-structured interviews. The first stage was artefacts; the second stage was reflective activity; and the third stage was one-on-one semi-structured interviews. Four postgraduate lecturers from university of KwaZulu-Natal offering Business Studies who were most accessible (convenience sampling), participated in the study.

1.9.1 Artefacts

Tidwell et al. (2004) aver that artefacts in a qualitative research used in self-study may draw one closer to the self, but may also restrict the limitations of study. Typical approaches of research are circumvented by rationally generated views and models. However, the personality is also a fount of other types of intellectual, emotional, spiritual and substantial action. The study defines artefacts as the products that make up our substantial culture in common, including the day-to-day work of teaching and learning. Artefacts personify the full assortment of what is taking place in the world we live in, a world made up of single characters. Self-study research in teacher education has some history rich in the use and study of artefacts, often offering concrete proof of the actualities of teaching and learning. These may include paper proof of teaching tasks, copies of books read and used in teaching and research, reminders of meetings and networks, objects produced to make a theoretical or conceptual point, photographs, costumes, videos, works of art that have greater understanding of the personality in the educational process, inter alia.

Although artefacts do not displace other forms of evidence, they need to be taken into account in developing a theoretical framework for self-study research. Examples of the use of artefacts in self-study research include: items that recall teaching experiences, stories written by students, artworks drawn by them, summaries on newspapers created during class tasks, substances used in instructions, and an image of a memorable blue orange. Moreover, artefacts may be short-lived, but more often they stay through the ages, existing for recollection, reuse, or reanalysis.

Artefacts may be brought to the surface after years of storing to begin an original life as the centre of a longitudinal self-study. Set out on a table for attention, they permit the expansion of networks among substances that develop into networks among ideas. Viewed by self-study participants, they construct associations among the work and thoughts of peers. The disparity among artefacts collected over the years suggests the methods teacher educators alter and develop through their reflective practice. They provide the opportunity of frequently veering off one's progressive path, attempting a diverse route in one's practice as a teacher educator. Artefacts suggest community reflection; hence participants provided information relating to their opinions.

1.9.2 Reflective activity

Cohen et al. (2011) define reflective activity as a written activity that probes questions from participants (lecturers) to complete a set of questions on the issue being studied in the use of Moodle in teaching Business Studies. For the purpose this study, an open-ended questionnaire was used as a reflective activity for lecturers to complete. This provided a foundation for one-on-one (individual) semi-structured interviews. Cohen et al. (2011) advocates that reflective activity requires more time to complete a set of questions than lecturers may have.

Reflective activity therefore relates to expert reflection; hence participants reflect on their own professional practice. The researcher gave participants sufficient time (three weeks) to complete the questionnaire. Participants were given a set of questions to answer. The responses on reflective activity were analysed; then another set of questions were designed in an interview based on their responses. Participants were provided with relevant material on studies apropos of the questions. The reflective activity intends to establish the university lecturers' reflections on using Moodle in teaching Business Studies postgraduate modules.

1.9.3 One-on-one semi-structured interviews

Zulu (2017) defines an interview as a two-way process conversation which involves the interviewer and interviewee, usually initiated by the interviewer aiming to obtain relevant research information. Zulu (2017) further states that an interview presents itself as a good data-generation method when in-depth data is generated from a small group of people/population. The line between unstructured and semi-structured interviews is uncertain because, as Gilham (2000, p. 3) puts it, "expert interviewers always have a structure, which they use flexibly according to what emerges. Semi-structured interviews provide the best of both worlds as far as interviewing is concerned, combining the structure of a list of issues to be covered together with the freedom to follow up points as necessary". Dube (2018) adds that one-on-one semi-structured interviews are about the researcher relating to a situation wherein a researcher asks questions to a participant who is being questioned; also being able to provide follow-up questions. These follow-up questions aim at gaining clarity on what the respondent may have implied. This therefore, ensures that varied and detailed information pertinent to the phenomenon is acquired. Asking probing questions ensures that the researcher has complete understanding of the phenomenon by engaging the respondents.

An interview is a discussion between a researcher and a participant, differing from daily conversation in that it is organised (Shoba, 2018). An interview process ensures the presence of the interviewer, which makes it easy thus to ask probing questions, eliciting more information. Breen (2007) refers to a researcher as an outsider who comes to find information, with the aim of transforming the current situation. This therefore, is appropriate for action research. The researcher may generate more detailed and descriptive information because the participants are provided with an opportunity to talk instead of writing long responses, as in the case of questionnaires. Interviews provide an opportunity for detailed discussions on the topic of interest. An interview allows the researcher to modify the sequence of questions, change the wording, explaining or adding to them. An interview promotes interest in good communication skills. An interview therefore relates to individual reflection. The researcher used the interview to balance the information generated through artefacts and reflective activity.

One of the challenges of an interview is that it is a social interpersonal encounter. This may result in power relations which may influence the interview process. Interviews are commonly known as generating a large volume of textual data when transcribed. Interviews are also interviewer-biased, time-consuming, inconvenient to participants; and anonymity may be difficult to maintain. Zulu (2017) cites that conducting interviews is expensive in terms of time, bias, and inconvenience for an interviewee. The interview schedule was structured to accommodate participants in terms of time and venue, so that lectures were not disrupted. The interview was guided by research questions to avoid gaining too high a volume of data from respondents. Various sources of data were used, which included artefacts, reflective activity, and one-on-one semi-structured interviews to avoid researcher bias.

Reddy (2014) claims that the use of semi-structured interviews ensures that the interviewer is in full control of the data-generation session although it opens a space for both the interviewer and interviewee to follow new leads without exercising excessive control over the interviewee. Reddy (2014) further emphasises the flexible nature of the semi-structured interview as a productive tool for research. Four university lecturers from university of KwaZulu-Natal campus presenting a Business Studies module to postgraduate students were interviewed. Lecturers were interviewed on ten questions on annexure G questions, once at the university of KwaZulu-Natal. Each interview session took 30 minutes.

To avoid the data being distorted, interviews generating large textual data, the researcher used electronic equipment to record all interview proceedings. As interviews are time-consuming, a schedule of questions was developed based on research questions incorporating ten questions on the curriculum pillars. The schedule was followed accordingly, although personal opinions given by participants were accommodated. An interview schedule was framed by the TPACK as my theoretical framework with its propositions. The researcher ensured that interviews took place somewhere quiet, to avoid interruptions and noise. Participants were met at convenient times and places for one-on-one semi-structured interviews, without disturbing their lecture times. The one-on-one semi-structured interviews intended to explore why university lecturers, have particular reflections on using Moodle in teaching Business Studies postgraduate modules.

1.10 Data Analysis

Aligned with Dhunpath and Samuel (2009), guided analysis was used as a method of data analysis in this study. The information was categorised and adapted through interaction with the data. I chose this method because units of analysis allowed for the emergence of the theory that forms the basis of this study which is TPACK. Findings relating to identified themes were reported. Maree (2012) defines content analysis as a logical method of qualitative data examination that categorises and explains meaning of the content. Maree (2012) further offers the comment that content analysis adopts an inductive and interactive approach process. Finn et al. (2000) maintain that content analysis is a quantifier of qualitative data. These researchers agree that identifying the aims and objectives of the project, selecting a sample, data production, analysis and research report are pertinent steps of this process. For the purpose of this study, I analysed responses of artefacts, reflective activity, and interviews. Data analysed was recorded.

1.11 Trustworthiness Issues

Shoba (2018) defines trustworthiness issues as the amount of equivalence between descriptions of the phenomenon and truths of the world. Khoza and Manik (2015), and Breen (2007) comment that the use of multiple sources of data enhances the purpose of authenticity and trustworthiness of the research project. Guba and Lincoln (1989) replace validity and reliability with trustworthiness, which encompasses credibility, transferability, dependability, and confirmability. Credibility is an attempt to represent multiple realities adequately.

Transferability depends on the degree of similarity between the original situation and the situation to which the finding is transferred. Dependability implies that the authors believe that there can be no credibility without dependability − which can be achieved by the use of an audit trail. Reviewers examine both the process and the product of the research for consistency. Confirmability refers to the degree to which the researcher can demonstrate the neutrality of the research interpretations. Such can be achieved through a confirmability audit.

Zulu (2017) states that the term trustworthiness refers to the way in which the enquirer is able to persuade the audience that the findings in the study are worth paying attention to; and that the research is of a high quality. A method of data generation which includes artefacts and reflective activity was employed, to ensure the trustworthiness of findings. Maree (2012) comments that validity in qualitative research suggests that the research is sound and truthful. Shoba (2018) avers that the word trustworthiness means the way in which the researcher is able to convince the participants that the outcomes of the study are of utmost importance, and that the research itself is of high quality. The study used three methods of data generation which are artefacts, reflective activity, and interviews. This ensured the element of credibility and trustworthiness of the findings.

1.11.1 Credibility

Krefting (1991) defines credibility as the truth value of information derived from the discovery of human experiences. In this regard, to ensure credibility, the use of common triangulation of methods was employed in which reflective activity, artefacts, and semi-structured interviews were used for data generation. Credibility requires the researcher to spend sufficient time with participants. The use of three data-generation methods including reflective activity, and semi-structured interviews, necessitated a prolonged engagement with participants. This resulted in building up of confidence, thus allowing participants to be familiar with me as a researcher. Being part of the research during reflective activity, artefacts and semi-structured interviews may ensure the credibility of data generated. To ensure credibility, data need to be audiotaped, and interviews transcribed (Zulu, 2017). The tape recorder and interview transcripts were used for direct quotes of participants, and recordings were kept for reference purposes, if required. Artefacts and reflective activity information, including notes, will be kept for five years.

1.11.2 Transferability

Krefting (1991, p. 216) argues that "as long as the original researcher presents sufficient descriptive data to allow comparison, he or she has addressed the problem of applicability." For transferability, the research findings address the criteria set for its evaluation, meaning that the results may be used in diverse contexts. As the main factor of transferability is the representativeness of the participants for that certain group, four university lecturers teaching Business Studies were selected from eight targeted lecturers. Participants were experienced in the subject, with relevant qualifications to teach the subject.

1.11.3 Dependability

Newman (2006, p. 197) posit that "a researcher's empirical claims gain validity when supported by numerous pieces of diverse empirical data." Cohen et al. (2007) concur with Newman (2006) that rationality in qualitative research is entrenched in the principle of dependability. Corbin and Strauss (2008) state that dependability emerges when the researcher explains the variations in the study. Purposive sampling was therefore used to select more accessible participants to address the variations that may have occurred.

1.11.4 Confirmability

Krefting (1991) states that neutrality can be achieved by reducing the distance between the researcher and participants, to minimise the element of bias. Babbie and Mouton (2001) define confirmability as a technique of dealing with concerns of the researcher's powers and partiality in a study. The field notes on reflective activity, artefacts, and tape recordings of one-on-one semi-structured interviews facilitated the basis from which the truthfulness of the data emerged. This refers to triangulation; hence at least three sources or multiple sources of data were used.

1.12 Triangulation

Triangulation infers a collection of information from various sources (Punch, 2009). We can also triangulate within a single data-generation instrument, by asking the same question in more than one way. Maree (2010) agrees that triangulation can be employed in qualitative research because data can be generated from various sources using different methods which, in turn, ensure credibility and trustworthiness. Three methods of obtaining data were used to enhance the process of triangulation, and increase the trustworthiness of the findings (Budden, 2016). Trustworthiness of the data was ensured according to the criteria of credibility, transferability, dependability, and confirmability. Artefacts, reflective activity, and interviews facilitated the validity of data generated from participants.

1.13 Ethical Issues

Ethical clearance was obtained from the university to conduct research. The lecturers were requested in writing to participate in the research. Interviews did not disrupt the university programmes since they were by appointment with lecturers. A consent letter was issued to participants including the conditions: There was no limit on any benefit that the participants may receive as part of their participation in this research project. There was no material benefit from participating in the research. Participants were expected to respond to all the questions in a manner that would reflect their personal opinion. The identities of participants and their responses were kept confidential.

Real names of the participants were not used. Instead, symbols such as A, B, C, and D were used to represent participants' names. The participants were free to withdraw from the research at any time without any undesirable consequences to themselves. The participants were never forced to reveal what they did not want to reveal. All the methods and procedures were discussed well in advance with the participants in order to avoid timetable clashes. Throughout the whole process measures were taken to avoid disturbance of lectures. Audio recording was conducted.

1.14 Limitations

The study was limited to four lecturers teaching Business Studies at university KwaZulu-Natal. the study was further limited to one subject offered by the university of KwaZulu-Natal. The results of qualitative research may not be generalised/transferred to other different contexts. This study was of a small scale and therefore its findings and results were subjective, personal, and contextual and thus cannot be generalised but can be transferred. Thus, anyone or any reader can use findings of this study for the sake of transferability rather than generalisation. Access in terms of time, location, and availability may impact on the data-generation process. The researcher secured appointments with all lecturers at convenient times and places to generate sufficient data.

1.15 Conclusion

This chapter therefore provides an opportunity to broaden its scope of participants to avoid limiting itself to one university. The bigger sample may provide more data which will give rich information. This therefore suggests that issue of triangulation is very important to ensure the

trustworthiness issues. This chapter two also indicated the importance of aligning the data generation methods and objectives. Chapter Two deals with the two concepts of the curricular spider web, namely, the rationale (reflections), and Moodle as resource (Van den Akker et al., 2009).

1.16 Chapter Division

1.16.1 Chapter One

This chapter outlined the title of the research study, and the aim of the study. It gave a brief motivation. The review of literature would cover ten concepts of the curriculum spider web: the study location, objectives, research questions, research design and methodology, sampling, research paradigm, data-generation methods, data analysis, trustworthiness issues, limitations, and ethical issues. The study themes generated through the review of literature, include lecturers' reflections, resources, ambitions, lecturers' capacity, evaluation, pedagogy, time, learning environment, community, and tasks. The study is framed by three reflections, namely, individual, community, and expert reflections. The critical, technical, and practical reflections by Van Manen (1977) form part of the literature.

1.16.2 Chapter Two

Chapter Two began by discussing reflections in terms of derivation of reflections, individual, community, and expert reflections. Thereafter, the chapter unfolded the use of Moodle as a resource by studying hardware, software, and ideological-ware resources (Khoza, 2015a; 2016b). This study further aims to respond to research questions as alluded to in Chapter One to find the gap in other studies pertaining to the phenomenon; providing recommendations to assist the researcher, university lecturers, and students.

1.16.3 Chapter Three

Chapter Three presented the curriculum pillars as outlined in the literature review in Chapter Two, above. The previous chapter focused on two curriculum pillars, that is, the reflection as the phenomenon, and Moodle as a resource. With reflections, the previous chapter examined the derivation of reflections through reviewing the work of Dewey and Schon. The work of Van Manen (1977) was also viewed in terms of practical, technical, and critical reflection. The reflection-in-action and reflection-on-action were alluded to in linking them with the practical, technical, and critical reflections. Chapter Two highlighted the reflection-in-action and

reflection-on-action. These two types of reflection provide direction and insight into the reflection-for-action that is future-oriented (Khoza, 2016b). Further to that, reflections were linked to the individual, community, and expert reflections, as a frame of this study. The currere process provided a meaningful transition from different forms of Moodle curriculum (Kanu and Glor, 2006; Moore, 2013). This chapter also elaborated on curriculum by discussing the levels, forms, competence, and performance curriculum. Moodle as a resource was viewed on the basis of hardware, software, and ideological-ware.

This chapter discusses the ambitions (aims, objectives, outcomes); content (content knowledge, technological knowledge, pedagogical knowledge); communal support (substantial, monetary, ethnical); learning tasks (natural, certified, observation); Period/time (fixed, flexible, consensus); lecturers' role (coordinators, scientists, trainers); evaluation (developmental, cumulative, uninterrupted); and learning environment (specified, open, and closed). The curriculum pillars were linked to individual, community, and expert reflections, as a frame of this study. The discussion of curriculum pillars and reflections focused on the use of Moodle by lecturers in teaching Business Studies at university of KwaZulu-Natal.

1.16.4 Chapter Four

Chapter four discusses the technological, pedagogical and content knowledge (TPCK) as the theoretical framework of this study. Chapter Three discussed the other eight curriculum pillars, including ambitions, content, learning tasks, evaluation, lecturer's capacity, times, communal support, and learning environment. The ten curriculum pillars presented in Chapters Two and Three above include Moodle as a resource, which relates to technological knowledge, identified as the 'T' of the framework. Pedagogical knowledge or 'P', comprises reflections, ambitions, learning tasks, lecturer's capacity, times, communal support, and learning environment. All the other eight curriculum pillars relate to the methods the lecturer employs in a professional practice. Content knowledge 'C' relates to the content knowledge a lecturer possesses in relation to a subject or specialization. The letter 'K' represents knowledge.

1.16.5 Chapter Five

This section outlined the research design and methodology which guided the process of data generation. Chapter Four dealt with TPACK in detail; therefore, this chapter indicated it as the theory adopted for this study.

1.16.6 Chapter Six

This section presented data. It deliberated on results of the research project. The discussion of findings generates a conversation between literature, conceptual framework, and theoretical framework. It establishes truth and/or actualities in line with the research questions put to the participants (De Vos et al., 2011). This process led to engaging with data from reflections, artefacts, reflective activity, and one-on-one semi-structured interviews. Data for all other themes were generated through all the methods articulated in Chapter Five. This chapter was based on the findings from the following research question: What are university lecturers' reflections on using Moodle in teaching Business Studies postgraduate modules? Why do university lecturers have particular reflections on using Moodle in teaching Business Studies/Management postgraduate modules? What lessons can be learnt from the lecturers' reflections? The research was informed by TPACK, linking together the individual, community, and expert reflections for using Moodle in teaching Business Studies at KwaZulu-Natal university.

1.16.7 Chapter Seven

Chapter Seven outlined the presentation of data, exploration, and explanation. It is a continuation of Chapter six. The exploration and explanation of this chapter was also based on data generated through artefacts, reflective activity, and one-on-one semi-structured interviews. In Chapter Six, artefacts were discussed based on all ten curriculum pillars; participants did not separate them, as in the reflective activity. Chapter Six further discussed four curriculum pillars (reflections, Moodle as a resource, ambitions, and Content in Moodle). This chapter therefore discusses six pillars (evaluation, learning tasks, learning environment, period/time, lecturer's capacity, and communal support).

1.16.8 Chapter Eight

Chapter Eight presented the summary of conclusions, closing remarks, and recommendations. These covered ten curriculum pillars which consist of reflections, ambitions, Moodle as a resource, content in Moodle, learning tasks, evaluation, lecturer's capacity, learning environment, times, and communal support.

CHAPTER TWO

EXPLORING UNIVERSITY LECTURERS' REFLECTIONS ON USING MOODLE IN TEACHING BUSINESS STUDIES/MANAGEMENT
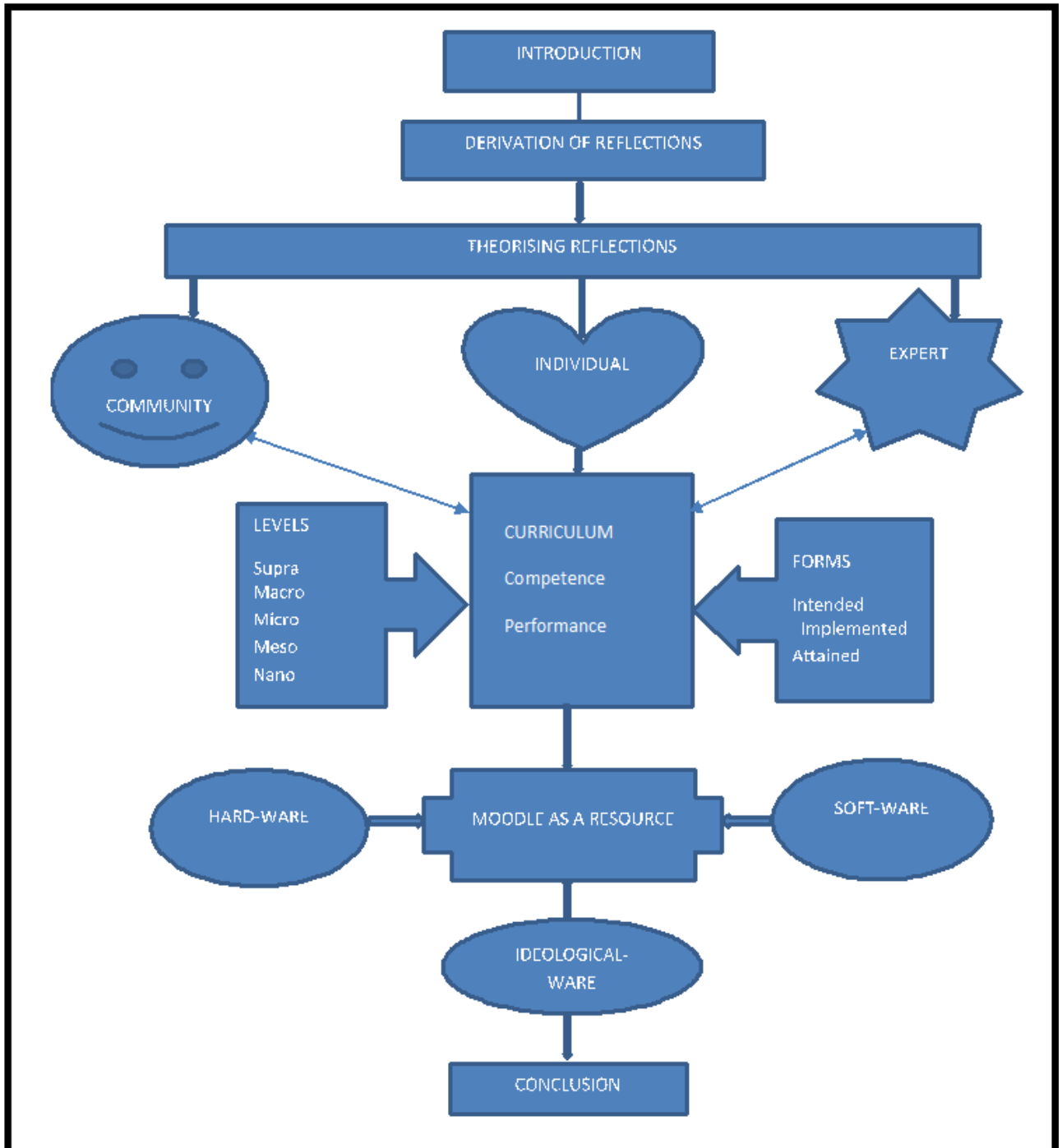
Figure 2.1: Chapter Two flowchart

2.1. Introduction

Education has never been more complex and relevant than in the current world. It is reflected as one of the most imperative issues in the progress of a nation (Maarof, 2007). This chapter presents the literature comprising the background of reflections and theorising reflections. The three types of reflection; individual, community, and expert reflections were discussed. The word literature suggests different sources of information or research (Galvan, 2017). Galvan (2017) defines literature review as a critical discussion and summary of statistical literature that is of general and specialised relevance to the particular area and topic of the research problem. Reviewing some sources of information already researched will provide valuable data pertinent to this study. The literature review necessitates the identification of gaps in previous studies conducted, which may provide a meaningful contribution to the professional body.

This chapter builds on the previous chapter which alluded to the phenomenon and purpose of the study. South Africa participates in the ever-changing technological, economic, and educational global community. These changes require students to gain necessary technological skills from the institutions of higher learning. Some universities have been using Modular Object-Oriented Dynamic Learning Environment (Moodle) since 2010. The University of KwaZulu-Natal (UKZN) has adopted Moodle as its online learning management system, currently being utilised by some staff and students (Mpungose, 2017).

This chapter begins by discussing reflections in terms of the derivation of reflections, leading to individual, community, and expert reflections. Thereafter, the chapter unfolds the use of Moodle as a resource, by examining hardware, software, and ideological-ware resources (Khoza, 2015a; 2016b). This study further aims to respond to research questions as alluded to in Chapter One; to find the gap in other studies pertaining to the phenomenon, and providing recommendations to assist the researcher, university lecturers, and students.

2.2 Derivation of Reflections

Zeichner and Liston (2013) allude to Dewey (1933) as the founder of the term reflection wherein wholeheartedness, open-mindedness, and responsibility take charge. First, reflection in this context relates to emotions felt in the heart. Second, the cognitive element relates to thinking 'out of the box'. Third, accounting for and taking responsibility for actions supports individual action. Such may be exercised under certain conditions involving either people or materials. In the work of Dewey, the individual, community, and expert reflections are regarded

as comprising reflection. Dewey (1910) conducted a study based on selections from Chapter One of his book titled '*How we think*', *The problem of training thought; spelling and grammar modestly modernised*. The study aims at establishing a single term to define thoughts and thinking.

The study indicates that thoughts and thinking can be referred to as reflection. Dewey (1910) maintains that reflection involves not collection in such a way that each determines the next as its proper outcome, while each in turn leans back on its predecessors. The study further suggests that the successive portions of reflective thought grow out of one another and support one another. Each phase of reflection builds on the previous experience of reflection in order to provide current or future actions. Adding to that, reflection-in-action and reflection-on-action, as indicated by Dewey in Zeichner and Liston (2013), unfold with emphasis on context and the school, community, and the larger society.

Proceeding from the above, Meierdirk (2016) conducted a study on the requirements of becoming a qualified educator in the UK. The study aims to explore the concept of reflective practice. It determined requirements that shape the practice. The study suggests that there are different interpretations of reflective practice and the role of professionalism in the course to achieve qualified teaching practice. Zeichner and Liston (2013) conducted a critical action research study on an alternative approach model to describe and evaluate the elementary student teaching programme at the University of Wisconsin. The study intended to empower educators to reflect upon their own life situations, to speak out in their own ways about shortages that must be attended to, and the possibilities to be acted upon in the name of what they deem decent, human, and just. The study reveals that the programme achieves some goals, while other goals were partially achieved. The study further indicates that the preparation of reflective student educators is a necessary step for those who work in university programmes of educator education. The main focus of the study is on community reflection; hence the democratic, decency, humanity, and justice issues take priority.

Zeichner and Liston (2013) advocate that, in terms of individual reflection, the role of professionals in interpreting their reflective practice is regarded as important. Although interpretation speaks to a cognitive element which relates to expert reflection, the studies above focused on individual and community reflection. Meierdirk (2016) reminds that, in 1980, educators in the UK were free to determine the curriculum. Reflection was therefore individual.

Educators were free to choose what to include in their teaching practice. This curriculum was called the educator- or content-based approach (Hoadley and Jansen, 2012; Khoza, 2015a). Educators should be able to decide on what to include in their teaching. They should understand the curriculum, and assist educators to find their identity in terms of the approach they use when teaching. This speaks to individual reflection. Hence, there was no policy prescribing the content to be taught. When educators use their own initiative, this characterises a competence/horizontal curriculum.

The individual reflection and horizontal curriculum were highlighted. Between 1980 and 1990, the Initial Educator Education (ITE) was controlled significantly. In 1984 the Council for the Accreditation of Educator Education (CATE) was formed to monitor and regulate the ITE. This led to a formal evaluation of educator performances, which had its own prerequisite in the form of an official document to be followed. At this stage, the reflection was voluntary. In 1992, the reflective practice was enforced legally through the formation of the Office for Standards in Education (Ofsted). Ofsted requires the ITE to be inspected; and educators were held accountable for their performance. The second part of this study shows that reflection was then taking an expert approach because educators had to follow a prescribed official form of teaching using a prescribed document. Reading a document, and the establishment of a regulatory body speaks to expert reflection on the teaching practice. This is associated with performance curriculum (Hoadley and Jansen, 2012). The performance curriculum relates to expert reflection. Khoza (2015c) refers to such as professional or academic reflection that is vertical in nature. The studies above reviewed individual and expert reflection without inclusion of community reflection.

In 1998, a further development of reflections took place in which a national curriculum was officially documented in the UK. It was an official document containing a detailed prerequisite of educators. In 2002, there was a shift in focus by the state from a curriculum drawn up by an educator or educators, to a required standard for student educators. The Teaching Training Agency (TTA) was put in place without specific reference to reflective practice. In 2007, the teaching standards were then revised by the Teaching and Development Agency (TDA). This framework covered the whole educator's career instead of merely an initial educator education. It was in these standards that the reflective practice was specified. These new standards were used as a benchmark to appraise educators, evaluating them on meeting their own professional aims. These standards propelled the educator profession. Meierdirk (2016) indicates that, in

2012, the Teaching Standards were reviewed by the Liberal Democratic Coalition; the emphasis was placed on the key elements of teaching.

This form is the expert reflection form, because it was prescribed and it specified the standards to be met when reflective practice is taking place. This form of reflection is associated with the performance curriculum; hence a prescribed document with specified standards was used to benchmark reflection by educators in their own profession. The study further indicates that the standards were not specific to reflective practice, but were dominated by the educator's behaviour and action rather than by critique or analysis. Individual reflection was considered during the expert reflection. Educator's behavioural pattern signals habits apropos of a particular activity or situation.

The studies above alluded to individual, community, and expert reflection. The derivation of reflection suggests its origin including the three reflections, all equally important (Khoza, 2015b; Mpungose, 2017). The studies focused on competence and performance curriculum, which are linked to the student-centred and content-centred approach. The educator-oriented curriculum had not yet been promoted. The two forms of curriculum ensure that all three levels of reflection are properly linked to each curriculum. An educator-oriented curriculum will be associated with individual reflection, which will serve as an interface to combine the content and learning outcomes.

Boud (2001) posits that journal writing can be viewed as a form of self-expression (experiencing a challenge of past event), a record of events (current), or a form of therapy (future actions). Kanu and Glor (2006) comment that that our experience is influenced by our past, as it interacts with our present. Reflective practice can therefore be used as a tool for working with activities and experiences in order to extract meaning from them. Reflection is informed by experience triggering reflection. Moving from the derivation of reflections to theorising them may therefore provide better understanding of the phenomenon.

2.3 Reflections

Rodgers (2002) conducted an experimental research study aimed at restoring clarity to the term reflection and the meaning of thinking through revisiting the roots of reflection in the work of Dewey (1910); using an experimental criterion at four distinct levels. The study indicates that,

although the concern for achieving the systematic, reflective thinking is transparent, it is complicated to define systematic, reflective thinking. This study views it as relevant to discuss experience. In exploring educators' reflection, the term experience is the basis of reflection: as indicated by Boud (2001), for reflection to occur there must be an experience. Reflection involves raw data and material of experience, and engages with it to make sense what has happened. The word 'experience' is defined with the ultimate aim of discussing reflection; and reflection stems from an experience.

Rogers (2002) comments that an experience is not what has happened to an individual, but what an individual does with what he or she has experienced. This study further avers that an experience is an interaction between an individual and the environment. "Without interaction learning is sterile and passive, never fundamentally changing the learner, without continuity learning is random and disconnected, building toward nothing either within the learner or in the world" (Rodgers, 2002, p. 847). The interaction between the individual, resource (Moodle) and students may bring a change in teaching methods. The contact between oneself and the environment leads to an experience that can be understood through reflection (Stevens and Cooper, 2009). The material (Moodle) and humans (students and lecturers) may produce either a negative or positive experience during the reflection process. The interaction, as further elaborated, may take place when two or more parties are involved. Interaction may depend on the reflection by each party involved. A contact between oneself and the environment may result in change. If students use Moodle for learning, and lecturers view the use of Moodle as improving on teaching methods, this leads to a positive experience which will benefit both students and lecturers.

Dewey (1933, p. 9) defines reflection as "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further consideration to which it tends". Another definition by Rodgers (2002, p. 844) is that "reflection is a complex, rigorous, intellectual, and emotional enterprise that takes time to do well". The study by Rodgers (2002) indicates that "reflection involves the modes of thought, including belief, imagination, and stream of consciousness". The study further articulates that reflection is a process of sense developing that moves a learner from one level of knowledge to the next. Learners gain profound understanding of relationships with, and connections to other knowledge and thoughts. This is a drift that creates connection of learning possible in ensuring the growth of an individual, and ultimately the community. Boud (2001) asserts that reflection involves a focus on uncertainty, perplexing events and exploration, without

necessarily knowing where it will lead. Farrow (2011) defines reflection as an obsession with things that puzzle us. Farrow (2011) views reflection as a predecessor to action. The study elaborates on reflection as a process of perceiving over a prolonged duration through flashback, relating to current circumstances for the forthcoming context.

Stevens and Cooper (2009) state that reflection provides one with enhanced authority of control. Watton et al. (2001, p. 4) add that "reflection is a form of mental processing with a purpose and/or anticipated outcome that is applied to relatively complex or unstructured ideas for which there is not an obvious solution". This indicates that reflection refers to the system that considers individual learning. Harnew (2011) explains reflection as a problem-solving technique through linking a chain of ideas, to arrive at a final resolution. Dreyer (2015, p. 4) deems reflection "a cognitive and effective process or activity that requires active engagement on the part of the individual which is triggered by an unusual or perplexing situation or experience that involves examining one's own responses, beliefs, and premises in the light of the situation at hand and results in the integration of new understanding into one's experience". Reflection is of paramount importance for decision-making. The definitions above suggest that reflection is about flashing back, linking the present and past experiences to create a more intricate and connected psychological pattern. The past experiences provide insight into the current situation, which may lead to possible forecasting. Past and current experiences therefore provide future reflections.

Reflections should be regarded as a continuous process, to avoid the repetition of the same mistakes. Emotions, beliefs, thoughts, imagination and intellectual aspects suggest that the definition of reflection is incorporated into the cognitive and affective domain. During the reflection process, an individual flashback aims to analyse the current situation, in order to determine future actions. Reflection indicates the growth of an individual in the community by creating connections of learning possibilities. Reflection is associated more with mental processes for solving problems and for future decision-making. Reflection encompasses the individual, community, and expert reflection. The cognitive and affective domains, the psychomotor domain, has not been incorporated. This domain relates to community reflection. Studies should be conducted to ensure that reflection covers all three levels in terms of domains. The psychomotor domain outlines the element of skills which is relevant to students' learning outcomes. This domain also associates well with community reflection. The inclusion of the

psychomotor domain suggests that all levels of reflection are covered. However, more studies must be conducted on this domain, relating to reflections.

The study by Rodgers (2002) did not use survey, case study, or action-research study methods, which may have provided more qualitative data. The study focused on an experimental approach without providing views of participants. This suggests further studies to be conducted in data generation using other styles and data-generation methods. Khoza (2015a) used different approaches in defining the word experience, and linking it to reflection. The study (Rodgers, 2002) analyses the work of Dewey (1933), despite using a particular place to undertake the study. The main emphasis of the study is on analysing the concept of reflection without having participants and a site at which to generate data.

Khoza (2015a) uses a qualitative critical research, focusing on educators' reflections on the use of Turnitin, and its importance in avoiding plagiarism. Having a site and participants may provide substantiated data when analysing the work of others. Although the studies above are different in terms of approaches and commonality is their focus on reflection. The word experience came out in their studies as a basis for reflection. Using different approaches in expressing a particular argument may provide more authentic information for the study. Khoza (2015a) provided valuable information because there were three reflections presented (individual, community and expert) which provide insight into the use of Moodle as hardware, software and ideological-ware.

Khoza (2018a) conducted an interpretive case study of a group of 10 Master of Education students. Purposive sampling was used to select the 10 participants. Electronic reflective activities and one-on-one semi-structured Skype interviews were used for data generation. The study aimed to explore and understand students' reflections on the curriculum, or research reflections that are either promoted or limited by Skype resources. A curriculum reflection is a concept entailing a cognitive process that helps us to manage our actions, to address our personal, societal, and professional needs. The study reports that the students' reflections were driven by three curriculum reflections (professional, societal, and personal). It was concluded that the students understood the concepts of these curriculum/research reflections − research goals, content, resources, assessment, time, environment, activities, community, and supervisor roles. The study further suggests that students be trained to know and understand the three

curriculum/research reflections. Such would enable them to use Skype for the intended reflection/s so as to address their personal, societal, and professional needs.

The use of Moodle as hardware and software relates to individual and community reflections; whereas the use of Moodle as ideological-ware relates to expert reflections (Khoza, 2016b). These studies show that different approaches can be used to discuss a particular concept. Exploring lecturers' reflections on using Moodle in teaching Business Studies at university of KwaZulu-Natal have a sound and relevant background on which to make progress. Although there is information provided, more studies should be conducted. The above selected two approaches may not be treated as the only sources for defining reflections.

Dreyer (2015) adds that during reflection an individual evaluates own beliefs and morals pertaining to the prevailing situation. Reflection at community level (engagement and experiencing a backtalk) is thus associated with practical reflection. Expert level (cognitive process) is associated with technical reflection, and individual level (examining own beliefs and morals) is linked to critical reflection (Van Manen, 1977). It is therefore suggested that more studies be conducted on the definition of reflection as a social activity. A further definition of the term reflection using different research methods is presented in the next sections.

Maarof (2007) conducted a descriptive case study on 42 students in eastern Malaysia. A questionnaire was drawn up with the aim of recording students' entries of their daily teaching practices, with a view to thinking about action and improvement. The study reveals that, without clear and deliberate instruction on the methods of writing a journal, the 30 students gave descriptive writing (DW); descriptive reflective (DR), dialogic reflective (DIAR), and critical reflective (CR) types of responses. Descriptive writing is more about reporting on events and is perceived as reflection lacking detail and depth. Descriptive reflection refers to writing consisting of reasoning based on some evaluation. Dialogic reflection is described as writing that recommends some debate with self, indicating intentions to examine possible motives, and characterised as a rich type of writing, presenting more information.

Watton et al. (2001) presented a descriptive case study in a work-based environment. The researcher used two case scenarios to describe how reflective writing can be conducted. Watton et al. (2001) used a work-based presentation. The idea was to inform and support the production

of reflective writing for work-based learning reflective activity where the work experience module was conducted. The study focused on four levels in developing reflective writing consisting of descriptive writing: descriptive reflective, dialogic reflection, and critical reflection. The study adopted a co-researcher to generate data from a work-based environment and at parks. The study revealed that during the presentation, descriptive writing, and descriptive reflection were reported separately; and dialogic and critical reflection were presented at one point.

Harnew (2011) further elaborates this by providing four steps of assumption analysis, contextual awareness, imaginative speculation and reflective scepticism. The study identifies the framework for the four types of writing which includes descriptive writing, descriptive reflection, dialogic reflection, and critical reflection. Watton et al. (2001) refer to these as levels in the development of educator reflection including descriptive writing, descriptive reflection, dialogic reflection and critical reflection. Descriptive writing does not reveal evidence of reflection. It is a description of events reports. Descriptive reflection shows some deeper consideration relatively to language. Dialogical reflection provides analytical, interrogative, linking factors and perspectives. Critical reflection shows evidence that the learner is aware that actions and events may be located in and influenced by multiple socio-political contexts.

The study by Watton et al. (2001) shows that the reporting started with descriptive writing. The writing then moves to descriptive reflection. The dialogic reflection follows; and last comes the critical reflection. The critical reflection pertains to writing that provides motives supporting the judgements and taking into consideration the wider historical, community or political environments. The first results come from reporting on two separate levels combining dialogic and critical reflection. The reporting on parks scenarios shows that the reporting took place on four separate levels. The study by Maarof (2007) recommends that, in trying to establish reflective writing, the ethical, moral, historical, and socio-political environments are pertinent. Harnew (2011) argues that critical reflection should account for the broader historic, cultural, and political values or beliefs in framing practical problems, to arrive at a solution. Critical reflection pertains to writing that affords reflections supporting decisions and taking into consideration the extensive past, community, or political environments.

The study indicates a combined method of writing which may result in the task of reflection. The study further reveals that the majority of students were positive on journal writing, as it

contributes to the evaluation of teaching strengths and weaknesses, when conducting classroom lessons. Critical reflection by an individual includes both the community and expert reflection. Techniques of teaching speaks to expert reflection, and classroom speaks to community reflection. The findings allude to the relevance of journal writing methods as increasingly imperative in the education system.

Maarof (2007) and Harnew (2011) agree that the steps, levels, or types of reflection comprise both cognitive and social components. The studies arrive at similar findings, that for the critical reflection to take place, the social (community) and professional (expert) aspects must be examined by the individual. Boud (2001) states that reflection reaches the highest form of its kind when the mental process considers examining the issues of historical, ethical, beliefs, values and socio-political environments in order for a reflection to be regarded as a critical reflection. The studies did not include curriculum as a component of their reflections. The studies above cover the issue of individual, community and expert reflection through the discussion of descriptive writing, descriptive reflection, dialogic reflection, and critical reflection. Their main focus was on the cognitive and social components. This may not necessarily suggest that critical reflection is achieved through the levels, steps or types only. Other studies may arrive at other ways for reflection to be described at a critical level. The use of a journal as a reflective tool may be a necessary reflective activity.

Dreyer (2015) conducted an interpretive case study on BEd Honours university students taking a Learning Support module. The researcher used a questionnaire to identify learners who experience learning difficulties at schools. The study finds that institutions of higher education are increasingly challenged to prepare pre-service educators to make meaningful contributions to the profession as critical reflective practitioners. The study suggests that, in managerial work, managers have little time for reflection-in-action. The researcher recommends that, in organisational settings, more reflection-in-action is required because of the nature of work undertaken. The study states that a reflective journal is a necessary tool to facilitate reflection. Such goes beyond the classroom practice and content: it can involve personal values and belief systems

The study suggests that the significance of community environment of reflection should be considered, as individual reflection is part of the wider environment of the organisation culture and structures. Boud (2001) further comments that the journal can reveal what their writers have learned (past). It can examine how writers have learned to express themselves via a journal (present); or find out how a journal can help other people to learn (future). This suggests that a research conducted by writers shows individual reflection that informs lecturers' teaching. The keeping of a journal speaks to expert reflection. The study therefore focusses on the individual and expert reflection; whereas those to be assisted to learn are students. Lecturers, in using a journal, should also understand the learning outcomes in order to address the students' needs. The use of a reflective journal addresses the needs of lecturers, which relates to individual and expert reflection. The needs of students are embedded in community reflection. This suggests that lecturers should understand the needs of students and integrate them into the reflective journal.

Dreyer (2015, p. 6) comments that "critical reflection on both the process and content of what is being taught can contribute markedly to improving the quality of both teaching and learning". The study argues that reflection and consequent versions of teaching culminate in a transformation in teaching style, technique or approach. This indicates that critical reflection can take both the form of reflecting-in-action (current) and reflection-on-action (past) experiences (Dreyer, 2015). The study comments that reflecting both in and on practice is largely seen as important to professional development of lecturers. In this study this speaks to expert reflection. The study elaborates that a reflecting journal assists the continuous reflection on the process (reflecting-in-action) and content (reflecting-on-action) of teaching. Reflection on practice increases learning and overall individual pedagogical effectiveness. Critical reflection is therefore associated with both individual and expert reflections. The setting of the case was not in an organisational and management context, although some scenarios were highlighted in such contexts. This study was conducted on the teaching environment.

The study by Dreyer (2015) suggests that reflection-in-action should be recognised through developing more nuanced thoughts on the types of action that we can recognise, if not immediately in the moment (reflection-on-action), but in reflecting back on it (reflection-on-action). This study focusses on professional practice. Some studies on organisational and management practices contexts may produce more information on the reflective practice. This study has its main focus on teaching in the classroom. Therefore, the study is more relevant to

my study as it explores lecturers' reflections on teaching Business Studies. Other studies may provide a clear identification of organisational settings, power and political dimensions. The use of a reflective journal may encounter some challenges, which may require strategies to overcome.

Brookfield (1998), in the autobiography lenses model comments that reflective practice helps to uncover our most deeply entrenched commitments and incentives, as educators. This model of critical thinking explains to us those parts of our practice to which we feel strongly committed. However, which seem unconnected to any particular approach we learn. Maarof (2007), Watton et al. (2001) and Harnew (2011) explain critical reflection based on four steps, types, or levels (descriptive writing, descriptive reflection, dialogic reflection, and critical reflection). Such may help lecturers to improve their teaching techniques, reflection being based on past experiences, current actions, and future intentions. Brookfield (1998) refers to a four-lens model. For critical reflective practice to take place, the autobiography (past experiences), our learners' eyes, and our colleagues' eyes (present experiences) and the theoretical literature (future) should be in complete actions. The theoretical lenses theory can assist us discover that what we thought were symbols of our individual failings as educators may be interpreted as inevitable results of certain economic, social, and political processes.

The future action, according to Khoza (2016b), finds shortfall in studies conducted by Van Manen (1977) and others. This is said to be the third layer of reflection to be referred to as reflection-for-future (Mpungose, 2017). Educators/lecturers need to reflect on past experiences associated with individual reflection. Mpungose (2019a) comments that these reflections are expert reflection (technical reflection-on-action); community reflection (practical reflection-in-action); and individual reflection (critical reflection-for-action). Reflecting-for-action is associated with individual reflection, which will assist educators/lecturers to improve their practice. Further research should be conducted on reflection-for-future, because such brings about improvement in the practice. Hence this study is an action research which aims to bring an improvement on the use of Moodle in teaching of Business Studies.

Van Manen (1997) also conducted an interpretive case study on critical consideration of philosophies of knowledge. The researcher reveals that it is only through critical reflection that the interrogations of highest importance to the field can be sufficiently responded to. Individual reflection addresses the why question, which is of the highest order of thinking. The study splits

the levels of reflections into three categories, namely, the critical (individual), the practical (community), and the technical (expert) reflections, in trying to understand how educators can make practical use of the information at their disposal. The study illustrates the importance of embarking on a course of regular planning, changing resources, designing courses, organising subject matter content, teaching and assessing to be done critically and reflectively. Yanow and Tsoukas (2009) conducted a critical case study field research using the analysis of a seven-hour video tape, observations, and one-on-one semi-structured interviews. The study aims to analytically evaluate reflection-in-action. The study suggests methods for how the theory can be further established. It answers interrogations on how reflection-in-action theorising can overcome its cognitivist bias, and what it would look like when doing so. The study reveals what remains unseen of the motive for reflection, especially reflection-in-action.

The study recommends a phenomenological theory of reflection-in-action. This implies that the mental suggestions originate in thinking. Phenomenology refers to the study of the procedure over which phenomena seem to exercise conscious awareness (Wiersma and Jurs, 2009). The study recommends that an expert theory and the role of reflection in it allows for more than simply a cognitive as operative human response be conducted (Wiersma and Jurs, 2009). The study also defines reflection-on-action as looking at past experience; whereas reflection-in-action is reflecting back on something that has happened. The studies above define reflection with the main focus on the mental process that may provide a mechanism to solve a problem. The cognitive domain dominates the definitions provided. The study argues that, as much as reflection as explained by Schon (1983) shows bias to the cognitive domain, the affective domain should be taken into cognisance. The study indicates that reflection is triggered by a backtalk which is a social component.

A backtalk is an unexpected experience that may occur during an interaction between a practitioner and material. The material may take the form of human (participants/students) or material which may consist of resources used during teaching. The studies therefore argue that reflection is a mental process. It occurs in an environment requiring an individual to consider the issues of wider historic, political, and moral beliefs and values. Thus the mental process arrives at a critical or highest level of reflection. Reflection, although regarded as a mental process, involves the social element through the inclusion of engagement, morals, beliefs, values, and political components associated with social or community environment (Dewey,

1933). Reflection, therefore, is an activity that involves an individual in a particular environment engaged in a particular activity.

The studies above argue from two different perspectives. The former believes that it is only through critical reflection that the questioning of the highest level in the field can be answered. The latter states that the interrogations of the reflection-in-action to overcome its cognitive bias can be achieved through further expansion of theory. The expansion of theory suggests the third form of reflection-for-future (Mpungose, 2017). Lecturers' reflections may be on different experiences which involve individual, community, and expert reflections. Such contribute to an improvement in their teaching practice individually, collectively, and professionally. Lecturers' reflections suggest a critical analysis of the reflection to teach. This provides clarity on their stance to follow a community or expert approach of teaching. Such enhances their teaching methodology, and enables them to understand the approach appropriate on the use of Moodle in teaching Business Studies.

Yanow and Tsoukas (2009) argue that a community of practitioners providing its associates with a mutual body of significant information should comprise the evaluative alignment, something not cognitive. The study further argues that the use of surprise should not only be reflected as a cognitive component. This study involves emotions in a reality surprise with regard to organisation and space, leading to discrepancies between the prospects of the organisation or themselves and their experiences. This study is relevant to the current study. We have the common aim of exploring the phenomenon of reflections. The aim is to explore any hidden information in lecturers' reflections on using Moodle in teaching Business Studies. This study adopts the critical case-study approach similar to current study. It produces in-depth data generated through the semi-structured interviews and videotaped discussions, as when using a critical case-study approach.

The reflection-in-action involves the affective domain of emotions, focusing on awareness and attention to convert thinking activity, relating to current aspects of reflection-in-action. Further studies to be conducted may include other social and professional dimensions. These include emotions, beliefs, and values which may influence the reflection-in-action. This study elaborates on community, individual, and expert reflection, in order to make sense of the discussion pertaining to lecturers' reflections on using Moodle when teaching Business Studies.

2.3.1 Community reflection

Reflection focusses on the experiences of the community, which involve the opinions of others. In community reflection an individual is surrounded by the environment. Dewey (1933) maintains that reflection takes place when there is contact between an individual and the environment. His interest in community and democracy is associated with his focus on community reflection. Community reflection is associated with practical reflection. Dewey's (1933) approach to education was learner-centred, which is aligned with the horizontal/competence curriculum. Russell (2005) defines reflection-in-action as resulting from unforeseen actions, leading to the acknowledgment of original thoughts. Such might result in taking action which might lead to the enhancement of the profession. Russell (2005) further emphasises the significance of reflection-in-action by an individual, through assignments and dialogue which relates to individual reflection. Reflection-in-action is also associated with community reflection. Schon (1983) states that, when someone reflects-in-action, he becomes a scholar in the exercise setting. Community reflection therefore adopts the practical reflections approach.

Yanow and Tsoukas (2009) assert that reflection-in-action may not necessarily always consist of a mental aspect. In some cases, it requires a collective action that involves others, not an individual. Surprise can be taken as a mental aspect for an individual but an action of improvising may need others to consider. A practical example is of a musical or jazz group where people work together, as opposed to individuals, as in the case of fire station commanders. Improvisation is more individualistic in fields such as physicians than in musicians, who need to work with others as a group. In the case of physicians, individualism takes the route of individual reflection related to expert reflection, hence physicians are professional. Musicians, on the other hand, if working as a group, take the social route which is associated with community reflection. When physicians work with others in taking actions to improve their practice, this forces them to embark on the social aspect. As much as their field is individualistic, it includes the community reflection, which is related to practical reflection.

Reflection-in-action may be seen as practical. Such two-fold reflecting comprises both in-the-moment (reflecting-in-action) and after-the-moment (reflecting-on-action) reflecting. Yanow and Tsoukas (2009, p. 4) aver that "the reflection-in-action is entrenched (social); engaged (practice) and personified (material) aspects. Within social practices, reflection-in-action is

triggered by backtalk that is surprise from material of practice, leading the lecturer to improve a reaction response". Reflection is a cognitive task with emphasis on practice and experience. With regard to the socially embedded element, when an individual is reflecting, this involves other people. The context under which such an activity is being conducted relates to social dynamics. When one is embarking on reflective activity such may involve other aspects such as emotions and interaction with others, which relates to community reflection. The social aspects require a practical demonstration of an activity which is regarded as a practical reflection. Meierdirk (2016) focusses on a technical approach to reflective practice which reviews the presentation of a lesson, planning, achievement of goals, and room for improvement. This is reflection-on-action (how was the lesson planned and presented, and did it achieve the goals?) which all relates to the past experience.

The issue of improvement in the future speaks to future actions to be taken to address the shortcomings identified during planning, presentation, and assessment. Yanow and Tsoukas (2009) comment that reflection-in-action can be described as an unconscious action arousing a form of reflecting on past experiences. This is achieved through using tacit knowledge (Finlay, 2008). Tacit knowledge is the knowledge gained through previous experience. Schon (1983) argues that reflection-in-action is the conscious knowledge that takes place in the midst of action. Meierdirk (2016) proclaims that reflection-on-action takes place after the event; and reflection-in-action takes place whilst the event is in progress. The study further comments that reflection-on-action is a continuous process as it takes place after an event, and it requires improvement and review. It is therefore imperative for a lecturer to apply reflection-on-action, meaning that it aims to develop new knowledge, applying such to resolve problems.

Mezirow (1997) remarks that community reflection has two dimensions − habit and point of view. Habits of mind are broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes. These codes may be cultural, social, educational, economic, political or psychological. Habits of mind become articulated in a specific point of view − the constellation of beliefs, value judgements, attitudes, and feelings that shape a particular interpretation. Community reflections come about as a result of cultural absorption and the distinctive influences of primary caregivers. Habits of mind are more durable than points of view. Points of view are subject to continuous change, as we reflect on either the content or process by which we solve problems, identifying the need to modify assumptions (Mezirow, 1997). Habits are dictated by outsiders, especially the community, and

are believed to be the only way to do things. Habits are influenced by those around us, therefore they are not researched: they belong to social wisdom.

Community reflection includes feelings and beliefs regarded as the affective domain. Van Manen (1977) asserts that practical reflection is based on action taken to implement what has been theoretically researched. Practical reflection examines how the educator learns to apply a variety of techniques to the curriculum and to the teaching-learning process, so that a predetermined set of objectives can be realised most efficiently and effectively. The study maintains that cognitively grounded curriculum (performance-based) does not produce a competitive advantage, as does a socially grounded (competence-based) curriculum. The latter produces a better learner achievement, being built on home background and social interest.

To formulate learning objectives, educators and approaches texts frequently make use of the term skills, to refer to many cognitive processes to be taught by the curriculum. However, the word skills may refer to trainable techniques, procedures, or ways of accomplishing things. It may refer to a cognitive process inappropriately conceived of as trainable in a technical-instrumental sense. Practical critical reflection focusses on human beings critically reflecting on challenges resolved per practical ways. The study relates to practical reflection as an element of societal actions. The studies above approached reflection from a community perspective. Other studies may approach reflection from an expert perspective. The next section discusses the expert approach to reflection.

2.3.2 Expert reflection

Schon (1983) describes reflection-on-action as replicating the occurrence of an action while it can still help that condition, rather than repeating things in a different way in the future. Finlay (2008) states that this instrument applies to expert reflection, in which an individual has to react to an event at the time it occurs. Reflection-on-action entails reflecting on how the exercise can be advanced after the occasion. One must reflect on things done to discover how our knowing-in-action may have contributed to unanticipated results. Reflection-on-action is the analysis of how our understanding of past related occasions may have steered to the unintended occasion, teaching us what to alter in the future. Reflection-on-action is associated with expert reflection. Reflection-on-action is associated with a vertical/performance curriculum (Hoadley and Jansen, 2012). Reflections do not only apply to community and expert settings. Reflections take place at an individual level. Further to that, the study states that experts show their ability

for reflection by their knowing in the midst of action. They can use this ability to adapt to different, difficult, and conflicted situations within their practice.

Khoza (2018a, p. 5) asserts that "critical reflection is a process whereby educators use their conscious thoughts in their teaching in order to become aware of their actions at all times, avoiding the use of subconscious thoughts. Reflection as a result of using the conscious thought, may promote the critical reflections that answer the questions of 'what' (technical), 'how' (practical) and 'why' within one's teaching practices of teaching resources". Critical reflections provide a directive approach which combines the personal thoughts and practice. Hence the technical reflection means what educators think about what they have learned to make sense of in their practice (expert reflection) to achieve teaching goals. Educators must examine the subject or discipline. In practical reflection, educators focus on the application of content learned to assess the educational objectives. This relates to community reflection. Community reflection concentrates on addressing community needs, which in this case are the learners, as the recipients of education.

Schon (1983) states that professional practice is a processing of analytic skills. It is a problem-solving practice. Problems do not present themselves to some practitioners − materials and interactivity prevails. Therefore, the context in which the problem will be solved presents social aspects which may lead to community reflection. "Reflection-in-action means improvisation as it consists of varying, combining and recombining a set of figures within the schema which bonds and gives coherence to the performance" (Schon, 1983, p. 20). A practical example of reflection-in-action is noted when musicians perform music. Individuals contribute to it, thinking about what they are doing, and in the process, evolving their way of doing it. This reflection in the midst of the experience allows an individual to pause during the process of an activity. After realising that something has gone wrong, the musician can proceed with an activity, the correct approach in mind.

Russell (2005), Yanow and Tsoukas (2009) state that reflection-in-action takes place during the time of an event taking place. This form of reflection is regarded as reflection in the midst of action. Reflection-in-action is associated with professional and organizational practices; hence everyday events may yield problems which require attention and new action must be taken. These studies indicate that professionals and specifically expert lecturers engage in reflection while in the midst of action. Such reflection usually takes place in management and organisational studies. Finlay (2008) states that both cognitive and affective domains are

important requisites for reflection. They lead to the condition of self-awareness, critical-assessment, synthesis, and evaluation. Reflection-for-action appears when educators are advised to consider their resources and decide how long the lesson will take (technical); how to make the resources pertinent to various learning styles (practical); and to question (interrogate) why they are teaching this particular topic (critical).

Khoza (2018a) adds that resources relate to the learning signals which include resources (software, hardware and ideological-ware); time (hours, days, and weeks); goals (aims, objectives and outcomes); and content (algebra, trigonometry, and geometry). Using resources in different learning styles involves space (face-to-face, digital and blended); activities (educator-centred, learner-centred and content-centred); assessment (for learning, as learning, and of learning); and group (physical, financial, and cultural). When reflection is conducted there is an engagement in a specific discipline with the aim of improving the practice. Engaging in practice requires knowledge of a particular practice. When lecturers reflect on using Moodle they will be teaching Business Studies (subject/module) as lecturers doing their work (practice). Lecturers will be engaged in expert reflection involving a discipline/subject within their practice. Expert reflection is taking place which is related to technical reflection. Hence, in one's practice, certain levels of knowledge are required in order to perform a particular task or activity.

Materials that lecturers use in teaching Business Studies consist of various resources pertinent to their lesson. As individuals (lecturers) they need to determine, analyse, and use different material to achieve their teaching objectives. They will apply their minds and take a decision on the proper material to use. They will familiarise themselves with the application of such material before entering the lecture room. The material, in this instance, incorporates the understanding and application of Moodle as a resource in teaching Business Studies. Thereafter, lecturers need to reflect on whether the use of Moodle in teaching Business Studies yields positive or negative results. Schon (1983) and others focused on community and expert reflection, which translates to an expert approach to reflection. This indicates that they conducted their research based on community and expert reflection. Other studies may provide a different approach that requires more focus on individual reflection.

2.3.3 Individual reflection

Khoza (2018a) advocates that educators should reflect on their experiences and practices of digital resources in teaching. He emphasises that ideological-ware (IW) and critical reflections are the core elements ensuring the success of the Curriculum and Assessment Policy Statement (CAPS) implementation. Critical reflection on the practice using digital resources assists practitioners to overcome curriculum problems affecting their profession. Brookfield (1995; 1998) posits that critical reflection becomes relevant if it interrogates assumptions and practices viewed as making teaching lives easier, but that finally work against our own best long-term interests.

The studies above further assert that critical reflection learning focusses on an individual methodology rather than an output. Critical reflection is regarded as higher order, a more complex level, that poses difficulty to students and lecturers. It is a transformative approach which may result in changes in individual understanding and, potentially, in behaviour. The study further recommends the promotion of IW resources and critical reflections in order to produce educators' reflective framework for teaching. The studies above agree that critical reflection plays a vital role in interrogating the assumptions of an individual with the purpose of improving the practice. Critical reflection relates well to individual reflection. The studies support the ideological-ware; critical reflections are the basis for the proper implementation of a successful programme. In this case, understanding the idea behind using Moodle as a resource in teaching a particular subject assists the lecturers to improve their practice.

Valli (1997) remarks that critical reflection is relevant for in-depth learning which varies amongst individuals and environments. Educators consider the social, moral, and political dimensions of schooling. They judge these in light of the ethical criteria such as social justice and equality of opportunity. Brookfield (1995) advocates that critical reflection is a psychological, professional, and political necessity. Reflection enhances democratic trust, which translates to a view that teaching practice is a political intention, not an option for an educator. As the educator models reflective thinking, the same kind of thinking is modelled in the students. The open-mindedness and discernment, rational judgment and creativity, are likely to transfer to other aspects of students' lives (Valli, 1997). Such thinking is the symbol of the just and truly educated person. This suggests an ability to examine the larger picture and

to view the circumstance more holistically. Critical reflection helps one to take informed decisions which are based on critically investigated assumptions.

Dreyer (2015) states that reflective practice (critical reflection) thinking can assist educators to draw informed conclusions, amending their methods appropriately. Taking informed decisions may be regarded as an important habit for educators to develop. Brookfield (1995) continues to assert that critical reflection assists in developing a motive for practice; such grounds who we are as educators in a tested reality. A critical reflective educator is better placed to communicate to colleagues and students as well as the self the motive behind the practice. This form of reflective exercise can be regarded as critical reflection. Critical learning in education is a pedagogical approach. The studies above therefore emphasise the importance and the role of an individual in analysing the context in which he or she will be teaching. This relates well to individual reflection. Although the method is highlighted, it is in the context of its evaluation by an individual which aims to improve the practice.

Further to the above, critical reflection is based on three areas of knowledge: technical (expert), practical (community) and emancipatory (individual) knowledge. Such are regarded as comprising the critical theory approach which Tyler's framework referred to as three types of reflection. This is known as the highly structured approach. Lecturers weigh competing viewpoints and research findings against a whole range of pedagogical concerns (e.g. curriculum, instructional strategies, rules and organization of classroom). Lecturers, while exercising freedom of choice for themselves and learners, rely on a strong research base as a guide for their pedagogy. Educators are responsible for initiating such activities within various styles of performance, in order to meet the diverse needs of students. Brookfield (1998) encourages taking a critical reflective position in teaching. Such may greatly increase the opportunities that will survive in the classroom with sufficient power. It will also add sense of purpose to and actual effect to being taught. Educators match one's own performance to external guidelines.

Content of this form of reflection centres on general instruction and management behaviour, based on research of teaching. Valli (1997) outlines reflective enquiry encouraging − it is a continuous relationship between experience and understanding. This promotes a triad of life-long learning: research, reflection, and refinement. Relying upon recognized bodies of knowledge, educators perceive relationships and connections between parts of the teaching and

learning process (Valli, 1997). Brookfield (1995) refers to critically reflective educators constantly researching on how students perceive the use of experimental methods such as journals, portfolios, and logs.

The studies above further indicate that a reflective educator researches students sufficiently to understand that approaches and practices imported externally rarely fit into the contours of the classroom. Critical reflection in pedagogical terms means a development of participatory (democratic) classroom. In professional development this means an engagement in critical conversation (Brookfield, 1998). This style of thinking develops within each educator a critical disposition for broad-based problem-solving abilities; and also nurtures life-long learning. It is important to understand the form of curriculum being implemented for proper guidance and focused reflection.

The studies above focus on the role of the educator as a curriculum implementer in the classroom. This relates to individual reflection. The studies further indicate that educators rely on researched content to choose that suitable for teaching and suited to the methodology used in the classroom. This speaks to expert reflection. The studies highlighted the classroom organisation, rules and learners, which relates well to community reflection. These studies covered the three types of reflection which comprise practical, technical, and critical reflection. These types of reflections therefore relate to individual (critical), community (practical) and expert (technical) reflection, which Khoza (2015c) referred to as personal, societal, and professional reflections. This supports the current study, in that lecturers must determine their reflections on the use of Moodle in teaching Business Studies as a resource in a particular setting.

Mezirow (1997) discusses the point that it is an individual reflection, hence judgement is based on the content; it changes as reflection is made. This relates to individual reflection which can be associated with critical reflection. Such covers the cognitive process in the cognitive domain of Bloom's taxonomy (1956). Points of view are more accessible to awareness and feedback from others; meaning that we need to read what others comment on, or the way they look at things. Communicative learning, on the other hand, involves reaching a consensus that is democratic, which is community reflection. Critical reflection can be used for both individual and community reflections through changing the assumptions upon which our interpretations, beliefs, or points of view are based. Critical reflection assists in solving problems. This relates

to individual reflection. Critical reflection can be made on assumptions, through reading a book, hearing a point of view, engaging in task-oriented problem-solving or self-reflectivity, leading to significant personal transformation.

This study includes expert reflection, whereby reading a book to solve problem is a professional process; however, more emphasis is placed on individual reflection. This study indicates the element of individual reasoning which informs critical reflection. Expert and community reflections come in to play when referring to feelings, influence, and reading a book to solve or interpret the assumptions. This study also involves reflecting on past experiences, that is, assumptions, beliefs, cultural, political, and social context, which is reflection-on-action. Establishing new points of view means that some form of research has been undertaken. This is expert reflection, and it speaks to future actions. Discourses can be associated with reflection-in-action. Such assesses the reflections presented in support of competing interpretations, by critically examining evidence, arguments, and alternative point of view through dialogue. Critical reflection may lead to transformative learning, which is individual reflection.

Valli (1997) comments that lecturers base their decisions on own unique situation, and consider personal teaching performance. Reflective thinking involves continuous assessment, creating a balance between new information and the critical examination of prior teaching experiences relevant to the new information. Lecturers listen to and trust their inner voice and the voices of others. Content for this type of reflection includes personal growth and relationships with students. The study further instructs that the reflective thinker knows that not only are one's feelings, emotions, and cognition closely related, but they are highly interactive in the teaching and learning process. This suggests individual reflection.

Moreover, Finlay (2008) remarks that critical reflection is the process of learning through and forming experience towards gaining new insights. Learning advances through (present) from experience (past) and progresses to gaining new insights (future). Learning is often involved in examining assumptions of everyday practice. It tends to involve the individual lecturer in being self-aware and critically evaluating their own responses to practice situations. The point is to recapture experiences and mull them over critically, in order to gain new understandings, and so improve future practice. This is understood as part of the process of life-long learning.

The studies elaborate on three levels of reflection Van Manen (1977), that is, the practical (everyday practice); the individual practitioner (critical reflection and technical recapture practice to gain new understandings), with critical reflection at individual level as core to improving the practice. Finlay (2008) indicates the importance of how (practical) and why (technical) where, and when the activity takes place. The studies illustrate the importance of reflection. Individuals should focus themselves as individuals or society on the context of responding to questions of how, when, where and why reflection should take place. This refers to critical reflection answering the questions of what (technical), how (practical), and why (within one's practice).

The studies above indicated that there are various levels of reflection. The practical looks at everyday experiences, the technical focusses on discipline. Both are informed by critical reflection that represents individual thoughts. Finlay (2008) therefore states that reflection by individuals should indicate the context in which an individual is reflecting. Mezirow (1997), and Russell (2005) ultimately comment that critical reflection involves attending to the discourse of social action. It enables social change to start at the individual level. This suggests that understanding the curriculum delivered assists in identifying the resources relevant to the curriculum.

Khoza (2013b) further believes it important for educators to understand both the tangible (hardware and software) and intangible (ideological-ware) resources for a proper reflective activity to take place. Tangible/hardware resources refer to the resources that can be seen or touched, such as computers, textbooks. An intangible/software resource refers to those resources that cannot be seen or touched, such as teaching methods. Khoza (2018a) maintains that, when lecturers reflect on their teaching practice, it is important to look at hardware, software and ideological resources. When preparing and presenting their lessons, lecturers have to carefully plan and select the resources relevant and meaningful to the lesson of that specific time. Khoza (2013b) indicates that lecturers, as communicators of knowledge to students, form the human resources described as ideological-ware.

The resources in Van den Akker et al. (2009) form part of the ten-part curricular spider web which cites the importance of understanding all the curriculum activities. Such will facilitate the proper curriculum understanding. For the purpose of this study, a resource is discussed to explore the lecturers' reflections on the use of Moodle in teaching Business Studies at

university of KwaZulu-Natal. Although studies have elaborated on individual, community, and expert reflections, none of them relates to these reflections within the time factor. This is because reflection as an action requires time, so that future planning improves the practice. Moreover, reflection has not been attributed to group activity, hence teaching of Business Studies can be done by a number of lecturers at a university. Studies have also not indicated reflection as a prescribed activity for lecturers. This calls for more research in order to ensure that reflection as a process considers time, other people, and being part of teaching and learning, therefore not optional for lecturers. Whilst the discussions above were on individual, community, and expert reflections, this must be in line with the use of Moodle as a resource. The study is on lecturers' reflections using Moodle in teaching Business Studies.

2.4 Moodle as a Resource

Khoza (2012, p. 75) describes learning resources as "anything that facilitates learning" or "any person or thing that communicates learning". A resource is anything or anybody that contributes to learning in the classroom or to the learning environment (Khoza, 2015c; Kisaka-Jwan, 2018, Zuma, 2019; Khoza and Biyela, 2019). As the resource is used to aid teaching, it is therefore imperative that Moodle be discussed. Hence, lecturers have to reflect on the use of Moodle in teaching Business Studies. Khoza (2013a) avers that Moodle is divided into three dimensions: hardware (computers, laptops, tablets); software (mechanisms to install programmes in hardware resources), and ideological-ware (curriculum approaches, theories and visions). The discussion of Moodle as a resource is focused on the use for individual, community, and expert reflections, which Khoza (2013b) terms personal, societal, and professional reflections.

Kaminski (2005) expresses that the word "Moodle" was originally an acronym for modular object-oriented dynamic learning environment, mostly useful to programmers and education theorists. It is also a verb implying the process of lazily meandering through something, doing things as it occurs to you to do them, an enjoyable tinkering that frequently hints at insight and originality. Moodle is a user-friendly, open-source Course Management System (CMS). It is an e-learning system which provides an excellent platform for resources and communication tools. Moodle uses commercial types of software that provide a virtual learning environment (VLE) (Kaminski, 2005; Wahab et al, 2013). Zeden and Al-Ajlan (2008) further define Moodle as a web-based Learning Content-Management System (LCMS), a course-management system

(CMS) and Virtual Learning Environment (VLE) designed around pedagogical principles. Such implies a social constructivist philosophy using the Internet. A VLE refers to online collaboration of a variety of types that takes place between students and lecturers.

Sanchez-Santamaria et al. (2012) agree with Zeden and Al-Ajlan (2008) that Moodle is a type of open-source software (OSS) based on the ideas of constructivist pedagogy (knowledge is constructed in the mind of the student, rather than simply being transmitted). The OSS allows for both collaborative and community learning. Social constructivism pedagogy combines aspects of constructivism (knowledge is generated through mediation and interaction with the environment) and constructivism (learning by doing). Tshabalala et al. (2014) assert that technology influences boldness, ability, views, and feelings. This includes the capacity to adjust technology to meet individual needs (adaptability as LMS from other authors). Zeden and Al-Ajlan (2008) comment that Moodle is user-friendly and flexible as an OSS to meet the needs of individuals.

The study elaborates on the issue of talking to individuals as relating to individual reflection on the usage of Moodle. Delivery of the lesson refers to methodology, which links to individual and expert reflection. Showing boldness, ability, views and feelings relates to community reflection. The studies elaborated on the use of Moodle as hardware, software and ideological-ware resources. Such was indicated in its design for pedagogical and social constructivist principles, a user-friendly and flexible OSS and communication tool. Some studies conducted on Moodle present the importance, purpose, and benefits of using Moodle as a resource in teaching situations.

A qualitative critical-action research study conducted by Khoza (2015a) on educators using Turnitin submissions, interviews, reflective activity and observation, discovered that educators use Turnitin as software for assessment. The study explores the educators' reflections by examining individual (personal), community (societal), and expert (professional) reflections. A similar study conducted by Tshabalala et al. (2014), using a qualitative exploratory case study, investigated the perceptions academic staff have on blended learning. The study identified challenges facing academic staff that affected the adoption of blended learning in a faculty of education at a developing university. The studies identified that lecturers use Moodle for personal reflections, and for checking assignments of students. Moodle was used for various reflections, in this instance, individual and community reflections. This introduces the term blended learning, a combination of blend and learning.

The term blended learning means bringing together online learning and traditional face-to-face teaching (Tshabalala et al., 2014). Blended learning allows students to embark on studying outside the borders of the classroom using various resources, providing for an offline and online interaction between lecturers and students (Sodje, 2018). Lecturers need to use Moodle as ideological-ware to inform their teaching. The use of Moodle as ideological-ware would be for individual reflection, which links it to critical reflection. Lecturers also need to apply blended learning. This allows students to work outside the learning environment using different resources. This will incorporate the use of Moodle for community reflections which embodies practical reflection.

A study by Tshabalala et al. (2014) focused on staff in which the issue of blended learning and a student-centric approach were highlighted. Some lecturers use computers for activities such as research. Lecturers use in-class face-to-face presentations, however, they do not adopt Moodle as a blended learning approach, owing to the lack of an enabling environment. The use of Moodle for community reflection relates to software resources; and the use of expert reflections relates to hardware resources. The absence of a policy on blended learning has an impact on the adoption of blended learning to be used for individual reflection, that is ideological-ware. Moodle is mostly used for community and expert reflections. When Moodle is used for expert reflection, the policy may then necessitate the reinforcement of the application of Moodle for pedagogical purposes. Staff training and policy may channel lecturers and students to use Moodle for individual reflection. Such promotes the ideological-ware resources over hardware and software resources. Khoza (2015c) comments that a resource is, in such an instance, seen as technology-in-education (hardware and software) and technology-of-education (ideological-ware).

Lecturers, specifically in their expert and community capacity, were accommodated. The individual reflection was not sufficiently dealt with, whereas it is cause for concern in education. The community and individual reflection on the use of Moodle is pertinent to Technology in Education (TIE). Methods used to deliver content relate to Technology of Education (TOE). It is therefore suggested that future studies be conducted with sound focus on methods. Blended learning, which is part of this study, clearly states a combination of things and learning. Moodle, as LMS, is characterised as an interactive approach to teaching and learning, wherein lecturers and students interact. During teaching and learning (hardware and software), resources are used to achieve such objectives. When Moodle is used for individual

reflection, it combines the hardware and software resources to ensure that blended learning is taking place. Further research should be conducted on blended learning; hence its use as ideological-ware relates to reflection at individual level.

Since its adoption in certain institutions, Moodle has achieved popularity with both lecturers and students. A study by Tshabalala et al. (2014) included lecturers only as participants; however, both lecturers and students may benefit. This study focused six regions in KwaZulu-Natal, South Africa. It is therefore suggested that the research be spread to other regions for expansion of research sites and to have a sound generalization. The institution has guiding principles that promote and support e-Learning. A policy should be in place to reinforce the adoption of Moodle for both academic staff and students. Some lecturers use computers for certain activities such as research, and in-class face-to-face presentations. However, they do not adopt Moodle as a blended learning approach, owing to the lack of an enabling environment. The use of Moodle for community reflection relates to software resources. The absence of policy on blended learning has an impact on the adoption of blended learning to be used for expert reflection. Moodle is mostly used for community and expert reflection.

Mpungose (2019a) conducted a qualitative case study of twenty-five first-year Physical Sciences students to explore the use of WhatsApp by students as a supplement to Moodle for individual reflections. Purposive and convenience sampling was used to select participants, whereas semi-structured interviews, focus-group discussion, and emailed reflective activities were used to generate data. The findings revealed that a personal e-learning platform, which had been abandoned in the past, could be used to enhance e-learning. The study further revealed that, while students have one option to use Moodle for expert reflection, they prefer a familiar e-learning platform (WhatsApp). The study suggests the use of a personal e-learning platform that blends both Moodle and WhatsApp. As WhatsApp is used by students for community reflection, it can also be used for individual and expert reflection.

This advocates a mechanism to ensure the proper use of both e-learning platforms for individual reflection, to improve teaching and learning. Learning, in this instance, relates to the use by students to achieve their goals. Teaching relates to the role of lecturers in ensuring the addressing of students' personal needs in order for students to achieve their learning goals. This study therefore provides an opportunity for flexibility for students to use an e-learning platform, especially the one they are familiar with. This will assist students to do their work

wherever and whenever, because WhatsApp is compatible with gadgets such as smartphones and tablets, which students possess and carry with them at all times. Although the use of WhatsApp may be beneficial to students' personal needs, the issue of data needs attention. The use of WhatsApp may extend to expert and community reflections, especially when used outside the campus. The bearing of data cost and restrictions in usage for personal, expert, and community reflections may be cause for concern.

The study does not indicate the use of WhatsApp as ideological-ware; it recommends it as e-learning and for individual reflection. Hence, both lecturers and students can use WhatsApp, owing to affordability and user-friendly reflection. A policy in place will necessitate its use for expert reflection. Lecturers will then have to decide to use WhatsApp as a pedagogical (ideological-ware) instrument, which will translate to individual reflection.

A critical study conducted by Khoza (2016b) on curriculum managers using journals, a focus group, and interviews, identified individual, community, and expert approaches to Moodle. A research question of this study on approaches, drew similar conclusions as that of a study by Schon (1983). When Moodle is used in teaching and learning, this is determined by particular approaches that must be understood by lecturers. Khoza (2016a) recognised that approaches must be planned prior to the teaching and learning process. By interrogating the past, lecturers engage in reflection-on-action, and question the present lecturers embarking on reflection-in-action (Schon, 1983). Individual vision points at the individual approach to teaching, which relates to critical thinking. A community reflection refers to opinions of people and knowledge gained from simple local resources (Khoza, 2016b). Community reflections relate to horizontal approaches, in where a horizontal system is used through the combination of subjects into a learning area. Expert reflection is embodied in the vertical approach, which requires students to progress from a lower level to a higher level; and this involves a cognitive element.

Reconstruction assists during the transition time from past to a new era which might be handled efficiently to integrate technology (Moodle) into the teaching environment. Lecturers then engage in critical reflection. Supervisors, through providing Moodle environments, change the learning environment beneficiaries. Lecturers can transform and became critical thinkers through reflective activity using Moodle; this may subject them to reflection-on-action and reflection-in-action. Hardware and software resources assist individuals to transform from using Moodle for individual and community reflections, to expert (ideological-ware or

theoretical) reflection. Critical action research used in this study is relevant for a transformative process. Its primary objective is to change the learning environment to meet the needs of the learning environment beneficiaries. The introduction of Moodle may benefit the students as beneficiaries, and lecturers in pedagogical delivery of knowledge, by improving the delivery method. If both the university of KwaZulu-Natal and learning community transform and adopt Moodle, the university will achieve its objective of implementing Moodle as a learning management system.

A comparative study was conducted by Zeden and Al-Ajlan (2008) on features and capabilities of VLE tools, and technical aspects of VLE platforms. The study aimed to evaluate Moodle, comparing the features and capabilities of VLE, based on the technical aspects of the VLE tools. The study reveals that Moodle is the best platform of 9 VLEs. On technical aspects, Moodle has been recommended for QASSIM university and other higher education institutions. The other strengths of Moodle are the realisation of communication tools, the creation and administration of learning objects, the comprehensive didactical concepts, and the tracking of data. A descriptive comparative approach survey design study was conducted by Sanchez-Santamaria et al. (2012). The study intended to understand, analyse, and compare students' perceptions on didactic usages, exploring the use and impact of Moodle on university teaching. The study revealed that the role of Moodle in university teaching was to visualise the teaching outline, and to exchange information. students show a high degree of satisfaction, but identify some limitations related to educator training and technical aspects. The study further comments that Moodle is a feasible and more effective means of didactic usage.

The study further reveals that knowledge of technology resources and Moodle competencies is of great value, especially for second-year students; first-year students experience some challenges in usage. There is a direct relationship between the use of Moodle and the degree of satisfaction with it. Strategies and usages of Moodle related to individuals and lecturers indicate that Moodle is predominantly used, and serves as an additional resource, in the teaching practice. This relates to the ideological-ware, in which Moodle is used to improve the methodology of individual.

Moreover, the findings encourage further exploring of the organisational, methodological, and assessment implications of Moodle in a university setting. Such should seek to promote a more active role of the student in collaboration with other virtual learning environments as the

personal learning environment. Hence the study makes mention of monitoring classes, communication with lecturers, and discussion among peers, nevertheless low use by some lecturers. The study then suggests that Moodle was used for various reflections which incorporate the individual (facilitate student work), and community (communication and peer discussion) reflections. Moodle use for expert reflection was not incorporated. The issues of hardware and software (technical) and ideological-ware (methodological and assessment) problems were covered. Moreover, it is recommended that the use of Moodle for expert reflection is also considered, to ensure that all levels of reflections are covered.

Wahab et al. (2013) conducted a survey using a questionnaire, for face-to-face teaching, on a sample of nine Integrated Sciences Division (IDS) courses. The study evaluated the IDS courses on Moodle in terms of their usefulness as learning material, ease of use for students, and the effectiveness of this platform for optimising learning, in order to improve the quality of Moodle-based instruction. The study revealed that tools used have a high internal reliability. This leads to effective utilization of the Moodle platform facilities for information and communication dissemination among students registered for any particular course. According to Kaka (2015), a mixed-approach study used the online survey, observations and interviews to address some significant factors that have an influenced the adoption of Moodle by academic staff in a Maori institution. The study indicated that, even though Moodle has been used by the organisation since 2005, there is still some way to go in providing solutions to the issues as outlined: training; encouragement and support from management; traditional versus non-traditional, and maintenance of online resources.

The studies above indicate that Moodle is used for both as TOE and TIE. Khoza (2013a). Khoza (2013a) explains TOE as including hardware and software. TIE relates to ideological-ware (Govender and Khoza, 2017). This concludes that the studies covered the three propositions of Moodle and three reflections relating to individual, community, and expert reflections. The positives and limitations of Moodle provide insight into its importance, and reveals some challenges which impede the use thereof. According to Khoza (2016a), Moodle creates an environment in which lecturers and students construct their self-identities, whilst managers monitor the learning environment. Moodle assists learners and/or students to incorporate investigational and individual tasks that support the lecturers and students to create and regularly rebuild knowledge as viewed. The Moodle environment prompts the individual

reflection (kept in the lecturers' or students' subconscious reasoning which they derive from the learning and teaching situation).

Kaka (2015) elaborates that Moodle, as used at that organisation, provides rich information via multiple media elements such as image, video, audio and text. Mobile phones were mostly used rather than chat, blog, forums, Skype, YouTube, Facebook and Twitter. Moodle, in this instance, was used for social reflection, meaning that it was addressing the individual and community reflections. Moodle is used as TIE (hardware and software) resources. Institutions have been using Moodle to find out what disenfranchised groups are learning, with the use of online courses, online assessments, online collaboration, programme resource accessibility, and online tutorials.

Individual actions address individuals or students' needs, and are derived from their own unique environments. Individual vision serves as an underlying factor that channels a person to move along the community or expert route. Social reflection features, as learning outcomes, are regarded as community vision, placing Moodle at the centre of the learning environment, where knowledge is created horizontally from local sources (Khoza, 2017). This disadvantages students when they are exposed to international standards. Professional vision addresses the cognitive element. This follows a vertical approach in which the content is important. Students should master such from the lower to the higher cognitive order. Khoza (2016b) further comments that Moodle allows managers or lecturers to invent pertinent and powerful YouTube videos that explain all three concepts (individual, community, and expert reflections) crucial to all modules. All managers or lecturers are expected to develop chat and discussion forums for socialization, which is community reflection.

Khoza (2016b) further elaborates that Moodle is used by managers or lecturers for reflection. Managers need to transform in accordance with their strengths and weaknesses. It was discovered that Moodle was used to socialise and for instructional learning, without a deeper understanding that reading theories on Moodle is relevant to proper curriculum management. Moodle allows for a space for proper intervention which may assist managers or lecturers to create a learning environment that enhances a sound alignment between individual, community and expert reflections for the use of Moodle. The study elaborates that some of the success factors of using Moodle include access to information; learning centres and other resources; access to, and knowing how to use computers and the Internet; help from tutors and classroom

members in an environment that is supportive of Information Technology (IT) users; attending class and handing in assignments on time; inspiration and self-confidence; understanding e-Learning and course content; family support; funds for tuition fees; individual learning time to work on the course online, and a good command of English.

Further studies allude to the benefits of Moodle as a Learning Management System (LMS). Moodle can be transferred, adapted, and circulated in GNU. Zeden and Al-Ajlan (2008) comment that Moodle is currently used by universities, colleges, schools, companies, and individual instructors. Moodle is a free LMS, which enables the creation of powerful, flexible, and engaging online courses and experiences. Moodle has greatly enhanced students' learning in universities, globally. Moodle is used in primary and high schools, non-profit organisations, and private companies, by independent educators, and even by home-schooling parents. It gives users an opportunity to post new items, assignments, automated journals and resources, and to gather assignments, inter alia. Moodle's greatest strength is that community has grown around the project. Both developers and users participate in Moodle's active discussion forums, giving helpful tips, posting code snippets, assisting new users, sharing resources, and debating new ideas (Sanchez-Santamaria et al., 2012).

The study further highlights the advantages of Moodle in monitoring classes; access to and availability of material; communication with lecturers, which facilitates student work; and communication and discussion among peers. Moodle can be used on almost all servers that use PHP. Moodle can be used because it has a high grade of acceptability in the community and in a number of institutions. Moodle has an extensive range of courses. Moodle enables lecturers to provide graded assignments, quizzes, workshops, and chat, and to offer a forum for students both easy and offering high-quality learning. Moodle is one of the most user-friendly and flexible of the global free open-source courseware products available. Moodle is specifically designed to help lecturers who want to create high-quality online courses. When Moodle is used to learn, course content delivered to students speaks to individual reflection. When used for open discussion and used by communities, reflection becomes community reflection. Having a variety of active courses speaks to expert reflection.

Moreover, e-learning systems are increasingly becoming an important part of the strategy for delivery of online and flexible learning. The advantage of e-learning is that it provides an opportunity for students to interact electronically with one another and their lecturers on

discussion forums, discussion boards, by email, and in chat rooms. Moodle has gained popularity and is used worldwide as a VLE system. A VLE is an interactive learning system in which learning content is available online and provides automatic feedback to students' learning activities. A VLE is a form of e-learning that enables online interactions of various kinds to take place between educators and students. A VLE benefits institutions, giving access anytime and anywhere, allowing better integration of application technology tools, opportunities for independent learning, and improved motivation and access to novel learning. A VLE such as Moodle improves learning efficiency and effectiveness.

Wahab et al. (2013) concur with Kaminski (2005) that a CMS can offer a great variety of channels and workshops to facilitate information sharing and communication among participants in a course. Indeed, through this platform, educators/lecturers can distribute information to students, practice content material, prepare assignments and tests, engage in discussions, manage distance classes, and enable collaborative learning with forums, chats, file-storage areas, and news services. A CMS helps students create effective online learning communities as an alternative to commercial online learning solutions. This reminds that students learn best when they interact with the learning material, construct new material for others, and interact with other students about the material. There are six types of interactive material − assignments, choices, journals, lessons, quizzes and surveys; and five kinds of activities in which students interact (chats, forums, glossaries, wikis and workshops). Course material offered by Moodle was beneficial; Moodle was easy to access remotely. Generally, students agreed on the effectiveness of using Moodle as a platform to access teaching materials.

The quality of audio-visual simulations on Moodle is in need of improvement, therefore Moodle must be made more attractive. Students show benefits with regard to access of instructional materials and ease of use (professional and social benefits). Kaminski (2005) advocates that the social constructivist pedagogy be reinforced in Moodle through the availability of easily created environmental instruments, such as journals, private discussion boards, chat rooms, assignments, workshops and file-exchange area, quizzes and survey support, mail integration, and more. The study asserts that Moodle was introduced to promote a social constructivist learning environment in which students use their experiences to create knowledge. Generally, Moodle is used by many educational institutions. Some of the advantages of Moodle are that it is freely distributed under open-source licensing; organisations have complete access to the source code and can make changes if the need arises. This makes

it easy to create new courses and content that will engage students. Moodle is designed to support a style of learning called constructivist pedagogy (Wahab et al., 2013).

Kaminski (2005) comments that Moodle, as the software, is available in different languages, making it more accessible. It is regarded as a gift to the educational community, which can be used in developing online skills for course development. If educators are to make informed decisions on the use of technology in the classroom for professional development, initiatives are necessary. Educators need information about the issues and advantages of 'why' technology in the classroom. Educators need sources of accessible professional development to learn to work with various aspects of technology and to apply them successfully. The need for change can be a source of anxiety and frustration, especially if resources are not available. Both knowledge and practice are needed to begin to change and adapt teaching to an online environment. Lecturers need time to learn technology-related teaching skills, to learn how to use technology, to experiment with it and to integrate it into the school curriculum.

The change in university of KwaZulu-Natal through the introduction of Moodle may justify the results of infusing technology by lecturers during the transition. Critical areas of agreement include a need for relevant, applicable professional development that reaches the widest possible range of groups. Such development must use learning technologies as a delivery method (this relates to individual reflection aimed at expert reflection because the rationale for using technology is to deliver content to groups). This change speaks most to the methodology, and individual lecturers relate well to ideological-ware.

Much as Moodle poses some benefits, it also has limitations. The Te Wananga o Aotearoa institution (TWOA) decided to introduce the LMS, Moodle, because prior to that there was no e-learning technology used by the institution. Moodle was chosen because it is an OSS option at no cost. Kaka (2015) indicates that one of the factors impeding the adoption of Moodle was that the traditionalists believe that their teaching methods are still achieving the expected goals, therefore there is no need for change. Traditionalists believe that the current delivery techniques are sufficient; meaning that there is no need to change something that is working. The computer and Internet were recognised as relevant to the adoption of Moodle. At this stage the technology in teaching (TIE) resources were accommodated. The study indicated that the academic staff chooses traditional over non-traditional methods. The staff indicated reluctance

to use a system seen as time-consuming, needing support, and on the assumption that Moodle is not suited to some projects.

Moreover, the culture, support and lack of guiding principles are portrayed as obstacles to the adoption of Moodle. Believing in old traditional methods of teaching hinders the process of adopting Moodle. Sanchez-Santamaria et al. (2012) indicate, among other things, the lack of educator training; technical problems; confusion between virtual and face-to-face tuition; student training; the low use of technology by some lecturers; and the need for Internet access and updates. Tshabalala et al. (2014) indicate that students demand that lecturers use e-learning for the delivery of their lessons. Students have curiosity, and are keen to use technology in teaching and learning. The study further indicates that negative insights by professional personnel may lead to poor adoption of blended learning. A negative attitude towards invention and transformation, time required for enactment, duty load, and level of organisational sustenance, disposal of technology infrastructure, instructional distribution modes and quality accreditation, are all obstacles to adoption of Moodle.

The study indicated that some of the obstacles to the acceptance of the blended learning by professional personnel are insufficient computer skills, and lack of time to organise innovative and appropriate teaching and learning methods which address the digital generation of students. Khoza (2015c) refers to the digital generation students as digital natives, and lecturers who are not acclimatised to technology as digital refugees. Martin (2015, p. 1) states that "digital natives have been using technologies in their daily lives for as long as they can remember. Students are frequently comfortable and understanding with various types of media and can navigate through various technology obstacles unfazed." The conflict arises when the leaders (lecturers) are not all using Moodle. Technology usability was not a major concern; and at the same time, lecturers teach students who are born digitally aware. Although the literature indicates the importance of use of Moodle, the frequency is not indicated. This lack of guidance may result in over-use, neglecting the element of reflection. Further research must be conducted on the frequency of using Moodle in order to guide users to cater for reflection.

2.5 Conclusion

This chapter alluded to the derivation of reflections, individual, community and expert reflections. Reflection for individual, community and expert reflection was discussed, linked to practical, technical, and critical reflections. This chapter examines the currere process as a transition mechanism to curriculum, such forming part of this chapter. Reflections are important not only for viewing the past, present, and future; reflections provide relevant reasoning for individual, community, and expert reflections. Reflections are linked to reflection-on-action, which focusses on the past experiences; and reflection-in-action, that is based on current experience. Reflections inform the curriculum on which to reflect. This study explores lecturers' reflections on the use of Moodle in teaching Business Studies at university of KwaZulu-Natal. Moodle as hardware, software and ideological resources were discussed; hence the reflection on this phenomenon relates to the use of Moodle by lecturers. Lecturers need to understand the importance of reflections and the use of Moodle, whether for individual, community, or expert reflection.

Reflection is contextualised by discussing curriculum pillars including ambitions; learning environment; society; times; lecturers' role; learning tasks; communal, content, and evaluation. Business Studies as a subject includes curriculum layers. The terms within brackets with their propositions are used in the next chapter. Reflection cannot be taken out of context.
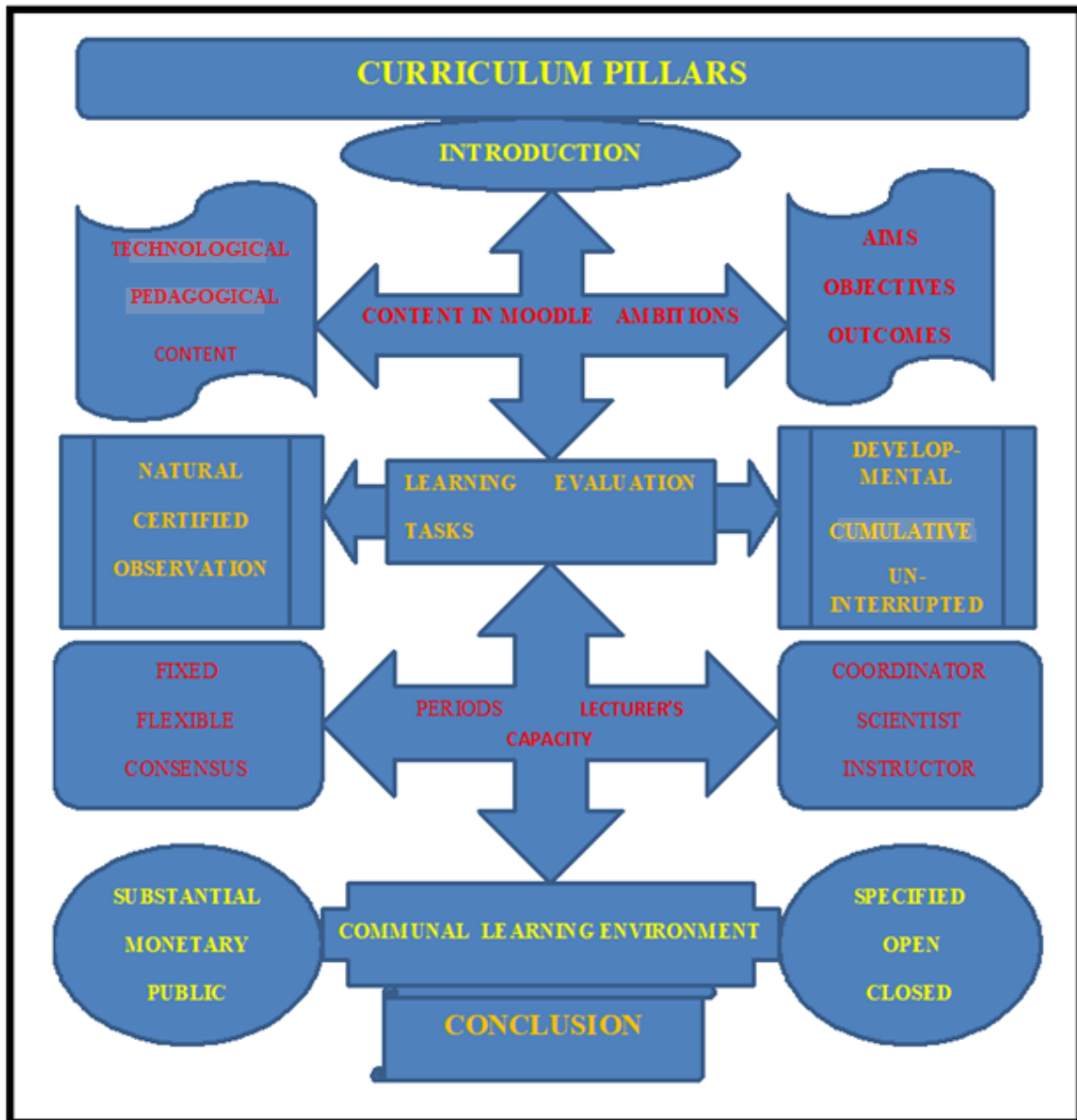
Figure 3.1: Chapter Three flowchart

3.1 Introduction

This chapter discusses the ambitions (aims, objectives, outcomes); content (content knowledge, technological knowledge, pedagogical knowledge); communal support (substantial, monetary, ethnical); learning tasks (natural, certified, observation); Period/time (fixed, flexible and consensus); lecturers' role (coordinators, scientists, trainers); evaluation (developmental,

cumulative, and uninterrupted); and learning environment (specified, open and closed). The curriculum pillars are linked to individual, community, and expert reflection as a frame for this study. The discussion of curriculum pillars and reflections is focused on the use of Moodle by lecturers in teaching Business Studies at university of KwaZulu-Natal. Therefore, it is important to discuss the curriculum pillars in conjunction with the reflections, the reflections being embodied in a particular subject. The next section presents the curriculum pillars starting with the ambitions of teaching Business Studies.

3.2 Curriculum Knowledge

Hoover (2014, p. 8) defines curriculum as "planned learning experiences with intended outcomes while recognizing the importance of possible unintended outcomes". Altrichter (2005, p. 4) defines curriculum as "an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice". The studies further define curriculum as what teachers teach and learners learn at different schools in the form of subjects. This study focusses on the implemented form, which involves perceived curriculum as interpreted by teachers and the operational curriculum. Such is the actual process of teaching and learning. The implementation process involves the interpretation of the curriculum aspects by teachers/lecturers and the actual process of teaching and learning as it takes place in the learning environment. The definition of the curriculum above speaks to the subject matter which is in line with expert reflection.

Akyuz (2018) describes curriculum knowledge as the knowledge of the complete variety of courses planned for the teaching of specific disciplines and areas at a given level. This includes the range of instructional resources relating to those courses, and the set of features that help, equally the signals and contra-indications for the use of certain course or programme resources in a specific context. Moore (2013), and Kisaka-Jwan (2018) give the word 'currere' as a Latin verb which means running in the way the current moves. Curriculum, then, is derived from this, as applied to a course, or a career. Makumane (2018, p. 51) and Mpungose (2019b) echoed Moore (2013) by stating the term currere as a Latin verb that means "to run a course". Currere provides an opportunity for educators and learners to actively partake in the programme or curriculum.

(Khoza, 2015c) defines curriculum as a plan of teaching and learning to attain learning outcomes. Motlotle et al. (2000, p. 7) define curriculum "as a plan or program of all learning experiences which the learner encounters under the direction of a school". Khoza (2015d), Van den Akker et al. (2009), Hoadley and Jansen (2012), Dlamini (2017) state that curriculum is separated into international curriculum (supra); the national curriculum (macro); the institutional/site curriculum (meso); the educator curriculum (micro); and the learner curriculum (nano). Apart from the levels, curriculum is portrayed as intended, implemented, and attained curriculum (Van den Akker et al., 2009, Khoza, 2016a). The studies above alluded to curriculum teaching (individual), learning (expert) and attaining learning outcomes (community). This further explains curriculum as intended for curriculum designers (expert); implemented (individual) because it involves methods to teach it; and attained (community) which is for learners/students. In this regard studies covered the three levels of reflection.

Pinar (2010) comments that it is important to understand the type of curriculum being implemented by a particular country. The researcher further refers to a disciplinary structure as an integrated curriculum fit for thorough scrutiny for the type of the curriculum being implemented (Mpungose and Khoza, 2020b). Pinar (2010) elaborates that, in Brazil, a disciplinary structure versus integrated curriculum is characterised as an ancient structure. The study states that South Africa's curriculum was embedded in racial history and politics. Although there was an influence of international movement represented by the importation of models from New Zealand, United States, and United Kingdom curriculums, South Africa's curriculum remained an integrated curriculum because it was locally (South African) context-based. The curriculum focused on a national way of involving stakeholders such as state, unions, and professionals during the designing process. The National Curriculum Statement (NCS) which existed prior to the introduction of the CAPS is an integrated model of a curriculum. The NCS involved the international movement but embedded in local history, politics, and cultures.

The NCS, through integrating the subjects into a learning area, translates to a typical example of the integrated curriculum. Khoza (2018a) describes the NCS as a horizontal curriculum characterising a learner-centred approach. The NCS is a community-based curriculum because it focusses on achieving specific learning outcomes through displaying specific skills based on the opinions and local sources. The NCS is characterised by a collective and individual approach. The views and influences of stakeholders such as government, unions and politics

played an important part in the design of the curriculum at a macro level (national level). In the case of an individual element, the achievement of skills is not based on the international benchmark of the content in place. It requires individuals to demonstrate a certain level of competence regardless of mastering the content and performing at international level.

Fix et al. (2014) conducted a design-based research study on five cohorts of students and 16 educators, using a questionnaire, semi-structured interviews, and literature study, with subjects and document analysis to develop a sustainable curriculum for at-risk students. The study indicates that, for developing a sustainable curriculum, it is important that the three curriculum representations include the intended, implemented, and attained, distinguished in order to analyse the different forms of curriculum (supra, macro, meso, micro and nano). The intended curriculum means a planned curriculum represented in lessons and educational resources. It is based on the school vision in which educators give instruction to the learning environment. The implemented curriculum refers to the curriculum as interpreted by its users. The attained curriculum means the learning experiences by the students or the learning outcomes of students.

The study further comments that, regarding South Africa's curriculum at that time, scholars should have paid more attention to sociology of the cognitive element of the curriculum. This, in South Africa, according to Pinar (2010), has led to the design and implementation of CAPS (DoE, 2012). Khoza (2015d) claims that the South African curriculum is characterised as an intended curriculum; hence the national Department of Basic Education has prescribed the curriculum taught at school as a formal document (CAPS) designed at a macro level. Khoza (2015d) further elaborates that schools (meso) implement the curriculum framed by the macro curriculum, including educators, at a micro level. This further suggests that the curriculum is designed at a macro level, educators implementing it at a micro (classroom) level.

According to Pinar (2010), advocacy about the CAPS can be described as the agency for transformation from NCS which is a horizontal, local-based, integrated curriculum regarded as a competence curriculum, to the CAPS, that is vertical, international, and discipline or content-based curriculum, regarded as a performance curriculum (Khoza, 2018a). Mpungose (2017) points out the importance of understanding the form of curriculum being implemented by institutions. He further elaborates that performance curriculum is linked to the vertical approach because it is moving from different levels of understanding.

Further to the above, the CAPS is a discipline/content-based curriculum because subjects are independent; in the NCS subjects are combined to form a learning area. Pinar (2010) comments that South Africa displays the curriculum as academic discipline, arguing that the curriculum is weak and lacks sufficient theory. The NCS imported theory lacks proper scrutiny, amendment, and improvement. The NCS has an influence over state bureaucrats and politics, therefore translation was pertinent. The NCS is characterised by the elements of social transformation, redress, rationalization, outcomes-based approach, aimed at changing society and addressing the imbalances of the past. This curriculum approach seems not to be providing a critical analysis for researchers; hence curriculum is embedded in historical and cultural backgrounds.

This has resulted in the design and implementation of the CAPS to bridge the gaps identified in the NCS of failing to meet international standards. The CAPS was introduced after advocacy with all relevant stakeholders (DoE, 2012). Therefore, it was important to engage in a dialogue, international studies being incorporated. The curriculum should be internationalized by strengthening the disciplinary structures (intellectual history) which is vertical in nature; and the understanding of the present which is horizontal. The findings of the Progress in International Reading Literacy Studies (PIRLS) (2016) provides a practical example of the poor performance of Grades 4, 6, and 9 learners in the Annual National Assessment (ANA); learners, by comparison with 49 other countries showed that they are struggling with numeracy and literacy (Department of Education-DoE, 2017). If the curriculum is focused on locally-based sources, learners struggle to grasp relevant information to respond to internationally set papers. The results suggest that, although South Africa is implementing the CAPS, some components of NCS are incorporated into the teaching and learning environment.

Educators need to understand the content they teach in order for them to meet the requirements and teaching standards applicable to performance curriculum. The Department of Education must capacitate teachers with relevant content and methodology so as to improve their teaching to internationally acceptable standards. The study did not clarify which part of content learners fail to grasp. The study also does not indicate whether underlying courses were content gaps from previous grades, or assessment strategies that require quality and depth. This recommends more studies to specify whether the poor performance is related to content, methodology, or learner outcomes. Such will enable a focused research to solve the problem because these three

elements are linked to expert, individual, and community reflections, respectively. The studies should also examine the level of reflection a teacher should look for individual, community, or expert reflection. Moreover, studies should clearly indicate the other curriculum pillars and their relevance to learner performance.

Hoadley (2018) conducted an ethnological case study on early primary school classrooms to track the reform on critical pedagogical relation between knowledge, the educator, and a learner. The study reveals that the nature and status of knowledge shifts when the curriculum changes. The model (idea) of the educator and the student, and social relationship between them shifts in attendant pedagogical reforms. This study therefore emphasises the importance of community, individual, and professional reflection for the implementation of the curriculum. The specific aim is to ensure that the performance curriculum is enacted. Therefore, the individual, social, and professional reflections for implementing a curriculum have been covered; although other studies may view this differently. Reflection and curriculum are interrelated. Past experiences, and current analysis for future actions prevail in intellectual history − the present must be understood in order to transform from the curriculum approach (NCS) to the new curriculum approach (CAPS). Although the study looks at the interrelationship of between content knowledge, educator and a learner, it does not specify which other factors (such as teacher training and relevant material for learners) may be relevant for this relationship to yield positive results.

The educators used the curricular spider web (Van den Akker et al., 2009) to describe the intended curriculum. The curricular spider web shows the relationship that exists between the different aspects comprising the rationale, aims, and objectives, content, learning activities, educator role, materials and resources, grouping, location, time, and assessment. This study uses the terms reflections, ambitions, content, tasks, lecturer's capacity, resources, learning environment, communal, time, and evaluation, as curriculum pillars. This study also uses these concepts in Chapter Two as reflections, and for Moodle as a resource. In Chapter Three the rest of the concepts are discussed in theorising the curriculum pillars. In defining curriculum, it is important to describe the various curriculum presentations.
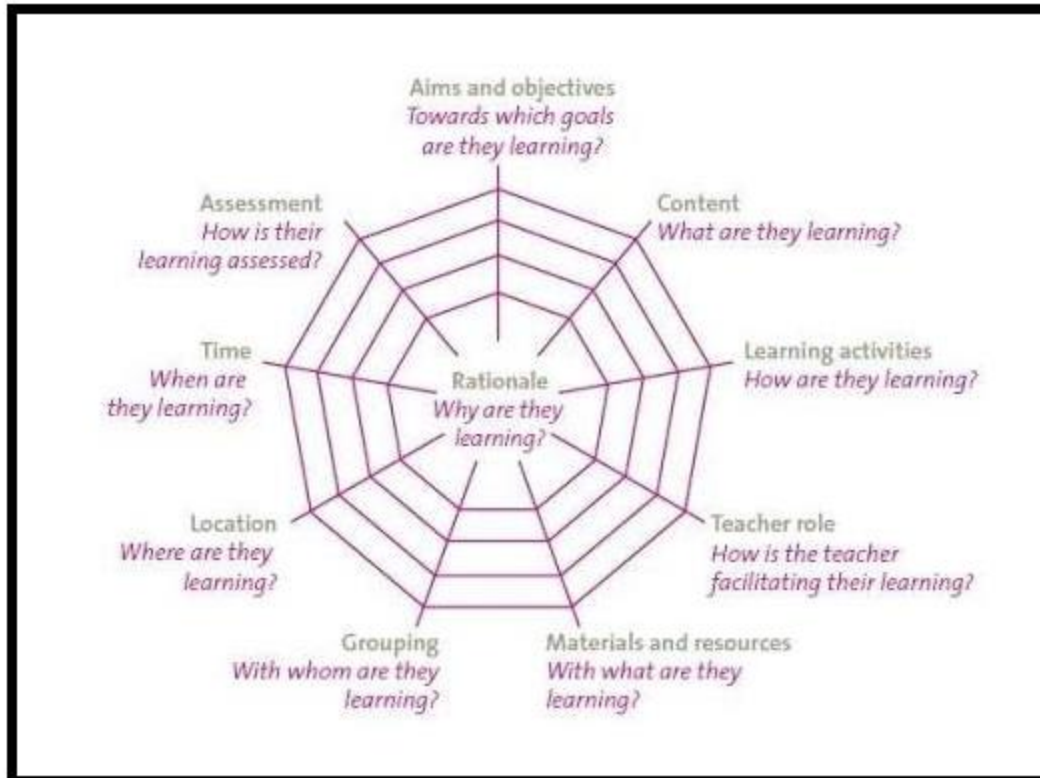
Figure 3.2: Curriculum spider web (Van den Akker et al., 2009, p. 11)

Figure 3.2 above illustrates the relationship between the various aspects of the curriculum spider web. Hence, the study deals with the lecturers' reflections in teaching Business Studies/Management at a particular university. The diagram above shows the aspects of any curriculum to be presented. Because lecturers use Moodle in teaching Business Studies, the concepts of the curriculum spider web must be displayed, all its aspects informing the curriculum at different levels.

The definitions above suggest that curriculum incorporates various components pertinent to teaching and learning. First, it speaks about the plan of any educator who determines what, when, where, to whom and which resources to use when teaching. This relates to individual reflection. Second, it speaks about learner's experiences at school. This advocates the community reflection, because learners form the school community. The school is where they meet other learners, educators, and resources that help them learn. Third, the issue of a course or a career open to enquiry relates well with expert reflection: a course consists of modules or disciplines which are researched and prescribed for teaching and learning to take place. The studies further bring in the issue of learning outcomes, the nano (learner) curriculum related to

a learner-centred/horizontal curriculum. This suggests a competence curriculum; hence the issue of learning outcomes is linked to competence curriculum that relates well with the NCS.

The studies, on the other hand, comment that curriculum is a planned learning experience, and includes the micro (educator) curriculum. Definitions incorporate the educator-centred/vertical curriculum which relates to performance curriculum. There is a prescribed programme which links to the CAPS. The cognitive and affective domains are also highlighted in the definitions in which the experiences and principles are linked to the affective domain; and the enquiry and learning speak to the cognitive domain. Therefore, understanding the meaning of curriculum is relevant. This study explores the lecturers' reflections on the use of Moodle in teaching Business Studies. Lecturers at the individual level plan and determine the resources to use when teaching. This infers individual reflection. Lecturers will be teaching students at a particular learning environment and using certain strategies. These two connect with the community and expert environment.

A curriculum provides an opportunity to revisit the past, engage in the present activity, evaluate the gaps, and craft future plans. This is the similar route the reflection takes, which means that there is a sound relationship between reflection and curriculum. Kanu and Glor (2006) define currere as a reflective phase which thinks back on itself and discovers its identity. Kanu and Glor (2006) agree with Moore (2013), that regressive, progressive, analytical and synthetical moments can be used as a biographical method for rescuing amateur lecturers to become professional lecturers. They further agree that a dialogue is important as an instrument to shift from an individual and collective-approach curriculum to a discipline-based curriculum. This further suggests that lecturers need to understand and undertake the curriculum process. In this way, lecturers adapt to the transformation agenda of the universities to adopt the use of Moodle as resource for teaching. This illustrates technical (expert reflection) and practical (working with students) reflections (Van Manen, 1997). The individual analysis and interpretation conducted during the curriculum process and reflective activity may relate well to critical reflection.

During apartheid, the curriculum was driven by the Christian National Education (CNE). The CNE did not incorporate different cognitive learning skills as indicated in the Bloom's Taxonomy (Kennedy et al., 2006). Khoza (2015c) argues that the CNE promoted passive learning and restricted learners' exposure to different cognitive levels, especially higher-order

thinking. The CNE was followed by Curriculum 2005 (C2005) in 1998. Khoza (2015d) referred to this as being accelerated through ideological-ware resources driven by the outcomes-based education (OBE). In 2005, South Africa introduced the National Curriculum Statement which became the revised national curriculum statement (RNCS). The RNCS replaced the Curriculum 2005 which was characterised as radical constructivist learner-centred (Hoadley, 2018). South Africa is currently implementing the CAPS presented in the form of a prescribed document for the schools to implement (DoE, 2012). Khoza (2015d) argues that the CAPS is a performance curriculum; hence the content is prescribed in the form of formal documents per subject, while the competence curriculum was constituted along the lines of achieving skills at a local level.

Moreover, the CAPS is a vertical curriculum because learners' performance is measured through achieving the prescribed content, which is internationally benchmarked. Khoza (2015d) further comments that the CAPS is accelerated by ideological-ware resources of performance, in which subjects are clearly differentiated from one another, and focus on the missing element of the learner. The CAPS is a vertical curriculum which lends itself to the educator- or content-based approach. The brief background of curriculum transition provides relevant information for the rationale of moving from different curriculum approaches in order to meet the needs of the 21st century education standards. The background indicates the relationship between this study, its phenomenon (reflections), and resources (Moodle). Looking back (reflection-on-action) analysing the current changes from NCS to the CAPS (reflection-in-action) is important for future actions. This suggests that reflection-for-action is futuristic in nature. The next section therefore examines the differences between the NCS and the CAPS.

Table 3.1: Comparison of Competence Curriculum with Performance Curriculum (Khoza, 2018; Hoadley, 2018; Makumane, 2018)

COMPETENCE CURRICULUM	PERFORMANCE CURRICULUM
Subjects combined to form learning area	Each subject stands on its own.
Driven by outcomes (outcomes-based education).	Driven by identified content (standards-based reform).

Levels of outcomes not important, as emphasis is on skills.	Students learn from the lowest to the highest cognitive levels.
Achievement of outcomes becomes an end in itself.	Students expected to learn from the lowest to the highest content of each subject.
Influenced by opinions, local, every day or general knowledge, and oral conversation.	Curriculum implemented by following the identified steps.
Knowledge generated horizontally from simple, local, known sources.	Recorded facts, school knowledge and international standards (vertical collection of facts).
Assessment based on present experiences – what students have achieved.	Assesses what students have learned but concentrates on what students should have achieved – looks at what is missing.
Not internationally benchmarked.	Prescribed content which meets international standards.
Enacted by educators using their own interpretation of the context.	Each subject is given its own identified content.
Learner-centred.	Educator- or content-centred.
Progressive agendas of learner-centredness.	Standards-based reform.
Constructivist learning.	Measurement of learning.
Low levels of localised, everyday-based knowledge.	Decisive shift toward a knowledge-based education.

Table 3.1 above illustrates the differences between a competence and performance curriculum. It suggests that, in a competence curriculum, the vertical movement in achieving the content is not important, as it combines the subjects into a learning area. Khoza (2018a) suggests that this is a competence curriculum which relies on personal opinions, driven by outcomes; learner-centred, and not internally benchmarked. Khoza (2018a) agrees with Hoadley and Jansen (2012) that a performance curriculum takes a vertical approach where students learn from the

lowest to the highest cognitive level. Khoza (2018a) further comments that, in a competence curriculum, each subject is given its identity. If educator-centred, the curriculum implemented will close the identified gaps. Khoza (2018a) also indicates that the curriculum is educator- or content-based, driven by the identified or prescribed content; and it meets the international standards.

Khoza (2015a; 2018a) indicates that the NCS promoted the achievement of local skills, which identifies itself as a learner-centred approach. The NCS was a horizontal curriculum because skills were more emphasised than content. The NCS was outcomes-based, as learner performance was measured through the attainment of seven specific critical outcomes and five developmental outcomes. The CAPS does not specify the outcomes, which lends itself to an educator-centred or content-based approach. A learner-centred approach like the NCS requires learners to display some skills to achieve specific and developmental outcomes. The competence/horizontal curriculum is viewed as learner-centred and the performance/vertical curriculum is perceived as an educator or content-centred approach (Hoadley and Jansen 2012; Khoza, 2015c). The third type of curriculum is required, which will combine the performance and competence curriculum. This suggests an individual curriculum which is teacher-oriented. If this curriculum is in place, all levels of reflection would be possible. Table 3.2 below presents the curricular pillars, propositions, and proposed questions. However, the scope of concepts presented is not restricted. They may be extended owing to the amount of literature or data that will be generated in the field. The understanding of curriculum enables the lecturer to identify the relevant resources to use when teaching a particular module.

Table: 3. 2: Curriculum Pillars, Propositions and Proposed Questions

Curriculum pillars	Propositions	Proposed question
Moodle as a resource	Hardware, software, and technological-ware resources	Which resources are you using to teach Business Studies using Moodle?

Teaching Ambitions of Moodle	Aims, Objectives and Outcomes	To which targets are lecturers aiming in teaching Business Studies using Moodle?
Content in Moodle	Content knowledge, pedagogical/expert, and technological knowledge	What are the lecturers teach using Moodle?
Evaluation	Developmental evaluation, uninterrupted evaluation, and cumulative evaluation	How do lecturers evaluate students using Moodle?
Learning Tasks	Natural tasks, observation tasks, and certified tasks	What type of Business Studies learning tasks are carried out with students using Moodle?
Lecturers' capacity	Coordinators, scientists and trainers	What role does a lecturer play in the teaching of Business using Moodle?
Learning environment	Specified, open, and closed	Describe the learning environment in which teaching and learning takes place using Moodle in teaching Business Studies?
Teaching Period/time	Flexible, fixed, and consensus	When is the teaching of Business Studies taking place using Moodle?
Communal	Public, monetary support, and substantial support	Who are teaching the students using Moodle?

Table 3.2 above shows how the literature review of this chapter is flowing. First are the guiding pillars at the core of any curricular presentation or level of curriculum. These pillars are followed by propositions that are used to strengthen the literature. Such propositions play an important role in discussing these pillars holistically. Moreover, these propositions are relevant in identifying the gaps for further research studies around pillars of curriculum. Last, the proposed questions are utilised to guide and direct the literature in relation to the pillars. These

questions are utilised to screen literature that is consistent, addressing the research topic. This chapter starts by presenting the concept of teaching ambition as one of the most important concepts in the curriculum.

3.3 Teaching Ambitions of Moodle

In each teaching situation a lecturer is directed by aims, objectives, and outcomes (Kisaka-Jwan, 2018). Aims, objectives, and outcomes together constitute teaching ambitions, and aid to assess the efficiency of any teaching or learning action (Kennedy et al., 2006). Through aims, the lecturer's intention is on what will be covered in a given semester or at a given level in that discipline; however, with objectives, the lecturer's emphasis is on what will be covered by the end of that week or that day in the subject/discipline. The two (aims and objectives) constitute the lecturer's ambitions. Ambitions justify the means of doing something (Mpungose, 2017). Ambitions are broad general statements of teaching purpose. According to the DoE (2012), ambitions indicate the educator's intentions to complete the teaching purpose. Objectives are brief, with clear keywords, in addressing the lecturers' use of Moodle to teach a module. Sodje (2018) elaborates that ambition is the long-term (broad and general) intention of educators, whereas objective is short-term and it specifies steps to achieve goals. Learning outcomes refer to the skills that learners/students should be able to demonstrate at the end of a learning course.

The studies above identified aims, objectives, and outcomes. Kennedy et al. (2006) conducted a survey with the purpose of improving the traditional ways of describing qualifications and qualification structures. All modules and programmes in third-level institutions throughout the European Higher Education Area were to be redesigned in terms of learning outcomes. The study yields that learning outcomes mean the expected end results to be achieved at the end of a learning activity; and the display of the way in which such has been achieved. Institutions of higher learning focus on the achievement of learning outcomes. This speaks to the student's view in achieving the learning at the end of the learning time; and relates to community reflection. Sodje (2018) asserts that ambitions constitute three elements, namely, aims, objectives, and learning outcomes. In this way the researcher elaborates what is being identified by other studies above. Kennedy et al. (2006) further indicate that aims are long-term in nature; while objectives are short-term, both entailing the educator's intentions. Learning outcomes,

on the other hand, provide clarity on what learners are expected to achieve at the end of learning session.

Kisaka-Jwan (2018) states that, to ensure justice in education programmes, ambitions, made up of aims, objectives, and learning outcomes, must be clear and must incorporate individual, community, and expert reflections. Aims, objectives, and learning outcomes close the gaps in an academic environment. Kisaka-Jwan (2018) argues that the Higher Education Institutions (HEIs) are facing massive pressure in guaranteeing that they afford their clients quality data on the service delivery, which includes teaching, research, society involvement, and accountability. More focus must be placed on ratings and rankings on research output, thereby neglecting aims, objectives, and learning outcomes. These studies indicate that most lecturers lack the understanding of the curriculum ambitions. This poses a problem that becomes a worldwide challenge to be attended to, in order to ensure justice and fairness. The studies further indicate that this results in little information, ensuring that teaching aims and objectives are met by learning outcomes. Therefore, there is a need for broad elaboration on the three components as a critical element of teaching and learning practice. The studies above could not provide clear direction on how and when lecturers should indicate the aims, objectives, and outcomes. The next section deals with aims as a critical element of ambitions.

3.3.1 Aims

Any activity undertaken is driven by an aim, be it research, teaching, or learning (Makumane, 2018). Aims are created by the lecturer, and may embody extensive common accounts of what they are projected to teach in an explicit course or programme (Khoza, 2013b). Aims are long-term in nature (Makumane, 2018; Khoza and Biyela, 2019). Khoza (2016b) further elaborates that aims must transpire at the commencement of a lecture to appraise the students of the lecturers' purpose and sense. The aim outlines the emphasis of the lesson, whereas objectives detail the exact elements that the aim will address, in a quantifiable and attainable way. Aims reveal the general education purposes of a module or a lecture.

Kisaka-Jwan (2018) conducted an interpretive qualitative case study at the University of Kenya. The study focused on facilitating an in-depth explanation of participants' practices and perceptions. The idea was to gain an understanding of the use of Moodle e-resources in teaching medical students on the use of Moodle for habitual, horizontal, and vertical use. The study

discovered the significance of habitual (individual) use over horizontal (community) and vertical (expect) use. Individual use determines a lecturer's collection of either of the two. Moodle must be used by lecturers when it helps to accomplish the education ambitions. This speaks to individual use which translates to critical reflections of using Moodle; hence the aim comes from the lecturer's point of view. Aims consequently apprise the education approaches and the evaluation activities applied to weigh whether the teaching intentions have been achieved and outcomes accomplished.

Khoza (2016a) refers to aims as individual everyday experience, which links well with individual reflection for teaching. This suggests individual reflection, which accompanies critical reflection. Khoza (2016a) suggests that understanding individual reflection for teaching improves personal identity. This appeals to discrete usage that expresses an individual's own identity. Aims therefore address individual reflection for teaching Business Studies/Management. Such is generated from the lecturers' decision on what is hoped to be accomplished in the lecture. Research is conducted for particular concrete motives that may be associated with determination or purpose. This aids as an initial argument from which to expound aims. The aims therefore point to a lecture-centred approach concomitant with a vertical/performance curriculum. A lecturer decides on what to achieve at the end of the lesson. Lecturers therefore decide on what and how to achieve a particular lesson.

3.3.2 Objectives

Objectives are derived from a vision, which outlines drives that motivate people to participate in teaching (Makumane, 2018). Makumane (2018) views the formation of objectives as an important stride; hence objectives appraise resources to be used, content to be taught, and instructional and evaluation methods to be employed. Objectives must be relevant to the subject matter and to the general curriculum ambition. A qualitative case study conducted by Khoza (2016a) on postgraduate students explored the postgraduate students' understanding of curriculum visions and goals in teaching their subjects. The study used journals, interviews, lesson observation and focus groups. The study discovered that the postgraduate students were not aware of the vision that supports their practice. The study suggests that visions support the current curriculum before teaching takes place, with the view to indicating measurable goals and improving on lecturers' teaching.

Aims are common accounts of what lecturers aim to cover over a stated sequence of time (Khoza, 2015a). Aims are total procedures that shape what is to be attained. Objectives, unlike aims, are short-term and more specific (Mpungose, 2019a). Objectives, thus, are specific statements that visibly frame what is intended to be imparted by the lecturer. Therefore, objectives should form part of lesson planning while taking into consideration intended outcomes of learners. Objectives are components of the aim. This provides the breakdown of the general statements to give clear direction on specific content to be taught. Moreover, objectives relate to specific content which associates with expert reflection. Objectives refer to educators' intention to teach a specified content. Objectives speak to a lecture-centred approach which is relevant to a vertical/performance curriculum.

3.3.3 Learning outcomes

Learning outcomes indicate what the students must accomplish at the end of a session or lesson, such as at the end of the course, or time of the study (Shoba, 2018). A learning outcome is a statement of what a learner is expected to know, understand, and/or be able to demonstrate at the end of a learning period (Makumane, 2018). Sodje (2018) added that lecturers make use of learning outcomes to drive their disciplines or modules, since learning outcomes are accounts of what students are anticipated to know, demonstrate, comprehend and/or be able to do at the end of a learning period. Further to that, Khoza (2013a) proposes that learning outcomes be specified to the students at the will of the lecturer prior, during, or after the learning course. Sodje (2018) avers that learning outcomes are created using specific key words such as measurable, visible, achievable, that replicate the different intensities of difficulty, as envisioned by Bloom's taxonomy (1956).

Khoza (2013b) conducted a qualitative case study on facilitators, using document analysis and interviews to explore the nature of learning outcomes as perceived by facilitators. The study reveals that that educators were not conscious of intended outcomes of the module they were facilitating. This affected their enacted learning outcomes, hence the aims and objectives were mostly applied, which are not as evidently indicated as outcomes. In the achieved education outcomes period, learners achieved more than was envisioned. The enacted learning outcomes were different from the envisioned education outcomes. The findings show the significance of outlining observable and measurable learning outcomes. Lecturers must ensure that there occurs configuration amongst teaching, evaluation, and learning outcomes.

Learning outcomes are associated with community reflection, hence they relate to what students are expected to achieve at the end of the learning time. The study further indicates that understanding the vision for teaching enhances the opportunity to develop critical reflection; which in turn results in critical thinking relevant to individual reflection. These studies therefore agree that the ambitions (targets) for teaching incorporate the aims associated with individual reflection. This suggests critical thinking − the outcomes which relate to community reflection link well to practical reflection and objectives. Such relates to expert reflection which further relates to technical reflection. The studies outline aims and objectives linked to a vertical performance curriculum. Objectives linked to expert reflection are clearly formulated to achieve the ambition of a particular programme. Learning outcomes in an outcomes-based approach curriculum are useful for teaching and learning. Learning outcomes clarify what students/learners are expected to know, understand, and be able to demonstrate after completing a learning process.

Moreover, outcomes include skills, knowledge, and values a student may be expected to achieve at the end of the learning process. Learning outcomes portray the learner-centred approach, which is linked to an outcomes-based approach curriculum. The aim of teaching is focused on what a learner is able to demonstrate at the end of the teaching process. The skills required to be achieved by a learner play an important role in the teaching process. The ambition for teaching is community related, because learners/students in a teaching environment represent the society. Hence, outcomes are displayed in the form of skills and attitudes suggesting a horizontal curriculum, which is associated with an outcomes-based approach curriculum. The outcomes as indicated represent the affective domain. The teaching aims indicate what the educator intends to achieve by teaching a particular content. This advocates an educator/content based approach to curriculum which links to collection/vertical/performance curriculum. The objectives, on the other hand, speak to a specific area to be covered by the educator, which relates to expert reflection for teaching.
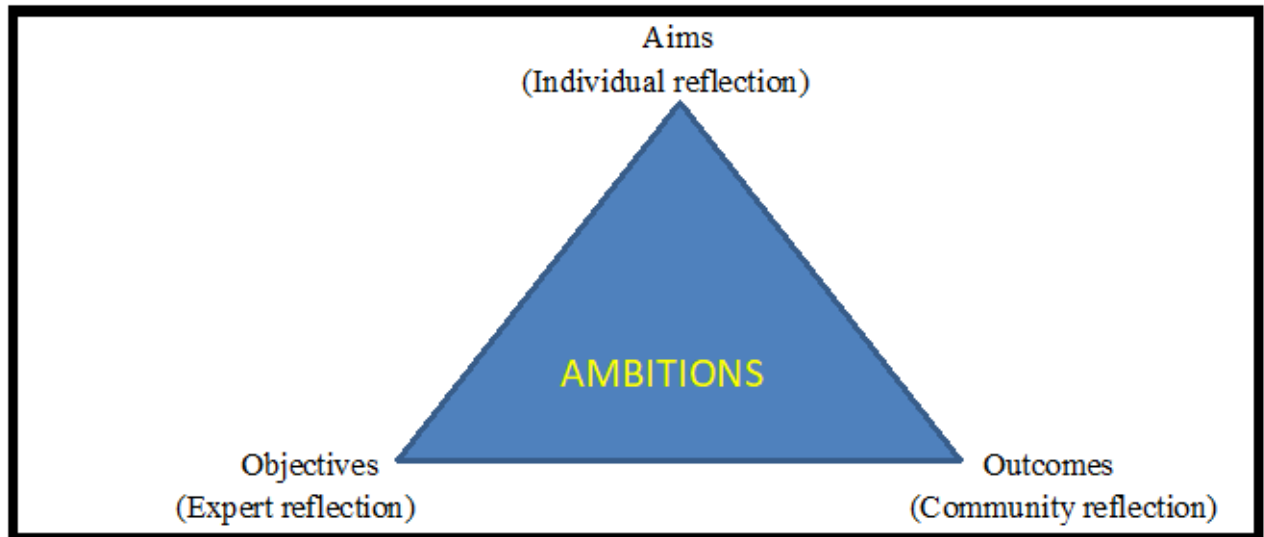
Figure 3.3: Ambitions of Moodle, propositions and reflections

Figure 3.3 above expatiates on the relationship between the aims, objectives, outcomes, and reflections. The objectives are associated with specific content to be covered which is planned by the educator or lecturer, linking well with expert reflection. Learning outcomes speaks to what is expected that learners achieve at the end of the learning time, displayed through the achievement of measurable and observable learning outcomes. Hence the learning outcomes incorporate skills and attitudes; therefore, they relate to community reflection.

Mpungose (2017, p. 129) states that "learning within an institution is typically goal-oriented, educators are at school because they want to achieve certain goals in order to assist their students to achieve their goals. Curriculum is planned, implemented or enacted for a particular rationale or intention and reflections assist lecturers to teach international activities to achieve stipulated goals". This applies to individual, community, and expert reflections. Aims promote individual reflection, lecturers' needs being long term in nature. Aims provide direction to lecturers when teaching. The aims of the South African curriculum are to ensure that learners acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives (DoE, 2012, p. 4).

In addition to this, learning modules in HEIs are lecture-centred and guided by content. In university of KwaZulu-Natal, the Business Studies course indicates that the aim of the module is to familiarise the student with practical and theoretical aspects concerning the attraction of

long-term capital, the technical and fundamental evaluation of a company, as well as the evaluation of general economic and business aspects applicable to an investment decision. The lecturer's intention is to achieve a particular goal at the end of the semester. Aims represent the intentions of a lecturer. Such is regarded as a content-centred approach associated with a vertical/performance curriculum. Aims and objectives are embodied in the lecturer's ambitions. The course outlines that, after completing this module, students should have obtained knowledge pertaining to different aspects of investment management, with specific reference to the South African context.

This relates to learning outcomes; it indicates what students are expected to know and do at the end of the semester. Although the learning outcomes are clearly set out for this particular module, they seem to restrict students to exploring more on the aspects of investment; hence Kennedy at al. (2006) specify that it should be in the South African context. The curriculum is confined to local knowledge, while the universities form part of the global community through the admission of both local and international students. The learning outcomes therefore should be open to both local and international imperatives. The module should cover the individual, community, and expert reflection, because the aims and objectives cover the lecturer's ambitions, incorporating critical and technical reflections. The learning outcomes cover community reflections which relates to practical reflection.
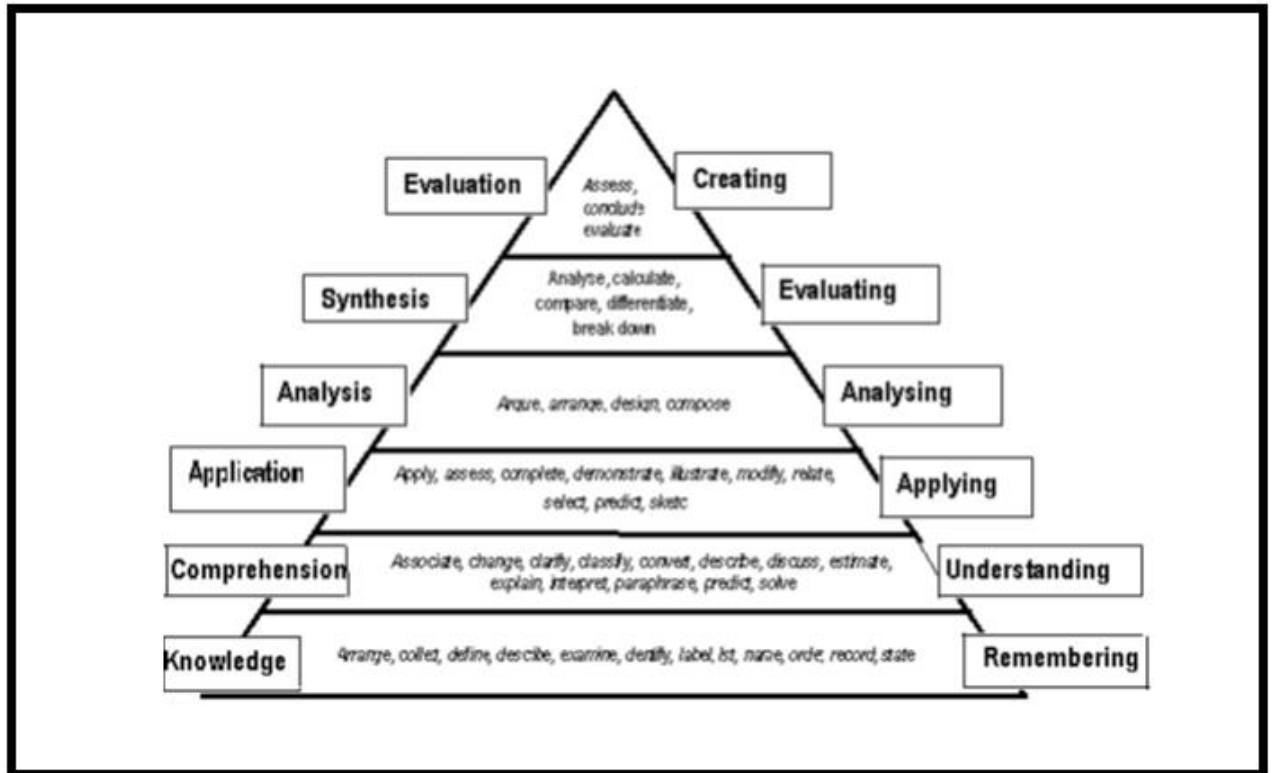
Figure 3.4: Benjamin Bloom's (1956) cognitive levels of learning outcomes and key words (Khoza, 2016a)

Figure 3.4 above illustrates the progression of cognitive levels according to Bloom's Taxonomy (1956). The lower level 1 and 2 indicate the lower cognitive requirements of comprehending and understanding basic information. Levels 3 and 4 illustrate a moderate cognitive level in which the application and analysis of information takes place. The higher levels 5 and 6 indicate the higher cognitive order of synthesising and evaluating information. The figure shows how the educators/lecturers use Bloom's Taxonomy (1956) to measure attainment of learner performance displayed by achieving the learning outcomes at the end of the learning process. The aims of using Moodle in teaching Business Studies refers to the knowledge, skills, attitudes, and values critical to informed, productive, ethical, and responsible participation in the formal and informal sectors. Aims encompass business principles, theory, and practice that underpin the development of entrepreneurial initiatives, sustainable enterprises, and economic growth. Business Studies in the CAPS follows a vertical or performance curriculum, the content progressing from a low to a high cognitive level.

The Business Studies links to vertical or performance curriculum. It specifies the content to be taught from the simple to the complex level, using the cognitive levels as stipulated in Bloom's taxonomy (1956). The learning outcomes designs should be based on cognitive levels as per Bloom's taxonomy (1956). Educators need to be clear about the aims, objectives, and learning outcomes of Business Studies in order for them to understand the goal of teaching the subject in terms of individual, community, and expert reflection. The Business Studies, therefore should cover the individual reflection through the aims; and the expert reflection through the objectives. The community reflection is indicated in what students are expected to achieve at the end of the semester. Business Studies also incorporates the horizontal/competence curriculum because learning outcomes speak to skills expected to be demonstrated by students. A properly considered vision and articulated education aims and objectives may propel resolutions on the content of the subject, with relevant subject knowledge that is key to the subject. The next section presents the Moodle content in terms of content knowledge, technological knowledge, and pedagogical knowledge.

3.4 Content in Moodle

"Content is the collection of the facts, concepts, principles and theories to be transmitted to the learner" (Mabuza, 2018, p. 41). Fomunyam and Khoza (2018) conducted a qualitative case study of three literature modules taught in a Cameroon university using semi-structured interviews, observation, and document analysis. The study explored the content of higher education courses, to understand what is being taught and why, in an attempt to confirm that these modules link with circumstantial realisms and the ideas of the country. The study reveals that lecturers selected content based on their ideological and political stance in society. Fomunyam and Khoza (2018, p. 1) indicate that "curriculum content is the life-wire of every educational program without which no meaningful knowledge construction process can take place. Content in higher education helps shape the students and their academic life as well as give them direction in the society as they graduate".

Educators/lecturers need to have content knowledge, pedagogical knowledge, and technological knowledge for effective content delivery, using Moodle (Mpungose and Khoza, 2020a). This study indicates the individual reflection, as lecturers chose the content informed by ideological (individual) and political (community) reflections. The study above therefore covers the three reflections informing the selection of the content. Lecturers understand the individual, community, and expert reflections for teaching the content. The next section deals

with the three content propositions (content knowledge, pedagogical knowledge, technological knowledge) which link to individual, community, and expert reflections for teaching Business Studies.

3.4.1 Content Knowledge (CK): Business Studies − Subject matter

Shoba (2018) indicates that content knowledge is understanding the subject or module to be taught or learned. Shoba (2018) further indicates that the content knowledge is of critical importance to lecturers. The study also alludes to the relevancy of educator-centred and content-centred approaches to effective teaching. The learner-centred is important but the content knowledge plays a significant role in content delivery. In Business Studies, lecturers should have a sound knowledge of the content to be taught to and learned by students. This requires educators/lecturers to be well informed on the content to be taught. This relates to individual reflection which deals with the expertise of individual educators in acquiring relevant knowledge for the subject. The subject content should therefore be well sequenced, balanced, and arranged in an orderly manner.
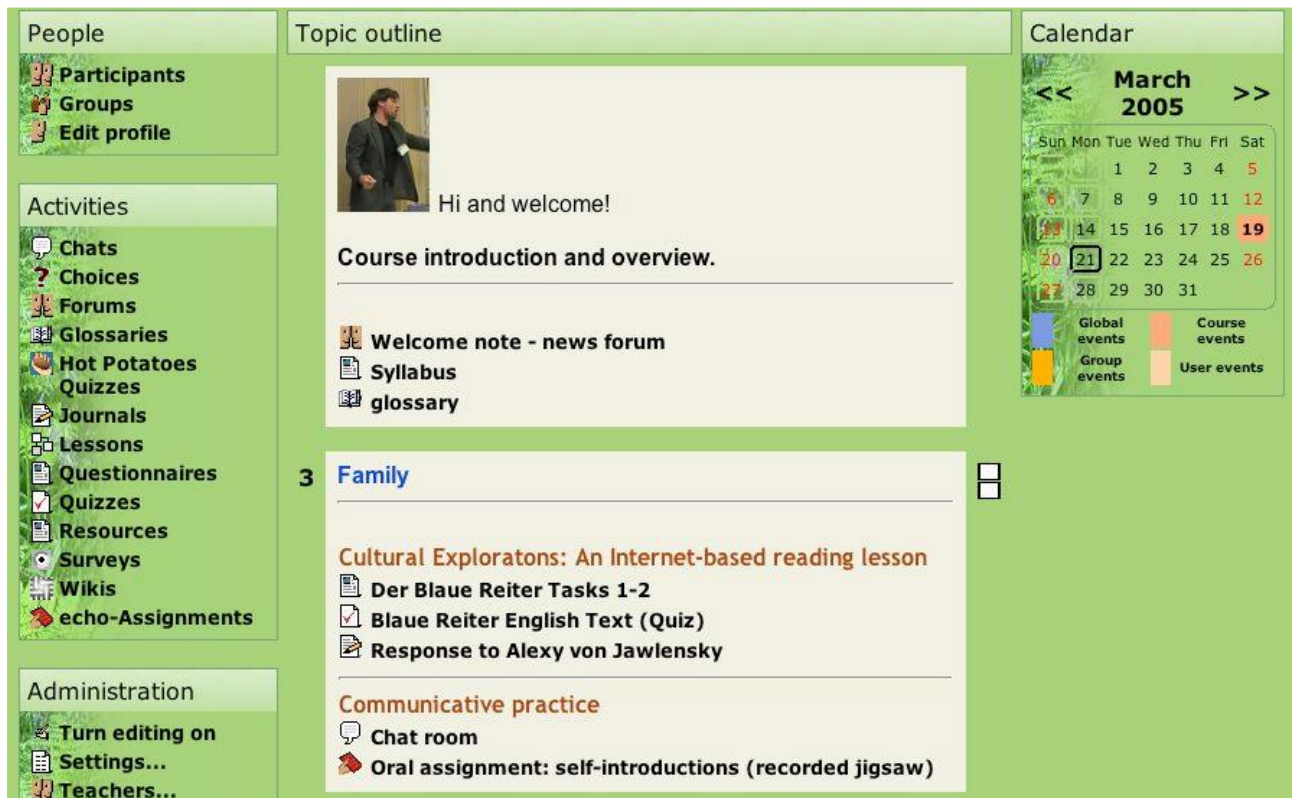

Figure 3.5: A screen shot of a sample of a course set up in a topic format (Language Learning and Technology: Brandl, 2005)

Figure 3.5 above shows a course management introduced by the educator/lecturer to students. The first column comprises three sub-topics, namely, people, activities, and administration. The second column presents a topic outline consisting of course introduction and overview, family and communicative practice. The third column consists of the calendar. Access to nearly all lesson assignments can be made time or password-restricted; however, only quizzes can be password restricted at this point. Moodle also keeps automatic log reports of each student's work. This means that the educator knows not only when students have completed or uploaded an assignment, but also how much time they have spent on an assigned task or quiz. The educator can also set deadlines or time frames by when assignments must be completed, restricting access to learning tasks. Students can look up their own grades. Educators have also the option to download student grades in Excel format. Students can look up the assignments on a calendar. The cursor is moved over a given day which will list all the assignments for that day. The calendar is optional, and can be displayed on the front page.

The course set-up suggests that the three reflections for teaching Business Studies are considered. The individual reflection is represented by a topic outline, setting deadlines and time spent by the educator or lecturer. The community reflection is indicated by participants, family, communicative practice, groups and edit profile. The expert reflections involve the tasks to be administered by students which will then be recorded under an administration topic. Administration involves educators and settings which relate to expert reflection. Moodle content involves the three reflections which include students (community), lecturer (individual), and administration (expert) reflections on Moodle. When lecturers are setting up a course module they need to consider these three reflections for a successful Moodle content delivery. This will help lecturers select the relevant content for students, decide on specific dates, and communicate effectively using technology. This will, in turn, address the importance of using Moodle in teaching Business Studies.

In Business Studies the content comprises investment concepts and terminology, fundamental analysis, technical analysis, the Johannesburg Stock Exchange (JSE), the trading of shares on the JSE, risk and return and portfolio management. Lecturers need to have a deeper understanding and knowledge of the subject content covered in a particular semester; hence the content varies in terms of the topics and subtopics covered in the subject. Content knowledge is important: the methodology to teach the content is important as it serves as a mechanism for a successful content delivery.

Content knowledge helps lecturers to acquire knowledge of other curriculum pillars. Such includes ambitions, resources, time, evaluation, lecturer's capacity, tasks, evaluation, learning environment, and communal pillars. Hoadley and Jansen (2012) highlight that the performance curriculum is a content-based curriculum hence it prescribes the content to be taught at a specific cognitive level and time. Lecturers/educators therefore need to understand that Business Studies/Management is content-based and therefore requires an educator/lecturer or content-based approach. Hence the Business Studies/Management content requires an educator to reflect on an individual level in order to be well equipped with the content knowledge. Content knowledge relates to individual reflection which further links well with critical reflection (Van Manen, 1977).

A comparative study was conducted by Grussendorff and Booyse (2014) on the NCS and the CAPS for the further education and training (FET) phase. The study indicates that Business Studies/Management deals with the knowledge, skills, attitudes and values critical for informed, productive, ethical, and responsible participation in the formal and informal business/economic sectors. The study further enlightens that the subject incorporates business principles, theory, and practice that underpin the development of entrepreneurial initiatives, sustainable enterprises, and economic growth. According to the Department of Education of Canada (2006) Business Studies Ontario Canadian content aims to provide students with knowledge, skills, and attitudes necessary to achieving success in secondary school, the workplace, post-secondary education or training, and daily life. The goals of the content are to enable students to gain understanding of business concepts through the study of subjects such as accounting, entrepreneurship, Information and Communication Technology (ICT), international business, marketing, and business leadership.

This study suggests that the content aims to enable students to achieve business, economic, financial and digital literary. The study further comments that the content or curriculum must enable learners to develop critical thinking skills and strategies required to conduct research and enquiry. Students must learn to communicate findings accurately, ethically, and effectively. Students should apply the knowledge, skills and attitudes acquired through the study of business to a variety of learning tasks, relating them to business phenomena on the local, national, and global level.

3.4.2 Pedagogical Knowledge (PK): Educators'/Lecturers' Approaches

Pedagogy is a formal, traditional, or educator-centred approach (Hoadley, 2018). The study further discloses that that the foundation for appropriate pedagogical content knowledge relies on the understanding of a certain discipline knowledge for the topic. This depends on the way the educator delivers the topic to the learners. Zulu (2017) avers that pedagogical knowledge is the method an educator uses to teach a certain learning area or subject. The method employed by the educator may require a sequential explanation of facts for better understanding by learners. In teaching of Business Studies, lecturers/educators must know topics which require certain practical and application skills to facilitate their teaching. Some topics in the subject require presentation, communication, analysis, and other related skills to master the content by the learners. Therefore, it is imperative for the educator to know the subject content for the effective pedagogical knowledge applicable to teaching a particular topic. DoE (2012) provides the content and topics to be taught in class without specific methods to use. This requires the educator, as a professional, to determine an appropriate pedagogical approach to use in teaching a particular content. Pedagogical knowledge extends to classroom management, instructional preparation, and student learning and assessment that educators and lecturers must possess for effective teaching.

Figure 3.6: A screenshot of an example of a feedback box (Language Learning and Technology: Brandl, 2005)

Figure 3.6 above shows how a lecturer provides feedback to students who partake in e-learning settings. Students often complain of the lack of feedback available in conventional classroom situations (Brandl, 2005). Consequently, in Moodle, practically all units are planned to permit lecturers and course partakers to afford response in a qualitative or quantifiable method. A practical example is where both the journal and assignment module provide the lecturer the choice of offering remarks in a feedback box. The assignment module is developed such that students can upload their assignments in any folder design to the server. The module also permits the lecturer to upload remarks about the students' work in writing or audio-based (e.g. MP3 files). Responses can be lecturer-restricted or made available to all partakers in both settings.

The feedback box shows the interaction between students and lecturer in the form of open-learning situations. There is no physical contact between the two parties: technology is used as an instrument for teaching and learning to take place. This advocates expert reflection for teaching, because the lecturer provides a platform for interaction, also deciding on content to comment on. Students participate in the discussion through checking comments; however, there are no outcomes expected from them. This therefore, suggests expert reflection, because a lecturer is applying this as a teaching strategy in teaching a particular content using Moodle. This means that lecturers should use different strategies to deliver content using Moodle as a resource. This ultimately suggests a lecturer-centred approach teaching strategy, and requires lecturers to understand the use of Moodle as either technology-of-education or technology-in-education.

Lecturers must therefore have the ability to understand the relevant approach to deal with the affective, cognitive, and psychomotor domains. An expert reflection links to technical reflection. Educators must have the pedagogical knowledge of the subject. The CAPS is a content-based curriculum, therefore an educator-centred approach is appropriate for teaching the subject. This educator-centred approach associates well with the cognitive domain because the performance curriculum moves from a simple to a complex level (Khoza, 2015a, b; 2018a). The pedagogical knowledge also links well with expert reflections, because the competence curriculum follows an expert approach to teaching. Content knowledge and pedagogical

knowledge is not adequate for effective curriculum delivery. Therefore, it is imperative that lecturers have an understanding of technological knowledge. Using technology in teaching the subject content plays a significant role in content delivery. The technology used assists educators in their methods of delivery.

3.4.3 Technological Knowledge (TK): Tools used

Technological knowledge means being acquainted with different technological tools available for use, which may include hardware and software resources (Khoza, 2013a). Khoza (2013b) comments that the hardware, software and ideological-ware are key for curriculum delivery. Educators need to understand that, when using technology, the issues of individual, community, and expert reflection are important. This must further fulfil the critical, practical, and technical reflections (Van Manen, 1977). Educators must therefore recognise the interlink between the content, pedagogy, and the technology (Mpungose and Khoza, 2020b). Mpungose (2017, p. 84) states that "lecturers should understand how LMP technology such as Moodle, is constructively used in order to involve all learners to social construct their own ideas".

German Reading Test: Freizeit/Arbeit

Overview   **Regrade attempts   Detailed statistics   Simple statistics**

	Name	Attempts	Highest grade /10
	Klaus Brandl	☐ 8.0 **3 June 2004, 11:31 PM** (1 min 30 secs) ☐ 0.0 **20 July 2004, 06:49 PM** (238 days 14 hours)	8.0
	Paloma Borreguero	☐ 10.0 **4 June 2004, 02:10 PM** (1 min 3 secs)	10.0
	Jay Waltmunson	☐ 6.0 **4 June 2004, 02:53 PM** (1 min 28 secs) ☐ 4.0 **8 June 2004, 08:38 AM** (28 secs)	6.0
	Paul Aoki	☐ 4.0 **8 June 2004, 09:39 AM** (1 min 22 secs) ☐ 2.0 **8 June 2004, 09:42 AM** (35 secs) ☐ 10.0 **8 June 2004, 09:43 AM** (22 secs) ☐ 4.0 **22 July 2004, 02:22 PM** (45 secs)	10.0
	Carmina Brandl	☐ 6.0 **10 June 2004, 09:36 AM** (45 secs) ☐ 10.0 **10 June 2004, 12:43 PM** (41 days 20 hours) ☐ 4.0 **22 July 2004, 09:37 AM** (55 secs)	10.0
	Kaoru Ohta	☐ 8.0 **10 June 2004, 11:24 AM** (2 mins 45 secs)	8.0

Figure 3.7: A screenshot of a sample of log reports (Language Learning and Technology: Brandl, 2005)

Figure 3.7 above shows Moodle content and resources that allow for the integration of a wide range of resources that can be used to deliver the content. These include any kind of text-based or HTML-formatted documents, multimedia resources such as graphics, video, or audio (e.g. MP3 files), SCORMs, PowerPoint, Half-Baked exercises, or Flash-based applications. Lesson tasks within Moodle can be connected to any resources that are uploaded to one's server, or that are available on the Internet. The students' exploration of any of the content-based resources can be easily assessed by using any of the Moodle-based evaluation and feedback tools. Moodle is quite influential in content design, owing to its built-in HTML editor. The degree of expertise required is essentially the same as for any word processor. Moodle also has a built-in glossary module. This permits educators, independently, or in collaboration with their students, to generate their personal writing, course, or site-specific vocabularies.

In this way, writings incorporated within Moodle, especially realistic writings or resources, can be personalised to a certain level of language expertise; and consequently be made more easily reachable to students. Moodle allows for a wide range of assessment strategies. The quiz module includes the following response types: fill-ins, multiple-choice, multi-choice (more than one answer can be selected), true-false, matching, short-answer (exact matching). All kinds are supported with automatic totalling and counting, grounded on lecturer- or student-determined rating scales. The essay module allows open-ended questions with built-in comment boxes for instructors to provide feedback. Notable is the workshop unit, which is designed on the basis of peer evaluation. All of these assessment types can be made time and password restricted, and can permit for restricted individuals for only various examinations.

Moodle is also a learning management system (LMS). LMSs differ from special course management methods. They permit the presentation of data to students in minor parts of the module and evaluate what they have studied. LMSs build on the excellence of their success division out into extra evaluation of material or move to the next level of the module. The lesson module allows for planning lessons that narrowly regulate the learning route guiding students step-by-step, permitting for improvement only if adequate mastery has been accomplished. Lecturers need to have a sound knowledge of Moodle to use it as technology-in-education or technology-of-education. The use of Moodle in teaching Business Studies speaks to its use as hardware or software (technology-in-education) and ideological-ware

(technology-of-education). Lecturers will select the appropriate content and apply technology adequately for the benefit of both lecturers and students in the teaching of Business Studies.

It is clear that the use of Moodle activities, like chat and discussion forum, create a social space in which students and lecturers (university community) may socially engage in a dialogue with the purpose of teaching and learning. The hardware and software assists lecturers to teach students in different modules. The technological knowledge associates with community reflection which links well with practical reflection. Lecturers and students interact using technology, which may include the Internet, Whiteboards and discussion forums. The technological knowledge assists lecturers when using it during the content delivery to understand whether it is used as a technical, functional, or educational component.
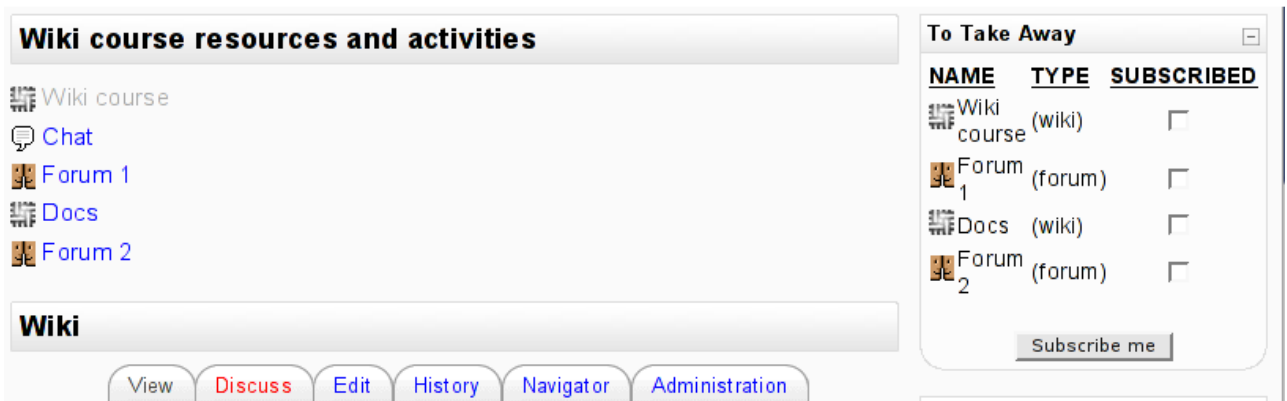
Figure 3.8: Main page of a Moodle's course showing the "To Take Away" block. (A Mobile Extension of a Web Based Moodle Virtual Classroom: Alier and Casado, 2014).

The use of this mobile plug-in does not disturb the learning strategy and the dynamics of the computer-generated classroom. The lecturer or the student can still do the identical tasks using the Moodle normal Web border. The user can choose to keep a trajectory of lecture events and access to some content, using a portable device. A different block (small window in the Moodle course page) labelled "to take away" will permit the user to select which data can be accessed from a portable device. For each task in which a student can partake, the "To take away" block indicates a checkbox, so students can choose which tasks they wish to contribute to. This selection can be completed at any time, allowing students either to contribute or unsubscribe to a subject on their learning necessities. This suggests a community reflection for teaching, because the activity here is student-centred. Lecturers therefore need to select the appropriate

content which will enable students to participate in the learning session; hence the programme allows students to decide whether to subscribe or unsubscribe.
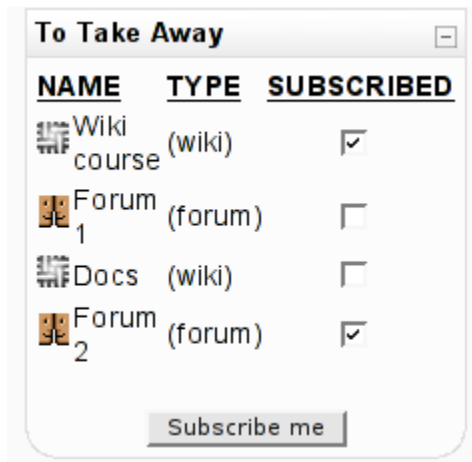
Figure 3.9: Detail of the "To Take Away" block. **(A mobile Extension of a Web Based Moodle Virtual Classroom: Alier and Casado, 2014)**

Figure 3.9 above indicates the subscription process that consists of ticking the correct checkboxes and clicks the "Subscribe me" button. As every action becomes a new table in the database, the data about subscription is persistent. Relationships occur between the subscribers (Moodle users) and the activities involved in the process. This subscription data is spontaneously inserted in a precisely planned database table named feed user. When a new item is published in any activity (for instance, a new post on a discussion forum that the user is subscribed to), this item is inserted after some modifications into the corresponding database table. Owing to the role they play, those tables (one for each activity type) are called proxy/adapter" tables. As said previously, before inserting any row into these tables, the content of the published item is changed on order to reduce the capacity of data that has to be delivered to the user on a portable device. This alteration becomes a simple description that reduces some excessive content. Such content can be recovered from the context (course identifier, activity identifier and so on), but can become a full CHTML conversion.

After an insertion on the proxy/adapter tables, a conventional observer pattern starts its work. The earlier described feed user table is restructured in order to inform the user that something has occurred in an activity that a user has contributed to. This advocates a student-centred activity, students being at liberty to participate in an activity which links to community

reflection. Students decide which activity they prefer to use in order for them to learn a particular content. The lecturer provides a platform for learning but does not have control over the decision-making by students. Lecturers need to provide as many activities as will enable students to have a wide choice, so that they participate in their teaching.

The Web-based teaching tools may offer students the opportunity of viewing the work in progress of their peers, which stimulates peer learning instead of traditional learning (Martens and Achten, 2008). Moodle content can be distributed via email, web pages, ftp and blogs indicating technical components. Course Management System (CMS); Learning Management System (LMS), up/download facility, chat relates to functional components. Virtual Learning Environment (VLE); Computer-Assisted Instruction (CAI); Computer-Based Training (CBT); Integrated Learning System (ILS); On Demand Training (ODT); Technology Based Learning (TBL); Technology Enhanced Learning (TEL); and Web Based Training (WBT) relate to educational tools. Table 3.3 below illustrates the types of technical, functional, and educational components.

Table 3.3: An Overview of Moodle Components (Mpungose, 2017)

Technical components	Email, web page, ftp, blog, database, whiteboard
Functional components	CMS, LMS, up/download facility, chat
Education tools	VLE, CAL, CPT, ILS, ODT, TEL, WEB

Table 3.3 above relates to an overview of the technologies involved in Moodle. The components and tools are important for Moodle content delivery. Technical components relate to pedagogical knowledge. Lecturers need to know how to use the components of Moodle. This facilitates the application of technology in teaching a particular content. The application of components therefore relates to pedagogical knowledge which in turn relates to expert reflection. The functional components link to understanding how the Moodle components are used: such knowledge and educational tools speak to technological knowledge. Technological knowledge is associated with community reflection. The educational tools relate to the content knowledge, which relates to individual reflection.

Although educators have the content, pedagogical, and technological knowledge in Business, the interlink of the content from different levels in the South African curriculum poses a challenge. This is because the content taught at high school does not link to the content taught at universities. This ultimately creates a vacuum for educators when students graduate from university and begin to teach at schools. These educators then need re-skilling programmes through workshops, seminars and on-site visits, so that they become acquainted with the content they learnt four years back, despite being exposed to teaching practices during their time of studying. There should be a synergy of topics taught from Grade 10 to 12 at high school level, with the modules taught at universities. In teaching the content, lecturers need to use appropriate learning tasks which comprise informal, formal, and observation tasks.

3.5 Learning Tasks

A learning task is any arranged, prepared, and planned lesson by the educator, or with students, aimed at stimulating student knowledge, skills, and abilities (Mabuza, 2018). This indicates that learning activities must incorporate knowledge that is an experience of the external environment which facilitates results and behavioural capabilities. Learning tasks should comprise cognitive, affective and psychomotor domains in terms of acquiring knowledge, applying skills and capabilities learnt from outside the learning environment. Mabuza (2018) conducted a qualitative critical action research study to explore educators' reflections on using interviews, observation, and reflective activity on nine educators, aimed at improving the curriculum. Reports state that the own/educator-centred learning activities and student-centred learning activities were identified as an important part of observing the learner progress in the classroom. The own/educator-centred learning activities are direct instructions from the educator.

This study focusses on the community and individual reflections for teaching learning activities. It recognises the importance of stimulating the student knowledge which relates to expert reflection for administering the learning tasks. A study by Zuma (2019) also indicates that the knowledge acquired through the experience of students plays a significant role in producing the desired results and changes in behavioural pattern. Learning activities are viewed by these studies as an important element to stimulate the individual and community aspects. Through learning activities students are prepared for gaining knowledge which will determine their progress. The learning activities address the content if the lecturer designs them to achieve

the aims and objectives of a particular lesson. Outcomes, on the other hand, may be achieved through learning activities in which a lecturer may develop activities requiring particular skills to address a content.

Mpungose (2017) identified the natural (informal), uninterrupted (observation), and certified (formal) tasks. The informal tasks need not be recorded. The formal tasks need to be recorded because they are used for promotion and progression purposes. Learning tasks should enable educators to reflect on them to produce the envisioned change in behaviour. It is worth highlighting that some non-learning activities such religious, cultural and sporting activities may produce some change in behaviour which contributes to learning. These activities are characterised by the educator's own reflection on teaching orientation and methodology. The public or/student-centred learning activities, on the other hand, relate to approaches associated with the student-centred approach, such as collaborative learning, enquiry-based learning, cooperative learning, problem-based learning, peer-led team learning, team-based learning, peer instruction, enquiry-guided learning, small-group learning, and project-based learning.
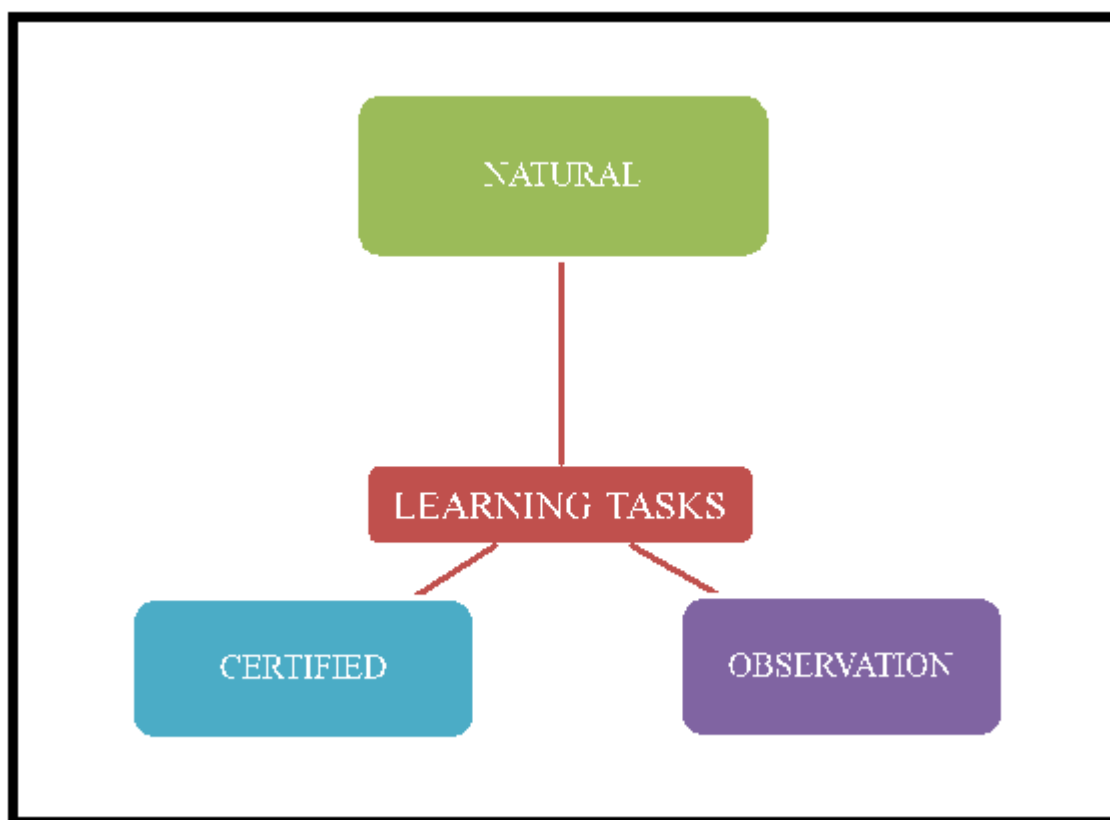
Figure 3.10: Learning tasks and propositions

Figure 3.10 above indicates the three types of learning tasks relevant to teaching Business Studies. The University of Scientia (UNSW) (2019) defines a task as a piece of collaborative content generated using one of the many Moodle tools, for example, a chat session or an assignment. A task differs from a resource in that it needs some kind of student contribution to improve free and dynamic student learning. All forms of valuation within Moodle are tasks. According to Moodle.net (2018), an activity is a universal term for a collection of features in a Moodle course. Usually an activity is something that a student will do that networks with other students and/or the lecturer. In Moodle terminology, an activity such as forums or quizzes, properly means something students can contribute to directly, and is often compared to a resource such as a file or a page, which is presented by the educator. However, the term activity is sometimes for convenience also used to refer to both activities and resources as a group.

Moodle consists of the following standard activities: assignment, chat, choice, database, feedback, forum, glossary, lesson, (LTI) External tool, quiz, SCORM, survey, Wiki and workshop. The lecturer's fundamental role is to ensure that students embark on learning tasks that are likely to result in attaining outcomes. What students do matters more than what the lecturer does. This further suggests that using natural, certified or observation tasks, the lecturer must ensure that the individual, community, and expert reflection for using each form of tasks is achieved using Moodle in teaching Business Studies. The next section deals with these three types of tasks (natural, certified and observation) and their relation to individual, community, and expert reflection.

3.5.1 Natural tasks

(DoE, 2011, p. 44) states that "natural tasks are a daily monitoring of learner's progress. This is done through observations, discussions, practical demonstrations, learner-educator conferences, informal classroom interactions. Natural tasks should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from learning activities in the classroom. Learners or educators can mark these natural tasks activities. The results of the natural daily tasks are not formally recorded unless the educator wishes to do so". Natural tasks should be taken as activities for learning because they include all activities by both educator and learner during the teaching and learning process in order to inform the educator on how learners are progressing. Natural tasks are driven by educators' own directive, linking it to individual reflection. Educators and or/lecturers should

continue administering the informal tasks in order for them to be able to reflect on their practice, improving it.

Figure 3.11: A sample of a journal module learning task based on an Internet resource. (Language Learning and Technology: Brandl, 2005)

Figure 3.11 above demonstrates the integration of the quiz module with an authentic Internet-based cultural resource used in a second-quarter German class at the University of Washington, Seattle.

Example 1

Theme/context: *Der Blaue Reiter* (name of a group of German artists)

Task: Exploring cultural information

Skills: Interpretive (reading) and presentational (writing)

Level/language: Low intermediate/German

Modules: Journal module, resource module

In this learning activity, the students are requested to discover an associate of the "*Der Blaue Reite*r" collection of their choice. In particular, they are asked to gather thorough data about the writer's life from a web-based resource, writing about it in English in the journal unit.

The aim of this learning activity is to discover the precise order of an image story. Students are separated into groups of four. Each group is requested to define one piece (picture) of the story. The lesson comprises the following steps:

1) Students access pictures through the lesson module. Each student can look up only one picture, whose access is password protected.

2) Working individually, students describe one picture and post their answers to the forum.

3) As soon as a description of each of the four pictures of the story has been posted, students are asked to read the picture descriptions in the forum and establish the correct sequence of pictures.

4) Students take a multiple-choice quiz to check their answers.

Figure 3.12: Students select the activities they want to keep track of. (A Mobile Extension of a Web Based Moodle Virtual Classroom: Alier and Casado, 2014)

Figure 3.12 above illustrates how students choose tasks they want to follow using Moodle during their learning time. The Moodle plug-in belongs to a standard Moodle addition called "block". Blocks are those "boxes" that appear on both sides of a Moodle page when shown on a browser. A new block has been established in order to permit the students to subscribe/unsubscribe to some course activities. First of all, students need some alignment with the activities they are subscribed to. This alignment procedure is what we call "subscription". In order to enhance usability, users may choose the facilities they wish to subscribe to, using

the web interface. After that, users will be able to access the selected services from their mobile devices. When users synchronize the mobile device with the Moodle server, they will receive new information (that ultimately may be compacted and coded) and keep it in a local J2MEMicroDB database. By doing this, the user will be able to navigate offline with no band-width consumption. If the user chooses to direct messages to the server, for example a post to the forum, the messages will be sent to the server with the next synchronization.

The two above tasks relate to natural tasks which are administered not for promotion purposes. These tasks are administered for developmental purposes. Although the tasks are administered for developmental purposes they assist students to learn a course content and on use of technology. Such tasks provide a platform for interaction between students and lecturers using Moodle, demonstrating individual reflection. Students decide whether to participate or choose to subscribe to their course content using a preferred learning task. This further suggests that the use of Moodle in teaching Business Studies has exposed students to technology and content at the same time. Lecturers need to select the most suitable activity for students.

3.5.2 Certified tasks

Certified tasks are a more vital activity than any other teaching activity; hence they are recorded for promotion and progression purposes (Zuma, 2019). The study further indicates that certified learning tasks are those tasks that make up the certified programme of evaluation for the year. Educators should mark and record certified evaluation; all certified evaluation must be moderated to ensure quality and to maintain standards, while natural evaluation is a daily monitoring of learners' progress. Certified tasks are defined as tasks which are conducted at the end of each teaching programme/term in order to assess the learners' achievement of learning outcomes. Mabuza (2018) alludes to certified tasks as student-centred pedagogy and interactive-learning activities that increase academic achievement, learners being active in their learning. Mabuza (2018) further indicates that active learning was not only beneficial to the learners, but it improves the students' attitude toward the course and the instructor/educator's morale and self-esteem.
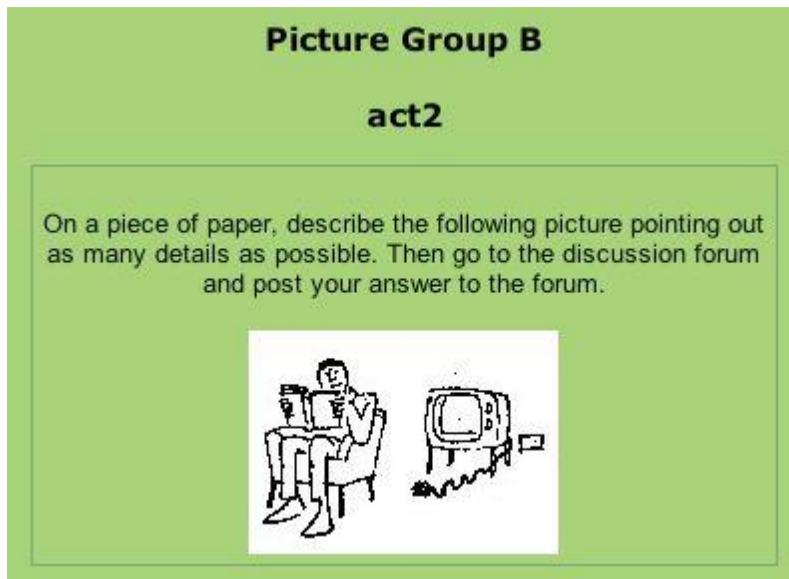
Figure 3.13: A sample of asynchronous learning tasks – describing a picture story.
(Language Learning & Technology: Brandl, 2005)

Figure 3.13 represents examples of asynchronous and cooperative learning tasks that can be used in any intermediate language class. This figure with its example, in particular, reveals how Moodle permits for the enactment of a socio-constructivist method of language learning.

Example 3

Theme/context: Family Task: Finding out commonalities

Skills: Interpretive (listening) and presentational (speaking)

Level/language: Low intermediate

Modules: Assignment module, forum module

In this task, students are asked to discover cohesions regarding their family structures.

1) Students are asked to briefly describe their families based on questions such as how many brothers and sisters they have, how old they are, what they do, what their names are. To do this, students record their answers with Audacity (http://audacity.sourceforge.net/), an open-source recorder, saving their answers as MP3 files, and uploading them through the assignment module.

2) Working in groups, students listen to one another's descriptions.

3) Students report their results to the educator through the essay unit.

The above activity symbolises a student-centred approach which relates to communal reflection. Students works in groups and report their answers in an assignment mode which

106

forms part of tasks performed at the end of a term. The assignment also forms part of formal tasks with are recorded for progression purposes. The student-centred learning tasks are constructivist in nature, as they relate to the teaching and learning process associated with performing physical activities, such as presentation, simulation, and projects. Business Studies learning activities must actively engage the students on presentation and projects that may be practical. Student-centred/formal activities necessitate students' critical thinking, problem solving and analytic enquiry. These activities promote teamwork, and thus project-based learning skills are facilitated.

3.5.3 Observation learning tasks

Shoba (2018) defines observation tasks as activities that are conducted each term. The study further indicates that educators' reflections on using observation tasks assists in bringing clear thought on when, how and why to use observation tasks. Observation tasks may not be easily separated from formal tasks because the administration of formal tasks informs the observation learning tasks. These tasks are learner-centred, initiated by the educator to determine the actual learning performance whilst the learner is performing a task. Booren et al. (2010) conducted a descriptive case study research on 145 children to examine classroom settings in relation to children's observed behaviour during classroom interactions, child gender and basic educator behaviour within the preschool classroom. Children were observed for an average of 80 minutes on 8 occasions across 2 days using inClass, an observational measure that conceptualises behaviour as educator, peer, and task and conflict interactions.

The study revealed that, on average, children's interactions with educators were higher in educator-structured settings such as a large group. On average, children's interactions with peers and tasks were more positive in child-directed settings, such as free choice. Children experienced more conflict during recess and routines or/transitions. The study further reported that children who have difficulty engaging in structured classroom tasks and interacting with their peers have social difficulties later, and poorer achievement scores. The study suggests that children's interactions with educators, peers and tasks are critical to their academic and social outcomes.
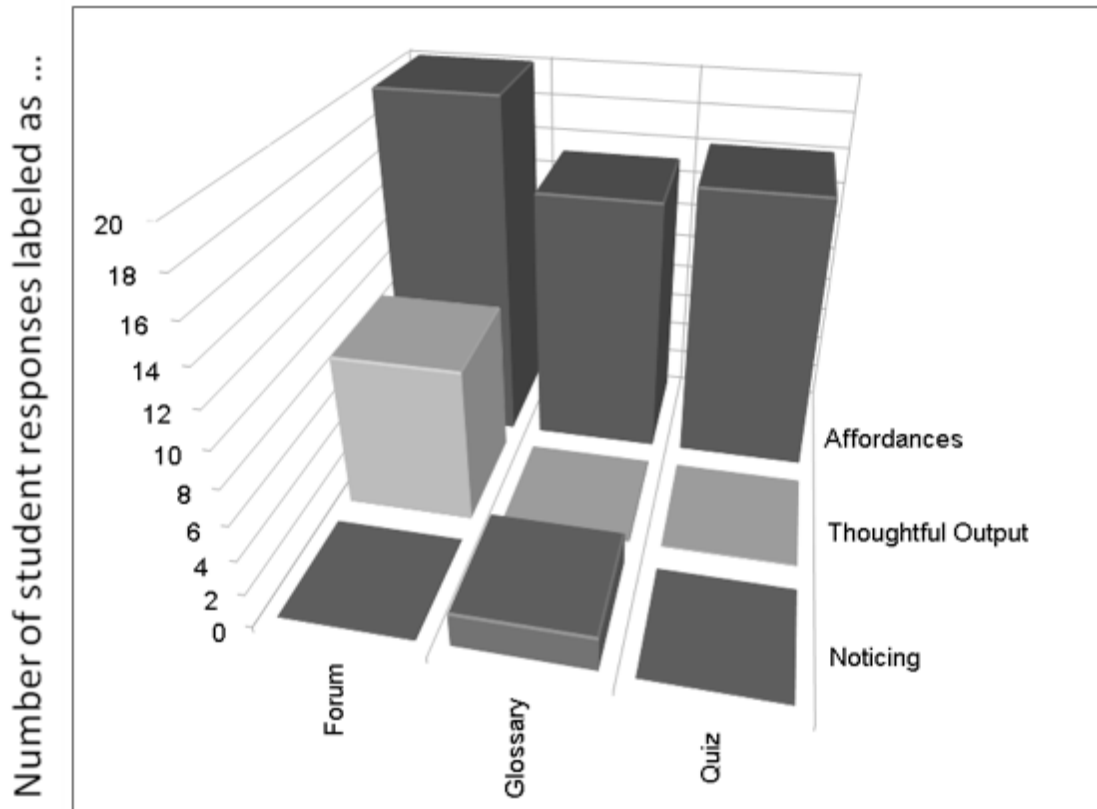
Figure 3.14: Reports of affordances, comprehension output, and noticing (Moodle: students' perspectives on forums, glossaries and quizzes: Hirschel, 2015)

Figure 3.14 above demonstrates the manifestations of statements with regard to the precise review into affordances, comprehensible output and noticing. Students were divided into two classes. Classification of all the study information from both classes indicated that students generally appreciated all three Moodle activities for the learning affordances provided. Unfortunately, students reported comprehensible output only from the forum tasks. Noticing was only cited twice, both times for the glossary activity. Forums were stated by students as the major source of affordances (20 references). Quizzes were similarly reported to provide opportunities for interaction and learning. One of the reflections is that the Moodle vocabulary list was made by students, not by the lecturer. With 15 references, glossaries also seemed to provide affordances for learning. Comprehensible output was reported by students to have only occurred in the forum activities.

Although the activity output was reported as indicated above, the following concerns were observed: that students had not made any mention of comprehensible output occurring in the glossaries; that many students simply copied example sentences from other sources, rather than

constructing their own; that the number and type of glossary terms entered and the length, number, and type of forum assignments given may not have provided for an optimal appearance of useful hyperlinks. Students did participate in the tasks, but some outcomes of the task were not understood. Lecturers should clarify to students that, for the completion of these tasks, students must know the nature of the activity and the usage of tools. This nature of tasks relates to observation tasks, as a lecturer uses a graph to analyse the results of an activity. This does not mean that all observable tasks use graphs. However, comparing numbers may provide an observation relating to success or challenges in performing a particular task. Observable tasks are an educator-student-centred approach; the lecturer dictates the process and judges the results. Students, on the other hand, participate in discussions as groups, and articulate their dissatisfaction.

Ebrahimpourtaher (2012) conducted a survey case study of 243 engineering students at Islamic Azad University. The study investigated whether students possess the didactical choices in English classes, using a questionnaire. The study revealed that students have preferences that assist them with language learning. The study further revealed that there is a developing tendency for verbal skills among engineering students. The findings obtained from this study provide some significant value, suggesting that engineering students have certain pedagogical preferences in ELT classes that assist them in learning the language. They like to work in pairs and small groups. Outside-classroom tasks were favoured by a significant number of students.

Other studies by Zaare (2012), and Rusby et al. (2013) indicate that classroom observations can be a guide for educators, allowing them to reflect on their own teaching practices. Those who are observing can learn from one another, perhaps from more successful educators, on their methods. Classroom observations allow educators and administrators to improve not only classrooms, but schools as a whole. Classroom observation is the bridge between the worlds of theory and practice. Observation can discover a great deal about how and why certain theories or methods work or do not work in a local context. There is no method that works equally well in all cases and it is in the classroom that methods and theories are formed and tested. The Department of Education of Canada (2006) comments that a variety of learning activities should be developed and given to learners. Such includes activities such as brainstorming, discussion issues, problem-solving, simulations, conducting of research, mind-mapping, presentation, personal reflection, assignments, classwork, and hands-on applications. These

forms of task allow learners active participation and decision-making, while the educator observes and guides them using a relevant content rubric.

The observation tasks focus on the change in behaviour of the students, whilst it addresses the educator's methodology in transforming learner behaviour. Such is achieved by observing certain behavioural patterns with the purpose of channelling a learner into academic performance. Observation tasks are both expert and community related. The educator observes students working in groups and pairs, which lends itself to interaction between learners and the educator. This concludes that observation can be conducted on both formal and informal evaluation tasks, in order to improve the practice and the learner's academic performance. Khoza (2013b) points out that none of these methods should be applied exclusively. Adding to that, evaluation activities should be viewed by learners as depicting real-world relevance (Khoza, 2013b). However, linking learning evaluation tasks with learning outcomes is still a huge problem for most educators. The learning tasks are used to assess learner level of understanding. Therefore, it is important to look at evaluation in terms of developmental, cumulative, and uninterrupted evaluation.

3.6 Evaluation

Evaluation originates from the Latin word 'sedere' which means to sit beside and watch. This may be applied to watching students at work and play (Richardson, 2018). Zuma (2019) defines evaluation as the process of gathering, interpreting, recording, and using information and learners' responses for educational purposes. Zuma (2019) further states that the information acquired through evaluation is employed to give learners knowledge to be used for transformation, based on learning actions or activities. Evaluation is something lecturers do with and for students, and also for themselves. Evaluation addresses the students' needs (community reflection) by unpacking the module content (expert reflection) by lecturers (individual reflection). Evaluation provides valuable information about students. Evaluation is critical because it deals with the measurements of teaching through different tools like tests, observation, and examinations. According to Kennedy et al. (2006), evaluation is often described in terms of developmental evaluation or summative evaluation, including uninterrupted evaluation. Therefore, educators' reflection will assist educators to understand this type of evaluation in their teaching practices.

The DoE (2012) defines evaluation as an uninterrupted, planned process of identifying, gathering, and interpreting information about the performance of learners, taking various forms. It involves four steps: generating and collecting of evidence of achievement; evaluating the evidence; recording the findings, and using the information to understand and thereby assist learner's development in order to improve the process of learning and teaching. Evaluation should be both natural (evaluation for learning) and certified (evaluation of learning). Moreover, natural evaluation relates to evaluation as learning, because as learners learn in groups and as peers, evaluation takes place. Evaluation for learning is a process whereby the educator delivers information, involves learners in the evaluation, and the educator keep the records for future usage.

The evaluation for learning is wide. Learners gain confidence because they are responsible for their own progress. As a result, they want to continue and better their achievements. Learners understand that they are in charge of their learning. Evaluation for learning benefits the educators because their learners become inspired to learn, and the parents benefit when they see high achievement. Therefore, educators need an uninterrupted development programme in order to evaluate learners properly and improve their practice in evaluation. In both cases, regular feedback should be provided to learners to enhance the learning experience.

Evaluation in Business Studies focuses on the knowledge, skills, and values necessary for informed, ethical, productive, and responsible participation in economic sectors. Moreover, the studying and evaluation of Business Studies must not only cover essential business knowledge, skills and principles, but should also promote entrepreneurial initiative, sustainable enterprises, and economic growth. Business Studies covers valuable skills such as leadership, risk-taking, problem-solving and managerial skills that prepare learners for success in different business environments. Evaluation in Business Studies is in line with rationale and learning activities because rationale involves aims, objectives, and outcomes.

Aims relate to individual reflection; objectives are associated with expert reflection, and outcomes with community reflection. The learning tasks comprise natural, cumulative, and uninterrupted tasks, in line with individual, community, and expert reflection. Educators, when planning evaluation activities, should consider the cognitive, affective, and psychomotor domains. The natural evaluation pertains to daily tasks which are performed to assist learners/students in their learning. This recommends that evaluation be categorised into three

types, namely, evaluation for learning (developmental), evaluation of learning (cumulative), and evaluation as learning (uninterrupted). In one South African university, evaluation is conducted using the methods indicated in the table below.

Table 3.4: Flexible Evaluation (University of Stellenbosch: Department Management: Business Management 142- 2018)

TERMINOLOGY	
Main evaluation opportunities **(E1, E2 & E3)**	Cumulative evaluations taking place during the scheduled times of evaluation. These evaluations require preparation and are usually scheduled outside of normal class times.
Further evaluation opportunities (FE)	All evaluation opportunities outside of the scheduled times of evaluation. Such opportunities may be either developmental (FEF) or cumulative (FES).
FEF (developmental)	Any opportunity of which the primary aim is to progressively promote student learning (generating a mark is not the primary aim). No (cumulative) mark is generated.
FES (cumulative)	Evaluations of which the primary aim is to generate a mark for students in order to determine to what degree they have mastered a prescribed ambit (e.g. a semester test).

Table 3.4 above illustrates the module outline Section 9 of Business Studies which is called flexible evaluation. The first row indicates the terminology used for each type of evaluation. The second row speaks to the main evaluation opportunities which comprise cumulative assessment task conducted under controlled conditions during class time schedules. This type of task is certified or cumulative in nature. The third row indicates the further evaluation tasks conducted outside the classroom environment which is developmental or natural task. The fourth row relates to formative tasks conducted to assist students to

develop more understanding of the topic; however, such a task does not bear any mark for students. This task is natural and provides an extended opportunity for a student.

Adding to the above, the fifth row represents a certified or cumulative evaluation which provides for a final judgement on a particular course or module, enabling the student to progress to the next module or course. The evaluation tasks depicted in the first and third row constitute developmental and cumulative evaluation, which takes place during the course of the semester or year, and contributes to the final mark of a student. The two types of evaluation are regarded as uninterrupted evaluation. The last evaluation task in the fifth row is administered once, and decides on the mastering of a particular topic or module. All these tasks are decided upon by the lecturer, and the students are expected to complete them. These tasks are both lecturer- and student-centred.

Learning tasks incorporate the individual, community, and expert reflection in teaching Business Studies. Through a task a lecturer achieves an aim to teach a module. Breaking down of topics which are conducted throughout the term or year, the lecturer achieves the objectives. Then when students complete the tasks the learning outcomes are achieved. Through natural, certified, and observation tasks, the critical, practical, and technical reflections are achieved.

Below is an example of a semester module for a student to obtain a valid final mark:

- A final mark $\geq 50\,\%$ is required for a student
  to pass the module.
- All registered students have access to the
  main evaluation opportunities (E1 and E2).
- If the final mark is $\leq 50\,\%$ after E2, students
  may use E3 to pass the module.

3.6.1 Developmental evaluation

Developmental tasks are a daily monitoring of learner's progress (Khoza, 2015a). Such is achieved through observations, discussions, practical demonstrations, learner-educator conferences, natural classroom interactions, inter alia. Natural evaluation may be as simple as stopping during the lesson to observe learners, or to discuss with learners how learning is progressing. Khoza (2015a) outlines that formative evaluation is regarded as evaluation for

learning, and it is part of learning. It is done when learners are assessed for their collection of relevant information during the teaching process. Developmental evaluation refers to frequent, interactive assessment of students' progress and understanding to identify learning needs and to adjust teaching appropriately. Developmental evaluation became an overused term, such that it was no longer helpful; instead, authorities prefer the term evaluation for learning. Developmental evaluation and evaluation for learning are the same.

Dlamini (2017) conducted an interpretive, qualitative case study using documentary analysis, semi-structured interviews, and focus group to explore formative assessment practices in the Context-Based Science Curriculum (CBSC) in Swaziland. The findings revealed the following presented in order of preference: question and answer, descriptive feedback, assessing prior knowledge, discourses of learners' self-assessment, and goal-setting; these were strategies used in the teaching and learning of CBSC. CBSC was found to operate at three levels: it relied on the self-efficacy of the science educator, the personal drive; pedagogy was based on social drive; and the cognitive processes in knowledge production was the professional drive. The personal drive forms the basis of interpreting social and professional drives where knowledge from these drives is viewed as distinctly unique to the individual who possesses it. The study further recommends that there be a paradigm shift in the assessment of CBSC from Pedagogical Content Knowledge (PCK) to the Technological Pedagogical Content Knowledge (TPCK).

Evaluation for learning aims to continuously collect information on a learner's achievement that can be used to improve their learning. Developmental evaluation should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from learning activities in the classroom. Learners or educators can mark these developmental evaluation activities. Self-evaluation and peer evaluation actively involves learners in evaluation. This is important as it allows learners to learn from and reflect on their own performance. The results of the developmental daily evaluation tasks are not formally recorded unless the educator wishes to do so. The results of daily developmental tasks are not taken into account for promotion and progression purposes.

Dlamini (2017) states that developmental evaluation is known as evaluation for learning because it includes all activities done by both educators and learners and or/students during the teaching and learning process. This helps to inform educators or lecturers on how their learners or students are progressing. Developmental assessment is educator-centred which relates to

individual reflection. Educators use the formative evaluation to reflect on the learner progress in order to improve their practice. Therefore, it is imperative for educators to reflect on this kind of evaluation for transformation purposes.

3.6.2 Cumulative evaluation

Khoza (2015a) defines cumulative evaluation as evaluation of learning as conducted at the end of the teaching programme/term/year. All evaluation tasks that make up a formal programme of evaluation for the year are regarded as certified evaluation. According to the DoE (2011), certified evaluation tasks are marked and formally recorded by the educator for progression and certification purposes. All certified evaluation tasks are subject to moderation for the purpose of quality assurance and to ensure that appropriate standards are maintained. Cumulative evaluation provides educators with a systematic way of evaluating how well learners are progressing in a grade and in a particular subject. Cumulative evaluation associates well with expert reflection. Cumulative evaluation tasks are prescribed in terms of content, and mark allocation, and are moderated by both internal and external moderators. The cumulative evaluation requires students to move from simple to complex cognitive levels as they follow Bloom's Taxonomy (1956).

Table 3.5: Differences between Developmental and Cumulative Evaluation

DEVELOPMENTAL EVALUATION	CUMULATIVE EVALUATION
Frequent, interactive evaluation of students' progress	Quarterly evaluation of students' performance
Used to identify learning needs, adjusting teaching appropriately	Used for certification
Evaluation for learning	Evaluation of learning
Daily monitoring of learners' progress	Quarterly monitoring of learners' academic performance.

Conducted through observations, discussions, practical demonstrations, learner-educator conferences, informal classroom interactions	Conducted through formal tests, assignments, projects, examinations, presentations, etc.
Should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded	Is used to evaluate learners' academic performance and inform the educator about their progress
Learners or educators can mark these informal evaluation activities	Only the educator marks the activities
Self-evaluation and peer evaluation actively involves learners in evaluation	Educator evaluation takes precedence
Allows learners to learn from and reflect on their own performance	Allows the educator to reflect on the learners' performance
Results of the developmental daily evaluation tasks are not formally recorded unless the educator wishes to do so	Results of cumulative tasks are formally recorded on relevant marks sheets.
Results of daily evaluation tasks are not taken into account for promotion and progression purposes	Results of cumulative tasks are considered for promotion and progression purposes
Educator-centred	Learner-centred
Relates to individual reflection	Relates to expert and/or community reflection

Table 3.5 above outlines the differences between the developmental and cumulative evaluation. The developmental evaluation is used to guide learners for cumulative assessment. Developmental evaluation includes daily evaluation to monitor the progress of learners or students, whilst cumulative evaluation summarises the work for each term for certification purposes. Both the developmental and cumulative evaluation are performed continuously up to the end of the year. These forms of evaluation are also called uninterrupted evaluation. The

forms of evaluation used therefore should be appropriate to age and development level. The design of these tasks should cover the content of the subject and include a variety of tasks designed to achieve the objectives of the subject.

Table 3.6: Composition of a Final Mark

COMPONENT	NATURE OF ASSESSMENT	WEIGHT	DATE
E1	Written test (Chapters 1 – 4)	30%	1 October 2018a at 17:30
FES	Practical assignment: Company report	15%	Final submission date: 21 September 2018
E2	Written test (Chapters 1 – 7)	55%	8 November 2018 at 14:00
E3	Written test (Chapters 1 – 7)	100%	1 December 2018 at 14:00

Table 3.6 above indicates an example of a composition of a student's final marks at a South African university. The module stipulates the task, the percentage, and submission dates. The formal tasks follow the prescribed standards of writing and submitting the tasks, including the percentage which a task will contribute to the student's final marks. The certified tasks therefore adhere to the specified topics as outlined in the module outline for that year. This suggests an educator or/student-centred approach because students have the opportunity to discuss questions before attempting the task. In Business Management, for instance, students do assignments which contribute to their qualification to sit for an examination in the subject.

3.6.3 Uninterrupted evaluation

The combination of developmental evaluation and cumulative evaluation constitutes the uninterrupted evaluation (Dlamini, 2017). It is not easy to separate the uninterrupted evaluation from developmental and cumulative evaluation. Dixon and Rawlings (1987) conducted a comparative case study on BA (Hons) Business Studies students at Newcastle Polytechnic to

examine the objectives of an evaluation scheme. Researchers discovered that uninterrupted evaluation can both increase the reliability and validity of evaluation method, using the relationship between the various sets of marks. The study reports that, whilst the examiners' criticism was probably justified, the overall difference between final aggregate mark and examination mark in terms of degree class was, in fact, small, and at the same time it was evident that real standards had risen. Chansarkar and Rautroy (1981) justify that there is a significant positive correlation between continuous evaluation and examination marks in all subjects; and uninterrupted evaluation helps in improving student grades.

The uninterrupted evaluation pertains to assessing some skills which require a change in behaviour for academic progress (Dlamini, 2017). Uninterrupted evaluation tasks assess other skills such as demonstration, practical, oral presentation etc., which require a learner to show physical involvement in an activity. In uninterrupted evaluation other skills, which include values and attitudes, are being assessed. These skills therefore relate to affective and psychomotor domains. Dlamini (2017) further indicates that, although uninterrupted evaluation is important, it often amounts to repeated cumulative evaluation with marks being recorded but little or no specific feedback being given to the learners. Moreover, Kennedy et al. (2006) outline the issue of uninterrupted evaluation, that it is the combination of both developmental evaluation and cumulative evaluation. Uninterrupted evaluation means evaluation that takes places at intervals throughout the time of learning. Uninterrupted evaluation is about the frequency of the evaluation. Educators' reflections may be the solution to inability of educators to develop quality evaluation tasks in Business Studies. Educators' understanding of the reflections to evaluate learners will assist them in improving their professional practice.

Nitko (1995) notes that many people indicate that uninterrupted evaluation (UE) is solely used for leaving examinations for certification and selection of students. Others comment that UE is a cumulative mark to be passed forward to certify or select a student. To others, UE is the physical pages in exercise books which students complete. However, for others, UE is a diagnostic and developmental evaluation of student learning. This concludes that uninterrupted evaluation results from official cumulative purposes such as reporting to parents (report on learner's progress) and decision-making (certification-report on final results for promotion purposes). The uninterrupted evaluation therefore comprises the following components: (a) weighting of UE marks; (b) record-keeping and reporting of UE results; (c) in-service and pre-service educator training in UE; and (d) building school-to-school comparability and credibility

into the UE process (moderation). Uninterrupted evaluation speaks to the frequency of both developmental and cumulative evaluation. Developmental evaluation reports on the continuous progress of the learner's academic performance on a quarterly basis; whereas cumulative evaluation summarises the developmental evaluation for decision-making regarding the promotion and progression of a learner. Developmental and cumulative evaluation constitutes uninterrupted evaluation.

The uninterrupted evaluation therefore is associated with individual reflection because it is set by the educator; community reflection, because learners are involved in writing, discussing, researching, collecting, assessment of skills and submitting work to educators; and expert reflection: the tasks are specified in the policy and the cognitive levels are considered. Hence the aims, objectives, and outcomes; content; learning activities and evaluation are important for the curriculum delivery. It is therefore important to move to the mediator of the concepts that is the lecturer's capacity as coordinator, scientist, and trainer.

3.7 Lecturer's Capacity

An educator/lecturer is a mediator of curriculum and pedagogy (Hoadley, 2018). Donnelly (2006) states that an improved reflection on present teaching exercise, the outline of original teaching approaches, enhanced attention on the plan and provision of classes, will result in more work taking place on course teams. The study further enlarges that an upsurge in confidence about learning and teaching and an additional student-centred method should take centre stage for lecturers to improve their practice. Ferman (2002) conducted a qualitative case study on sixteen academics from eight discipline areas using a questionnaire and interviews, to investigate lecturers' understandings in line with constructivist approaches that encourage the involvement of participants in the learning or developmental process. The study reveals that lecturers found a wide range of strategies useful in developing their professional expertise, with a predominance of those strategies being collaborative in nature. The study indicates that not all professional development activity is collaborative. Individual approaches include reading, using the web, private reflection, videoing oneself, keeping a journal, and so on.

The study further indicates that academics are now expected to be course designers, marketers, technology experts, and administrators. Reading is an effective way for lecturers to enhance their careers. Universities can support professional development activities which lecturers

identify as valuable, such as the provision of online resources by teaching and learning support units within universities. A survey was conducted by Mundy et al. (2012) on 1037 educators using a questionnaire to analyse educator's perceptions of technology use in the classroom in a TeachUp technology empowerment programme created and developed by Digital Opportunity Trust (DOT) USA. The results show that educators who were part of DOT USA's TeachUp programme perceived a significance increase in areas of student engagement, student excitement, student acceleration of learning, and student proficiency with computer technology.

The study further indicates that faculty members need not only to learn to use technology at a basic level, but must also learn how to integrate that technology into their curricula. Newer educators from digital native generations must be taught how their acquired skills can be used to integrate technology into the classroom curriculum to provide complex cognitive engagement for their students. Thus, it is essential that the role of the educator as a professional in the classroom not be discounted when evaluating classroom curriculum development and strategy, including those that would integrate various technologies. Lecturers should use technology in the classroom not only as a hardware or software resource but also for expert reflections, which is ideological-ware. Lecturers play a significant role in mediating the use of Moodle in teaching Business Studies.

The above-mentioned studies therefore identified the role of a lecturer as a scientist, coordinator, and trainer during the teaching and learning process. Educators and lecturers of Business Studies need to understand the individual, community and expert reflections. Such link well with critical, practical and technical reflections, which will allow them to comprehend their capacity to teach the module (Van Manen, 1977). This would further make educators and lecturers link the use of Moodle as a hardware, software and ideological-ware with personal, societal, and professional/academic reflection during the learning process (Khoza, 2013a; 2016b). The next section discusses three lecturer capacities − the lecturer as a scientist, a coordinator, and a trainer.

3.7.1 Lecturers as scientists

Lecturers have to be experts in the discipline they teach (Mchunu and Msibi, 2013). Darmalaksana (2017, p. 1) states that "a lecturer is professional educator and scientist with the

main task of transforming, developing and disseminating science, technology and arts through education, research and service to society". Mundy et al. (2012) assert that lecturers, as professionals, are regarded as custodians of community values in terms of ethics, rather than in terms of job description. Lecturers apply different approaches in diverse communities. Lecturers must be understood as professionals by community and parents, allowing lecturers to freely make autonomous and trustworthy decisions, as well as continuing their professional development. Such stems from observation, conversation, debate and reflection on their personal work. Darmalaksana (2017) conducted an analytical qualitative case study on administration of research and researchers (lecturers) using interviews, observation, and focus groups to make a discussion of research policy at the Islamic Higher Education (IHE) in Indonesia.

The results indicated that the direction of the research policy at IHE can be performed well. However, its implementation has administrative problems, in particular, the absorption of research results in industrial areas. The study further reveals that a lecturer, as a professional employed at a level of higher education, has to play a major role in the education field, research, and society. Lecturers teach certain disciplines regardless of the site they teach in. They should demonstrate knowledge of their subjects and interests in furthering knowledge in the field. Teaching is a complicated practice. Teaching requires commitment to its changes as a result of various dimensions. Such dimensions relate to individual, institutional, historical, or systematic, providing insightful understanding of the teaching practice. This suggests an individual reflection which links to critical reflection.

Lecturers research information which will inform their teaching practice. The researched information therefore is for individual use during the teaching process, which provides meaningful insight into the lecturer teaching approach. Lecturers need research on the use of Moodle in teaching Business Studies in order to gain meaningful knowledge about its application in teaching the subject for their individual reflection. Lecturers should have an understanding of the use of Moodle as hardware, software, and ideological-ware in order for them to be able to provide necessary resources for students to use Moodle in their learning. Besides lecturers being involved in research and providing resources, lecturers also need to assist students in their small groups, or as individuals (Webb, 2010). This means that lecturers must coordinate learning.

3.7.2 Lecturers as coordinators

Hannah et al. (2011, p. 2) indicate that "the lecturer's overarching goal of assisting students to see the 'big picture' and the methods he employed to do so, arising from his beliefs, values and preferences". "A coordinator is regularly characterised as an impartial body that deals with the gathering of exercises to create a conducive platform for individuals and groups to achieve identified or set of goals and purposes" (Mabuza, 2018, p. 91). Webb (2010) highlights multiple dimensions of the educator's role in fostering beneficial group dialogue, including preparing students for collaborative work, forming groups, structuring the group work task, and influencing student interaction through educator's discourse with small groups and with the class. Hannah et al. (2011) conducted an action-research project involving a mathematician and a case study of his practice by two mathematics education researchers, using interviews, Skype discussions, and lecture notes. Such instruments were used to determine the effectiveness of certain aspects of the lecturer's teaching of a second-year linear algebra course. The study reveals that the orientations could be grouped in clusters, related to didactics, students, and mathematics, with some linked to more than one of these.

The study indicated that lecturing practice comprising what lecturers do beforehand, throughout, and afterwards, is an essential area of study focus. Coordinating means conducting an oral or verbal discussion before, or during and after an activity, in order to motivate students to reflect on what will, or is being and has been, learned from experiences. This further suggests that lecturers reflect on the past and present situations for future learning. Another qualitative case study conducted by Delvin and Samarawickrema (2010) on 18 Hong Kong educators used interviews, focus group, and a questionnaire to examine the notion of effective teaching. The study reveals that effective teaching in higher education is also linked to technological changes. The studies above identified the critical reflection relating to individual reflection, as lecturers decide on the aims and goals based on their beliefs when planning for a lecture. The practical reflection which relates to community reflection includes deciding on a conducive platform for individuals and/or a group. The gathering of exercises addresses the technical reflection which relates to expert reflection for teaching.

The studies therefore lean more towards the individual and community reflection, although the expert reflection is identified. It shows that coordination focusses on an individual decision to assist an individual or a group during the learning process. The coordinator needs to maintain

neutrality in order for the individuals and the group members to freely participate in the process. It demands the coordinator to work closely with group while keeping his or her ideas neutral, to avoid biased group decisions. Lecturers should possess the necessary skills to use Moodle in teaching Business Studies, which relates to the understanding of using Moodle for community reflection. Lecturers need to acquire relevant knowledge on the use of Moodle to coordinate teaching of Business Studies. Lecturers must not only provide coordination for students but also give training to students during the learning process.

3.7.3 Lecturers as trainers

Blair and Briggs (2019) comment that a trainer refers to a practitioner whose main task is only teaching without participation in research and service. They define a trainer as a practitioner who possesses a master's degree, while a lecturer possesses a higher qualification. The instructional excellence of the lecturer is the key effect on the perceived value of modules (Voss and Gruber, 2006). "If lecturers know what their students expect, they may be able to adapt their behaviour to their students' underlying expectations, which should have a positive impact on their perceived service quality and their levels of satisfaction" (Voss and Gruber, 2006, p. 6). Blair and Briggs (2019) conducted a mixed-methods study on university instructors, lecturers and professors, using document analysis, questionnaire, and interviews to examine how instructors at a university in Trinidad and Tobago are conceptualised at the institutional and individual level. The study shows that instructors undertake many of the same roles as lecturers, but that this is not recognised in institutional documentation. Lecturers are treated the same in terms of their duties although they possess different degrees. Both lecturers dealing with only teaching and the ones involved in teaching, research, and service may not be distinguished in terms of university documents.

The study focussed on one role, which is teaching, whereas lecturers plan and research topics before they teach. After planning and research, the service is rendered in terms of teaching. Another similar study conducted by Xhomara and Bara (2018) using a mixed-methods approach used structured questionnaires and semi-structured interviews to investigate the relationship between the lecturer feedback on academic performance and academic progress of students. The influence of lecturer feedback in academic progress was also scrutinised. The research reveals that academic progress of students has been strongly explained by lecturer feedback on academic performance. This study shows lecturers as active participants when

giving feedback to students. The students, on the other hand, are passive participants as the lecturer gives feedback on their progress and performance.

Moreover, this study also focusses on the role of the lecturer as a trainer, as feedback results after a particular activity have been given. The teaching and service role are not clearly highlighted. Both studies focus on the role of a lecturer as an instructor in different contexts, ignoring the teaching and service roles. While the role of a lecturer as a trainer takes priority, it should be intertwined with teaching and service because feedback is given after the training or/instruction. The teaching itself forms part of service rendered to the institution. This concludes that, in examining the lecturer's role as a trainer, individual reflection as part of teaching, community reflection expressed in service, and expert reflection indicated as research, are parts of the role of the lecturer as a trainer. However, the studies do not clearly indicate these roles; they are a hidden element of a trainer. In each role of a lecturer, studies should therefore recognise the three (individual, community, and expert) reflections.
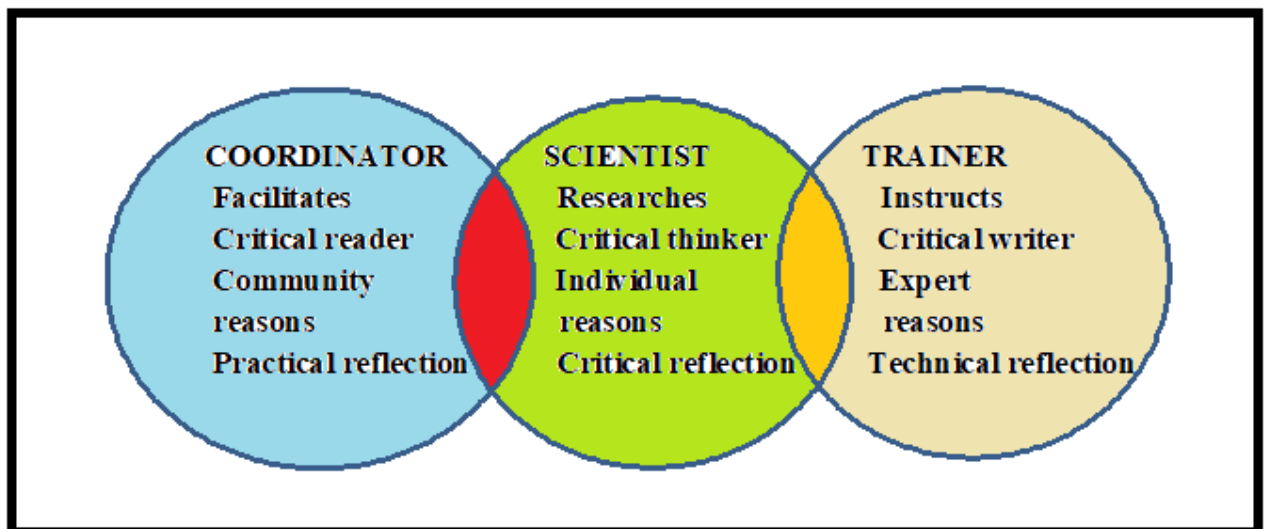
Figure 3.15: A CST linkage circle of lecturer's capacity (generated from literature)

Figure 3.15 above shows the role of a lecturer in a three-linkage circle lecturer's capacity. The left circle indicates the capacity of a lecturer as the facilitator who is involved in critical reading. The lecturer deals with student skills and outcomes to be demonstrated by students. A lecturer reads different sources with understanding. Therefore, the community reflections relate to practical reflection. The middle circle represents a lecturer as a researcher who is

involved in critical thinking. The critical thinking therefore leads to individual reflections which relate to critical reflection. A lecturer decides on what to achieve using aims and objectives. The right circle indicates a lecturer as the one who instructs students in the learning situation. This shows critical writing which relates to expert reflections. The lecturer performs a professional, pedagogical function, which advocates technical reflection. It is at this level that the content or methodology is delivered to students. The middle circle links the first and the third circle. It represents an important role of a lecturer in taking a neutral stance to combine students' skills/outcomes with content/methodology.

The lecturer's capacity forms an interplay in combining the two spheres with the ultimate goal of ensuring that learning does take place. Lecturers should understand their capacity in relation to mediating the skills/outcomes representing the students' perspective as well as the content/methodology representing the professional perspective. Lecturers should further play this role in teaching Business Studies/Management using Moodle in a particular learning environment.

3.8 Learning Environment and Period (Time)

Learning environment is referred to as a location or environment or a defined space where teaching-learning can take place (Mpungose, 2017). Evans et al. (2009) describe learning environment as a positive learning space related to important educational outcomes such as enhanced academic achievement constructive learning processes and reduced emotional problems. Adelman and Taylor (1996) argue that a learning environment is seen as a major determiner of classroom behaviour and learning. Sriklaub et al. (2015) posit that classroom climate helps students engage and succeed in learning. A learning environment can take the form of a building, a classroom, a laboratory, a games room, or a sports field, in which learners gather to receive instruction.

Adding to the above, the word time refers to when and how long educators should educate learners. Greater lengths of instructional time are directly proportional to learner achievement (Khoza, 2013b). However, there is time allocated for every subject being taught at a given location. In university of KwaZulu-Natal, the time for Business Studies is four to six hours of work dedicated to official lectures in a week. The remaining time is to be used for organised self-study, projects, tutorials, practical work, preparation, and writing of assignments, tests,

and examinations. The teaching process should occur within a conducive learning environment that encourages and supports individual, community, and expert reflections. These studies therefore identified a learning environment, an open-learning environment and a closed-learning environment. The studies further indicate that a learning environment has a size, offering certain dimensions. In a learning environment, different approaches can be used. The learner-centred approach relates to a horizontal/competence curriculum where students are at the centre of learning and they decide on the time to embark on a task. The educator-centred/content approach relates to a competence, /collection/performance curriculum in which the educator dictates the teaching content and the time (Hoadley and Jansen, 2012).

Baar (2016) further comments that learning environment is a reflection of students' opinions of their academic experience that is an interaction with peers, instructor, their involvement in class, and class perception. Learning environment is a combination of the feelings of educators and students during a learning session, as a result of educator behaviour (teaching methods, expressions) and student behaviour (cooperation, continuous involvement in activities) whilst learning activities are practiced. This further indicates a blended learning, hence both students and educators use Moodle as an interface for teaching and learning (Tshabalala et al., 2014). Hagenauer and Volet (2014) conducted a qualitative exploratory study on student and educators' relationship in higher education. The study aimed to provide an overview of research related to educator-student relationship (TSR) in higher education. The results recommend that TSR be regarded as a relevant construct in higher education. It clearly affects students' successful study progress, including factors such as course satisfaction, retention, learning approaches, and achievement.

The study by Hagenauer and Volet (2014) further indicates that TSR should be regarded as a relevant research agenda for higher education. The learning environment, through its settings, determines whether the teaching approach is learner-centred or educator-centred. The learning environment addresses the individual, community, and expert reflections. The learning environment, in which the educator follows the vertical/performance curriculum, dictates the educator-centred approach.

The studies above further draw the line between the three learning environments such that the individual environment is influenced by individual experience which is based on past experience. The expert environment is influenced by the policy structures in place; and the

community learning environment is predisposed by community beliefs. These statements mean that teaching of Moodle and learning environment can be based on an individual learning environment (specified environment) and guided by individual reflection. The expert learning environment (closed environment) is guided by expert reflection. The community learning environment (open environment) is guided by community reflection. Learning does take place even in a community environment, as long as that environment provides significant information/knowledge. Business Studies educators should use their creativity in organising learners in their specified learning environment for effective teaching and learning of the subject, using Moodle.

3.8.1 Specified learning environment and fixed period (time)

E-learning is "an approach to teaching, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning" (Alhabeeb and Rowley, 2018, p. 1). A comparative study was conducted by Alhabeeb and Rowley (2018) on academic staff and students, using a questionnaire, to examine the opinion of staff and students on the number of factors in the success of e-learning. The study reveals that the perspectives of staff and students differ. Common categories included student characteristics, instructor characteristics, ease of access, and support and training. The study further indicated that the e-learning system provided learning opportunities that are free from time and space constraints, supporting new teaching and learning approaches.

Sriklaub et al. (2015) conducted a survey study on junior high school students using a questionnaire, aimed at developing the measurement model of the specified learning environment as perceived by students. The study showed that the specified learning environment consists of three components: managing the learning activity by educators to respond to individual learning needs, encouraging students to participate in learning activities, and supporting students to achieve their learning (expert reflection). The study indicated that educator-centred learning arrangement of classrooms and the emotional and social conditions of educators and students enhances learning, which facilitates student learning. The studies therefore agreed that a specified learning environment is dominated by the lecturer's intention to provide direction in teaching using particular management styles and tools to facilitate

learning. Although the community and individual reflections are highlighted, the specified learning environment relates well to individual reflection as its ultimate goal is to provide new teaching and learning approaches which are relevant to a lecture-centred approach. In the specified learning environment, a lecturer must be present and decide on the venue and the time of a lecture.

Although the specified learning environment is dictated by the lecturer, it should be in line with university specified venues and policies. In this context, students also participate on a predetermined learning course following a fixed learning time. The specified learning environment also relates to individual and expert reflections because policies and regulations of the institutions are followed, and the time is specified using timetables. Lecturers follow a prescribed teaching and learning schedules consisting of a particular fixed time in day, week, or month. A time is legally/officially documented by the institution. Lecturers should teach prescribed content using a specified learning environment following a fixed time, as regulated by institutions. Lecturers play a leading role, and students take instructions from them.

Evans, Adelman and Taylor (1996) elaborate that a specified learning environment sometimes is referred to as the learning environment, as well as atmosphere, environment, ecology, and setting. A specified learning environment for teaching and learning to take place must be used in order for the curriculum implementation process not to be interrupted. This model of using a specified area is conducive to implementing a performance curriculum model. Although the place may be specified, the internal environment should also be conducive and friendly for both educators and learners in order for teaching-learning to take place smoothly.

At school level the classroom (specified learning environment) is the centerpiece for teaching and learning. At tertiary institutions, a computer room (open-learning environment) and lecturer's room (closed-learning environment) are used as learning environments. A performance curriculum is used in a demarcated area such as a classroom or computer room. Lecturers should teach their students on campus by means of face-to-face interaction sessions by following the module time table. This suggests a closed-learning environment which relates to expert reflection; hence a meeting between the students and lecturers is informed by an official appointment to discuss the module, as prescribed by the institution.

The specified learning environment therefore relates to individual reflection; hence a specified/demarcated area is used to teach, following a prescribed module, using a time table. School principals and tertiary institutions have to create a conducive learning environment to ensure that using Moodle for teaching and learning takes place efficiently through their management. Specified learning environments such as lecture halls and libraries must be in a good condition. Users must be able to access an Internet connection; the room must be well ventilated and have air conditioning systems in place.

3.8.2 Open-learning environment and flexible period (time)

Learning extends beyond the four walls and the Internet environment (Hussin et al., 2012). The term open-learning environment, sometimes called 'distance learning' is a kind of tuition with virtual contact between educator and the student in which media such as the Internet is used (Sodje, 2018). Sodje (2018) describes open learning as a situation that provides access to educational opportunities in a non-formal and marginalized manner, using technologies. Distance learning is commonly accepted as that which incorporates various computer-aided instructional methodologies. Bolliger and Wasilik (2009) conducted a survey on 102 instructors who taught online courses at a university within the USA. The study sought to identify and confirm the factors affecting the satisfaction of an online faculty at a small research university. The goal was to develop and validate a research instrument that can be used to measure perceived faculty satisfaction in the context of the online learning environment. The results indicated that factors are student-, instructor- and institution-related.

The studies further described online education as a process whereby students and lecturers communicate with one another and interact with course content via Internet-based technologies. This affirms that an online/open learning environment involves the community (student-related); individual (instructor-related); and expert (institution-related) reflections. The open/online education involves flexible times as students work outside the specified environment. This suggests that a theoretical background of distance learning was grounded on the intention that education without student and educator collaborating face-to-face was credible and sustainable. Nowadays, open instruction is institution-delivered using computer-assisted instruction methods via the Internet which is incorporated into Moodle. The Internet has been user-friendly in making sophisticated virtual learning environments, such that open

learning is commonly referred to as open learning carried through the web, or through the intranet.

An open-learning environment is common, and is increasingly being adopted; it presents the content of a programme over a longer period of time than in the classroom environment, and per other methods. Sodje (2018) elaborates that open learning, otherwise called e-learning, distance learning, or computer-aided learning, provides a learning environment that is independent of time and place. However, it hampers some important socialisation processes of students, and limits the communication and physical interaction between educator and students or peers. An open-learning environment is a method of teaching that disregards time, location, and other regular situational obstacles in face-to-face learning, offering opportunities for high-quality interactions between educators and students. This approach provides flexibility of time and place, and allows students to take instruction at their own pace. Therefore, an open learning environment is a combination of face-to-face and computer-mediated instruction. This suggests a blended learning, and lecturers need not be present during the learning. This links with a flexible time, hence is dominated by the student-approach when doing their work during their time without physical interaction and supervision by lecturers.

Hussin et al. (2012) conducted a survey on undergraduate and postgraduate students; using a questionnaire; to examine the basic readiness, skills readiness, psychological readiness, and budget readiness of students at two different universities in relation to mobile learning. The results show that students are fully familiar with computing skills and they welcome the integration of mobile learning in education. In an open-learning environment, community reflection takes priority because skills, the psychological element, and the use of gadgets is emphasised. This study focusses on community reflection for learning, using mobile learning. This suggests a student-centred approach to learning; hence there is no specified time and place for learning to take place. Learning can take place anytime and anywhere.

Another qualitative mixed-methods study conducted by Mtshali et al. (2015) on 15 Business Studies students; used a questionnaire, focus group, reflective activity and interviews to explore students' experiences of learning using online chats in Business Management Education. The study revealed that students viewed online chats as learning contexts in qualitatively different ways. This study concurs with Hussin et al. (2012) that online chats is a student-centred

approach; hence the learning is dominated by interaction among students using an online chat to discuss course content.

The study by Mtshali at el. (2015) shows that the online chats provide a space for students outside the physical face-to-face contact with other students and lecturers. This interaction provides for a differentiated teaching because it accommodates learners with different learning capabilities. This approach to teaching allows timid students to express themselves freely during the chats discussion; and confident students to express themselves during face-to-face interactions. This therefore advocates that the online chats as an open learning environment using Moodle, are dominated by community reflections, wherein a lecturer acts as a coordinator of learning. Online chats provide an opportunity for reflection-on-education and reflection-in-education, which speak to community and individual reflections.

Moreover, online chat is a user-friendly approach for lecturers when dealing with a large group of students, to coordinate the course content. Although this study focusses on community reflections, the ultimate goal is to provide course content which requires knowledge that relates to expert reflections. Online chat supplements the specified and closed-learning environments, by providing more opportunities for students and lecturers to communicate outside the face-to-face learning situation. Online chat as a blended learning approach helps lecturers complete the bulk of their course content timeously, without physical interaction with students. Although online chat does not replace the important role of lecturers, it helps close the space and time gap, and mediate the transmitting of knowledge by lecturers to students.

Open-learning environments address the needs of all stakeholders, including students taking part in the use of Moodle when the module is being taught. This learning environment is influenced by community reflection in which lecturers are expected to use the Moodle environment based on what the community needs or states. Open-learning environment refers to the community learning environment as the open learning where teaching and learning take place via the Internet, using an LMP such as Moodle. A lecturer need not be present in the lecture hall or library for teaching and learning to take place. As long as students are connected to the Internet (online) teaching and learning may take place. Community learning environments accommodate all the community/society members taking part in the module because they can access the module at anytime, anywhere, provided they are all connected.

A community learning environment addresses the community reflection which relates to practical reflection. According to Bernstein (1999), Hoadley and Jansen (2013), this statement marks the classic view of the competence curriculum where teaching and learning environments are not specified or time restricted. Moodle usage for instruction and learning in a community learning environment can materialise anywhere and for any time, as long as it serves the purpose of using Moodle for the teaching and learning process. Some studies comment that that university premises, lecturers' homes, restaurants, and others, can be used as open-learning environments for teaching and learning using Moodle. The time and venue to spend using technology is decided upon by students, and is not fixed, but rather, is flexible.

The studies above indicate that open teaching offers students an individualised instruction taken at the students own pace, and over individual learning time. This approach therefore promotes self-learning. It is informed by individual reflections of a conducive learning environment appropriate for each student. Open learning therefore places students in their own classrooms, providing them with the power to sense own pace, time, and learning style, utilising sites and wikis, transferring podcasts, and using many other methods. Although open instruction may be educator controlled, the student exercises more freedom of choice over what suits own preferences, and thus is likely to promote learning. Both open and specified learning environments have presented benefits unique to each, implying that blending the two can nurture learning.

3.8.3 Closed-learning environment and consensus period (time)

Mabuza (2018) states that a face-to-face learning environment has been viewed as the dominant traditional learning approach in which students and educator/lecturer are engaged physically in a classroom or laboratory or lecturer's room. This suggests the additional contact between student and educator/lecturer, therefore it is usually characterised as a face-to-face or voice-to-voice closed-learning environment. A closed-learning environment enables educators/lecturers to instantly clarify and expand further if students have not comprehended the ideas taught. In the event of online learning, researchers have been exploring the means of duplicating this mode as face-to-face, having predicted the benefits that may be enjoyed via online learning, but lacking the rewarding features of a face-to-face environment.

Mpungose (2017) indicates that a closed-learning environment for Moodle is driven by expert reflection in which teaching and learning is believed to take place in a specified area for teaching and learning, as stipulated in the university policies. Moodle can be used in the specified lecture hall, formal lecturers' offices, libraries, and research commons. Closed learning environments are referred to as face-to-face learning environments in which teaching and learning take place. This occurs where there is a physical presence of the lecturer in a specific venue. The closed-learning environment enhances face-to-face communication for teaching a module, and real-time contact to access resources from Moodle LMP. Real-time of instruction is within a stipulated period of time, and response is provided visually with immediate effect. Young and Duncan (2014) conducted a study on online and face-to-face learning, with the purpose of comparing student ratings of the open learning with the face-to-face. The ultimate aim of the study was to strengthen teaching in open environments. The results indicated that face-to-face courses are rated much higher than online courses with regard to communication, educator-student interaction, assessment, instructional techniques, and course outcomes.

Another study by Evans et al. (2009) indicated that any organisational setting in which people work or play together as a group for any length of time quickly develops a distinct social climate or feel. Social climate involves academic, management, and emotional interaction with the classroom. This proposes individual reflection; it views the perception of an individual of his or her experience in different learning environments. Although a closed learning environment involves both the student and a lecturer, it also accommodates both the student-centred and lecturer-centred approach. A student makes arrangements for a time to meet the lecturer and decide on the topic of discussion. The lecturer, on the other hand, agrees on time and venue, and follows the prescribed university module to guide the student. The time the student spends using certain technologies is determined by the lecturer. The closed-learning environment combines the features of both the specified and open-learning environments. A closed learning environment relates to community and expert reflections, and allows for flexible (community reflections) and fixed (expert reflections) times. This suggests a consensus time; hence a selected student or a group of students decide on time, then approach the lecturer; or a lecturer suggests time and topics, then students present themselves, guided by an agreed agenda or programme.

The discussion on three learning environments therefore indicates that the use of Moodle in an open-learning environment provides an opportunity for communication between students and lecturers at a distance, for the purpose of learning. The open-learning environment further portrays a student-centred environment. Students will use their skills to achieve expected module/course outcomes. This environment advocates the use of hardware and software as technology-in-education. The specified learning environment, on the other hand, represents the use of Moodle for teaching purposes. The lecturer decides on the location and tools to be used for teaching a particular lesson. Therefore, Moodle is used as hardware and software which leads to its use as technology-of-education. The closed-learning environment shows the expert reflection for the use of hardware and software. A lecturer decides on the aims and objectives which relate to the use of hardware and software as technology-of-education, which speaks to the use of Moodle as ideological-ware.

This suggests blended learning, as students use hardware and software for learning, and lecturers use Moodle for teaching, which relates to ideological-ware (Tshabalala et al., 2014). Van Der Linden (2014) argues that blended learning exists in a range of a minimal face-to-face activities and minimal online activities. Blended learning substitutes seat time in modules with online activities to achieve learning objectives. Moodle then bridges that special gap and time for interactions between students and lecturers through the three learning environments mentioned above. The specified, open and closed learning environments therefore determine the time to be taken for teaching and learning. The specified environment relates to a fixed time; the open environment speaks to a flexible time; and the closed environment links to a consensus time, as it combines the features of both the fixed and flexible times. The next section discusses community (grouping) in relation to public (societal), monetary (financial) and substantial (physical) provision.

3.9 Communal Support

Van den Akker et al. (2009) articulate that 'communal' holds three issues of the curricular spider web, namely: substantial provision (is the institution accessible to students?); monetary provision (is education reasonable for students?); and the responsible and public provision (is the education curriculum suitable to the society?). Zuma (2019) adds that education is a human rights issue as embedded in the South African constitution enforced through the South African Schools Act (SASA) No. 84 of 1996. Some studies indicate that the provision of the teaching

of Business Studies units can be approved in terms of substantial consent, monetary consent, as well as public consent (Dreyer, 2015; Meierdirk, 2016). Lopez-Gomez et al. (2019) conducted a quantitative psychometric study on six public and eight private university professors and students from different universities in Spain using a questionnaire, to assess the perceptions of students and professors regarding the importance and reality of tutoring at university in the current context. The study reveals that tutoring has personal-social, academic, and professional aspects as key tutorial components.

The study further proposes finer tutoring dimensions, and characterises more analytically the role of the university tutor, in pursuit of the integrated education of university students. Tutoring is therefore designed to help students acclimitise to the university environment. Tutoring of first-year students as a support mechanism (substantial and public support) is important for student retention and access. The study indicates that first, tutoring comprises placement, academic advising, counselling, and career planning, which is an institutional guidance support. Second, tutoring provides mentoring programmes that are an encouraging and supportive one-to-one relationship. This form of mentoring is characterised by role modelling, promotion of raised aspirations, positive reinforcement, open-ended counselling, and joint problem-solving between experienced and first-year university students. The third is tutoring provided by university educators which is fundamental to the university orientations. Educators/lecturers represent the one member of the university institution closest to the students, and in the best position to help students with advice and counselling, course support, and course review, study, and learning strategies.

The studies above maintain that substantial consent is influenced by expert reflection where there are specified and transcribed stages to be followed in order to have access to the teaching and learning of Business Studies units. Moreover, studies suggest that all lecturers should have relevant resources that will assist them in teaching of Business Studies modules. Studies further maintain that lecturers are influenced by community reflections which afford them a platform to interact with all participants in the teaching of Business Studies units. Monetary provision addresses the necessities of the culture. This suggests that education can be afforded through public consent that brings about individual and public knowledge collectively. This involves addressing the matters of race, colour, language, and other issues in teaching and learning of units. The provision in teaching and learning of units follows policy regulations to address the means and methods of attaining consent in order to communicate Business Studies units.

Mabuza (2018) asserts that community relates to connected complacent tasks, particularly developed for a bigger learning environment or institution to gain teaching as single item. Mabuza (2018) further alludes to three community classifications, namely: entire class, minor groups, and personalities.

The entire-class grouping is an exercise by the school or subject lecturer to allocate students to various learning environments, courses, module classifications, or curricular tasks founded on their educational attainment or achievement. Lecturers should coordinate the education and learning environment to ensure a learner-centred perspective, making a supportive atmosphere between student and lecturers which leads to the creation of an ecosystem that allows the student to reap the benefits of a good student-educator relationship (Lopez-Gomez et al., 2019). This combination is motivated by expert reflections, with educators/lecturers or the school/institution administration locating the conditions for forming the community. Minor-learning environments are formed of small in-learning environment communities allocated a distinct task.

This community is formed by the students, who choose peers they can work with, and thus compete with other communities as a particular group. This combination permits communal collaboration amongst peers and benefits those students who absorb best by partaking and affording inside their peer community. Such community enhances collaboration, involvement and interface, and thus is determined by community reflections. Moreover, educators shift from teaching the class or a group, to teaching every learner, as educational objectives are stated in terms of what each learner will achieve after the instruction. This personalised or specified learning is driven by individual reflections that enable each learner to own the teaching, and appreciate that each knowledge experience is directed at him or her.

The university guidance services, mentoring programmes, and educator tutoring, are necessary within different dimensions of the university. These include personal-social (university guidance that increases access to higher education), academic (mentoring programmes − on entry/during courses that eliminate student dropouts and professional (educator tutoring on exit which helps students make effective transitions to the labour market). This further suggests that the role of tutor or lecturer therefore should consist of personal, academic and intellectual development as a coordinator of the entire class (large groups), minor learning (peer/pairs) and personalities (individual) learning. The studies emphasised the community as an expert

exercise in teaching and learning; hence lecturers take a leading role in terms of giving direction. The studies recognise the individual and community reflections as applicable to the community concepts in terms of students' perspectives. Further exploration must be conducted on the individual and community role when dealing with the community concepts in terms of lecturers' perspectives.

3.10 Conclusion

This chapter explored the curriculum pillars with their propositions. The curriculum pillars comprise eight issues (Van der Akker et al., 2009; Khoza, 2013a; Makumane, 2018). The eight pillars were discussed after reflections and Moodle as a resource. The rationale (reflections) and resources were discussed in Chapter Two. This chapter consisted of ambitions; content in Moodle; learning tasks; lecturer's capacity; evaluation; learning environment; time; communal curriculum pillars. This chapter further elaborated on curriculum knowledge wherein the curriculum reforms from the apartheid era until the democratic South Africa were discussed. The levels comprising supra, macro, micro, meso and nano, were discussed.

This chapter also presented the forms of curriculum which include the intended, implemented, and attained (Van der Akker et al., 2009; Khoza, 2015c; 2016a). The currere process (Moore, 2013; Kisaka-Jwan, 2018) laid a basic foundation for the discussion of curriculum pillars, content being part of curriculum. The comparison of competence and performance curriculum was linked to horizontal and vertical curriculum approaches (Hoadley, 2018). Some screen shots on content and activities in Moodle (Brandl, 2005; Hirschel, 2015) were used to elaborate how Moodle can be used in teaching and learning. The educator-/lecturer-centred and/or learner-/student-centred teaching approaches formed part of the chapter discussion. The technological, pedagogical and content knowledge (TPACK) comprises technology (technological knowledge – Moodle as a resource); content (content knowledge) and pedagogical knowledge (ambitions, reflections, learning tasks, evaluation, learning environment, communal support, times). The literature review was presented in Chapters Two and Three above, in which the ten pillars are included in the TPACK theory. Therefore, this suggests the TPACK as the theoretical framework of this study.

CHAPTER FOUR
CURRICULUM PILLARS EMBODIED IN TPACK THEORY
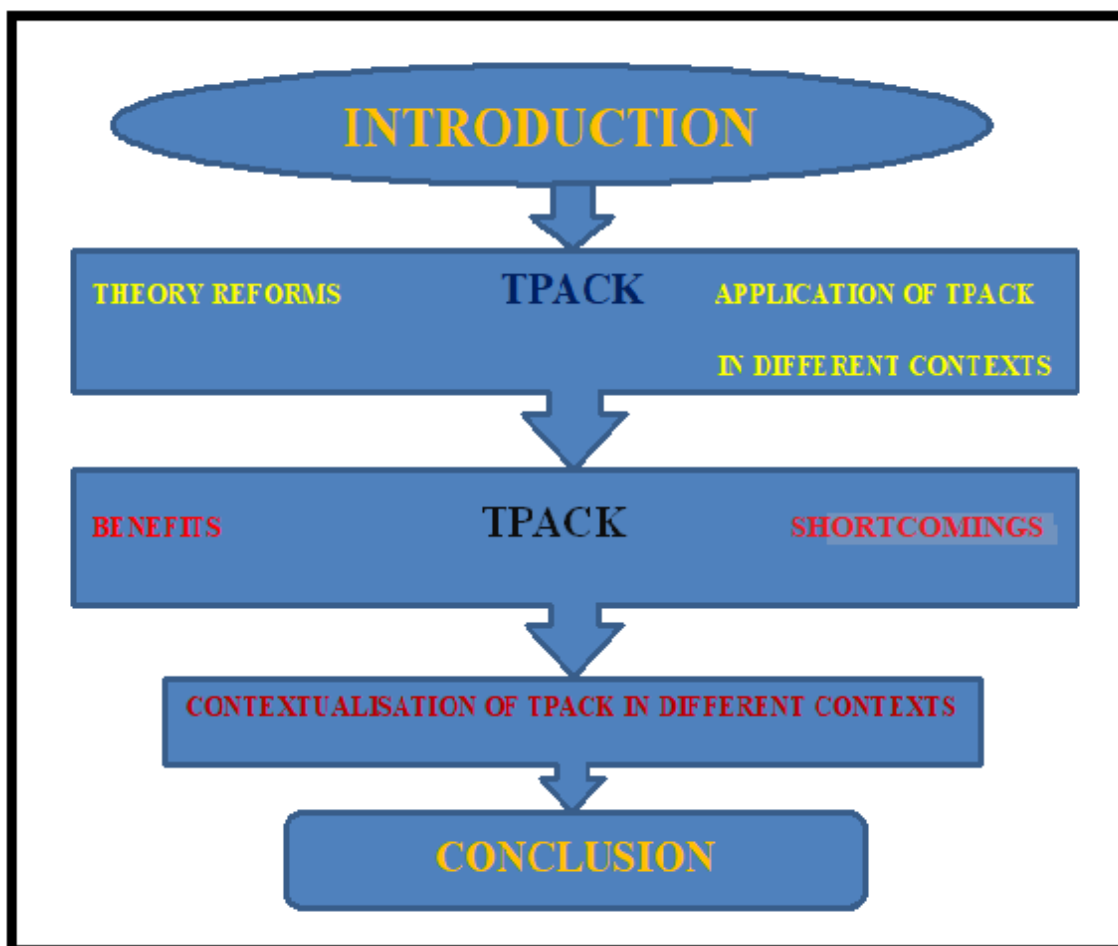
Figure 4.1: Chapter Four flowchart

4.1 Introduction

This chapter presents the technological, pedagogical, and content knowledge (TPCK) as the theoretical framework for this study. The ten curriculum pillars presented in Chapters Two and Three above include Moodle as a resource, which relates to technological knowledge identified as the 'T' of the framework. Pedagogical knowledge, represented by the letter 'P' comprises reflections, ambitions, learning tasks, lecturer's capacity, times, communal support, and learning environment. All the other eight curriculum pillars relate to the methods lecturers employ in their professional practice. Letter 'C" represents Content that relates to the content knowledge lecturers possess of their subject of specialization. The letter 'K' represents

knowledge. Hence, Chapters Two and Three discuss curriculum pillars − the ten pillars, which link well with the TPCK theory.

TPACK addresses the research questions as outlined in Chapter One. TPACK links well with a qualitative study and a critical paradigm; hence this study uses both, TPACK being relevant. Zuma (2019) iterates that, when writing a research, a relevant theory that will enable to explore the research question is required. Mpungose (2017) states that the theoretical framework of any research study conveys the theoretical grounds by integrating philosophical and concrete features. It specifies the main models influencing the phenomenon. The last two chapters therefore outlined the relevance of TPACK as the essential and appropriate theoretical framework for this study. Moreover, TPCK comprises three levels of reflection (individual, community and expert), as discussed in Chapters Two and Three above. Individual reflection relates to the pedagogical; community reflection relates to technological knowledge; and expert reflection links well with content knowledge. TPCK, therefore, as a theory, has concepts that include all the pillars, as discussed in Chapters Two and Three above, therefore is relevant to this study. This chapter further discusses the theoretical reforms, contextualizing, benefits, and shortcomings of the theoretical framework.

4.2 Theoretical Framework

McNell and Champman (2005) define theory as a building which is made from solid blocks of research studies. Finn et al. (2000) aver that theories are a conceptual framework to help make sense of the research findings. The researchers further elaborate that the theory is a set of models used to describe and/or explain something, rather than theoretical reflection. McNiff and Whitehead (2009) claim that theory means explanation about how and why something works as it does, describing something you have to know about it. De Vos et al. (2005) define theory as a set of interrelated constructs (concepts) explanations and proposals that present methodical new phenomena. A relationship is given amongst variables, with the purpose of clarifying and forecasting the phenomenon. De Vos et al. (2005) advocate that theory is an effort to describe and/or forecast a specific phenomenon. Dube (2018, p. 68) states that "a theory is a statement or a collection of statements that specify the relationships betwixt variables with a view to explaining phenomena such as human behaviour in some or other population". Dube (2018) further asserts that a theory can propose the presence of prior anonymous phenomena. Theory can assist an investigator to develop a new theory. This study

adopts TPACK based on the propositions which respond to the research questions and reflections which frame this study. Moreover, based on TPACK and other two theories, a new theory is proposed at the end of this chapter.

Corbin and Strauss (2008) claim that theoretical frameworks offer a conceptual guide for selecting the theories to be explored, for proposing research questions, and for framing the research findings. Corbin and Strauss (2008) also outline the benefits of a theoretical framework. First, after studying a topic, the researcher finds that a previously developed framework is closely aligned with what is being discovered in the researcher's present study. The researcher can use such to complement, extend, and confirm the conclusions. Second, a framework from the literature can also be used to provide other descriptions. There is often more than one description of an item. If the researcher is building upon a programme of research, or needs to establish middle-range theory, a previously identified theoretical framework can offer understanding, a method, and a valuable list of original ideas. Third, a researcher should remain open to innovative thoughts and notions and be keen to let go if he or she learns that some introduced notions do not fit the information. Finally, a theoretical framework can help the researcher determine the methodology to be used.

Terre Blanche et al. (2006) assert that a theoretical framework, as a theory, assists as an alignment for collecting facts. It stipulates the kinds of realities to be methodically observed. It is a well-developed, articulate description of an experience. Merriam (2009) elaborates on theoretical framework as referring to the fundamental framework of the study. Reason and Bradbury (2008) state that theoretical framework provides theoretical understanding, and has significant consequences for the focus of the research.

Zuma (2019) defines theoretical framework as the creating of thoughts that have changed into in-depth principles, examined in detail and confirmed, using proven, laborious approaches. Theory is utilised to describe, comprehend, and forecast phenomena, to check current human understanding of the test originated on planned provision. Zuma (2019) further defines theories as tools that assist us to think. Zuma (2019, p. 98) also categorised the following important parts for theoretical framework in a research study by outlining that "first, theoretical frameworks allow the readers to explicitly understand the statements of problems and be able to evaluate them critically. Second, the researcher has the ability to connect to existing human knowledge which assists the researcher to support the hypothesis and research methods. Third, there must be understanding and articulating assumptions around the theory in relation to

research questions of why and how. Finally, theoretical frameworks help the researcher to understand key variables around the phenomenon which need to be examined".

Mabuza (2018) asserts that theoretical framework is the foundation on which all information is created for a research study. When relating research creation to construction a house, a theoretical framework could be referred to as the design that directs and supports the study. Mabuza (2018) associated this with a travel plan used when scheduling a trip to a new destination, choosing the best way to take. A theoretical framework is fixed from current philosophies in the literature that have remained established, certified, and recognised by other researchers in the discipline. A theoretical framework provides a beginner academic a road map of seeing the study, and affords a sense of direction in working around showing the study. Nonetheless, experienced scholars and PhD scholars were observed capable of generating their own personal teaching plans. Theoretical frameworks support them to draw up plans from another's ideas, shaping their personal philosophies.

Mabuza (2018) adds that a theoretical framework supports academics to form descriptions of ideas in an academic model so that agreement amongst academics begins to appear. Theoretical frameworks thus comprise detailed explanations that remain crucial to a logical philosophy. A theoretical framework offers collective relationships and explanations for scholars to work on. This prevents the majority of generalizations of conclusions which are illogical for the phenomenon. This suggests the use of TPACK, the theoretical framework for this study.

4.3 TPACK Theory Reforms
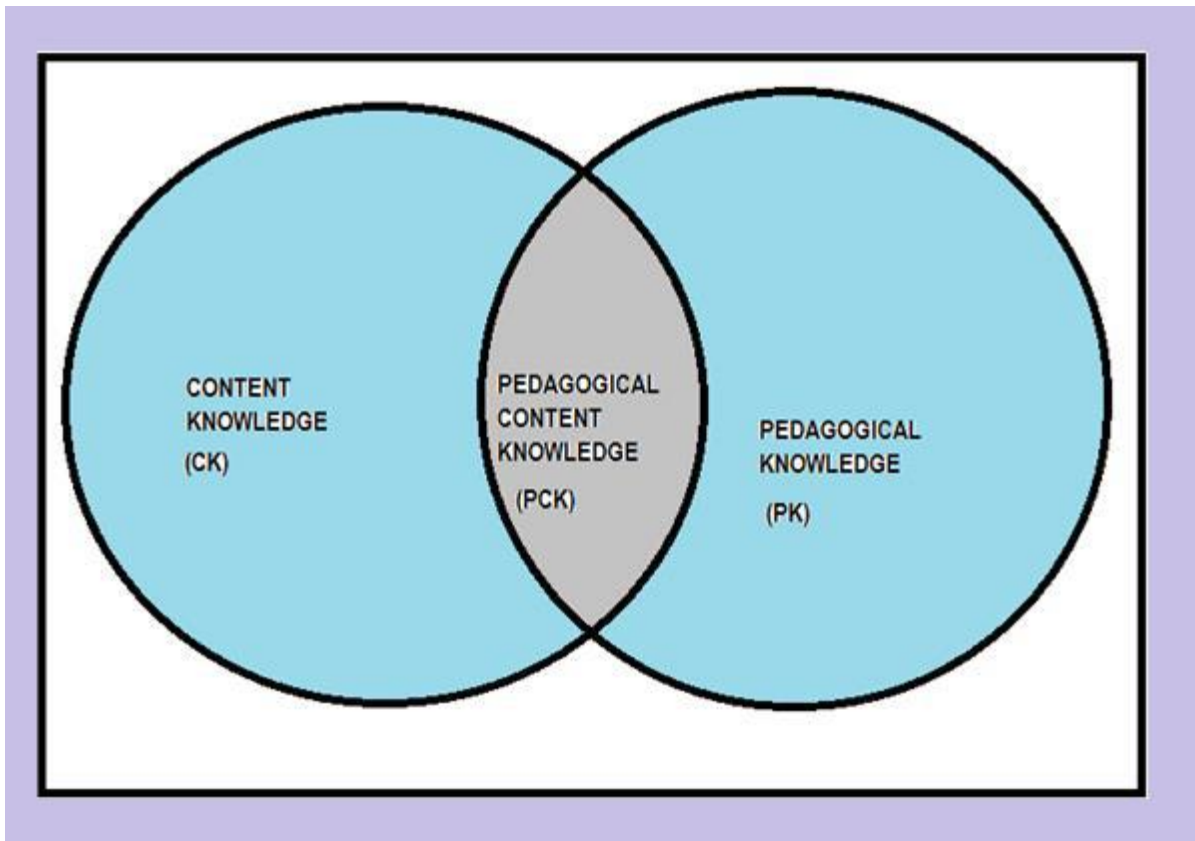
Figure 4.2: Innovation of TPACK theory (Shulman, 1986) (extracted from Zuma, 2019)

Figure 4.2, as illustrated above, is derived from the work of Shulman (1986), who established that content knowledge and pedagogical knowledge are interrelated. Subsequently, Shulman detected that, in most circumstances, subject knowledge and pedagogical knowledge are treated as separate and special areas. Shulman (1986, p. 9) states that "it is important to consider the most convenient form of representation of ideas in a subject, such as powerful analogies, illustrations, examples, explanations, and demonstrations, because this will determine whether the subject is comprehensible to others. This specifies that content and pedagogy are mandatory for educators, and they work collectively". The study further indicates that diverse content needs different approaches to teaching. Archambault and Barnett (2010) elaborate on the work of Koehler and Mishra (2005), that the TPACK framework was presented as technological, pedagogical, content knowledge (TPCK), as an addition to Shulman's (1986) work on content and pedagogy knowledge (CPK) during teaching and learning.

Harris et al. (2017) conducted a descriptive study on 21 adult students who participated in a 15-week course. The study examined the nature of the teachers' developing computational

thinking and dispositions, along with their technological, content, and pedagogical knowledge. The study suggests that future TPACK conceptualisation and development may do well to include work with computational thinking. Such can help teachers and their students to move from [being] consumers to creators of computing innovations in the twenty-first century. Teachers should be able to use past information in the current situation in order to meet future expectations. Teachers therefore require past, present, and future reflections, which relates to reflection-on-action, reflection-in-action, and reflection-for action. Individual, community, and expert reflection are important for TPACK: individual relates to the pedagogical component, community relates to the technological component, and expert relates to the content component of TPACK.

This framework was revised in 2006 and extended as technological, pedagogical, and content knowledge TPACK (Mishra and Koehler, 2006; 2008). Jimoyiannis (2010) further indicates that TPACK is a theoretical framework frequently used in teaching to discover educators' participation in and knowledge of technology. Koehler and Mishra (2008) modified the theory of PCK to TPACK. Thompson and Mishra (2007) noticed that most of vocational and pre-service educators encounter problems when they refer to the abbreviation TPCK. Teaching comprises terminology disputes. Jargon had to be reduced. Therefore, in the 9th Annual National Technology Leadership Summit, participants were requested to offer a novel term that would be comprehensible and easily recalled by everybody. After discussion, TPACK was recommended and appeared (pronounced 'tee-pack') The TPACK theory is today regarded as one that is able to incorporate technology into the three forms of knowledge: pedagogical, content, and technological.

The technological, pedagogical, and content knowledge (TPACK) framework theory is a developing model which is an addition to pedagogical content knowledge (PCK). Such is defined as a difficult interface between three forms of knowledge: content, pedagogy, and technology (Dlamini, 2017; Harris et al., 2017). The connections among content, pedagogy, and technology knowledge yield the understanding required to incorporate such into the classroom teaching and learning. Dlamini (2017) further states that, in the classroom environment, knowledge of pedagogy and that of the content should be combined. The TPACK theory reinforces the interconnections and collaborations between content, pedagogy, and technology. Knowledge on content, pedagogy, and technology is fundamental to any emerging curriculum design, presentation, and assessment in the teaching and learning environment.

Howey and Grossman (1989) reinforce that content and pedagogy are not disconnected, meaning that educators associate their knowledge of the content with the understanding of the scholars. Such a connection is recognised as pedagogy. An educator must use a specific method of conveying the content to be discerned by students during the teaching and learning time. TPACK therefore reflects these three types of knowledge that are integrated and form a complete package (Archambault and Barnett, 2010). Khoza (2017) further comments that the TPACK theory is pertinent to any situation that incorporates technology into the curriculum. Technology must be integrated into the teaching (pedagogy) of the curriculum (content). It is not adequate to recognise the teaching and the content without reflecting on the influence of technological materials (Moodle) used in the world of digital refugees versus digital natives.
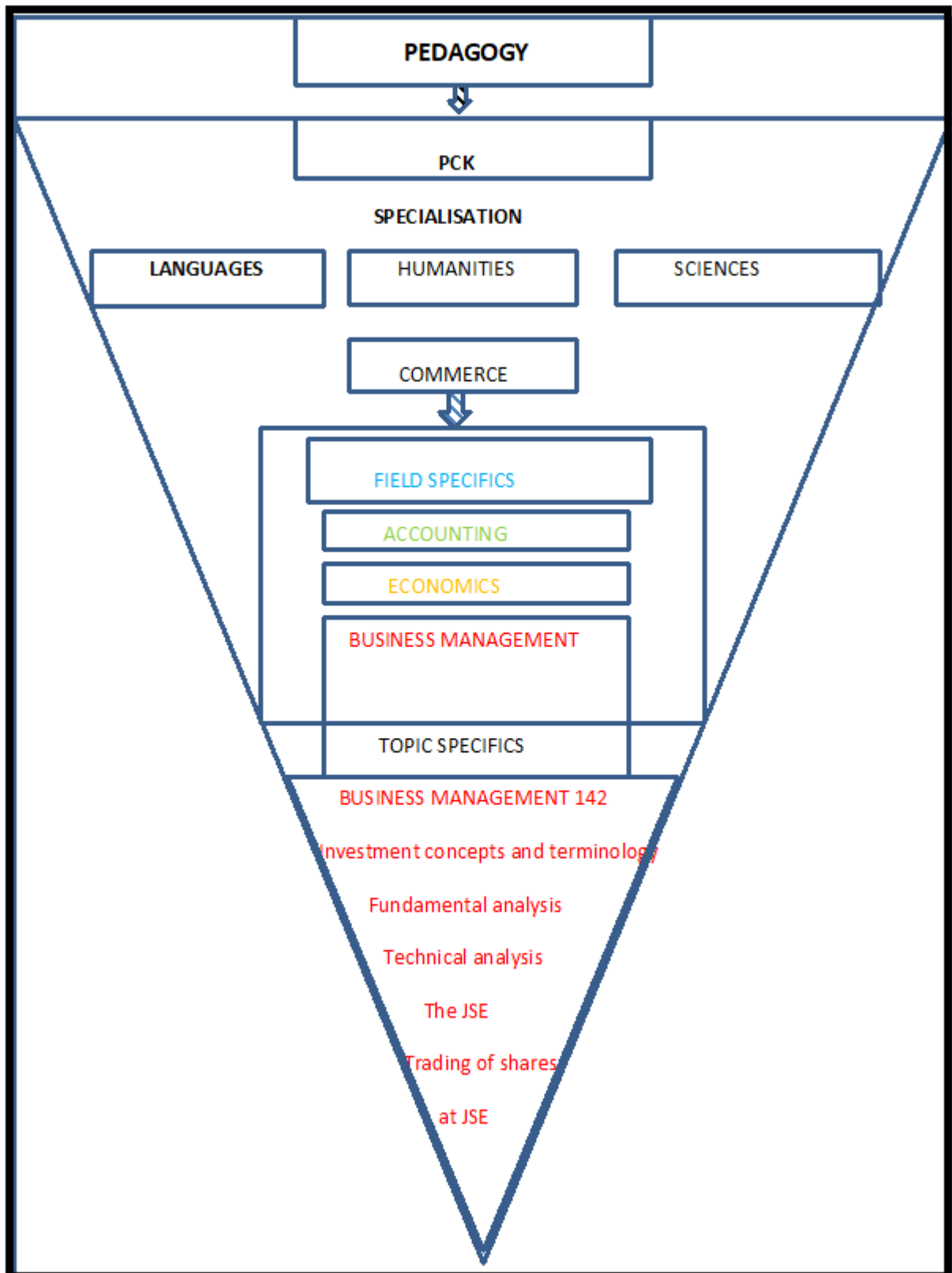
PEDAGOGY

↓

PCK

SPECIALISATION

LANGUAGES   **HUMANITIES**   **SCIENCES**

COMMERCE

↓

FIELD SPECIFICS

ACCOUNTING

ECONOMICS

BUSINESS MANAGEMENT

TOPIC SPECIFICS

BUSINESS MANAGEMENT 142

Investment concepts and terminology

Fundamental analysis

Technical analysis

The JSE

Trading of shares

at JSE

Figure 4.3: Graphic interpretation of pedagogical content knowledge (PCK)

The above graphic interpretation (Figure: 4.3) indicates that educators must have pedagogical understanding. Educators must adopt teaching methods that are required in a specific field. These teaching approaches need to contain appropriate interrogatives when evaluating, such as found in Bloom's Taxonomy (Kennedy et al., 2006). Educators should be capable of assessing students' strengths and weaknesses, setting group tasks when needed, and noting their part in relation to the curriculum. For instance, the horizontal curriculum (e.g. NCS) is student-centred, whilst the vertical curriculum (e.g. CAPS) is educator-centred (Khoza, 2016b; 2018a). Content is found when an educator comprehends the theories of knowledge. This study respects an educator as somebody with particular content who is able to transmit that content using different methods. (Shulman, 1986) believed that content and pedagogy make an educator comprehensible. Koehler and Mishra (2008) extended the model to the technological pedagogical content knowledge (TPACK).
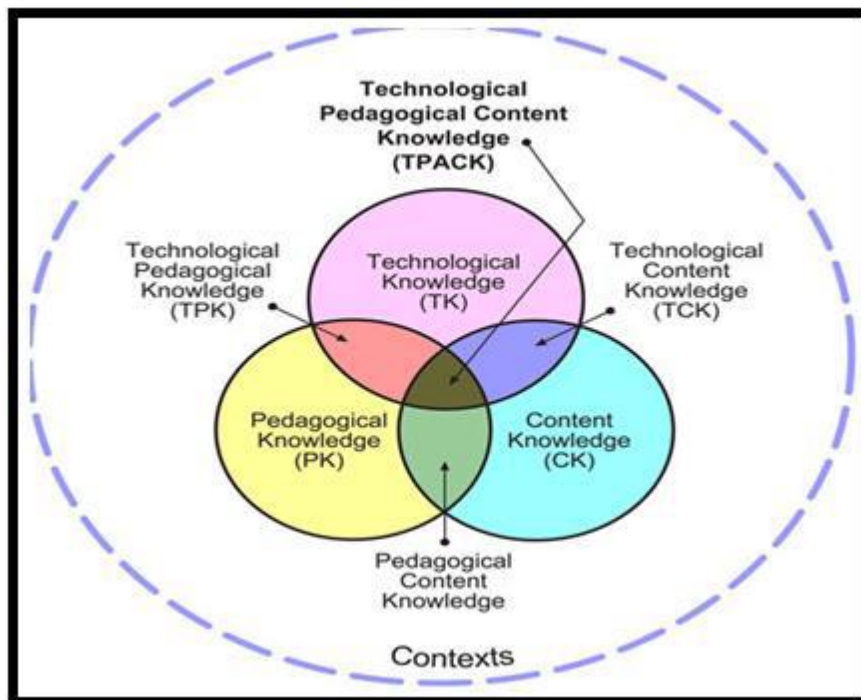
Figure 4.4: The TPACK framework and its knowledge components

   (Koehler and Mishra, 2009)

TPACK consists of seven components organised as follows: first, technological knowledge (TK) (Mpungose, 2019a). This component refers to the responsiveness of different types of technology such as software, hardware, and ideological-ware resources. Second, pedagogical knowledge (PK) refers to the approaches of teaching employed by the educator in the learning environment. Such comprises evaluation management, lesson planning, and student

participation. Third, content knowledge (CK) refers to the educator's real understanding of the subject knowledge of the specific content communicated to students. Fourth, pedagogical content knowledge (PCK), refers to teaching approaches, together with educators' content knowledge for improved teaching practice in the learning environment. Fifth, technological content knowledge (TCK), refers to educators' understanding of technology and how technology can impact the content of the subject matter. Sixth, technological pedagogical knowledge (TPK) refers to educators' understanding of how technology may be applied in teaching; and educators' consciousness that technology may vary the mode in which educators teach.

Finally, technological pedagogical content knowledge (TPACK) refers to knowledge necessary by educators to incorporate technology into their teaching of any discipline. Educators have to have a pure understanding of these three types of knowledge: content knowledge, pedagogical knowledge, and technological knowledge. When teaching content, educators must use correct pedagogical approaches and appropriate technologies. The next paragraphs will discuss these components in detail. The discussion will integrate the interlink amongst these kinds of knowledge, three levels of reflections, and their significant curriculum, as indicated in Chapter Three.

Mpungose (2017) further indicates that TPACK consists of components of educator knowledge that show their direction during the teaching and learning process. The TK components refer to the lecturers' knowledge about technology-in-education, and which are applied in the implementation of curriculum. This component is driven by community reflection in order to address the necessities of the people. This component requires lectures to understand, apply, and adjust to the novel developing technological resources like the usage of Moodle LMS during teaching and learning. The PK component is about the approaches and models relative to the method of teaching and learning, which may be derived from connectivism, behaviourism, constructivism, and others. This component provides a method for lecturers, and it is influenced by individual reflection. The CK is regarded as the knowledge of the discipline to be taught and learned. Lecturers should be grounded in content that speaks to the discipline or profession. This component relates to expert reflection, based on what studies are portraying about the discipline. Therefore, this component demands that lecturers be specialists in their subjects.

The PCK deals with ownership of appropriate teaching and learning models suitable to teach the modules content. Lecturers must be capable of organising the content to suit their teaching approaches, delivering such in appropriate stages. This component is informed by both individual and expert reflections addressing the needs of the lecturer and the module. The TCK is about the interface relative to the technology impacting the module content. This component is influenced by community and expert reflection. It questions practical resources for the curriculum, in order to address the unit needs and community needs. The TPK component is about having the skill to use technological resources successfully in accordance with the specified models, during the teaching and learning practice.

This component is informed by both community and individual reflection in order to address individual needs and community needs. The TPACK framework therefore inspires lecturers to have better understanding of technological, pedagogical, and content knowledge in order to discharge their teaching duties. Lecturers must apply technological resources such that they are productive, operative, and beneficial in imparting the unit content. This framework supports the use of technological resources in engaging students to create original understanding from their previous knowledge. Additionally, TPACK requires lecturers' reflections on all components in order to improve and have direction during teaching and learning. The following diagram indicates this relationship.
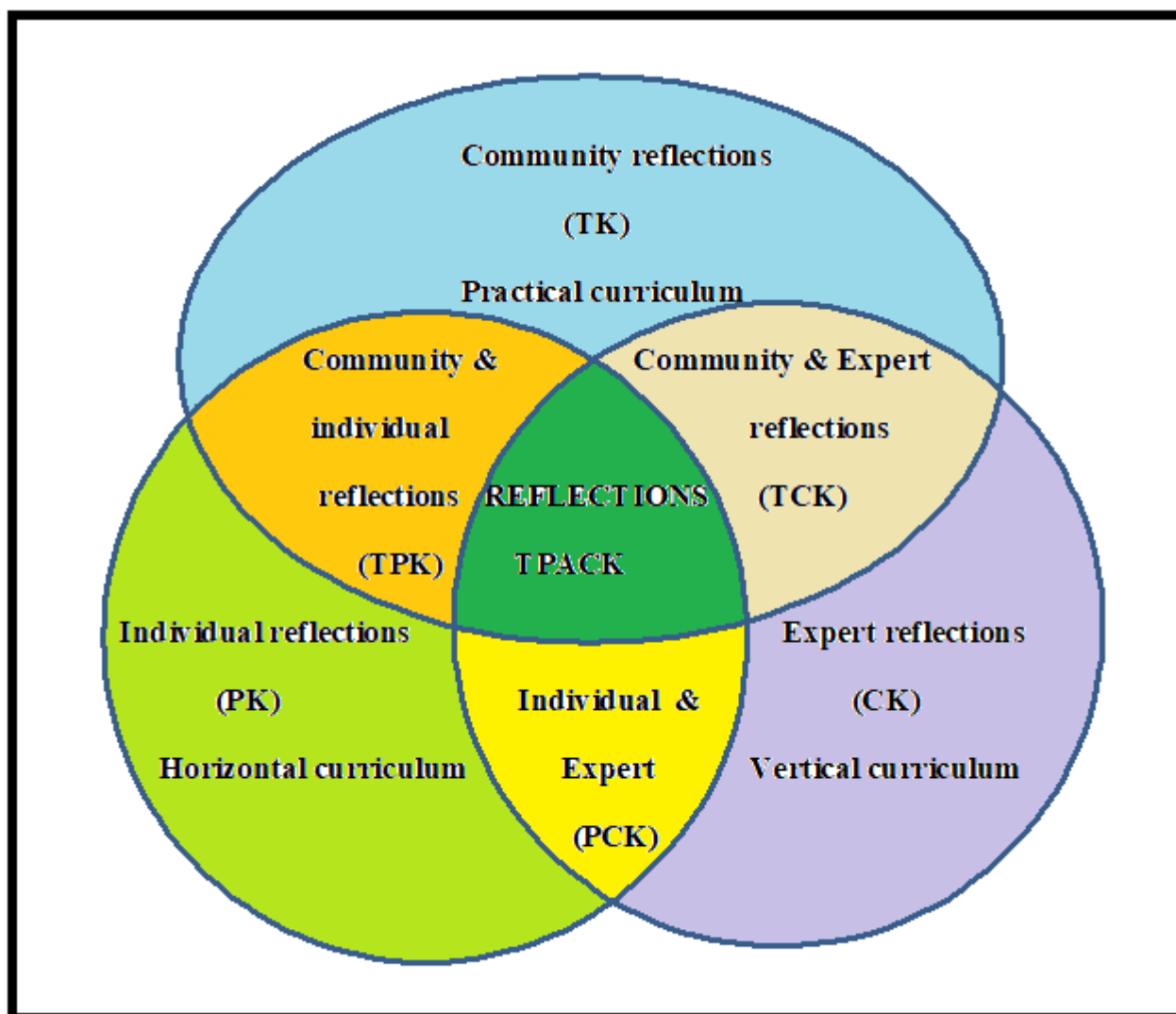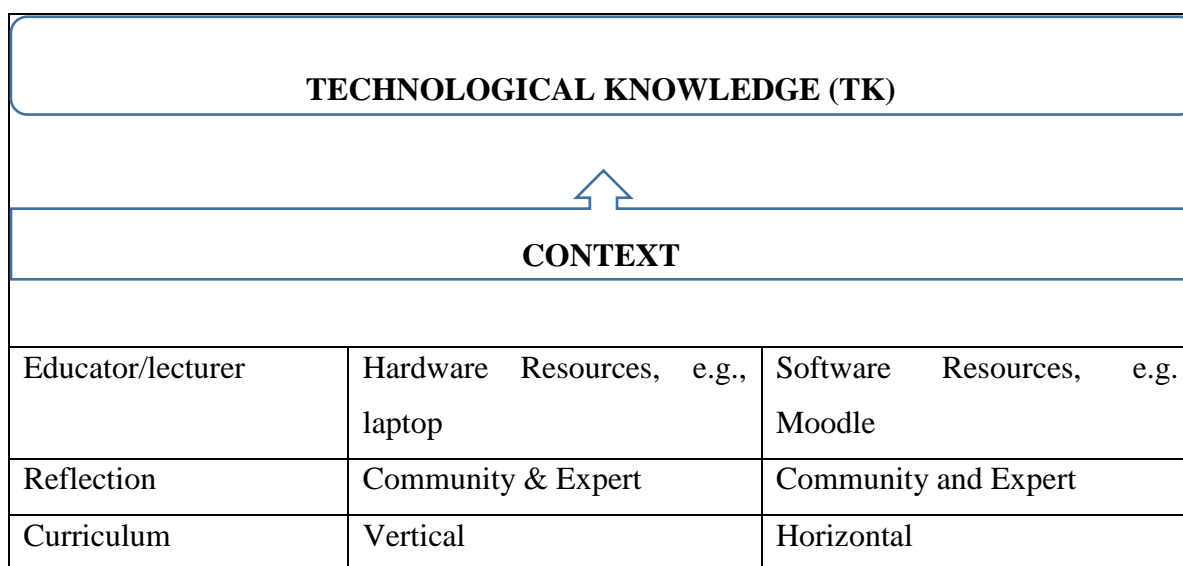
Figure 4.5: Interconnection between TPACK, types of reflection, and forms

       of curriculum

The kinds of knowledge in TPACK do not operate in isolation; such knowledge is driven by a number of aspects which include school ethos, organisational arrangement of the institute, and socio-economic elements (Zuma, 2019). For TPACK to operate, difficult issues first require to be deliberated which are interrelated to these bodies of knowledge. Moreover, understanding such educator knowledge is inadequate, therefore educators need to have a clearer understanding of curriculum. Curriculum may be well comprehended by educators when educators undertake three types of experience (individual reflection, community reflection, and expert reflection). These reflections are the basis of any curriculum whether practical, horizontal, or vertical. The following paragraphs unpack each knowledge type within TPACK, aligning such with the appropriate reflection and curriculum.

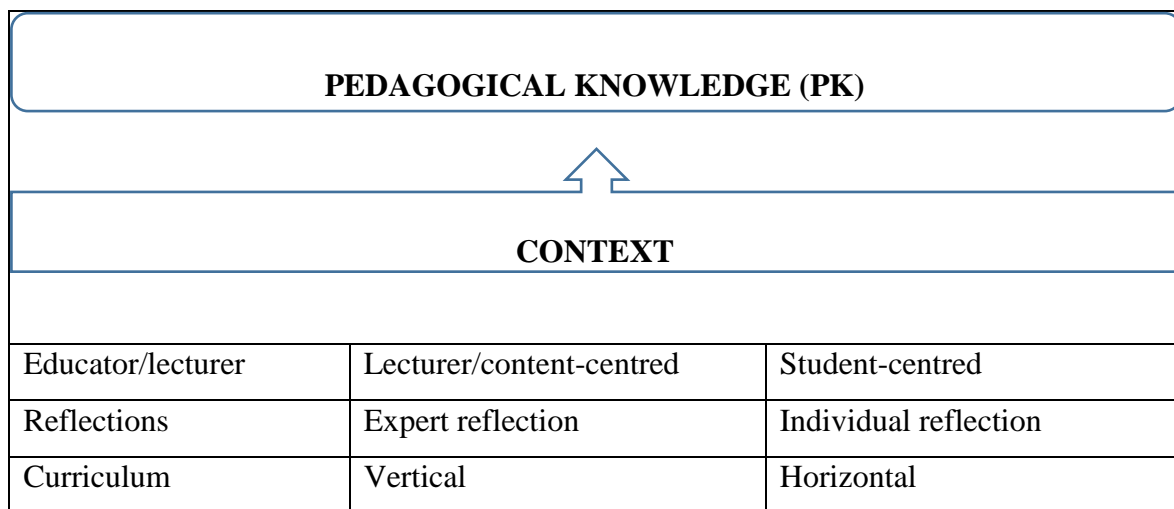**Table 4.1: Configuration between Technological Knowledge, Experience, and Resources**

TECHNOLOGICAL KNOWLEDGE (TK)		
CONTEXT		
Educator/lecturer	Hardware Resources, e.g., laptop	Software Resources, e.g. Moodle
Reflection	Community & Expert	Community and Expert
Curriculum	Vertical	Horizontal

According to Koehler and Mishra (2008), technological knowledge (TK) is constantly in a form of change, more so than the other two core knowledge domains in the TPACK framework (pedagogy and content). Certain methods of thinking about and employing technology can apply to all technology tools and resources. An individual achieves a range of activities using technology, improving different methods of completing a certain activity. This conceptualisation of TK does not suggest an "end state," but rather perceives it developmentally, as developing over a time of generative, flexible contact with technology. Thompson and Mishra (2007, p. 64) define technological knowledge as "knowledge of how to usage developing technologies." Technological knowledge is based on educators' understanding of technologies that must be utilised in the learning environment, not just understanding technology, but being able to incorporate it into the lesson.

Technology forms part of the resources that have a positive effect on students' learning, therefore educators must use technology (Thompson and Mishra, 2007). Technological knowledge comprises knowledge of functional structures and computer hardware, and the capacity to use normal groups of software tools such as word processors, spreadsheets, browsers, and email. TK includes knowledge of how to connect and eliminate marginal devices, connect and eliminate software programmes, and to generate and archive documents.

Educators should be able to use technology for community reflections (hardware and software), as well as individual, and expert reflection (ideological-ware).

Developing technologies are classified into two groups defined as teaching and learning resources. Khoza (2012) conducted a study that focused on finding out who helps online facilitators to learn with students in a day. Several wired resources were used, such as blogs, chat, discussion forum, and Facebook. Khoza (2012) further identifies hardware and software resources as any machine or tool used in teaching and learning. For online teaching and learning such tool are used to access the Internet, for example, the computer, mouse, and keyboard. Software resources are any material produced for the hardware to display information or communicate learning. Khoza (2015c) correlates these resources with the two levels of reflection identified in the table above; noting that, when the curriculum is dominated by software and hardware resources, it addresses the needs of the community, (community reflection), and the needs of the module (expert reflection).

Table 4.2: Configuration between Pedagogical Knowledge, Experience, and Forms
` **of Curriculum**

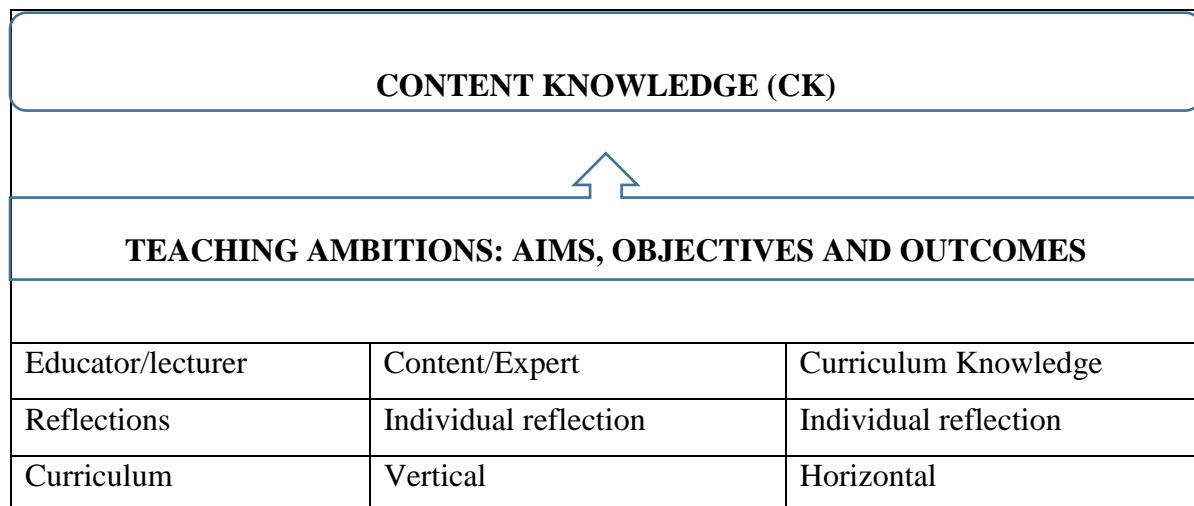| PEDAGOGICAL KNOWLEDGE (PK)		
CONTEXT		
Educator/lecturer	Lecturer/content-centred	Student-centred
Reflections	Expert reflection	Individual reflection
Curriculum	Vertical	Horizontal

Pedagogical knowledge (PK) refers to the educators' in-depth knowledge about the methods and practices or methods of teaching and learning that encompass complete learning intentions, standards, and goals (Graham, 2011). An educator with in-depth academic knowledge knows how students build knowledge and gain skills and how they may be motivated to learn. Therefore, pedagogical knowledge needs an understanding of mental, communal, and evolving

models of learning and how they relate to students in the learning environment (Koehler and Mishra, 2008). Pedagogical knowledge moves past educators' understanding of student knowledge, preparation, and executing, as it covers educators' knowledge of precise teaching approaches and skills used in the learning environment. Educators understand students' necessities and their differing abilities. Educators' pedagogical knowledge facilitates evaluation.

Pedagogical knowledge stimulates educators' understanding of how students build knowledge, including how to manage, instruct, and guide students in dealing with content (Rosenberg and Koehler, 2015). In relation to pedagogical knowledge, two approaches of teaching are most generally the lecturer-centred and student-centred. A lecturer-centred approach is based on the educator/lecturer as the one who is in charge of the lecture. Khoza (2018a) defines this as the process used in the vertical curriculum, the technique employed in the expert reflection, in which the concentration is on the needs of the subject/discipline. This is contrary to the student-centred approach which is employed in the horizontal curriculum. This method is used in shared experience, in which the focus is on the needs of the community.

Table 4.3: Configuration between Content Knowledge, Experiences and Types
of Curriculum

CONTENT KNOWLEDGE (CK)		
TEACHING AMBITIONS: AIMS, OBJECTIVES AND OUTCOMES		
Educator/lecturer	Content/Expert	Curriculum Knowledge
Reflections	Individual reflection	Individual reflection
Curriculum	Vertical	Horizontal

Content knowledge (CK) is educators' understanding of the subject matter to be learned or taught (Koehler and Mishra, 2009). Akyuz (2018) defines content knowledge as the volume and organisation of knowledge itself in the mind of the educator. This comprises not only knowing the facts and regulations of a discipline, but also being capable of seeing its

organisation and the connections within this structure. Rosenberg and Koehler (2015) affirm that content knowledge is driven by teaching ambitions, determined by the attention of the curriculum, for instance: aims promote individual reflection, which is the basis for a pragmatic/practical curriculum in which the needs of the students and the educator are at the centre. Outcomes stimulate community reflection, which is the foundation of a competence curriculum in which the needs of the society are at the centre. Objectives endorse expert reflection in which the needs of the specialisation are at the centre of the curriculum.

Knowledge of content is of critical importance for educators. As Shulman (1986) states, this knowledge would include knowledge of theories, concepts, thoughts, structural frameworks, knowledge of confirmation and evidence, as well as proven practices and methods on merging such knowledge. The price of not having a complete base of content knowledge can be exorbitant; for example, students can obtain inappropriate information and cultivate misconceptions about the content area. Content knowledge is about discipline or subject matter. For content knowledge, the educator must be familiar with topic specifics in a particular subject. Content knowledge is not associated with pedagogical knowledge as they both serve diverse intentions in the learning environment. Boody (2008) presents strong differences between a content professional and a curriculum knowledge educator. A content professional increases the confidence of the educator's part of liberating community, while curriculum knowledge is the consciousness of how topics are organised. Dlamini (2017) echoes Boody (2008) that content knowledge involves knowledge of the subject matter and its constructions, whereas curricular knowledge is characterised as certain programmes for the teaching subject. Classroom educators must therefore possess content, but more especially, curriculum knowledge. When curriculum is dominated by content professionals, this results in curriculum knowledge speaking to the needs of the community (community reflection).

4.3.1 Pedagogical content knowledge(PCK)

Akyuz (2018) defines pedagogical content knowledge as that going beyond knowledge of subject matter itself to the aspect of subject matter knowledge for teaching. Graham (2011) avers that PCK characterises the combination of content and pedagogy in understanding how specific features of subject matter are structured, modified, and embodied for teaching. Pedagogical content knowledge relates to the interrelationship between educators' pedagogical knowledge and content knowledge. At this point, both educators' pedagogical knowledge and

content knowledge must match each other to complete the goal of the curriculum. Shulman (1986) refers to pedagogical content knowledge as teaching knowledge, meaning that educators must have content and vital pedagogy of teaching, evaluating students based on the curriculum. Koehler and Mishra (2009) comment that pedagogical content knowledge occurs as the educator understands the subject matter, discovering various methods to represent it, adjusting and shaping the instructional resources to different formations and students' prior knowledge. PCK covers the fundamental business of teaching, learning, curriculum, evaluation, and reporting, such as the situations that stimulate learning and the relations among curriculum, assessment, and pedagogy.

Pedagogical content knowledge offers educators consciousness of previous knowledge of the students (Zuma, 2019). Park et al. (2011) elaborate that PCK is important for lecturers in their enactment of teaching methods associated with philosophies. This assists educators (lecturers) to employ appropriate teaching approaches in line with the subject/discipline. This is one of the best approaches for effective teaching, when the flexibility of ideas can resolve problems. Pedagogical content knowledge advocates that educators must have accurate knowledge of teaching approaches. Such knowledge of the content related to the subject will enable educators to overcome challenges in the learning environment. This will result in attaining the purposes of the curriculum, whether it be the vertical curriculum in which the focus is on the subject/discipline, or the horizontal curriculum in which the focus is on the needs of the community.

4.3.2 Technological content knowledge (TCK)

TCK is knowledge of how content can be investigated or characterised by technology such as using computer reproduction to represent and study movement of the earth's layer (Chai et al., 2011). Understanding the influence of technology on the practices and knowledge of a given subject is critical to emerging proper technological devices for educational goals. The choice of technologies both gives and limits the content concepts that can be taught. Technological content knowledge refers to an educator's understanding or knowledge about technology and content, and how technology impacts the lesson in the classroom (Graham and Borup, 2012). Technology and content are interconnected; however, some people assume that content and technology are not related. Koehler and Mishra (2009) argue that people maintain that technology suits technologists, history suits historians, and physics suits the physicists.

However, projectors, laptops, and so on to display historical content means that any subject may require technology for effective learning by students.

Harris et al. (2009) note that there are three ways in which technology interacts with the content: first, change in the new technology has changed specialisation content. The content of the subjects could be represented in many different real-life environments through technologic devices: this is commonly used in scientific subjects. Second, technology affects reasoning. New technology affects the mindsets of people. With globalisation taking place, the world is changing, and digital technology is being included in school subjects even in developing countries such as South Africa. Last, technology affords a novel language. Technology has its own theories or content that must be understood by educators.

4.3.3 Technological pedagogical knowledge(TPK)

TPK is an understanding of how teaching and learning can transform when specific technologies are applied in particular ways (Koehler and Mishra, 2008). This includes knowing the pedagogical affordances and limitations of a variety of technological devices as they relate to disciplinarily and developmentally applicable pedagogical proposals and approaches. Harries et al. (2009) state that educators must understand the different teaching and learning technological resources used to drive a specific pedagogy. Not only must they understand technological resources; they must understand the environment in which these resources work best. With technological pedagogical knowledge, educators must ensure that students are learning using appropriate software that is suitable for the content and pedagogy. For instance, educators should expose their students to the usage of Excel, which assists students to organise or arrange and analyse data. Harries et al. (2009) further note that educators must understand various software, such as knowing that there is software developed for entertainment, communication, and socialisation. Educators' pedagogical knowledge must be in line with appropriate software which is intended to address a particular curriculum.

4.3.4 Technology, pedagogy, and content knowledge (TPACK)

According to Koehler and Mishra (2009) TPACK is a developing kind of knowledge that goes beyond all three fundamental components (content, pedagogy, and technology). Technological pedagogical content knowledge is an understanding that arises from connections between

content, pedagogy, and technology knowledge. TPACK is the basis of actual teaching with technology, requiring an understanding of the representation of models using technologies; pedagogical methods that use technologies in positive ways to teach content; knowledge of what creates theories whether or not easy to learn; and how technology can help redress some of the challenges that students face. TPACK offers insight into students' previous knowledge and philosophies of epistemology; and knowledge of how technologies can be used to shape current knowledge to improve new epistemologies or to strengthen ancient ones. By simultaneously integrating knowledge of technology, pedagogy, and content, expert educators bring TPACK into play any time they teach.

Yurdakul et al. (2012) define the TPACK component as combined knowledge that an educator must have on the usage of pedagogical and technological knowledge in teaching a particular content part for educational technology combination. The TPACK element is described as a conversion of PCK plus subject-specific tasks and topic-specific tasks. The TPACK component refers to a teacher's knowledge of how to coordinate and combine the use of subject-specific tasks and topic-specific tasks using developing technologies to expedite student learning. The TPACK framework is one of the technology combination frameworks that emphasises an effective technology combination in the teaching practice with respect to educator proficiencies (Graham et al., 2012). The TPACK model also concentrates on technology integration not only with respect to the teachers' knowledge of technology use, but also with respect to the interface and integration of educators' knowledge in the field of technology, pedagogy, and content. Rosenberg and Koehler (2015) comment that TPACK, which includes the connection of TPK, PCK, and TCK, is about the difficult connection between all of the fundamental parts of information. Significantly, these are all portions of the complex environment in which educators act.

Rosenberg and Koehler (2015) further indicate that each condition presented to educators is an exclusive mixture of these three factors. Consequently, there is not only one technological resolution that applies to each educator, each course, or each interpretation of teaching. Rather, resolutions depend on the ability of an educator to openly navigate the spaces defined by the three elements of content, pedagogy, and technology, and the difficult interfaces between these components in particular environments. Overlooking the difficulty integral in each knowledge component or the complexities of the relationships among the components can lead to overgeneralised solutions or failure. Thus, educators need to cultivate eloquence and mental

flexibility, not just in each of the vital fields (T, P, and C), but also in the manner in which these fields and contextual parameters interrelate, so that they can construct effective solutions. This is the kind of profound, flexible, practical, and nuanced understanding of teaching with technology involved in considering TPACK as an expert knowledge construct. The TPACK framework recommends that content, pedagogy, technology, and teaching/learning environments have roles to play individually and together. Teaching successfully with technology needs constant generating, sustaining, and re-establishing of a lively balance amongst all components.

4.4 Application of TPACK in Different Contexts

Table 4.4: The Application of TPACK Framework with Authors, Study Summaries, Discoveries, and Identified Gaps.

TPACK framework theory authors	Study summary	Deduction/ discoveries	Gap (s)
Baya'a and Daher (2015)	The Al-Qasemi Academic College of Education conducted a study on Israeli higher education institutes, as well as in elementary through to high schools. The main research goal was to examine the consequences of implementing a college plan to advance the use of ICT in college	The findings of the research indicate that instructors and pedagogical supervisors in Al-Qasemi Academic College of Education had relatively high positive attitudes toward computers before the college intervention. These attitudes did not change significantly after the intervention. The instructors' ICT	The content knowledge is missing. Therefore the expert reflection is not considered, as it relates to content knowledge.

		instructors' teaching. Questionnaires were used to collect data.	proficiency improved significantly after the college intervention, especially as a result of three components of this intervention: ICT support centre, participation in workshops, and availability of assistants. The TPACK level of the instructors and the pedagogical supervisors improved after the college intervention. Another major change occurred in the number of pedagogical initiatives that involved special use of ICT in teaching proposed by the pedagogical supervisors, going up from only one before the college plan to at least six initiatives that year. Moreover,	

		the number of WBLE (web based learning environments) constructed by the pedagogical supervisors and presenting ICT-based learning units that they developed by themselves or with their students in the practical training increased from only two at the beginning of the college intervention to over thirty towards the end. The study focused on technological and pedagogical components of TPACK. Educators need to be able to use technology in teaching their content. They also need to apply strategies in teaching their subjects which then addresses individual and community reflection.	
Hosseini (2015)	A case study was conducted on a	The study reports that educators' knowledge	No gaps identified.

	group of 30 pre-service educators enrolled in a particular course at an Islamic Azad-South university, using a purposive sampling to inform how TPACK can be conducted through constructionist activities. Consequently, a module was designed in which observations, interviews, artefacts, and documents were used for in-depth collection of data. .	and conception of using technology for teaching developed on three levels. With each level, there was an enhancement of educators' TPACK and its components as a result of accomplishment of constructionist tasks. The first level was restricted to application of technology for displaying curriculum data. At the second level, the members focused on using technology to present content and resources. The results indicated that, at this level, although two components of the participants' TPACK, viz., TCK and PCK were established, bearing in mind technology as a learning instrument, (TPK) seemed to be absent. However, at	

		the third level, teachers developed the ability to use technology for enhancing teaching and learning. The result of the study highlighted inter- and intra-group interactions and learning-through-making as two aspects of constructionist activities that were more persuasive in the improvement of TPACK. The study covered the individual, community, and expert reflections, as well as the three components of TPACK.	
Watson et al. (2014)	A quantitative case study conducted at the University of Tasmania, on forty-two educators in the StatSmart project used an educator	Educators, at the first low level were unlikely to demonstrate any success on items that asked them to respond to actual student	Community and individual reflections are missing. Technological and pedagogical knowledge were not

	profile instrument for sampling. Rasch analysis was used to obtain a measure of educator ability in relation to PCK. As part of a profile, many aspects of educator confidence, beliefs, teaching practice, assessment practice, and background, were measured.	answers to questions addressing proportional reasoning. This finding suggests that these educators could only begin to predict students 'responses and to use materials in the classroom. In the second, middle level, most of these educators could respond to the student answers to the proportional reasoning problems with questions involving mathematical content. On the third high-level grouping, many educators still had difficulty achieving the highest codes on individual items, especially those related to using students' responses as a basis for planning intervention activities. The study focused on the content knowledge	addressed. The study did not consider community reflection which addresses technological knowledge and individual reflection as related to pedagogical knowledge. The two reflections and components are vital for completing the TPACK theory.
	PCK is addressed through responses to student survey items and how the items could be used in the classroom.		

		which relates to expert reflection.	
Park and Oliver (2007)	A multiple case study was conducted at the University of Georgia and the University of Iowa on three experienced chemistry educators who were working in the same high school. The aim was to rethink the conceptualisation of pedagogical content knowledge based on our descriptive research findings and to show how this new conceptualisation helps us to understand educators as professionals. A reflective journal, classroom observations, semi-structured interviews, lesson plans, educators' written reflections, students' work samples, and	The results indicated that (a) PCK was established through reflection-in-action and reflection-on-action within given instructional perspectives; (b) educator efficacy arose as an affective associate of PCK; (c) students had an essential influence on PCK development; (d) students' misconceptions played a significant part in shaping PCK; and (e) PCK was personal in some parts of its implementation. The study further notes that, finally, the conceptualisation of PCK emphasises the significance of logic and combination among the six	The technological component of TPACK was not considered; whereas educators need to use technology in teaching a content inclusive of different strategies. The reflection-in-action and reflection-on-action relate to both past and present situations. The reflection-for-action, which is future-oriented, is missing.

	researchers' field notes were used for data generation.	components of PCK for effective teaching. Educators, whether working with pre-service or in-service students, need to be aware of the interrelatedness among the components, even when they focus on only one. At the same time, it should be recognised that reflection is a key vehicle for advancing educators' skills to incorporate the components of PCK. Similarly, the model suggests that reflection of educators' affective domains, as well as their cognitive domains, is important. The study covered the pedagogical and content components of TPACK which are related to individual and expert reflection. Reflection-in-action	

		and reflection-on-action incorporates individual, community, and expert reflections.	
Akyuz (2018)	A quantitative survey study was conducted at Middle East Technical University, Turkey, on 138 pre-service mathematics educators obtained from a technology-integration course. The aim of this study was to shed light on these three questions (How can we measure TPACK using performance assessment within a mathematical context involving a dynamic geometry environment? Which components of the TPACK model are actually identifiable in such a setting? What type of correlation, if at all,	The results show that four knowledge domains within the TPACK framework could be distinguished, which are denoted as Core, Tech, TPACK-P, and TPACK-C. The performance- and self-assessment-based measures were found to yield similar results. This excluded pedagogy-related knowledge domains, in particular, for pedagogical knowledge (PK), technological pedagogical knowledge (TPK), and the TPACK. The emergence of two groups of educators with TPACK, with one group having a	The content knowledge was not covered, which is one of the relevant components of TPACK as it addresses expert reflection. As much as technology and methods are important, these two are used as a delivery mechanism of content. Therefore content is a vital component of TPACK.

| | | exists between performance- and self-assessment scores?) by analysing lesson plans collected over a time of five years. An instrument that describes each component of the TPACK framework was developed and applied to performance-assessment of pre-service educators. The data in this study was collected during the "Exploring Geometry with Dynamic Geometry Applications" course offered as an elective course. Class sessions were held. A total number of 138 students participated in the course. The analysis is augmented | higher tendency to pedagogy and the other to content, appeared as an important finding of this study. Recognising this issue in educator education programmes may promote tailored instruction for pre-service educators of both tendencies. The findings of this study suggested that, despite several difficulties and limitations outlined on Section 3.5, performance-based TPACK assessment in a mathematical context involving the use of a dynamic geometry software is feasible. The key ingredients that make such an analysis possible are the lesson plans, activity sheets, and dynamic geometry software | |

	by a self-assessment survey to compare and contrast the differences between the two. Self-assessment surveys were administered to the pre-service educators in the last semester of teaching at the end of the instruction. The last session used open-ended questionnaires, interviews, observations, self-assessment surveys, and performance-assessment instruments	files of the target group that is investigated. The study covered the technological knowledge, and pedagogical knowledge which relates to community and individual reflection.	
Khoza and Mpungose (2017)	A qualitative interpretive case study of six professionals from South African universities was conducted. Purposive and convenience sampling was used to select six	The study revealed that the use of Turnitin by academics was driven by self (pedagogy) and societal (technology) physiological space, more than by a professional (content) space. The study	No gaps identified.

	professional teaching science units. The aim of the study was to discover the physiological spaces (individual, community, and community) used by professionals on Turnitin to evaluate students' work from copy. Reflective journals and one-one semi-structured interviews were employed to produce data.	concluded by recommending the alignment of all spaces to drive the use of Turnitin. Such could be achieved by adapting the TPACK framework which covers all these spaces (content, pedagogy, and technology). Presentation addresses all experiences (individual, community, and expert).	
Park et al. (2011)	A quantitative correlational research design study was conducted on seven educators at the University of Iowa. The study aimed to investigate the correlation between an educator's PCK level as measured by the PCK rubric and the degree to which the classroom is reform-oriented as	The results indicate that the PCK score is significantly related to the RTOP score in terms of both total score and subcomponent scores. Educators are found to be at the centre of the reform in science education. This suggests that reform efforts can	The technological component which links well with community reflection was not covered; hence it is an interface for teaching content using different strategies.

| | measured by the reformed teaching observation protocol (RTOP). The thirty three videotaped instructional sessions, pre-/post-observation interviews and class observations were used for data collection. | productively focus on developing educators' PCK. The results further indicate that

teaching excellence should include the evaluation of PCK, since it appears that PCK is a reliable predictor of what an educator knows and what the educator is actually doing in the classroom. Further to that, the study shows that that those two components are positively related to the reform

orientedness of instruction. In this regard, in order to support educators to implement reformed science education focussing on an enquiry-oriented approach and student centredness, we need to provide educators opportunities to | |
|---|---|---|---|

		analyse student understanding	
		of a science concept; thereafter to offer teaching strategies to confront student	
		misconceptions and to meet learning difficulties. Parallel to this, a growing body of	
		research has suggested that PCK development is promoted by increased understanding of students' preconceptions, learning difficulties, and reasoning types in a specific domain. The study covers the pedagogical and content knowledge which are two components of TPACK associated with individual and expert reflections.	

Govender and Khoza (2017)	This is a chapter completed under the subject technology-in-education for educators. The purpose of the chapter was to alert lecturers to contemporary technologies in the field of education. This chapter was written by two authors teaching curriculum, technology and science modules at a South African university.	The findings indicate that the world is transforming from analogue to digital. This obliges universities to adopt LMSs such as Moodle. On the same note, professionals, such as lecturers teaching science, mathematics, and ICT, struggle to use those systems available. This chapter therefore recommends worthwhile philosophies to support the theoretical framework which include TPACK. The chapter outlines that TPACK is beneficial because it may prepare academics with pertinent knowledge of what technology can offer; and how it can be used to address the unit need and the individual need	No gaps identified.

		(pedagogy). All reflections (individual, community, and expert) are considered in this TPACK presentation.	
Harris et al. (2009)	A critical analytical paper on educators' engagement with technology indicates that, across the world, there is a strong need to infuse technology into our curricula. The current relevant theory to assist with this is the TPACK theory, because it focusses on education through technology, and on integration of technology and pedagogy with the content. More significantly, this study further notes that the use of technology in the curriculum	This study concludes that, to accomplish improved educators' understanding of TPACK, we need to understand that TPACK is an interdependent system which seeks researchers who are technological developers, content experts, and pedagogical practitioners. All these components of TPACK are equally important to an educator who is expected to implement the curriculum. The study considered all	No gaps identified.

	transforms the subject, the ways students understand, and even the way the educator presents content.	TPACK components and reflections.	
Koh and Chai (2014)	A qualitative study on educators' perceptions on technology pedagogical content knowledge (TPACK), indicates that, although studies are conducted on TPACK, reports are insufficient on educators' development on TPACK. As a result, this study engages educators with lesson discussion, grouping educators according to age, gender, and years of service. This has allowed educators to connect with the content they teach and the technological resources they use.	This study concludes that educators have different levels of confidence when teaching ICT using TPACK as a frame. Moreover, age and gender have a great influence on educators' confidence, with female educators less confident than male educators to use technological resources available to them. However, most educators are able to demonstrate a high level of understanding of content, regardless of their age, gender, or years of service. Educators are able to understand and present content which is part of TPACK, but	Technological knowledge

		at the same time, educators struggle to utilise the technological resources available to them.	
Chai et al. (2013)	The survey study of 550 lecturers from Asian universities in China, Hong Kong, Singapore, Taiwan, and Australia. The aim of the research project was to confirm the TPACK model in teaching their modules. Questionnaires were used for data generation.	The study discovered that there were restrictions on the usage of the TPACK model during teaching and learning of units. The study concluded that the university should have an appropriate policy in place regulating the enactment of TPACK components. TPACK presentation was transforming towards the use of expert reflection (module need).	Individual and community reflection for the use of TPCK were not addressed. The study is silent on individual and community reflections.
Jen et al. (2016)	This is the mixed-method study where data was generated using a survey to collect data quantitatively; and one-on-one semi-structured interviews	The study revealed that most science educators who were teaching Physics, Chemistry and Biology have great expertise in academic and content	Individual needs not considered. Technological knowledge not addressed.

		knowledge, but are lacking technological knowledge. As a result, educators, do not meet student requirements since they are digital natives. The study therefore suggests science educators share and have sessions on how technological tools are used to support their science themes. TPACK is promoting the use of community reflection (skills for community needs) to complement expert reflection (unit need).	
	were used to generate data qualitatively. The study was conducted at Science Education Centre, National Taiwan Normal University in China. The purpose of the study was to quantify the intensities of science educators' expertise level of TPACK during real teaching and learning practice of their science themes.		
Jang and Tsai (2013)	Factor analysis was conducted on 1292 science educators randomly selected from secondary schools across different parts of Taiwan, using questionnaires. The purposes of this study were to explore TPACK of secondary	The results showed that secondary science educators' TPACK was statistically important according to gender and teaching experience. With the consideration of other TPACK sub-components, male science educators rated their technology	No gaps identified.

	school science educators using a new contextualized TPACK model.	knowledge significantly higher than did female educators. Experienced science educators tended to rate their content knowledge and pedagogical content knowledge in context (PCKCx) significantly higher than did new science educators. Nevertheless, science educators with less teaching experience were inclined to rate their technology knowledge and technological content knowledge in context (TPCKCx) significantly higher than did educators with more teaching experience. The study shows how gender and teaching experience were dominant features for secondary school science educators'	

		TPACK. All TPACK components and reflections were covered.	
Alsofyani et al. (2012)	A quantitative study was conducted on the use of short blended online training (SBOT) on 26 participants using non-random sampling and convenience sampling. A questionnaire was used to generate data. The study explored the evaluation of this mode of training by using the technology acceptance model (TAM).	The results show a great acceptance of this mode of training. Moreover, in practice, dual training modes can be offered for TPACK development programmes, which may consist of face-to-face training and SBOT. These results confirmed previous results that reported a positive effect of using online training for TPACK development. The study further notes that the positive evaluation of Short Blended Online Training (SBOT for TPACK development expresses the effectiveness of the pedagogies and approaches that were applied in the training sessions. Moreover,	Content knowledge is missing.

		communicating a clear expectation of the outcome of the course through the behavioural objectives of the training helped the participants focus on the requirements of the training. The instant technical support and the quality of the training led to the high acceptance of online training. This acceptance may, in turn, accelerate and facilitate the integration of instructional technology in HEIs. HEIs can offer dual modes of training (face-to-face and SBOT) for every training workshop. Providing SBOT is an attractive choice for HEIs because faculties with sufficient technological	

		knowledge will prefer this mode of training, as found in the present study. In addition, this technique of training can increase the coverage of TPACK development programmes to the entire faculty; and can easily support faculty experience and exploration of online learning.	
Archambault and Barnett (2010)	A quantitative survey study was conducted at Arizona State University on 596 educators on the nature of technological pedagogical content knowledge (TPACK). The study aimed to understand the connection between these components of TPACK. A web-based survey instrument was	This study determines that TPACK is vague about the two components of content and teaching. Educators struggle to differentiate between these fields, the only pure sphere being technological knowledge. The study further claims that, when teaching a specific content, it is expected that teaching approaches are considered part of the content; consequently, these two spheres may	Content, pedagogical knowledge, and community reflection are missing.

	applied to generate data.	not be regarded as different spheres. The study regarded content knowledge and pedagogical knowledge as one sphere, which means that they perceive technological knowledge as the only independent domain. This study recommends that individual reflection and expert reflection are one domain, with no clear distinction between the two components.	

Based on the above statements from several indicated studies in Table 4.4. on the application of TPACK in different environments, it is clear that TPACK's key components (pedagogy, content and technology) play a prominent part in the operative teaching and learning of Business Studies units, when lecturers reflect on Moodle application. The technology component is fostered by community reflection since technology actively includes all participants in teaching and learning in order to address the community needs (Govender and Khoza, 2017). It is also recommended from the use of TPACK that both pedagogy and content from components TPACK are motivated by individual and expert reflections, respectively. It is imperative for professionals to have teaching approaches prior to the teaching of the content to deal with the unit requirement as well as individual needs. Statements from Table 4.4 demonstrate that there must be an association of TPACK's components, that is pedagogy, content and technology, in order to promote fairness in the incorporation of technology with the teaching of the curriculum in higher education.

These studies profess that the configuration amongst these three main TPACK components comes into reality only when professionals engage in the three types of reflection-in-action, reflection-on-action, and reflection-for-action which are related to practical (community), technical (expert), and community (critical) reflections (Van Manen, 1977; Khoza, 2015c; 2016a; 2017; 2018a; Mpungose, 2019a; Govender and Khoza, 2017; Khoza and Mpungose, 2017; Mishra and Koehler, 2006; Jang and Tsai, 2013; Hosseini, 2015). Ultimately, these studies suggest that the teaching and learning procedures of lecturers must be driven by individual, community, and expert reflection, in order to deal with the unit content (unit requirement), lecturers (individual requirement), and students (community requirements). This configuration is illustrated in Figure 4.5 below.
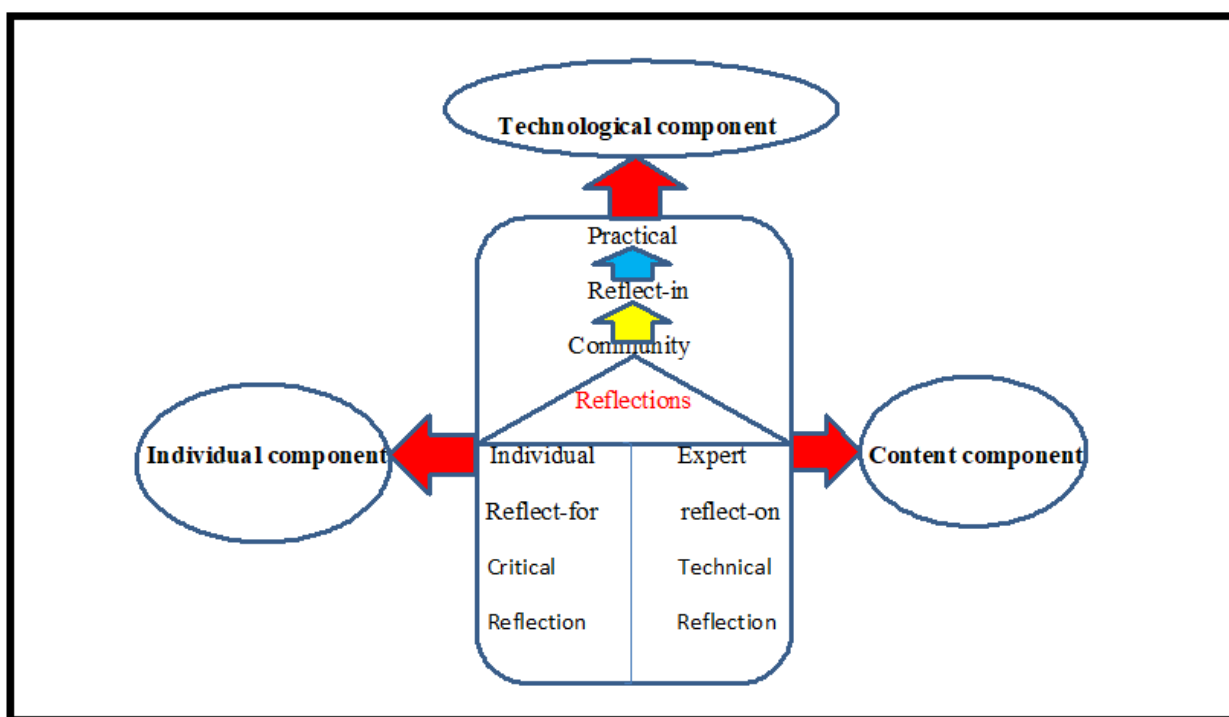
Figure 4.5: **The configuration of TPACK components with reflections**
          (derived from literature)

Figure 4.5 above indicates the intersection between the technological, pedagogical, and content components and individual, community, and expert reflections. The educator's knowledge of technology relates well to community reflection which further relates to reflection-in-action and practical reflection. This further suggests that technological consciousness, technological determination, and technological ability of lecturers relates to the desires of the community.

The technological abilities of lecturers are not disconnected from pedagogical understanding, which is supported by individual and/or critical reflection. Such characterises the reflection-for-future; relating to the inner being of an educator in association with the discipline/subject matter. The innate self of an educator should be modified and framed by the content knowledge which frames the ways in which educators interconnect their pedagogical knowledge. Content knowledge is reinforced by expert and/or technical reflection. Educators are enacting the curriculum where the emphasis is on the specialisation, models including other factors that foster a certain discipline. The intersection between TPACK and reflection yields that technological understanding of educators is supported by expert reflection which relates well with reflection-on action. TPACK components and reflections are important to educator's knowledge of curriculum and educator practices.

4.5 Benefits of TPACK Theory

Chai et al. (2011) conducted a seven-factor exploratory survey construct to define educator's incorporation of evidence and communication technology (ICT) in their teaching. This article studies the concept strength of a TPACK study that was contextualized for the pedagogical methods used in a 12-week ICT course planned with reference to the TPACK outline for Singaporean primary school pre-service educators. The study focussed on 834 pre-service educators preparing to be primary school educators at an educators' college in Singapore, using a survey instrument. A 46-item survey instrument was formulated to generate data. The results showed that pre-service educators were capable of differentiating between TK, CK, PK, TPK and TPACK. The key alteration in this study is to substitute the common PK material for PKML material. Moreover, the identification of the TPK construct permits the academics to comprehend the connection between the five recognised concepts. The TPACK framework has been useful in developing a number of pre-service and in-service educator courses, including with smaller numbers of educators.

Most of the cases showed some kind of progressive results such as educators' improved skills in designing ICT-incorporated modules. Pre-service educators' concept of TCK might be improved with a session dedicated to the deliberation of the technology pertinent to their teaching themes. The TPACK concepts can be clarified to them, which might help them contemplate prospective methods for incorporating ICT into teaching. The study further indicates that TCK attracts the educators' consideration of the technological instruments that

subject matter intends to have to use to explore and advance understanding in that field of scholarship. Students' knowledge of a topic must include the study of the technology associated with the subject matter.

TPACK seeks to describe the kind of knowledge educators need to have, and how educators must relate to these knowledge levels as described by TPACK. When educators are well informed about the content they should teach, and the pedagogy they should apply, as well as the technology they should use, and are able to intersect these components to fit the context they teach, they are in a better position to implement the curriculum correctly. This does not only apply to educators in the classroom environment, but also to pre-service educators and training institutions. TPACK is an instrument that has a huge potential for the development of educators, and is a theory that is relevant to the world of technology. TPACK has the potential to profile the method teacher-educators and professional designers use to prepare educators to incorporate technology (Polly and Brantley-Dias, 2009). Polly and Brantley-Dias (2009) further emphasise that the TPACK framework provides educators and researchers with an analytical lens which helps them understand the educators' decisions on their teaching and learning. This also provides educators with clarity on how and why educators should embrace technology in their teaching, not as a tool to transmit information to students, but rather as a pedagogic method, in which students are engaged in the process of their own learning.

The study further elaborates that technological knowledge cannot substitute for educator's pedagogical knowledge and content knowledge, which is why the incorporation feature is essential for appropriate enactment. Some educators learn to apply technology in their individual capacity, however, they must study technology that will help with the topic. Peña-López (2016) has identified that teachers lack community reflection and individual reflection; however, lecturers show an understanding of all three levels of reflections (individual, community, and expert reflection). Therefore, through understanding of TPACK, educators are enabled to determine the correct curriculum (pedagogical knowledge/individual reflection) for students, select appropriate learning activities (content knowledge/expert reflection), and then select appropriate technological tools (technological knowledge/community reflection) that will support the selected learning activities. This approach embraces all components of TPACK. Harris et al. (2017, p. 2) assert that "a teacher who effectively integrates technology would be able to draw on extensive content knowledge and pedagogical knowledge, in combination with technological knowledge. The intersection of the three knowledge areas, or

technological-pedagogical-content knowledge, would define effective technology integration". Educators become more aware of suitable strategies during their planning process when they understand TPACK.

Moreover, one of the benefits of using TPACK to frame the learning process is that it helps educators to know the technology (technological knowledge/community reflection) available or in place, understanding how to use it for effective teaching and learning so that life will be easier. When educators reflect formally (expert reflection/ reflection-on-action/technical reflection), personally (individual reflection/reflection-for-future/critical reflection), or informally (community/reflection-in-action/practical reflection), on the use of TPACK, it becomes easy for them to notice any available technology resource for teaching (Khoza, 2016b). TPACK framework facilitates the process of unpacking the curriculum components in all policy documents used for the education and learning practice (technology, pedagogy, and content components). Mpungose (2017) indicates that lecturers should use their reflection (individual, community and expert) on the application of TPACK as a precise convenient structure throughout education and learning (incorporation of technology with syllabus) so that they may advance their expert education (content knowledge) practices. Mpungose (2017) further asserts that TPACK can work as a tool, allowing scrutiny of an educator's understanding; and for prospective expert improvement (he or she needs for best usage of learning technology − technological knowledge). The advantages of applying TPACK by partakers in all education tasks depends on cost-effectiveness and awareness of the content.

Graham (2011) conducted a comparative study for theory building as a lens for examining the TPACK framework. The study identifies specific weaknesses, which in turn suggests areas needing theoretical development. The study further uncovers that the awareness of the diverse scope of technology combination from common to subject-specific, permits courses and lecturers to start discerning diverse educational interventions (pedagogical knowledge/individual reflection) and routes for attaining their aims. The TPACK theory assists to define a phenomenon and it enables one's ability to improve interventions that will impact the phenomenon. Although the connection between concepts in the structure is actually further descriptive, assumptions can be established. Such can envisage the comparative worth of diverse methods to developing TPACK theory, as well as the influence of educators with solid TPACK, PCK, or TPK on processes of student knowledge. It is beneficial for university lecturers and in-service teachers to determine what is advantageous − whether to move from

TPK to TPCK or simply to commence with TPCK. The technological pedagogical content knowledge (TPACK) model has the ability to offer a solid basis for forthcoming technology incorporation study. A solid TPACK model could moreover afford academic direction for exactly how education courses (content knowledge/expert reflection) can approach teaching of students, who could apply technology (technological knowledge/community reflection) as subject-specific.

The TPACK model seeks to provide enhanced methods (pedagogical knowledge/individual reflection) for determining and defining the way technology (associated expert understanding) is enacted in practice. Through understanding content, pedagogy, technology contexts and their interactions, educators are in a better situation to know the difference in stages of technology incorporation. The TPACK model provides numerous opportunities for stimulating a study in educator training (pedagogical knowledge), educator academic growth (content knowledge), and educators' application of technology (technological knowledge). TPACK provides possibilities for observing a difficult phenomenon resembling technology combination. The TPACK model permits educators, academics, and educators to move beyond over-generalised methods that portray technology as an addition element of TPACK. The TPACK model assists teachers understand the interrelationship between the use of technology, methods, and teaching the content in the classroom. Teachers should not isolate technology from teaching the content in the classroom, as this combines the strategies and content for proper delivery of content in the classroom.

Jang and Chen (2010) conducted a four-stage process of the transformative model study on an instructor and 12 pre-service teachers, using assignments, online data, reflective journals, videotapes, and interviews. The study examined the impact on a transformative model of integrating technology and peer coaching for developing technological, pedagogical, and content knowledge (TPACK) of pre-service science teachers. The results indicate that the combination of an educator's teaching and knowledge of science content impacts their instruction.

Originally, pre-service educators isolated subject-matter understanding from common pedagogical understanding. These kinds of understanding are, nevertheless, being combined for education purposes. The study further indicates that, through becoming conversant with the particular notions of pedagogy and methods (pedagogical knowledge) of instruction, pre-

service educators begin to streamline their subject-matter understanding (content-knowledge), such that it allows useful communication with their students. Pre-service educators should understand the role of technology as an interface in combining the methods (pedagogical knowledge) used in teaching a particular content (content knowledge). Pre-service teachers will therefore be able to align the TPACK components with individual, community, and expert reflections. This will ensure that the TPACK theory is optimally used in their teaching practice.

The study reveals that, in education practice, online discourse on learning environment matters has been presented to back operative thinking and joint applied understanding among pre-service educators. Technological pedagogical and content knowledge (TPACK) is defined as the complete set of essential knowledge for incorporating technology, pedagogy and content knowledge into the development of courses for teaching. This study emphasises pedagogical and content knowledge as imperative for in-service and pre-service teachers, in order for them to combine such knowledge with technology. Technology will then serve as an interface for combining methods used (pedagogical knowledge) and content to be taught (content knowledge). This study also suggests that, if technology is used to address the two TPACK components, complete understanding of TPACK will be achieved by educators.

The studies above have identified the importance of TPACK to pre-service and in-service educators in terms of incorporating its components into their subject matter. The pedagogical, content and technological knowledge should not be treated in isolation when teachers teach students (Chai et al., 2011). The studies also indicated that technological, pedagogical and content knowledge relates to community, individual, and expert reflections which are associated with practical, critical, and technical reflection (Van Manen, 1977). Teachers should be well informed of the TPACK components, so that they know what to teach (content), how to teach (methods), and which instruments to use (technology). Technology does not replace the teachers in the process of teaching. Mpungose (2017) elaborates on the understanding of TPACK components, but further stresses the importance of reflecting at three levels, which include expert reflection (reflection-on-action/technical reflection), individual (reflection-for-future/critical reflection), and community reflection (reflection-in-action/practical reflection). In such a way, it becomes easy for teachers to use TPACK, and to notice any available technology resource for teaching.

Teachers should embrace technology as an instrument used as a method to teach content, not as a tool to transmit knowledge to students (Makumane, 2018). Technology should be used as an ideological-ware tool which relates to individual and expert reflections. This differentiates the use of technology for community reflections which relates to hardware and software resources (Khoza, 2015c; 2016b). The studies further comment that the awareness of the diverse scope of technology combination from common to subject-specific, permits teachers and lecturers to discern between diverse educational interventions. Even pre-service teachers are able to streamline technology into their subject-specific content (Jang and Chen, 2010). Teachers and lecturers should understand and use technology as a method of teaching the content in the classroom to address their individual, community, and expert reflections for teaching. The TPACK theory must be fully used in the teaching process. The use of Moodle in teaching Business Studies is important whether teachers or lecturers use the teacher-centred approach or student-centred approach, relating to performance and competence curriculums, respectively. Although TPACK emphasis on teacher-centred and student-centred approaches, the individual curriculum which will combine the two approaches remain unlocked. This suggests that teachers can have TPACT elements but individual elements will still be a challenge and it needs further research. Although TPACK has benefits, it also has some shortcomings, which will be discussed in the next section.

4.6 Shortcomings of TPACK Theory

Graham (2011) remarks that, while hundreds of studies claim TPACK as a theoretical framing, only slight theoretical improvement of the model has occurred. The statement is based on 89 diverse explanations of the fundamental concept (TPCK) in the model, in addition to many different descriptions of that and TCK concepts. Harris et al. (2017, p. 4) comments that "yet given its generativity, TPACK and the processes through which it is developed lack a coherent and universal understanding. It is this lack of coherence, along with TPACK's proliferation, that has led researchers to tamper with each and all of the components underpinning the TPACK construct, its representations, and its use". Other academics have complained of the incomprehensible limitations linked with the model. Limited studies have generated tools for measuring TPACK. The study public has not completed the theoretical work necessary to reflect differences between model components. Graham (2011) elaborates on the 'what', 'how' and 'why' questions. The initial part of constructing any theoretical framework is to find 'what' necessary variables contribute to the phenomenon of importance. At first glance, the

TPACK framework appears to have done this: the model pinpoints seven different variables. Nonetheless, considerable theoretical work needs to be done to improve concept clarity.

There are numerous problems that academics still encounter in trying to discern the TPACK concepts. The first problem is that the TPACK framework is constructed on an existing theoretical framework that lacks theoretical simplicity. The second problem includes discovering a balance between the parsimony and the complexity of the framework. A third problem is to grow specific explanations for each of the concepts in the TPACK structure. The 'how' part relates to the second challenge which involves articulating how the components of the theory relate to one another. These associations amongst constructs might or might not be fundamental. Academics must address two matters in identifying the associations between concepts in the TPACK model. The first issue is whether the association amongst the components is integrative or transformative. The second matter has to do with defining borderline circumstances between components in the model to allow clear judgement between concepts.

The 'why' question relates to the third crucial feature of theory improvement. This is to clearly articulate the logic for the theory and the essential expectations that provide credibility for it. For the TPACK framework, one must ask what extra significance TPACK adds to the earlier existing PCK framework; and what impact the TPACK framework has on the technology combination study. Mishra and Koehler (2006) have successfully initiated such a discussion. One of their most significant grounds is articulated as follows: One of the most common disapprovals of educational technology is that it is motivated further by the necessities of the technology rather than by rigorous didactic motives. This suggests the community reflection as opposed to individual and expert reflection.

This usage therefore excludes the important critical and technical usage which links to individual and expert reflections for using technology. This application of technology addresses the technology-in-education (hardware and software resources) which relates to community reflections. It excludes the use of technology as technology-of-education which is ideological-ware resources, relating to individual and expert reflections. The TPCK framework has given a language to the conversation on relations existing (or lacking) in conceptualisations of educational technology. Additionally, TPCK framework places this element, the association between content and technology, within a wider perspective of using technology for pedagogy.

In addition to the above, Baya'a and Daher (2015) assert another challenge. Lecturers may be prepared to integrate technology into their methods, but may not be able to identify it as a problem-solving mechanism in teaching content. The TPACK components will be used for community and expert reflection, excluding individual reflection. Solving their problems using technology applies critical reflection which speaks to individual reflection. The TPACK framework therefore will be limited to technological usage for community and expert reflections. The why question is limited to two reflections, namely, community, and expert reflection. Lecturers must understand that TPACK should embrace all components and understanding, for its complete application.

Zuma (2019) indicates that, amongst some of the shortcomings of TPACK, the use of technology rests on individual capability. A positive teacher engagement with technology will develop technological knowledge. Therefore, teachers should be encouraged to use technology to acquire more profound technological knowledge. The accessibility of material provision for education and learning means appropriate to support on technological knowledge for both lecturers and students. These acknowledged restrictions of TPACK could demoralise a lecturer, and afford a less helpful atmosphere for educator progress. For educators to enact the curriculum, TPACK is the recommended framework. (Mishra and Koehler, 2006) emphasise that educators are advised to be certain of pedagogy, content, and technology domains, for the proper enactment of the curriculum.

Pre-service teachers may be trained to use technology at university level, having access to the Internet. However, serving teachers, especially those who became qualified using distance learning, may not have had the privilege of using technology during training. Moreover, teachers in deep rural areas where there is a shortage of resources and poor infrastructure, may not be able to fully apply TPACK; hence pedagogical and content components are not possible. TPACK is only afforded to teachers in urban institutions with an amenable infrastructure. Students from disadvantaged settings arrive at tertiary institutions not having technological knowledge. This further poses a challenge to lecturers who must teach these students together with those with technological knowledge or basic technological skills. Such is time-wasting for knowledgeable students, and a challenge to other groups of students. This challenge therefore requires lecturers to have sound knowledge of technology, to apply proper

pedagogical strategies, and have proper content knowledge. Teachers must therefore engage in community, individual, and expert reflections, respectively.

The restriction of TPACK in the study is taken from Koehler and Mishra (2009), who explain that individuals must understand information technology broadly, to apply it successfully at work and in their ordinary lives. Teachers must know when information technology might either hamper or assist the achievement of a goal. Teachers must adapt to changes in information technology. The TPACK framework stresses the community reflections of using technological resources with the aim of meeting societal needs through teaching and learning. It does not provide approaches on using resources to meet the needs of society. The university can accept any LMS resources such as Blackboard and Moodle to be utilised by lecturers or researchers for instruction and learning of units. However, such resources do not specify approaches to be applied by lecturers in order to address the needs of students (Mpungose, 2017). The methodological or pedagogical component is not considered or clarified. The TPACK theory is thus limited to two components relating to content and community reflections.

Content components require lecturers to have information on subject specific epistemology, such as Business Studies, Accounting, Economics, and others. Mishra and Koehler (2006) aver that the content component is a mandatory content of a subject before teaching and learning course commences. All these statements indicate that the content component aligns with a direction of expert reflection, in order to meet the needs of the subject or unit. Such a statement implies that content is restricted; it only relates to subject-content to be considered when teaching and learning takes place.

Rosenberg and Koehler (2015) conducted a mixed-methods systematic review study on one-hundred-and-ninety-three journal articles meeting the criteria. The researchers used a data-coding segment to provide a systematic and comprehensive view of the extent to which context is included in such research, and to understand the meaning of context when it is included in TPACK. The results indicated that, regardless of the various studies on numerous features of TPACK, context remains an underdeveloped and under-studied element of the framework. The context includes micro features within the learning environment, such as the design and arrangement of the room. Meso features are those in the school or institution or other areas in which the learning environments are found, such as at a community centre or children's gallery,

and the availability of a support team. Macro features are the communal settings that affect teaching, learning, and the capacitation of educators and learners or students, such as government and national curricular standards.

The study further reveals that the context is essential but frequently absent from studies on TPACK. The reasonable level to which student-related features were incorporated, and the low degree to which communal features were incorporated, imply that, once context is incorporated into journal articles, it might be presented in a manner that is neither orderly nor broad. The demonstration of context in a manner that is neither orderly nor broad has repercussions for understanding the complexities of TPACK.

Graham et al. (2012) conducted an introductory survey on 133 candidates enrolled in four sections of the educational technology course during the 2009 winter semester. The researchers used common design tasks based on curriculum standards, as a means of eliciting student decision-making processes and rationales. The instructional design tasks were administered as an online survey during the first week of the semester, and as part of the final exam, to generate data. The findings show that participants started the course with an extensive range of levels of confidence in their ICT skills, from not confident at all, to totally confident. Educators who used TK justifications dedicated to the worth of technical skills, supported its worth in assisting classroom learning. Thus, TK focusses on technology as a content sphere to be learned, rather than as a tool to be used in the provision of learning other content. Scholars have struggled to articulate the limitations between the concepts in both the PCK and TPACK contexts. Core definitions have been articulated for each TPACK concept, but these do not offer the specifics frequently required to create fine-grained differences when coding.

Cox and Graham (2009) conducted a conceptual analysis, or philosophical enquiry. The aim was to explore the technical use of reviewing current descriptions of theory under examination. The study further aimed to decide how it is presently being used, to make a summarising description. The study shows that the explanations of technological, pedagogical content knowledge and its associated constructs are not clear enough for researchers to agree on definitions of each construct. Mishra and Koehler and others have provided definitions of TCK, TPK, and TPACK. There is some agreement on the core of these constructs. However, the margins between them are incoherent, making it hard to classify marginal cases.

The results further indicate that the theoretical enquiry resulted in two explanations for each concept of the TPACK framework: a comprehensive description that shows the extent and difficulty of each construct. Such results from the methodological usage enquiry and evaluation of circumstances. The study further reports that pedagogical content knowledge been researched extensively. However, there are many different formations or representations of knowledge being part of PCK, which has made the construct complex to study.

Yurdakul et al. (2012) conducted a qualitative study on the development, validity, and reliability of TPACK. The research indicates that the motive for its improvement is the absence of content understanding relative to technology: a low level of understanding was demonstrated by most educators. Consequently, curriculum coverage is missing. Many researchers have recognised this problem facing educators. This study concludes by admitting that TPACK is a framework imperative for all educators to know and be accommodated by all components. Educational technology is a component that many educators struggle with. Within the features of TPACK, technology understanding (community reflection) requires consideration when capacitating educators. This study focusses on community reflection related to the technological component. The individual and expert reflections are not covered; whereas they relate to pedagogical and content knowledge, respectively. The study was limited to one component of the theory without showing the link with the other two components, reflecting integration.

The studies above emphasise pre-service teachers. The university context may differ from school/institution-based contexts in terms of access to technological resources, including electricity in deep rural areas. The issue of accessibility to data in schools might also limit the use of technological gadgets, which may hinder the application and advancement thereof. The studies further did not indicate the level of knowledge, skills, and training necessary for teachers to be certified as technologically knowledgeable. The other challenge is of not specifying which technological devices teachers should master to be regarded as technology literate. Last, the level at which the lecturers can be regarded as technological literate in order for them to teach students at university, is not articulated. These limitations therefore suggest that reflections, and policies on the use of Moodle require more clarity apropos of levels and devices necessary for Moodle application.

4.7 Contextualising TPACK theory to Meet Moodle Needs

Table 4.6: Contextualising TPACK Theory

Proposition	Moodle needs	Module outline 2018
Hardware	Laptops, desktops, mouse, screens, keyboard	Desktop computers, laptops and prescribed textbooks
Software	Internet Explorer, Chrome and Firefox	PowerPoint presentations, Electronic lecturer's notes/slides, tutorial answers, past examination papers
Ideological ware	No theory stated	No theory stated

Moodle software resources cannot function exclusive of hardware resources. Hardware resources comprise all the tangible features of the computer, projectors, desktop computers, laptops, overhead projectors, and tablets. Software resources include intangible programmes or mechanisms to install in hardware resources (Khoza, 2016b). Such resources include Microsoft programmes, search engines such as Chrome, Internet Explorer, and Firefox. These resources should be linked to the Internet to operate Moodle, and lecturers should use the approved manuals. Hardware and software resources are essential in the course of teaching and learning. The running of these materials is interrelated. These resources can operate independently of one another, especially when teaching using Moodle as a resource. Currently, hardware resources have become an influential instrument for teaching and learning. Educators must therefore possess required skills to use hardware resources. Lecturers in KwaZulu-Natal university have access to tangible resources; and are using them to teach, assess, and liaise with students. Therefore, once the curriculum is controlled by hardware resources, that curriculum speaks to the requirements of the community and the needs of the field or discipline (Makumane, 2018; Sodje, 2018). The attention of the university is on community reflection and expert reflection.

Business Studies lecturers are expected to use Moodle software. Moodle software is involved when a lecturer is capable of generating a version which the operator is able to log into (lecturer or student). The operator is then able to revise the outline, and upload the unit content, including

module arrangements. Moodle software permits lecturers to establish the form, and to sense the particular language in which the module will be presented. Lecturers should be capable of using files, implying knowing the resources they require to operate; and knowing the space or size of the folder. This assists lecturers when they have to assess students' work, in case they are uploading their work. The university of KwaZulu-Natal trained lecturers on Moodle using Training Guide 209. Such offers all the identified prospects in detail and even more from lectures on Moodle. Business Studies lecturers at the university of KwaZulu-Natal are conscious of Moodle software. This does not mean that lecturers are technologically expert, conversant, or well-versed in Moodle. The university intends to address community reflection and expert reflection. Therefore, when the curriculum is controlled by software resources, as indicated by Khoza (2015c) and Kisaka-Jwan (2018), the curriculum addresses the requirements of the community and that of the discipline.

The ideological-ware resources are referred to as the fundamental model which educators or lecturers use to apprise their instruction on Moodle. According to the Moodle training guide used to capacitate university lecturers, no model reinforces their teaching of Moodle. In relation to the Business Studies course guide, no theory is recognised that should be applied by such lecturers in teaching using Moodle. Contrary to Khoza (2013a), Makumane (2018), and Sodje (2018) advocate ideological-ware as a significant feature of teaching and learning, averring that learning is not about technology, but rather about ideology. This means that the curriculum must address the necessities of the educator/lecturer and the student. Therefore, this incorporates individual reflection.

Kisaka-Jwan (2018) states that, when the curriculum is centred on ideological-ware resources to achieve its aim, it mostly addresses individual reflection. In the university curriculum setting, the individual reflection is missing. The individual reflection is important for striking a balance between the community and expert reflection. The ideological-ware is important because it becomes an interface that links the community and expert reflection. This section therefore covers the technological and pedagogical components of TPACK constituting hardware, software, and ideological-ware resources. Hardware and software resources relate to community reflection; whereas ideological-ware relates to expert reflection.

4.8 Contextualising Pedagogical Knowledge

The lecturers of the university of KwaZulu-Natal are expected to use a module outline or course packages; this includes Business Studies as a course. The Business Studies unit pack specifies the purpose of the pedagogical theory: the aim of this module is to familiarise the student with the practical and theoretical aspects concerning the attraction of long-term capital, and the technical and fundamental evaluation of a company. The evaluation of general economic and business aspects is applicable when making an investment decision. For objectives, lecturers are to upload and monitor students' notes via Moodle or online. Learning outcomes include the venues, submission dates including student support and interactions with lecturers is specified, the tasks and module outcomes are indicated; evaluation includes tests, examinations, written reports, practical assignments, and online homework. These are ways of evaluating students as indicated by the Training Guide 2.9 and Business Studies Course Outline, using Moodle. These two documents (Business Studies Course Outline and Training Guide for lecturers) are in position with respect to pedagogy, which then advocates that the enactment of the curriculum by the lecturers must link with their teaching guide, and also with their module framework which works as the course policy.) This section covers the pedagogical component of TPACK which consists of ambitions, reflections, evaluation, learner tasks, learning environment, times, lecturers' capacity, and communal support. These propositions relate to individual reflection, linking what the lecturer should do when teaching a Business Studies.

4.9 Contextualising Content Knowledge

Business Studies content is divided into seven chapters considered as the theory features: Investment concepts and terminology; Fundamental analysis; Technical analysis; The Johannesburg Stock Exchange (JSE); The trading of shares on the JSE; Risk and return; and Portfolio Management. The practical component of Business Studies comprises topics such as company reports and online assignments. This is a huge content that has to be uploaded by the lecturers for students to access using Moodle. Nevertheless, the Training Guide 2.9 specifies that the content that has to be uploaded may be in the form of PowerPoint, files, folders, inter alia. Therefore, the content arrangement of sections and themes might vary from the course outline and prescribed Business Studies books for higher education. This lack of configuration between the teaching guide and module outline suggests that there are gaps in expert reflection.

Moodle should be able to recognise these Business Studies chapters and topics as per the module outline. This section relates well to the content component of the TPACK theory which is in line with expert reflection, addressing content knowledge that a lecturer should possess. Although the study was conducted at university, there seems to be a misalignment of topics from secondary education and higher education. This points to a challenge a novice teacher might experience when start practising straight from university.

4.10 Conclusion

This chapter deliberated on the TPACK framework that arose after the discussion concepts from Chapter Four. This chapter examined the TPACK reforms, its application in different contexts, benefits of TPACK, the theory shortcomings, and contextualising TPACK within different contexts. This chapter perused the interconnection of TPACK with individual, community, and expert reflection as the phenomenon of this study. In contextualising of TPACK components, Moodle 2.9 training guide and Business Studies Module outline were unpacked. Three key understanding components (pedagogy, content, and technology) of TPACK were discussed in relation to curriculum pillars (ambitions, reflections, Moodle as a resource, learning tasks, period/time, learning environment, communal support, evaluation, content, and lecturer's role). Accordingly, the TPACK understanding was unpacked and re-contextualised to display the wider features, showing exactly how they might be clarified in the framework of using Moodle to teach Business Studies courses.

The reflections, resources, procedures, and module signal (RRPAMS) theory addresses the movement from technological knowledge to the resource component, pedagogy knowledge to the policy component, and from content knowledge to the module component (Mpungose, 2017). The pedagogical technological integrated medium (PTIM) founded on the TPACK model is constructed on the current principles of pedagogy, content, and technology to create space for the affective domain in which these three components interconnect with one another (Ramma et al., 2017). This study proposes a framework to be known as review, pedagogy, content, and Moodle resources (RPCAMR). By review, I relate to reflections. Pedagogy examines strategies, content to be taught, and Moodle as the technology to be used. This theory builds on the combination of two theories. These theories incorporate all the components of TPACK. They are built on an existing theory which is reflection-on-action.

The present theories, which are PTIM and RRPAMS, relate to reflection-in-action. All these theories must be reviewed in order to meet the needs of the 21st century and the 4IR, relating to reflection-for-future action. Although the theories may be viewed in terms of the 21st century and 4th Industrial Revolution, the 3rd Industrial Revolution was important, because it answered the questions of 'what' and 'how' (Khoza and Biyela, 2019). These questions relate to community (what) and expert (how) reflections. According to Khoza and Biyela (2019) the 4IR demands the other set of questions, which are 'who' and 'why'. These questions respond to the individual reflections that use resources as technology-of-education. Hence the other set of questions is incorporated, therefore all three levels of reflections and research questions are covered.

Teachers may use TPACK with other theories such as the CHAT theory to close the gap for those who may not have knowledge and access to technology. The combination of both theories may provide a platform to fully review the relevance of both theories developed decades ago. The issue of reflecting on theories based on individual, community, and expert reflections will also gain momentum. This study strongly supports the RPCAMR theory. Reviewing TPACK components will provide innovative strategies to meet the needs of Moodle. This review will inform changes in policy implementation in education, addressing the needs of the 21st century, and those needs aligned with the 4th Industrial Revolution. Although the theory may be suggested, the accessibility to and understanding of resources by lecturers may impede its successful application. Therefore, further training is required on the use of Moodle in order to align it well with relevant theories. The next section of research design and methodology will be informed by this theory.
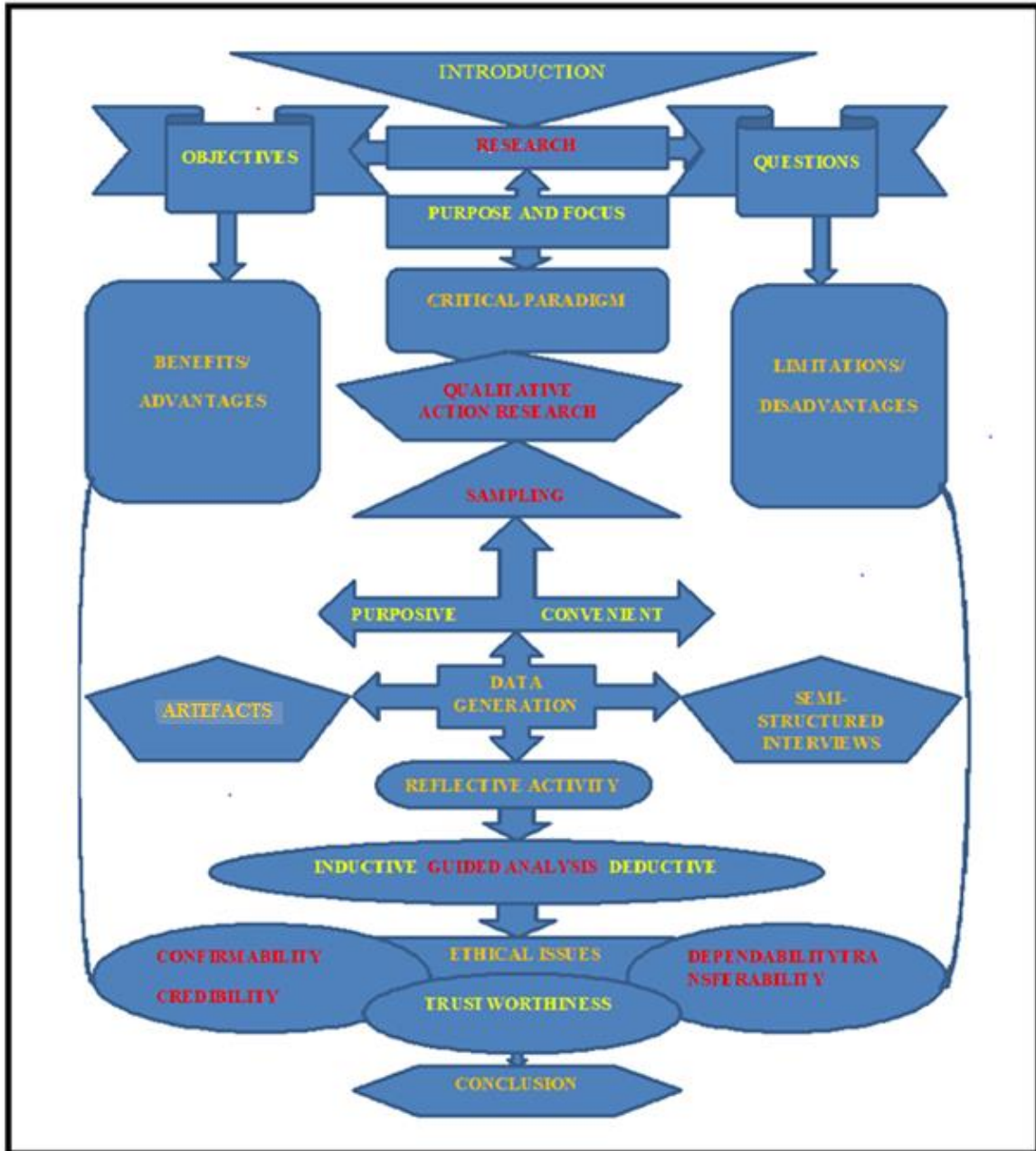
Figure 5.1: Chapter Five flowchart

5.1 Introduction

Chapter Five presents the research design and methodology which guide the process of data generation. This proceeds from the previous chapter which dealt with the theoretical framework. Chapter Four dealt with TPACK in detail, therefore Chapter Five indicates it as the theory adopted for this study. The data generated is used for analysis to compare similarities and differences between the literature review and participants' perceptions. This chapter therefore outlines research, research design and methodology, action research, research questions, data-generation methods, the research paradigm, validity and reliability, the qualitative research approach, triangulation, the theoretical framework, trustworthiness issues, ethical issues, and limitations.

5.2 What is Research?

Finn et al. (2000) define research as an objective, systematic process of gathering and analysing data which helps in decision-making. The objective of research is an implicit assumption that research will discover something new or make an original contribution to the development of knowledge. The positivists assume an external world determining behaviour; storing it for explanation, prediction, and control. This is a mechanistic process for explaining social behaviour. A research is objective and value free, and truth has to be confirmed with empirical evidence.

McNell and Champman (2005) claim that sociology is about human behaviour, which results from the social context in which we live. Evidence has to be generated from around us, and this requires empirical research to be done. Empirical research is based on evidence from the real world, in contrast with the theoretical. Theories refer to ideals that are abstract or pure analysis. De Vos et al. (2005) allude to scientific research as a systematic, controlled, empirical, and critical investigation of natural phenomena, guided by theory and hypothesis about the presumed relations among such phenomena. The studies above agree that the research project should be based on empirical evidence generated through interaction with participants in their natural setting. This study adopts the action-research design and qualitative approach. Artefacts, reflective activity, and semi-structured interviews, were used to generate data from participants involved in the practice. The study employed purposeful and convenience sampling to ensure that the empirical data was generated.

Reason and Bradbury (2008) comment that research aims to transform reality. Researchers are not passive about action as it unfolds, intervening only afterwards to revise or reconstruct plans that have gone awry; on the contrary, they intervene deliberately and actively in individual and collective practice, with the intention of acting in ways likely to make things better than before. Researchers investigate reality in order to transform it. Reason and Bradbury (2008) further propose that research has a practical aim: practical reflection treats both ends and means as problematic. Critical participatory action research (AR) occurs with the practical aim of phronesis, that is the commitment to acting intelligently and sensibly in practice.

Reflection for future actions relates to communication among facilitators, the community, and all kinds of authority, leading to an understanding of perceptions, feelings, and expectations that generates confidence in participants, improves decision-making and problem-solving, and supports participatory research processes and their promotion. Conscious interrelations among all parties involved in the AR process, in all its stages, help to strengthen mutual respect, commitment, and the will to continue working to the problem's solutions and displaying credibility within the work group. Conducting action research in exploring lecturers' reflections on using Moodle in teaching Business Studies will assist the university of KwaZulu-Natal to take decisions to solve challenges identified during the project. These challenges were identified during the data-generation process in which artefacts, reflective activity, and one-on-one semi-structured interviews were used.

5.3 Research Questions and Objectives

5.3.1 Research objectives

➢ To establish the university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules.
➢ To explore why university lecturers, have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules.
➢ To learn from the lecturers' reflections on the use of Moodle in teaching Business Studies.

5.3.2 Research questions

The following three research questions were decided upon. The study answers questions through literature, the theoretical framework, research design and methodology, data-generation methods, trustworthiness issues, ethical issues, and limitations.

- What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules?
- Why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules?
- What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies?

The above objectives and questions are divided into three reflections. The reflections and resources make up Theme One. This answers Question Two: why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies? The teaching of Business Studies relating to strategies employed by lecturers will be categorised as Theme Two. The teaching encompasses the Moodle content and ambitions. This section responds to the first question: what are university lecturers' reflections on the use of Moodle in teaching Business Studies? Learning environment, learning tasks, lecturer's capacity, communal support, and times are categorised as Theme Three. This relates to the third question: What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies? The above three questions have covered all the reflections as they frame this study.

5.4 Research Design and Methodology

5.4.1 Research design

Research design "is a strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research. Research designs are plans that that guide the arrangement of conditions for generation and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure" (Terre Blanche et al., 2006, p. 34). The plan defines the elements (variables, participants), their interrelationship, and methods (sampling, measurement), that constitute a piece of research. Babbie and Mouton (2001, p. 74) assert that research design "is a plan or blueprint of how you intend conducting the research". Yin (2011) defines research design as a strategy that directs the researcher in the process of generating, analysing, and interpreting results. It is a coherent model of evidence that permits the researcher to draw conclusions regarding spontaneous relations between the variables under study (Yin, 2011). Research design encompasses the individual reflection (action that serves a bridge), community reflection (arrangement and plans to generate data), and expert reflection (constituting a piece of research).

Creswell (2009) claims that qualitative research design is a way of discovering and appreciating the sense that persons or groups ascribe to a communal or social challenge. This relates well to the unprecedented Coronavirus Disease (Covid-19), a communal challenge that has affected the society at large. This social challenge requires a research project to be conducted in order to discover a vaccine. Covid-19 has impacted negatively on economic, education and health sectors. Qualitative research is a process comprising formation and implementation of an enquiry project (Punch, 2009). This suggests the process of detecting the problem through to the reporting and publication of the outcomes.

The process of research comprises developing enquiries and processes (expert reflection), information naturally generated in the participants' site (community reflection). Research provides the details on common subjects, and the researcher making explanations of the significance of information (individual reflection). Yin (2003) explains this strategy of research as dealing with four questions: (1) What questions must be studied? (2) What data are significant? (3) What data must be generated; and (4) How must results be analysed. This therefore, suggests a final written report with a flexible structure. (Creswell, 2009, p. 4) stresses that "those who engage in this form of enquiry support a way of looking at research that honours and inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation".

Merriam (2009) comments that the research design has a rich description. The ultimate result of a qualitative investigation is therefore richly descriptive. Words and pictures, rather than numbers, are used to convey what the researcher has learned about the phenomenon. Data is in the form of quotes from documents, field notes, and participants' interviews. Excerpts from videotapes, electronic communication, or a combination of these are always included in support of the findings of the study. The qualitative design is emergent and flexible, responsive to changing conditions of the study. This study uses tables and figures to present and explain the data. Moreover, the study uses artefacts, reflective activity, and semi-structured interviews for data generation.

(Maree, 2010, p. 70) explains "research design as a strategy or plan which moves the fundamental theoretical expectations to identifying the choice of participants, the information gathering methods to be used and the data exploration to be undertaken". Research design in a qualitative mode of investigation includes shared studies (ethnography, case study, phenomenological, grounded theory or critical and non-interactive designs (concept analysis

and historical analysis). Maree (2010) indicates that design issues in action research resemble several research designs/strategies of enquiry. Action Research (AR) design is similar to case-study design in that the emphasis falls on gathering information to inform a specific practice or content, the purpose not being to generalise findings elsewhere. This differs from case study in that it addresses specific practical issues.

AR follows methodological procedures to gather information about and to develop particular professional practices or embedded systems in order to gain clarity and insight. In some instances, AR also resembles mixed-methods design in employing multiple-data collection, analysis, and monitoring and evaluation strategies. AR resonates with ethnography and ethnographic designs in terms of prolonged engagement, the research approach range of roles between researcher and participant, and the negotiated construction, ownership, and application of knowledge. This suggests that a constructivist grounded design does reflect certain characteristics of AR. Rich data, the vigorous comparative series during analysis, the incorporation of various perspectives, the method of reflection, receiving moves and changes, and the self-correcting nature of a dynamic research procedure, are some of the resemblances between AR and constructivist grounded theory designs. The research design therefore incorporates the individual, community, and expert reflections, all of which are pertinent to the study phenomena. This therefore suggests that the research design is relevant to the current study.

5.4.2 Research Methodology

Corbin and Strauss (2008) state that methodology is a mode of thinking about and studying social phenomena. Denzin and Lincoln (2008a) comment that methodology focusses on the best means for enquiring about the world. Methodology "is the approach or plan of actions which lies behind the choice and use of specific methods. Thus, methodology is concerned with why, what, from where, when and how data is collected and analysed" (Scotland, 2012, p. 9). Terre Blanche et al. (2006) claim that methodology is in part, a specific way to support a study. The study method must be founded on epistemology and a model, to differentiate research paradigms. The methodology section comprises the selection, process, and techniques of data generation and data enquiry components for the proposal. This study employs a qualitative study method relevant to an action-research paradigm. The qualitative approach used artefacts, reflective activity, and one-on-one semi-structured interviews to generate data. Qualitative method is relevant to the current study.

5.5 Strengths of Qualitative Research Methodological Paradigms

Marshall and Rossman (2011) believe that the strengths of qualitative research methods suggests that research has yet to identify important variables. The list includes: seeking cultural description and ethnography; producing numerous created truths, studied holistically; causing implied knowledge and individual understandings and analyses; exploring in-depth into difficulties and procedures on scarcely recognised phenomena or new systems; seeking to discover where and why policy and local knowledge practice are at odds; checking on casual and free connections and procedures in institutions; checking on actual, as opposed to specified, organisational goals that cannot be conducted experimentally for practical or ethical reflections; exploring novel, disregarded, or often marginalised populations. The strengths of qualitative studies should be established for research that is empirical or descriptive, and that stresses the importance of context, setting, and participants' frames of reference.

Corbin and Strauss (2008) assert that qualitative research philosophical paradigms encompass research approaches or systems and procedures for data generation and analysing. Research methods are the ways in which one collects and analyses data, making it systematic and purposeful. Processes are not random; they are planned to produce data on a precise research problem. In a broader context, the term methodology refers to a design whereby the researcher selects data-generation and analysis procedures to explore a specific research problem. Research methods are the specific techniques and procedures applied to generate and analyse data. Research methods can be traced back through methodology and epistemology, to an ontological position.

Scotland (2012) comments that critical methodology is focused on questioning values and assumptions. Such methodology reveals control and inequality, perplexing predictable community structures, and engages in communal action. Enquiry is inseparable from politics, as it aims to liberate the disadvantaged. Participants and researchers are both in the dialectical activity of opening truth, critically analysing it, and reconstructing that knowledge. Researchers do not carry out change *for* participants but *with* them. Participants are involved in the research process, for example, crafting questions, generating data, analysing information, and benefiting from the research. This study aims to respond to three research questions which include: What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules? Why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules? What lessons can be learnt from

the lecturers' reflections on the use of Moodle in teaching Business Studies? These questions are relevant to all three levels of reflection, and the three objectives of the research.

Critical methodologies include: critical discourse analyses (examining how collective and political control is realised in writing and conversation); critical ethnography (an ideologically sensitive orientation to the study of culture, AR is a recurring method of examination, action, and assessment, which results in a transformation in practice), and ideology critique (exposing unseen ideology by revealing participants' places in systems which empower or disempower them). These studies therefore defined research methodology or methods as involving all three types of reflection, namely, individual, community, and expert reflection. Research methodology is relevant for this study as it is an AR which links well to design and methodology. AR employs a qualitative approach which aligns with artefacts, reflective activity, and semi-structured interviews used for data generation.

5.6 Action Research

Reason and Bradbury (2008, p. 4) indicate that "higher education institutions worldwide are in the midst of a profound transition in which they are losing public credibility and support and are becoming increasingly subject to corporate forms of accountability and quality assurance. AR provides a way to promote knowledge generation that is intrinsically capable of producing public goods through concrete and practical problem-solving and shaping deeper reflection processes through broad disciplinary and stakeholder participation in research-based discourses. Universities should be reorganised to meet the challenges of developing public support by structuring teaching and research through actions research strategies. The problem selection, analysis, action design, implementation, and evaluation to be done by collaborative multidisciplinary teams of academics and non-university stakeholders. It also means treating much teaching apprenticeship to problem-oriented AR teams. Unless AR is used to break the Tayloristic and autopoetic structure of existing universities, the decline of public confidence and public support for higher education will continue".

Reason and Bradbury (2008, p. 3) comment that "AR is the set of practices that responds to people's desire to act creatively in the face of practical and often pressing issues in their lives, in organisations and communities". AR appeals for engagement with the public in collective interactions, opening innovative open spaces in which discussion and development can flourish. Further to that, AR draws on many ways of acquiring knowledge, both in the evidence that is generated in enquiry and in its expression in diverse forms of presentation as we share

learning with the wider audience. AR is value-oriented, seeking to address issues of significance concerning the flourishing of human persons, their communities, and the wider ecology in which we participate. AR often emphasises empirical and logical problem-solving processes involving cycles of action and reflection. It proceeds in a spiral of steps, each of which is composed of a cycle of planning, action, and fact-finding on the results of the action. "AR is a participatory process concerned with the developing practical knowing in the pursuit of worthwhile human purposes" (Reason and Bradbury, 2008, p. 4).

Further to the above, conducting AR is relevant in order to address challenges in some South African universities with regard to the implementation of Moodle. This will respond to a call to adhere to the demands of 21st century digital communities, and meeting the demands of the 4th Industrial Revolution (4IR), which moves away from most manual operations to digital innovations. Therefore, conducting a study coming from outside the institution provides neutrality, avoiding bias towards the phenomena. Seale et al. (2007, p. 478) indicate that "AR is grounded in the belief that research with human beings should be participative and democratic". Terre Blanche et al. (2006) propose that AR is conducted by particular people on their own work. Researchers working within an AR framework are charged with being sensitive to issues of power, and open to plurality of meaning, and interpretations. Such researchers must be able to take into account the emotional, social, spiritual, and political dimensions of those with whom they interact. This study ensures that ethical issues are observed during the data-generation process, as indicated in 5.16 at the end of this chapter.

5.6.1 Navigating the nature and purpose of AR

AR refers to the conjunction of three elements: research, action, and participation (Punch, 2009). AR is a form of research that generates knowledge claims for the express purpose of taking action to promote social change and social analysis. AR aims to increase the ability to the involved community or organisation members to control their own destinies more effectively; and to keep improving their capacity to do so. Research power and values of knowledge, together with AR is one of the most potent ways to generate new knowledge (expert reflection). Participation places a strong value on democracy and control over one's own situation (community reflection). AR is a participatory process in which everyone involved takes responsibility. Action AR is also participatory in a second sense. AR aims to alter the initial situation of the group, organisation or community towards a more self-managing,

liberated state. Some use AR to create liberation through greater self-realisation. AR is subscribed to by democratic reformers rather than revolutionaries (individual reflection).

De Vos et al. (2005) pronounce that participatory action research (PAR) is applied research that treats knowledge as a form of power, and dispenses with the line between research and social action. Characteristics of AR include those who are being studied and who participate (lecturers) in the research process. Research incorporates popular knowledge. It focusses on empowerment (the use of Moodle in teaching Business Studies). The research seeks to increase awareness and is tied to political action. It can be conducted per qualitative, quantitative, or mixed methods. McNiff and Whitehead (2009) posit that AR is not just about professional education or about undertaking projects. It is a philosophical position towards the world, an attitude of enquiry that enables people to question and improve ways of thinking and acting that have been taken for granted.

McNiff and Whitehead (2009) further assure that AR is systematic enquiry made public. Action research lends a new dimension, because it is about processes of improvement, and making claims that something has improved. Action research is a systematic enquiry undertaken to improve a social situation. Public reflection or review of existing literature relates to a current situation (use of model) and proposal. Public reflection may accompany a theory involving reflection on, in, and for a matter that involves individual, community, and expert reflection.

The aim of action research is to improve a personal or social situation. The aim of research is to offer explanations (generated) for the significance of the action research for public legislation. In reality this includes taking action and allowing research to happen. The kinds of action important in an action-research workplace can be seen any place where productive living occurs, including the office, the home, or queues in a supermarket. Action is taken with educational intent. It is about helping people learn how to improve the condition and processes of their own lifestyle. The practice aims to become praxis, morally committed action. People are not told what to do but are enabled to make decisions that are right for themselves, together with others who agree on the action. Research is at the centre of action research.

The studies further indicate that AR involves regulators of ontology and epistemology. Merriam (2009) further illustrates that AR relates to basic phenomenology, ethnography, and grounded theory. All such can be classified as interpretive. The goal of the research is to understand the phenomenon and the meaning it has for the participants. In AR, the unit of enquiry is researchers who claim to know their own practice. The researchers make statements

about what they are doing in relation to others. This generates their existing theories of practice. Validity of statements is verified through the critical feedback of others. This involves matters of methodology referring to questions addressed by the research such as what to be studied and why it should be studied. This involves matters of social intent. Action research is conducted by researchers who wish to advance their individual and collective condition.

McNell and Champman (2005) articulate that AR takes the form of a systematic enquiry, often conducted by practitioners and researchers working together, which is planned for producing practical results. These results are then used to advance a particular aspect of practice, e.g., teaching, and learning. These results are made public so that other people can check and test them. Greenwood and Levin (1998) indicate that AR is social research carried out by a team encompassing a professional action researcher and members of an organisation of community seeking to improve their situations (such relates to my study topic and purpose). One of the advantages AR is that it promotes broad participation in research processes and supports action, leading to a more satisfactory situation for the stakeholders. This therefore, suggests the importance of publishing the study in order to assist the stakeholders, participants, and to inform the practice of the necessity of teaching Business Studies/Management using Moodle.

John Dewey (1933), a pragmatic philosopher, believed that all humans are scientists. He believed that thoughts must not be separated from action; that the diversity of human communities is one of their most powerful features; and that the academic institutions in general, and academic social research in particular, promote neither science nor democratic social action. He further believed that the centre of gravity is always the learner in active pursuit of understanding through puzzle-solving activity with the materials at hand. The solutions achieved are only the best possible at the moment with the materials at hand, hence the naming of his philosophy as pragmatism. Greenwood and Levin (1998) elaborate on the characteristics of action research which are context bound; and which address real-life problems; the enquiry in which participants and researchers cogenerate knowledge through a collaborative communicative process in which all participants' contributions are taken seriously.

This involves a researcher identifying the problem, making a proposal, defending it from a panel who suggest changes, writing the study, and contributing to the body of knowledge through recommendations and thesis (individual reflection). Participants partake in the study during data generation. The researcher communicates, and interacts with them (community reflection) and their supervisor, monitoring the study, providing professional guidance, and

representing the institution (expert reflection). All this involves research, participation, and action at all levels. In this way, action research develops a thesis and contributes to the study. The researcher needs to understand all these points for a proper research to take place.

Maree (2010) pronounces that AR is classical action (aimed at improvement and change). Participatory action research is based more on critical theory and aimed at empowerment. AR is a collaborative or participative dimension. It focusses on a practical problem experienced by participants, for which a practical solution is sought. To successfully undertake action research therefore requires an understanding of the context as well as possible solutions. The researcher acts as a mediator to help participants to plan and implement an intervention that ought to alleviate the problem experienced. Evaluation and assessment of the effectiveness or success of the intervention becomes an important focus in the research. What makes action research a qualitative research design type is the strong focus on understanding the problem, thereafter developing an intervention with the people involved. AR deals with the 'why' and 'how' questions. AR is often addressed by the use of mixed methods. It is typically clinical in terms of data generation and analysis, and starts with identifying a problem, collecting data (through the use of data-gathering techniques), analysing the data, taking action to resolve the problem, and assessing the outcome of the intervention.

5.6.2 Benefits of AR

AR treats the diversity of experience and capabilities within the local group as an opportunity for the enrichment of the research-action process. The meaning constructed in the enquiry process leads to social action; or these reflections on action lead to the construction of new meanings. The credibility, and validity of AR knowledge is measured according to whether actions that arise from it solve problems and increase participants' control over their own situation. Knowledge and skills in AR differ starkly from conversional social research. Action researchers insist that the research process, research outcomes and the application of results for the problem-solving are inextricably linked. Lecturers showed different views on their artefacts which were not all positive on the use of Moodle. Lecturers changed their perception during their participation in this study, which led to positive use of Moodle at anytime and anywhere as indicated in their responses in a reflective activity and one-on-one semi-structured interviews. Consequently, lecturers, after participating in this study, were driven by individual reflection in order to change their practices and provide changes towards cultivating the use of Moodle in teaching their modules.

AR addresses practical problems in a positive way, with results feeding back into practice. Practitioners benefit directly from self-development and the development of research capacity; whereas organisations benefit from the continuous cycle of development and change on site. This suggests a high construct validity, low refusal rates, and ownership of findings. The attachment and involvement of the researcher contributes to the representation, generation, and depth of data. This takes the direction of expert reflection. Another strength of action research lies in the possibility of obtaining rich contextual data by reporting on participants' own perspectives and points of view with regard to experienced challenges and opportunities. AR focuses on the generation of information and on the identification of challenges in order to address them. Participants can be facilitated to plan ways of addressing challenges and putting their plans into action.

This basis was made clear in conducting the current study. I was working collaboratively with lecturers as participants, in discovering the answer to their reluctant use of Moodle after its adoption by the university. Both the researcher and lecturers were partaking in all phases of action research, by reflecting on the use of Moodle, in order to advance the practices during the teaching of Business Studies modules. This use of this basis was predisposed greatly by community reflection (reporting on participant's own perspectives) rather than individual reflection (generation of information and on the identification of challenges in order to address them) in the process of reflecting on the use of Moodle in teaching Business Studies modules.

The primary purpose of AR is to produce practical knowledge useful to people in the everyday conducting of their lives (individual reflection). Action research is about working towards practical outcomes (community reflection). Through AR new forms of understanding (expert reflection) are created. Action without reflection and understanding is vapid, just as theory without action is meaningless (Hatch, 2002). AR is only possible with, for, and by persons and communities, ideally involving all stakeholders both in the questioning and sense-making that informs the research, on the AR which is its focus. An AR without its liberating and emancipatory dimension is a shadow of its full possibility; and will be in danger of being co-opted by the status quo.
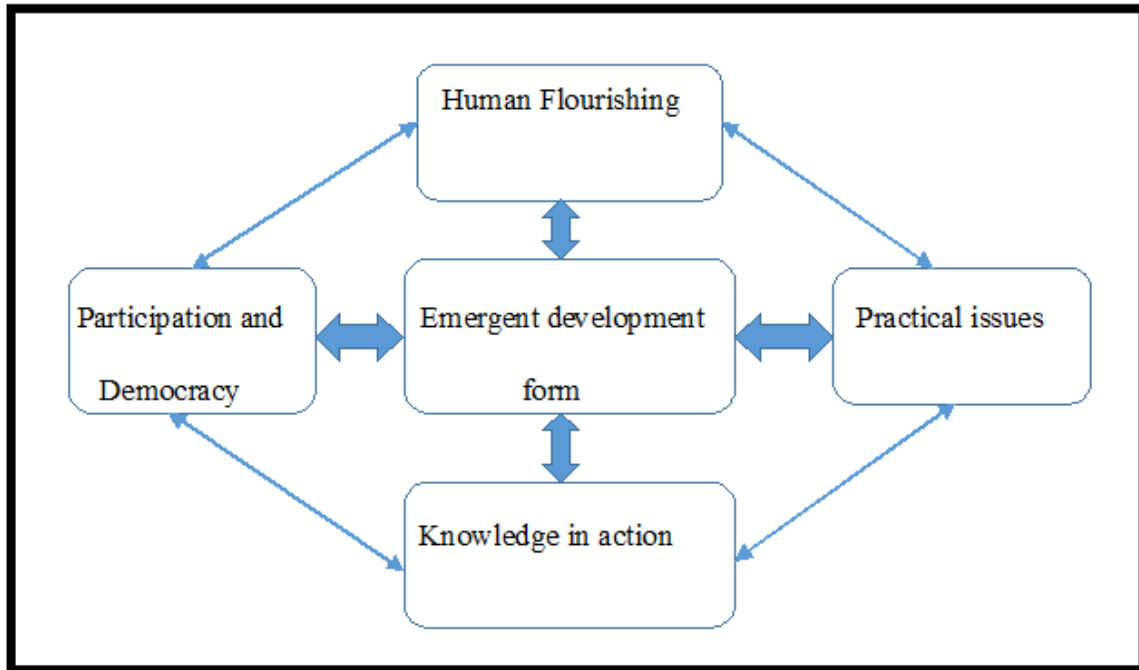
Figure 5.2: Characteristics of action research (adapted from Reason and Bradbury, 2008, p. 5)

Reason and Bradbury (2008) agree that action research consists of a cyclical process of action and reflection. It consists of the following four steps: strategic planning; taking action and implementing the plan; observation, evaluation and self-evaluation; reflection on the process, and making decisions for the next sequence of AR. Punch (2009) avers that AR consists of a spiral sequence of steps which include planning a change; acting and observing the consequences of a change; reflecting on these processes and consequences, thereafter re-planning, acting, and observing, reflection, and so forth (Punch, 2009). These steps portray the cyclical nature of the characteristics of AR. AR steps therefore pertain to self-reflection, which relates to individual reflection. AR leans much to individual reflection. An individual is engaged in this process: planning relates to expert reflection, and observing to community reflection. This cycle involves all reflections performed by an individual. Therefore, a researcher deciding to undertake an AR should understand that it is a recurring course which involves cognitive and affective domains.

In individual reflection, lecturers were questioning themselves, based on their problems with the use of Moodle when teaching the Business Studies modules. As a result, in the perspective of this study, lecturers were able to undertake all phases of action research. For example, lecturers were all directed to complete the reflectivity activity. Each lecturer had to detect their

deficiencies on the use of Moodle during teaching and learning of Business Studies modules. Thereafter, all lecturers participated in providing a resolution.

Figure 5.2 shows human flourishing, addressing change which relates to individual reflection; participation, democracy and practical issues which relate to community reflections; and knowledge in action, relating to expert reflection. Since AR starts with everyday experience and is concerned with the development of living knowledge, the process of enquiry can be as important as specific outcomes. Good AR emerges over time in an evolutionary and developmental process, as individuals develop skills of enquiry and as communities of enquiry develop within communities of practice. AR is seen to liberate the human body, mind and spirit in the search for a better, freer world.
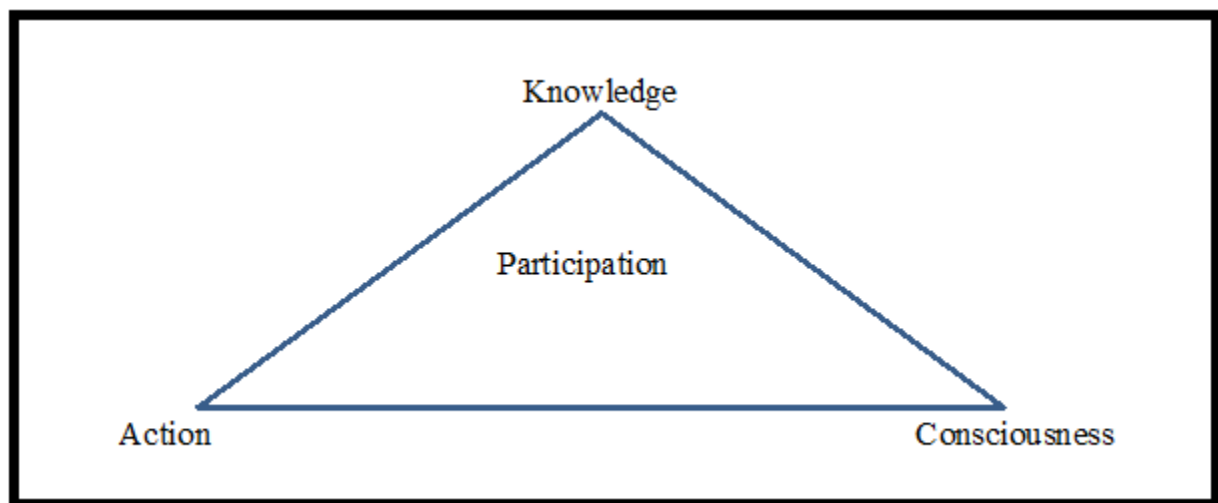
Figure 5.3: Dimensions of AR (adapted from Reason and Bradbury, 2008, p. 4)

Figure 5.3 above illustrates that knowledge, as a resource, affects decisions relating to expert reflection/reflection. Action, which examines who is involved in the production of such knowledge, addresses individual reflection/reflection. Consciousness views how production of knowledge changes the awareness or worldview of those involved. Such links it to community reflection/reflection − there is interaction with others while generating data. Reason and Bradbury (2008) elaborate on ethics and AR. Researchers must be sensitive to cultural differences and to the ways in which these inform our understanding of ethical challenges in conducting research across cultural and national boundaries.

5.6.3 Identifying and addressing shortcomings of AR

Christiansen et al. (2010), and De Vos et al. (2014), together identify some of the shortcomings of using action research in terms of resources, power relations, decision-making, data-generation methods, presentation of findings, and ethical issues. These studies further assert that, in terms of resources, action research is demanding, particularly when it comes to finance, sites, and travelling. Practice and completion of activities may be costly, including transport costs to venues for the set meetings in order to undertake phases of action research. This appears to be motivated by individual reflection of monetary constancy in the conduction of research. In this study, predicaments were easily dealt with because all phases of this action research were undertaken on one campus of the university, involving lecturers at the of KwaZulu-Natal. Funds were not needed for travelling to sites. Interviews were conducted in the offices of lecturers, without any cost incurred.

Power relations were well managed in this study. The researcher did not always lead deliberations in meetings and in the planning processes. Therefore, the researcher became impartial in the discussions of sensitive university issues. Consequently, the power relations aspect, as a shortcoming, was influenced by individual reflection. The researcher is generally well informed about the research being conducted. This gives the researcher the power to choose data-generation methods suitable for the participants without consulting the participants. This is being predisposed by the community reflection of working collectively as a team. In the context of this study, the need to consult participants was encountered and it was taken into consideration. Participants were all involved in decision-making at all levels of the action research. Lecturers approved the type of data-generation methods recommended by the researcher during preparation.

De Vos et al. (2011) persuade that potential limitations are often numerous, even in the most carefully planned research study; it is important that they be listed in the proposal. Generally, when listing or identifying limitations, the researcher must consider validity and reliability of all data-collection instruments; the generalisability of the sample to the population from which it was drawn; access to data; ethical problems; and the ability to control extraneous factors in the environment and in respondents. Although problems are never completely eliminated from the study in the caring professionals, the researcher must spell out the various means by which he tries to limit problems. The participants in the research own the problem; they become

partners in carrying out the research. In addition, the effect on the participants when the researcher withdraws from the situation on completion of the research should be considered.

The presentation of findings from action research are not generalised (De Vos et al., 2011). In dealing with the shortcomings, this study did not generalise the findings of the research. Moreover, the findings and the presentation of findings of this study were qualitatively presented in such a way that the lecturers and other lecturers from other universities are able to have access. Note that the findings were presented using the certified language of instruction to ensure easy comprehension by others who read it. One shortcoming appears to be community reflection. Another society should be able to access the findings of the study. The other shortcoming speaks to ethical issues in action research. Action research risks revealing names of those who partook in the study. This places the lives of participants at risk in the organisation in which research was undertaken. This challenge was avoided in this study. Lecturers were made to sign consent letters which set out all the ethical rules and regulations to be followed. The researcher ensured during data exploration and presentation that names of participants were not revealed. Most of the challenges of action research appear to be associated with community reflection. There is a need for individual and expert reflection to prevail in order to address this shortcoming.

5.7 Research Philosophical Paradigm

Denzin and Lincoln (2008a) define a paradigm as a set of beliefs that guides action. It encompasses four terms: ethics (axiology), epistemology, ontology, and methodology. Ethics ask: how will I behave as a moral person in the world? Qualitative researchers work with complex data. This data consists of multiple concepts existing in associations difficult to tease out from the information. One tool for helping the researcher to identify contextual factors and then link them with processes is what we call the paradigm. The paradigm is a perspective: a set of questions that can be applied to data to help the analyst draw out the contextual factors and identify relationships between context and process.

The paradigm consists of conditions which allow a conceptual way of grouping responses to the questions why, where, how, and what happens. A paradigm focusses on the researcher's intention on what follows. The individual reveals the circumstances or conditions that lead to making a particular response (individual reflection). Interactions and emotions are responses made by individuals or groups to situations, problems, and events (community reflection); and consequences are the outcomes of the interactions, or emotional responses to events.

Consequences answer the questions about what happened as a result of these interactions or emotional responses. Such will be provided by the thesis (expert reflection). The grounded theory will be used to group the responses based on inductive and deductive approaches.

Scotland (2012) published a paper outlining and exploring the interrelationships between each paradigm's ontology, epistemology, methodology, and methods. The paper reveals and discusses some of the underlying assumptions on educational research. This paper explores the subjectivity of educational research. Scotland (2012) argues that a paradigm consists of the following components: ontology, epistemology, methodology, and methods. Each component is explained, thereafter the relationships between them are explored. De Vos et al. (2011) define the term paradigm as originating in linguistics. A paradigm implies the various forms that a word can take in some languages. A paradigm is a fundamental model or frame of reference used to organise our observation and reasoning. Terre Blanche et al. (2006) emphasise that paradigms are methods of interconnected ontological, epistemological, and procedural expectations. Paradigms act as perceptions that offer a basis for the study, and compel the researcher to specific ways of data generation, reflection, and analysis. In developing research design, the researcher must ask two further questions: what or who do you want to draw conclusions about? And what type of conclusions do you want to draw about your object of analysis?

Maree (2010) elaborates on paradigmatic issues, in that AR mirrors assumptions related to post-positivist, interpretive, and constructivist epistemological designs. AR adds unique nuances to qualitative research as qualitative research is traditionally practiced

An AR approach seeks empowerment of participants and change in the form of community development. It therefore takes qualitative research one step further. Qualitative research usually focusses on an in-depth exploration and understanding of a phenomenon. The AR approach might extend research to intervention, conducting research via intervention, and intervention via research. As a result, change might be facilitated within the communities where the research is conducted. The studies above indicate that the paradigm incorporates the individual, community, and expert reflection. They also reveal the interconnectedness of the paradigm with research methods, wherein the issues of ontology, epistemology, methodology, and methods are elements of the qualitative research approach. Therefore, AR fits appropriately with the critical paradigm (Hatch, 2002).

5.8 Theoretical Framework

(Merriam, 2009, p. 66) defines theoretical frameworks as "the underlying structure, the scaffolding or frame of your study. It is the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs research".

5.8.1 Phenomenology

Phenomenology "is the study of phenomena; it stresses the careful description of phenomena from the perspective of those experiencing the phenomena" (Wiersma and Jurs, 2009, p. 274). McNell and Champman (2005) proclaim the importance of phenomenology and interpretive sociology. Interpretive data generation in this way is qualitative. It focusses on presenting the quality of life defined, rather than presenting qualitative data. The data presented takes the form of words rather than numbers. Much of the research report is composed of quotations from those being studied. The phenomenologist views social reality as multiple, divergent, and interrelated. Analysis forms the actor's own perceptive (Finn et al., 2000). Human behaviour is the way people describe their own world. Reality is meaning-attributed experience and is not the same for everyone.

Creswell (2009) proposes that a phenomenological study is a plan of investigation in which the researcher classifies the core of social experiences about a phenomenon as defined by participants. This procedure involves studying a small number of subjects through extensive and prolonged engagement, to develop patterns and relationships of reading. In this process the researcher sets aside personal experiences in order to understand those of the participants in the study (De Vos et al., 2002). The aim of phenomenology is to transform lived experience into description of its essence, allowing for reflection and analysis. In phenomenological studies, the interaction is more invasive, close, and private. This approach aims to understand and interpret the meaning that subjects give to their daily lives.

Roulston (2010) defines phenomenological approaches to analysis, reducing the data to its essential-meaning elements. The interview data are reduced by eliminating repetitive statements and data irrelevant to the study of a particular lived experience. There is a focusing and reflecting on statements that suggest the horizons of meaning relevant to the phenomenon. Statements are then clustered into themes, and used to develop textual and structured descriptions of the experience.

Babbie and Mouton (2001) state that the phenomenological paradigm is based on a predominantly mental metaphor, the centrality of human consciousness. Merriam (2009) affirms that phenomenology is the study of people's conscious experience of their life-world, that is, their everyday life and social action. Such implies focusing on the experience itself; experiencing something is transformed into consciousness. The studies above highlight the reflection; human experience; data-generation method (interview); grounded theory; examining small sample; phenomena; consciousness and empirical components, which are all features of the qualitative research approach, methodology, and action research. Therefore, phenomenology is a relevant research strategy as it relates to action research; and it relates to expert reflection. This is affirmed by a researcher taking time on the research site to ensure rich descriptive data is generated. This term is referred to as ethnography.

5.8.2 Ethnography

Maree (2010) comments that ethnography is a term traditionally associated with anthropology, and more specifically, with social and cultural anthropology. The word stems from the two Greek words, ethos (people) and graphein (to write); and is essentially writing about people. In the field of anthropology, ethnography has come to mean the description of a community or group that focusses on social systems and cultural heritage (Terre Blanche et al., 2006). A case study is an example of ethnographic techniques. At the heart of ethnography is thick description (Roulston, 2010). Wiersma and Jurs (2009) explain ethnography as referring to both a research process and the product of that process. The invention is a written interpretation which relates to the ethnography of what is was studied.

Finn et al. (2000) propose that ethnography is associated with qualitative method, a phenomenological approach, inductive, grounded theory, and positivism related to qualitative approaches. Creswell (2009) further states that qualitative research relates to ethnography; hence the scientific description of people and cultures with their customs, habits and mutual differences. Ethnography is a qualitative strategy of enquiry in which the researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting, primarily, observational and interview data. The research process is flexible, and typically evolves contextually in response to the lived realities encountered in the field setting (Creswell, 2009). The final product of the study is a descriptive and interpretive, holistic, cultural portrait of the group.

Ethnographic analysis is a search for the parts of a culture, relationships among the parts, and their relationship to the whole. Marshall and Rossman (2011) state that ethnography is the hallmark of qualitative enquiry. Derived from anthropology and qualitative sociology, ethnographies study human groups, seeking to understand how they collectively form and maintain a culture. Ethnography is an in-depth description and interpretation of cultural patterns and meanings with a specified culture or social group (Creswell, 2015). The primary strategies of gathering data in these studies have been observation over a long period of time, interaction and interviews with members of the culture, and analysis of documents and artefacts. Babbie and Mouton (2001) reveal that ethnography, field research, and naturalistic research, inductive approach, grounded theory, personal documents, unstructured interviews are terms related to qualitative research.

Ethnography possesses some elements of phenomenology. Therefore, ethnography relates to community reflection, speaking to culture, spending more time with participants, conducting interviews and other, using several data-generation methods for the study. Ethnography also offers flexibility and can provide the basis for inductively generating new theoretical explanations. Therefore, ethnography relates to grounded theory and is relevant to the study, as this theory relates to AR.

5.8.3 Epistemology

Epistemology is the theory of knowledge, especially with regard to its methods, validity and scope, and distinction between justified belief and opinion (Kvale, 2007). Scientific statements should be based upon observable data; the observation of the data and the interpretation of their meanings are to be strictly separated. Epistemological assumptions are concerned with how knowledge can be created, acquired, and communicated − what it means to know. Epistemology asks the question: what is the nature of the relationship between the would-be knower and what can be known? Every paradigm is based upon its own ontological and epistemological assumptions (Denzin and Lincoln, 2008a). Epistemology asks: "How do I know the world? "What is the relationship between the enquirer and the known? Experiences emerge in a continual interaction between people and their environment; accordingly, this process constitutes both the subjects and objects of the enquiry.

The actions taken are purposeful, and aim at creating desired outcomes. Hence, the knowledge creation process is based on the enquirers' norms, values and interests. "Knowledge is seen as embedded with cycles of action and reflection" (Seale et al., 2007, p. 480). Maree (2007)

remarks that epistemological assumption is the knowledge that can be viewed in two ways: it can be seen as hard, real, and objective (positivist position) capable of being transmitted in tangible form. The epistemology therefore, relates to expert reflection.

5.8.4 Ontology

Kvale (2007) describes ontology as a set of concepts and categories in a subject area or domain that shows the properties and the relationship between them. Corbin and Strauss (2008) claim that ontology is assumptions about the world. Ontological assumptions are concerned with what constitutes reality: what is. Researchers need to take a position regarding their perception of how things really are, and how things really work. Maree (2007) posits that for ontological assumptions, you assume that social reality can be understood from an external point of view. There is a realist position that abstract objects have an objective stance. Ontology is the study of the nature and form of reality. Ontology is individual reflection: position and perception are the actions of an individual which may inform decision-making.

5.9 Qualitative Research

5.9.1 Nature and purpose of qualitative research

Qualitative approach encompasses the constructivist, ethnographic design, and observation of behaviour. Qualitative approach is participatory world view, narrative design, and open-ended interviewing (Kvale, 2007). Wiersma and Jurs (2009) elaborate that qualitative study finds its origins in descriptive analysis. It is fundamentally an inductive method, reasoning from the particular condition to a general deduction. Wiersma and Jurs (2009) further indicate that qualitative research traces the paradigm that research should be conducted in a natural setting. Meanings resulting from the research are precise to that setting and its circumstances. This approach is that of a complete interpretation of the natural setting. It is characterised as context-based, with the researcher's role being present in the situation.

Table 5.1 Nature of a Qualitative Research Approach (Creswell, 2009, p. 17)

TYPICAL TENDENCY TO	QUALITATIVE APPROACH
use of these philosophical assumptions	• Constructivist/advocacy/participatory knowledge

employ these strategies of enquiry	• Phenomenology, grounded theory, ethnography, case study, and narrative.
employ these methods	• Open-ended questions, emerging approaches, text or image data.
use these practices of research as the researcher	• Position oneself • Collect participants' meanings • Focus on single concept or phenomenon • Bring personal values into the study • Study the context or setting of participants • Validate the accuracy of findings • Make interpretations of data • Create an agenda for change or reform • Collaborate with the participants • Narrative research is a strategy of enquiry in which the researcher studies the lives of individuals to provide stories about their lives. This information is often retold or restored by the researcher into a narrative chronology. In the end the narrative combines views from the participants' lives with those of the researcher's life in a collaborative narrative.

Table 5.1 above shows the features of qualitative research approach in the first column. These features include philosophical assumptions, strategies employed, the methods used, and the role of the researcher in the practice. The second column indicates the approaches relevant to the features in the first column. These approaches include constructivists, advocacy and participatory knowledge, as aligned with philosophical assumptions. The phenomenology, grounded theory, ethnography, case study and narrative are associated with strategies employed in the enquiry. Open-ended questions, emerging approaches, text or image data relate to the methods used for data generation. The researcher's position in the entire enquiry aligns with the role of the researcher in the practice.

These features and approaches are similar to action-research style. Qualitative approach is relevant to action research. The features and approaches above also incorporate all three forms of reflection − individual, community, and expert reflection. Therefore, this approach is suitable for this study. The study focusses on exploring lecturers' reflections on using Moodle in teaching Business Studies. Action research constitutes similar features and approaches. Therefore, the adoption of a qualitative research approach will produce the required end results with rich descriptive analyses.

Qualitative research is intended to approach the world out there and to understand, describe, and sometimes explain social phenomena from the inside in a number of different ways, by analysing experiences of individuals or groups. Experiences can be related to biographical life histories or to (every day or professional) practices. Experiences may be addressed by analysing everyday knowledge, accounts, and stories, or by analysing interactions and communications in the making. This can be based on observing or recording practices of interacting and communicating, thereafter analysing this material. Documents (texts, images, film or music) or similar traces of experiences or interactions can be analysed Kvale (2007). Qualitative researchers tend to use open-ended questions so that the participants can share their views. Humans engage with their world and make sense of it based on their historical and social perspectives. We are all born into a world of meaning bestowed upon us by our culture. Thus, qualitative researchers seek to understand the context or setting of the participants through visiting their context and gathering information personally. They also interpret what they find, an interpretation shaped by the researcher's own experiences and background (Creswell, 2014).

Hakim (2000) states that qualitative research is concerned with obtaining people's own accounts of situations and events, reporting their perspectives and feelings. Where a case study research is concerned, obtaining a rounded picture of a person's life, a situation or event from perspectives of all the persons involved, comes about usually per a variety of methods and sources of information. Qualitative research is used for exploratory studies, leading to more structured or quantity studies. Such is an alternative to opinion polls, allowing for examining casual processes at the level of the international, self-directing and knowledge actors.

Table 5.2 A Summary of the Nature of Qualitative Research Approach
(Adapted from Merriam, 2009)

Qualitative Approach	Nature of Qualitative Research
Focus of research	Quality (nature, essence)
Philosophical roots	Phenomenology, symbolic, interactionism, constructivism
Associated phrases	Fieldwork, ethnographic, naturalistic, grounded, constructivist
Goal of investigation	Understanding, description, discovery, meaning, hypothesis-generating
Design characteristics	Flexible, evolving, emergent
Sample	Small, non-random, purposeful, theoretical
Data collection	Researcher as a primary instrument, interviews, observations, documents
Primary mode of analysis	Inductive, constant, comparative method
Findings	Comprehensive, holistic, expansive, richly descriptive

5.9.2 Benefits of Qualitative research

A qualitative research approach offers a comprehensive and thorough understanding of the phenomenon being studied (Dube, 2018). This approach assists in recommending questions, addresses the drive of the study, and specifies how the approaches of generating and analysing data will be used in the study. The great strength of qualitative research is the validity of the data obtained: individuals are interviewed in sufficient detail for the results to be taken as true, correct, complete, and believable reports of their views and experiences. Qualitative research study is in the study of motivations and other connections between factors. Qualitative research is valuable for identifying patterns as associations between factors on the ground. Such

associations are compared with abstract corrections between variables in the analysis of large scale surveys and aggregate data (Creswell, 2014). Depth interview can also clarify the reflection for discrepancy between stated attitudes and behaviour. Qualitative research is necessary if one is looking at the way in which people respond to external social realities at the micro level, accommodating themselves to the inevitable, redefining the situation until it is acceptable or comfortable, kicking against constraints, or fighting to break out of them or even to change them.

Qualitative research offers substantively different and complementary information on the way in which attitudes and experiences cohere into meaningful patterns and perspectives to people and to explanation. Qualitative research may be used for exploratory work before a large-scale or more complex study is mounted. Qualitative research is used in the development of theory and for theoretical research. It is used in conjunction with other types of study, to help clarify such. Casual processes and explanations are described in the form of motivations, or to complement survey reports with illustrative examples and quotations on typical, minority, or deviant cases. Qualitative research tends to be used most heavily in disciplines where the emphasis is on description and explanation, rather than on prediction. Qualitative research offers a more direct window onto the lives of constituents (for politicians) or client groups (for administration). Qualitative research takes place in the natural world. It uses multiple methods that are interactive and humanistic. It focusses on context. It is emergent rather than tightly prefigured. It is fundamentally interpretive.

Marshall and Rossman (2011) state that the qualitative researcher views social phenomena holistically, systematically reflecting on who the researcher is in the enquiry. This is sensitive to personal biography and how it shapes the study. Qualitative research uses complex reasoning that is multifaceted and iterative. Qualitative research, then, is a broad approach to the study of social phenomena. Its various genres are naturalistic, interpretive, and increasingly critical, and they are typically drawing on multiple methods of enquiry. Babbie and Mouton (2001) advocate that qualitative research key features include that research is conducted in the natural setting of social actors. There is a focus on process rather than outcome. The actor's perspective (the insider or emic view) is emphasised. Yin (2011) indicates that the primary aim of qualitative research is in-depth explanations and understanding of activities and proceedings. Such allows the researcher to conduct detailed studies on a broad array of topics, including the researcher's preferences, in plain and everyday terms.

The focal concern is to know human action in terms of its particular environment, rather than trying to generalise to some theoretical population. The research process is often inductive in its approach, resulting in the generation of original assumption and philosophies. Such may be detailed engagement/encounter with the object of study, selecting a small number of cases to be studied. There should be an openness to multiple sources of data. Flexible design features will allow the researcher to adapt and make changes to the study where and when necessary.

Qualitative researchers have a natural curiosity that leads them to study worlds that interest them, and that they otherwise might not have access to. Qualitative researchers enjoy playing with words, making order out of seeming disorder, and thinking in terms of complex relationships. A reason for choosing qualitative research is the desire to step beyond the known and enter into the world of participants. Thus the researcher sees the world from own perspective. In so doing, researchers make discoveries that will contribute to the development of empirical knowledge. Qualitative researchers should be curious, creative, and not afraid to trust own instincts.

A qualitative epistemological method has roots in phenomenology. The purpose is to construct comprehensive accounts of communal realism. Approaches utilise inductive reasoning, appropriate to research of a comparatively unfamiliar environment, seeking to appreciate phenomena. Participants' normal language is used in order to derive a genuine understanding of their world. The research project is flexible, and distinctive, and evolves throughout the research course. There are no fixed stages that must be followed; and plans cannot be precisely replicated. Data sources are determined by information richness of locations; forms of reflection are adapted to enhance understanding. The component of enquiry is universal, focused on the relationships between components, settings, and more. The whole is usually more than the sum of the parts.

Krefting (1991) assures that qualitative research is the study of the empirical world from the viewpoint of the person under study. There are two underlying principles: the behaviour is influenced by the physical, socio-cultural, and psychological environment. This is the basis for naturalistic enquiry. Second, behaviour goes beyond what is observed by the investigator. Subjective meanings and perceptions of the subject are critical to qualitative research; it is the researcher's role to access such. A particular tradition in social science fundamentally depends on watching people in their own territory, and interacting with them in their own language, on

their own terms. Qualitative research is pluralistic, consisting of a variety of approaches, including phenomenology, semiotics, ethnography, life history, and historical research.

Moreover, Denzin and Lincoln (2008a) confirm that qualitative research involves the study's use and collection of a variety of empirical materials. The case study, personal experience, information, life story, interview, artefacts, cultural texts and productions, observational, historical, interactional, and visual texts describe routine and problematic moments and meanings in individuals' lives. Denzin and Lincoln (2008b) state that qualitative research means different things in each of these moments. Nonetheless, an initial, generic definition can be offered: qualitative research is a situated activity that locates the observer in the world (Maxwell, 1992). It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study people or items in their natural settings, attempting to make sense of such, or to interpret phenomena in terms of meanings people bring to them.

5.9.3 Shortcomings of Qualitative research

The main weakness of qualitative research is that it consists of small numbers of respondents to be chosen, who may pretend to represent the bigger section of the type of people who are the subjects of the study. Research findings of qualitative study cannot be generalised (Dube, 2018). The results cannot be related to other contexts. Qualitative research genres exist in great variety, and many excellent texts serve as guides to their assumptions and approaches. Many qualitative researchers, despite their methodological stances, tend to espouse some common values and enact a family of procedures for the conducting of the study. They are intrigued by the complexity of social interactions expressed in daily life and by the meanings that the participants themselves attribute to those interactions. They are also exquisitely aware that they work in and through these interactions, their own and others, layered in complex hermeneutic circles. These interests take qualitative researchers into natural settings, rather than laboratories; and foster pragmatism in using multiple methods and wide range of interconnected interpretive practices. Qualitative research is pragmatic, interpretive, and grounded in the lived experiences of people.

Qualitative research uses words, focusses on meanings, uses inductive logic, and lacks the power to generalise found in quantitative research. Ontological and epistemological assumptions and theoretical considerations are relevant to the choice of research method. However, there is not necessarily linkage between assumptions on the one hand, and methodological approaches on the other hand. Babbie and Mouton (2008) advocate that the term qualitative research paradigm was used to state that common research methods. This relates to which study takes its departure point as the insider perception on human action. Qualitative researchers try to constantly study social action from the insider perspective.

Qualitative researchers are interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences. Such is a situated activity that locates the observer in the world. Qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. Basically, qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world, and the experiences they have in the world.

Maree (2007) posits that qualitative research requires the use of various strategies to enhance validity; paying attention to the following dimensions to increase trustworthiness (reliability) in a qualitative study: credibility, transferability; dependability, and confirmability. Attempts are made to collect rich descriptive data in respect of a particular phenomenon or context, with the intention of developing an understanding of what is being observed or studied. Qualitative research does not sit easily with the positivist paradigm that underpins qualitative research. Qualitative research focusses on describing and understanding phenomena within their natural occurring contexts, with the intention of developing an understanding of the meaning/s imparted by the respondents. This means seeing through the eyes of the participants, so that the occurrences can be defined in terms of the importance that they have for the players or contributors.

5.9.4 Addressing shortcomings of qualitative research

Qualitative research should be conducted in natural settings, meaning that qualitative research is based on a naturalistic approach that seeks to understand phenomena in context (or real-world setting). The researcher must not attempt to manipulate the phenomenon of interest. Research will be carried out in real-life situations and not in an experimental (test-retest) situations. Consequently, unobtrusive data-gathering techniques, like interviews and

observations are dominant in the naturalistic (interpretive) paradigm (similar to AR and ethnography). The role of the researcher will be to accept researcher subjectivity as something that cannot be eliminated: the researcher is the research instrument in the data-gathering process. Moreover, the researcher's involvement and immersion in the changing, real-world situation is essential. The qualitative researcher needs to record those changes in the real-life context. The readers of the research must be able to transfer the results of the research.

5.10 Data Generation

A primary source is the written or oral testimony of an eyewitness or participant or a record made by some mechanical device present at the event, such as a tape recorder, videotape, or a photograph (McMillan and Schumacher, 2014). Primary sources for a biography are "the person's personal and public papers and the relics of his or her life" (McMillan and Schumacher, 2014, p. 453). McMillan and Schumacher (2014) further define a secondary source as the record or evidence of anyone not an eyewitness to, or a participant in the event. Such includes histories, biographies, and monographies that interpret other primary and secondary sources.

Maree (2011) insists that primary sources of data comprise documents that are unpublished, and which the researcher has collected from the participants or organisations personally; e.g., minutes of a meeting, reports, or correspondence. Secondary sources therefore, refer to any materials (books, articles) that are based on previously published works. Babbie and Mouton (2008) respond that primary data, in this case, refers to that collected oneself, rather than secondary data that already existed when the research began. Studies in which the researchers collect new data through interviews or observation or whatever method, are referred to as primary-data designs. Studies in which researchers use existing data, such as census data or documents and texts that were produced previously, are referred to as secondary-data studies. Both primary and secondary data is pertinent to the research project; however, the researcher should understand how to use it, accepting its shortcomings and generation methods. Primary data therefore requires the researcher to collect it through interaction with participants.

Secondary data can be obtained through reading or downloading various sources of data. Primary data therefore is aligned with ethnography and phenomenology. Secondary data is associated with epistemology and ontology. The generation of primary data links well with community reflection; while secondary data links with expert reflection. The researcher then

plays a significant role in data generation. Central to that is the decision to use data acquired, scrutinising it for accuracy and authentication purposes. This is the role of individual reflection.

5.10.1 Applicability and benefits of data-generation methods

Corbin and Strauss (2008) propose that one of the virtues of qualitative research is that there are many alternative sources of data. The researcher can use interviews, observations, videos, documents, drawings, diaries, memoirs, newspapers, biographies, historical autobiographies, and other sources not listed here. Other considerations are the desire to triangulate or obtain various types of data on the same problem, such as combining interviews with observation, then perhaps adding documents for the purpose of verifying or adding another source of data.

5.10.2 Shortcomings of data-generation methods

Maree (2012) reminds that not all data on the Internet is accurate and dependable; and not everything written in a report is empirically truthful. This therefore suggests a meaningful role to be played by the researcher in deciding and verifying the empirical nature of data before using it. Such applies to eliciting strategies to deal with shortcomings.

5.10.3 Addressing shortcomings of data-generation methods

The researcher should take care to evaluate the authenticity and accuracy of the records before using them (Maree, 2012). The process of evaluating the data will assist the researcher to decide on the sampling and sample size for the study. Knowing and understanding the type of data required for the research will enable the researcher to choose the best sample size for the study.

Table 5.3: Participants' Profiles

Participant	Highest qualification	Module teaching	Gender	Race	Age
A	PhD	Business Management	Male	African	45 - 55
B	PhD	Economics	Male	African	30 -35

C	Master's	Education Studies EDES 310	Female	African	28 -35
D	Master's	Introduction to Education	Female	African	30 - 34

5.11 Data-generation Methods

This study adopts three data-generation methods, namely, artefacts, reflective activity, and semi-structured interviews. Based on sampling, these methods provided information-rich data with reasonable expense in terms of time and cost.

5.11.1 Artefacts

5.11.1.1 Nature and purpose of artefacts

McMillan and Schumacher (2014) assert that documents and artefact collection are non-interactive strategies for obtaining qualitative data, with little or no reciprocity between the researcher and the participant. Such is less reactive than interactive strategies in that the researcher does not extract the evidence. During field residence in school settings, for example, the ethnographer must interact with individuals, even if only non-verbally, becoming, to some degree, a participant. This is not an impediment if the researcher notes the consequences of this interactive role. In contrast, artefact-collection strategies are non-interactive but may require imaginative fieldwork to locate relevant data. Marshall and Rossman (2011) define artefacts of material cultures as documents, objects, pictures, clothing, pottery, or even rubbish. Yin (2003) adds that artefacts, as a source of data, may refer to physical or traditional artefacts, including a technological device, or an instrument or tool, a work of art, or some other physical evidence. The study further indicates that artefacts may be generated or perceived as part of a field visit; and have been used comprehensively in anthropological study.

Table 5.4: Features of Artefacts (McMillan and Schumacher, 2014, p. 387)

Type	Examples	Used for
Personal documents	Diaries	Personal perspective

	Personal letters Anecdotal records	
Official documents	Internal papers External communication Students' records and personal files Statistical data	Internal or official perspective within the organisation Official perspective for the public Institutional perspective on the child or employee Suggesting trends, raising questions, corroborating qualitative findings, describing rituals and values.
Objects	Symbols Objects	Suggesting social meanings and values.

Table 5.4 above illustrates the features of artefacts which comprise personal documents, including diaries, personal letters, and anecdotal records. The official documents include internal papers, external communication, students' records and personal files, and statistical data. The objects contain symbols and objects. This means personal documents relate to individual reflections. Such narrates how an individual perceives the situation. The official documents may be used by the individual in communicating with outsiders for either research or other reflections. Documents include policies and official information on the organisation and the objects (Punch, 2009). Objects and symbols represent social interaction between a researcher and participant in which the participant indicates the perception of the situation through drawing objects. In each data-generation method, individual, community, and expert reflections are involved. However, the researcher must scrutinise the type of data-generation method for proper alignment to reflections. Artefacts in nature relate to community reflection.

5.11.1.2 Benefits of artefacts

Marshall and Rossman (2011) indicate that various kinds of documents can provide background information that helps establish the rationale for selecting a particular site, programme, or population: this is relevant for the proposal. Marshall and Rossman (2011) further propose that participants generate documents: journal entries or writing samples. An analysis of other artefacts, those not encoded in text, might also be fruitful for a qualitative study. Focusing on some artefacts in the setting would add richness to the corpus of data to be generated. The advantage of using artefacts is that it does not disrupt ongoing events. These materials can be gathered without disturbing the setting. The researcher determines where the emphasis lies after the data has been gathered.

Artefacts are tangible manifestations that describe people's experiences, knowledge, actions, and values. Qualitative researchers studying current groups have adopted the techniques of histories who analyse documents, and of archaeologists who examine objects created by ancient peoples. Types of artefacts of present-day groups and educational institutions may take three forms. A personal document is any first-person narrative that describes an individual's actions, experiences, and beliefs. Personal documents include diaries, personal letters, and anecdotal records. These documents are usually discovered by the researcher, but sometimes, an ethnographer will ask a participant to make anecdotal records such as a log, a journal, notes on lesson plans, or a parent's development record of a child. Documents can also surface during an interview or participant observation.

Formal documents are plentiful in organisations and take various forms. Memos, minutes of meetings, working papers, and drafts of plans are casual documents that offer an internal perspective of the organisation. Internal documents can show the official chain of command; and provide clues about leadership style and values. Documents used for external communication are those produced for public consumption (newsletters, programme brochures, school-board reports, public statements, and news releases).

Such documents advocate the formal viewpoint on a theme, matter, or media. Existing archival and demographic collection may be located during field residence, and is usually readily available to the researcher. Institutions also keep individual records on each student and employee. In order to gain access to these records, parental, student, or employee permission is usually required. Students' and personal files can be quite elaborate over time and may contain a variety of records and reports. A student's file may have records of testing,

appearance, subjective remarks from educators, data from other organisations, and a family profile. Researchers use a file not so much for what it tells about the student but rather for what it suggests about the people who make the records. The file represents different perspectives on the students.

Statistical data can be demographic information about a group or population, dropout rates, achievement scores, number of acts of violence and suspension, attendance records, student eligibility lists for certain federal programmes, number of athletic injuries, and other numerical computations. Qualitative researchers use statistical data in several ways: (1) to suggest trends, (2) to propose new questions, and (3) to corroborate qualitative data. Qualitative researchers are more interested in what the statistics tell about the assumptions of the people who use and compile data – that is, how statistics reveal people's thinking and common-sense understandings. Routinely produced numerical data describe the rituals and social values of an organisation. Fieldworkers seldom take statistical data at face value; instead, they question the social process that produced the data, and how the data have been used.

McMillan and Schumacher (2014) define objects as created symbols and tangible entities that reveal social process, meanings, and values. Examples of symbols are logos and mascots of school teams and clubs, such as athletic letters and trophies, posters, and awards plaques. In a study of institutional collaboration, a symbol record was a newly created logo that combined parts of the emblems of the university and the school system to represent a new relationship between the two organisations. Interactive data revealed the difficulties surmounted to obtain official approval to use institutional emblems in a new form. The data obtained the following year described the use of the new logo. Qualitative researchers may investigate teachers' value of students' work by frequently checking bulletin board displays in elementary classrooms, corroborating this finding with data of other fields.

Hesse-Biber and Leavy (2011) indicate that artefacts in qualitative study sometimes relate to a picture that can be worth a thousand words. People's drawings, whether literal depictions or abstract symbolisms, can be data that provide quality information in a fun and creative manner. Participants can be engaged to actively partake in research by drawings depicting their perceptions, feelings, or a situation, instead of using verbal description. Researchers can use drawings as enactments, that is, activities in which they observe participants working together, and take note of communication style, conflict resolution, teamwork, roles, and rules of interactions. Material artefacts consist of objects found within the study setting.

Anthropologists typically refer to these objects as artefacts, which include tools, implements, utensils, and instruments for everyday living. Because material can be measured, such is most often suited to obtaining information on the incidence and frequency of behaviour. Material provides a good check on information obtained from interviews. In qualitative research, most traces are used to supplement data gathered through interviews and observations.

Artefacts record the results of behaviour not reported, or experimental approximations. Trace measures are usually non-reactive and unobtrusive, since they are applied after behaviour has occurred: they do not modify the behaviour they seek to study. Material traces are ubiquitous and readily available for study. Such require minimal cooperation and inconvenience from human objects; hence they are applied to inanimate objects. A variety of interrelated behaviours can often be studied simultaneously. Because of the minimal inconvenience and expense to informants, trace measures (artefacts) can be used over long times as longitudinal monitoring devices. Artefacts are the best source of data on a particular subject; better than observation or interviews. Many documents are easily accessible, free, and contain information that would take an investigator much time and effort to gather otherwise. The data found in documents can be used in the same manner as data from interviews or observations. The data can furnish descriptive information, verify an emerging hypothesis, advance new categories and hypothesis, offer historical understanding, and track change and development. Documentary data includes objective sources of data, unlike other forms.

In this study, Business Studies lecturers were provided with artefact instructions to respond by drawing any picture that showed good or bad feelings towards the use of Moodle. Lecturers were also provided with spaces below the artefact illustrations in which they had to explain the meaning of a particular diagram. This was done to avoid misinterpretation of images, maps, diagrams, etc. The aim of artefacts in this study, first, was to generate data in a time-saving way. Second, it was to find lecturers' views as the initial stage of a data-generation method. A method was used to facilitate the participant to apply innovative skills showing their domain around the phenomenon. This helped the researcher to have a clear understanding or picture of how lecturers felt on the use of Moodle.

5.11.1.3 Shortcomings of artefacts

Marshall and Rossman (2016) allude to a potential weakness, in the span of inferential reasoning. The analysis of written materials or photographs entails interpretation by the researcher, just in the analysis of interactively gathered data. Moreover, researchers prefer to

produce their own data in that the use of documents is too much like historical research; and the researchers want to see the concrete situation and informants in person. Preferences for other sources of data may reflect a researcher's uncertainty on the potential of documents for yielding knowledge and insight. Most documentary data have not been developed for research purposes. The materials may be incomplete from a research perspective. The source may provide samples which are not representative.

The information data offer may not be in a form that is useful to the researcher. Such data may be incongruent with emerging findings based on observational or interview data. If documents are used as part of the process of inductively building categories and theoretical constructs as in qualitative case studies, their fit with pre-established concepts or models is less of a concern. The determination of authenticity and accuracy, however, is a concern. Personal documents are subject to either purposeful or non-purposeful deception. Distortion in personal documents may be unintentional, in that the writer is unaware of personal bias, or simply does not remember accurately. In this study, it took time for participants to respond on artefacts. Such required follow-up reminders and patience, because artefacts were sent during examination time. This tampered with lecturers' busy schedule for marking.

5.11.1.4 Addressing shortcomings of artefacts

As artefacts are difficult to interpret, the researcher gave participants the opportunity of defining Moodle in design layout. Thereafter, lecturers were asked to interpret their artwork in writing, and during the interview time. The interpretation was both descriptive and oral. This was to circumvent misconception of artefacts. Moreover, Business Studies lecturers were given clear guidelines on validating Moodle as either a helpful or uncertain practice. The logic behind use of artefacts is that the researcher needed insight from Business Studies lecturers. To support data from artefacts, other approaches to data generation were used (reflective activity and semi-structured interviews). Zuma (2019) recommends that artefacts be appropriately used with other approaches of data generation. However, some participants may be not aware of what artefacts are, and what is expected of them in dealing with the artefacts. The researcher explained their meaning, being cautious not to influence the answers on Moodle. In addressing the delays highlighted in shortcomings in the paragraph above, participants were reminded weekly during office hours, so as to avoid intrusion into their spare time. Through such effective communication, using emails and telephone, all responses were returned per email; however, participant A could not provide negative views. The researcher was also patient with

participants, indicating that the researcher knew they had busy schedules, but appreciative of their responses once they had given such.

5.11.2 Reflective activity

5.11.2.1 Nature and purpose of reflective activity

Hesse-Biber and Leavy (2011) insist that researchers can ask participants to keep journals of their daily activities or feelings, using these journals as one way of understanding and describing participants and their lives. Researchers can also request that participants keep logs of certain activities, memories, or dreams, as a way of gathering information. Writing is a way for participants to tell their stories. Such methods can brighten the research process when they are used effectively.

5.11.2.2 Benefits of reflective activity

Hesse-Biber and Leavy (2006) indicate that these methods (reflective activity, journal writing) can enliven the research process when they are used effectively. Zuma (2019) records that reflective activities are vital because they are emancipatory, and based on constructing the understanding of the participants. Moreover, information from the reflective activity is reliable, since participants reveal their own understandings. The reflective activity advocates the principles of democracy; participants are free to respond. Hatch (2002) further elaborates that the information in diaries or journals assists with field note analysis, and affords ways of accounting for individual prejudices and perceptions.

For the purpose of this study, questionnaires were crafted based on the intentions of the study, and the concepts of curriculum, which are establishing the conceptual framework. Open-ended questionnaires are valuable because participants are permitted to reply as fully as desired. Lecturers were provided with reflective activities to respond to the questions based on ten curriculum pillars. Lecturers were then provided with spaces below each question to respond to the question asked. Lecturers had to illustrate their individual thinking or ideas and experiences of using Moodle in Business Studies. This permitted the researcher to explore difficult matters. It is mandatory for practitioners to reveal their personal prior practice, in order to change their forthcoming practices (Mpungose, 2017; Makumane, 2018). Therefore, this qualitative study utilises phenomenological research study, in which the attention is on changing practitioners, reflective activity being amongst the greatest approaches to generating

data. With reflective activity, participants responded in line with the schedule of questions sent to them.

5.11.2.3 Shortcomings of reflective activity

Hesse-Biber and Leavy (2006) note that researchers need to assess whether these methods would enhance the process or limit or detract from it, according to the issue and population studied. Reflective activity is not meant to be used in every context and for every research purpose. If the researcher is unfamiliar or uncomfortable with the method, the participants will detect this, and the researcher and research may lose credibility. Zuma (2019) cautions researchers on the disadvantages of questionnaires. Participants are likely to overlook or misinterpret questions. This may occur when the participant is occupied with too many questions to respond to in writing. Besides that, replying to a questionnaire that has open-ended questions takes more time than responding per a document on which you tick or cross the response. Mpungose (2017) adds that not all participants may understand the reflectivity activity; participants may feel uncomfortable to assess their own practices. Such can be time-consuming.

5.11.2.4 Addressing shortcomings of reflective activity

The reason for this study was to gain lecturers' understanding of Moodle. Participants were given the opportunity of responding to the questions, which involves telling a story on their experiences of using Moodle when teaching Business Studies. Lecturers were encouraged to write in simple and plain English. This was done to circumvent misconceptions of the responses and questions. In addressing the issue of misunderstanding, the researcher provided participants with my details, including cellphone number, landline number, and email address, so that they could contact me to clarify any misunderstandings. The researcher was flexible in prolonging deadlines by one week or more, to allow participants to complete the reflective activity, thereafter submitting it.

5.11.3 One-on-one semi-structured interviews

Merriam (2009, p. 87) articulates that "interview refers to a process in which a researcher and participant engage in a conversation focused on questions related to a research study". An interview is conducted to find out from people those aspects we cannot directly observe, such as feelings, thoughts, and intentions. Interviewing assists in retrieving past experiences (De Vos et al., 2011). One-on-one semi-structured interviews, and an interview guide includes a

mix of more or less structured interview questions. All questions are flexible; usually, such requires specific data from all respondents. The greater part of the interview was guided by a list of questions or issues to be explored, no predetermined wording or order given.

Maree (2007) defines an interview as a two-way conversation in which the interviewer asks the participants questions to collect data and to learn about ideas, beliefs, views, opinions, and behaviours of the participant. The aim of qualitative interviews is to see the world through the eyes of the participant. Such can be a valuable source of information, provided used correctly. The aim is always to obtain rich descriptive data that will help to gain the participant's construction of knowledge and social reality. If the person being interviewed believes the topic to be important, trusting the interviewer, they will offer information not able to be collected in any other way.

5.11.3.1 Nature and purpose of one-on-one semi-structured interviews

The research interview has been defined as a conversation with a purpose (and) may be defined as a two-person compensation. Such is initiated by the interviewer for the specific purpose of obtaining information relevant to the research. In the research interview "the respondent is led to restrict his discussion to the questions posed" (Hesse-Biber and Leavy, 2006. p. 19). Finn et al. (2000) state that a semi-structured interview has specific questions, but allows more probing to seek classification and elaboration. Participants would have more latitude than in a structured interview The interview structure associated with qualitative approach therefore is appropriate for action research. A qualitative research interview seeks to cover both the factual and covert level; it is usually more difficult to interview on an overt level. The interview therefore takes the form of individual reflection, since it is objective by nature. The researcher decides on the type of data to be generated from the participants. Such is accomplished through planning all interview processes from questions, appointments with participants, and times for the sessions.

Babbie and Mouton (2001) define a qualitative interview as an interaction between an interviewer and a respondent, in which the interviewer has a general plan of enquiry. There is not a specific set of questions that must be asked in a particular order. A qualitative interview is essentially a conversation in which the interviewer establishes a general direction for the conversation, and pursues specific topics raised by the respondent. The participant does most of the conversing.

A one-on-one semi-structured interview as a semi-structured life world interview attempts to understand themes of the lived daily world from the subject's own perspectives. This interview seeks to obtain descriptions of interviewees' life world with respect to interpretation of the meaning of the described phenomena. Such comes close to an everyday conversation, but as a professional interview, it has a purpose. The interview involves a specific approach or technique: it is semi-structured because it is neither an open everyday conversation, nor a closed questionnaire. The qualitative research interview intrudes upon the interviewees' lived everyday world. Kvale (2007, p. 11) postulates that "the interview is uniquely sensitive and powerful method for capturing the experiences and lived meanings of the subject's everyday world. Interviews allow subjects to convey to others their situations from their own perspective and in their own words". De Vos et al. (2002) assert that one-on-one semi-structured interviews are defined as those organised around areas of particular interest, while still allowing considerable flexibility in scope and depth.

Moreover, the researcher uses one-on-one semi-structured interviews in order to gain a detailed picture of a participant's beliefs about or perceptions or accounts of a particular topic. This method gives the researcher and participant more flexibility. The researcher is able to follow up particular interesting avenues that emerge in the interview; and the participant is able to give the fuller picture. One-on-one semi-structured interviews are especially suitable where one is particularly interested in complexity or process; or where an issue is controversial or personal. With semi-structured interviews, the researcher will have a set of predetermined questions on an interview schedule; however, the interview will be guided by the schedule, rather than dictated by it. The participant shares more closely in the direction the interview takes; and can introduce an issue the researcher had not thought of. In this relationship, the participant can be perceived as the expert on the subject. The participant should therefore be allowed maximum opportunity to tell his or her story. Questions are nearly always open-ended.

5.11.3.2 Benefits of one-on-one semi-structured interviews

One-on-one semi-structured interviews combine the flexibility of the unstructured interview with comparability of keys questions. The interviewees answer the same questions, increasing the comparability of the response. An interview has reduced data, easily analysed using statistical techniques. Interviews are useful when participants cannot be directly observed. Participants can provide historical information, allowing researcher control over the line of questioning. Marshall and Rossman (2016) state that an interview yields data swiftly, and in

quantity. Where more than one person participants, the process takes in a wider variety of information than with fewer participants, the familiar trade-offs between breadth and depth. Immediate follow-up and clarification are possible. Combined with observation, interviews allow the researcher to understand the meanings that everyday activities hold for people. Yin (2003) claims that interviews are an important source of information; hence most studies are about human matters. These human matters could be told and understood through the judgements of particular investigators. Well-informed participants can offer crucial understandings of a situation. Further to that, interviews can offer shortcuts to the previous history of the situation, assisting an investigator to find other significant sources of information.

De Vos et al. (2002) advocate that one-on-one interviews are a valuable means of receiving huge volumes of data rapidly; and are an exclusively operative method of attaining depth in data. Seale et al. (2007) elaborate that interviews are social encounters in which speakers collaborate in producing retrospective (and prospective) accounts or versions of their past (or future) actions, experiences, and thoughts. They make us pay attention to the how, that is, to try to understand the biographical, contextual, historical, and institutional elements that are brought to the interview, and used by both parties. Interview data is a resource and a topic. The interview data collected is seen as reflecting on realities outside the interview. Interview as a topic means the interview collected data is seen as reality reflecting a reality jointly constructed by the interviewer and interviewee. The interviewer's role is minimal, allowing the interviewee to express ideas in own words. A well-conducted interview may be a rare and enriching experience for the subject, who may obtain new insights into personal life situations.

Qualitative in-depth interviews are noted more for their probes and pauses, rather than for their particular question format. Establishing trust, being genuine, maintaining eye contact, and conveying through phrasing, cadence, and voice tone that the research participant hears will connect with the person, and elicit more valid data than a rigid approach. Rubin and Rubin (2005) state that qualitative interviewing distils our experiences from careers spent in the field, supplementing our experiences with lessons drawn from a wide array of published research, as well as examples supplied by professional colleagues. Rubin and Rubin (2005) highlight that when one wants people to explain their answers or give examples or describe their experiences in-depth, interviews are relevant. Interviews can make one understand experiences, and reconstruct events in which one did not participate. Interviews extend intellectual and emotional reach across age, occupation, class, race, gender, and geographical boundaries.

Quantitative interview projects are especially good at describing social and political processes, that is, how and why things change. In-depth interviews help fill in historical blanks. In so doing, they make older people more comprehensible to the younger generation, by showing how wars, revolutions, and cultural expectations have shaped previous generations. Using qualitative interviews, researchers delve into important personal issues. Decision-makers use the results of qualitative interviewing studies to shed new light on future decisions to be taken. Research based on in-depth interviews also helps us understand our work lives. Qualitative interviews are conversations in which a researcher gently elicits in-depth details about the research topic, by following up on answers given by an interviewee during the discussion.

In this study, interviews helped me by providing first-hand information. The use of probing questions brought clarity on issues which were not clearly presented during artefact and reflective activity. It was easy to paraphrase some questions − face-to-face sessions allow for this opportunity of engagement. Clarity-seeking on some propositions provided an opportunity to gain in-depth information. Lecturers could also have related to their practical experiences, which provided more understanding of their scope of work, and how they reflect at different levels. The relationship of trust was developed, because personal engagement allowed for eye-contact and affirmations that participants were not communicating with a stranger.

5.11.3.3 Shortcomings of one-on-one semi-structured interviews

De Vos et al. (2002) note that one-on-one interviews is the weakest methodology because the participant is likely to provide the researcher with an official account that is not really valid. Interviews involve personal interaction, and cooperation is therefore essential. Participants may be unwilling to share, and the researcher may ask questions that do not evoke the desired responses from participants. The responses could be misconstrued or even, at times, untruthful. The intimacy that can develop in in-depth interviewing sometimes threatens those limits; and participants may find the interviewing process emotionally troubling. Moreover, one-on-one semi-structured interview bias may increase as the interviewer selects probing questions which inhibit comparability of questions. Comparability is much reduced and data analysis is more difficult. Data quality depends on the listening and communication skills of the interviewer.

The interaction may also be anxiety-provoking, evoking defense mechanisms in the interviewee as well as in the interviewer. Such is a common experience in everyday life. For an hour or more, the interviewer shows an interest in, is sensitive towards, and seeks to understand as well as possible one's own experiences and views on the topic. It may be difficult

to terminate interviews when subjects want to continue with personal views. Interviews may take more time if a participant is distracted from personal duties. Interviews may therefore pose a challenge on individual reflection. Roulston (2010) warns that research interviewers who contribute their personal perspectives in the interview interaction bias data and produce studies that lack validity. Some researchers argue that human subjects cannot be relied upon, mismatches occur between what people say in the interviews and what they do in everyday life.

Highly structured interviews can feel from the respondents' perspective, more like an interrogation; consequently, participants are likely to act defensively rather than to give an honest response (McNell and Champman, 2005). The other challenge with interviews is that they are interaction situations. This inevitably means that those who take part in them are attaching meaning or interpretations to what they see going on in the situation. The status of the interviewer may be interpreted as threatening by the respondent because of age, gender, working class, status values and attitudes. Interviews arise from human nature. Many people comment that this is an artificial situation. Creswell (2014) remarks that interviews provide indirect information filtered through the views of interviewees. Interviews also provide interaction in a designated place rather than in the natural field setting. The researcher's presence may bias responses, with common problems being poor recall, and inaccurate articulation, as interviews are considered only verbal reports (Yin, 2003). Not all people are equally articulate and perceptive.

Marshall and Rossman (2016) insist that interviews are always intimate encounters that depend on trust, building trust, time being important. In some cases, interview partners maybe unwilling or may be uncomfortable sharing all that the interviewer hopes to explore; or they may be unaware of recurring patterns in their lives. The interviewer may not ask questions that evoke long narratives from participants because of a lack of fluency in or familiarity with the local language; or because of a lack of skill in participants expressing themselves. The interviewer may not be sensitive to, or understand and interpret responses to the questions or various elements of the conversation. At times, interview partners may have a good reflection on what is being discussed, but all may not be truthful. Volumes of data can be obtained through interviewing, however, it is time-consuming to analyse them.

5.11.3.4 Addressing shortcomings of one-on-one

semi-structured interviews

Interview protocol is used as a guide; and questions should always be asked in the same order. The interviewer initiates questions and poses follow-up probes in response to the interviewees' descriptions and accounts. The interviewees' own terms of formulating answers to questions, and responses, are guided by the interviewer's question. Highly developed listening skills enable both parties to ascertain whether the research topics have been addressed by the interviewee, and when and how it is appropriate to follow up on the accounts given. Probing questions are asked to encourage participants to delve deeply into a subject, and to redesign the route of an interview section.

Hesse-Biber and Leavy (2006) suggest that one-on-one semi-structured interviews be employed, as such is commonly used in research projects to corroborate emerging information from other data sources. Interviews seldom span a long period of time, and usually require the participant to answer a set of predetermined questions. Interviews allow for the probing and classification of answers. One-on-one semi-structured interview schedules define the line of enquiry. As a researcher, attention to the responses of the participants will be given in order to identify new emerging lines of enquiry directly related to the phenomenon being studied, exploring and probing such. It is easy to be side-tracked by trivial aspects not related to the study. A tape recorder was used to record the interview; permission for such was obtained from the participants. Apart from tape-recording the interview, notes were taken, making it easy to analyse the responses, and to ask further questions at the end of the interview. Reflecting on the interview to identify gaps that need to explored in a follow-up interview, was given careful consideration. A written (transcript) account of what was said in the interview was kept for the purposes of data analysis.

Based on the discussion above on the nature, benefits, shortcomings, and addressing of challenges of an interview, an interview is accepted as an important method of data generation. Interviews therefore should be conducted with care and having a clear purpose in mind. In dealing with taking away participants' individual time for reflection, the interviews were conducted early in the year before lectures resumed. Participants therefore had enough time for the session; and they were able to provide in-depth information. Judging from the discussion

above, interviews were related to individual reflection. Interviews are used to decide on the authenticity of data generated through other methods. The interview was used to triangulate the data gathered through artefacts and reflective activity. This ensured the researcher's position as a critical thinker in judging the data generated compared with literature in Chapters Two and Three.

Conducting interviews allowed for informed judgement during data analysis which informed the summary and conclusions that ultimately contributed to the body of knowledge. Interview questions were developed corresponding to the reflective activity; and the interviews were conducted for thirty minutes per session. Audio-taping of participants was utilised, after which those interviews were transcribed. All interviews were conducted at the university of KwaZulu-Natal and where the four Business Studies lecturers teach. In avoiding the intimacy element of this session, the relationship was kept professional from the beginning to the end of all sessions with all participants. Interviewees were given an opportunity to ask clarity-seeking questions and to suggest constructive future improvements.

5.12 Triangulation

Yin (2011) claims that the principle of triangulation originates from navigation, in which the joining of three diverse reference points is used to determine the exact position of an item. With reference to research, such relates to the aim of examining at least three methods of authenticating or validating a particular activity, account, or statement being described by a study. Such validation works as alternative method of reinforcing the legitimacy of a study. Triangulation "is the act of bringing more than one source of data to bear on a single point" (Marshall and Rossman, 2011, p. 252). Triangulation means the use of multiple methods, multiple sources of data, multiple investigators or multiple theories to confirm emerging findings (Yin, 2003; Cohen et al., 2007). Triangulation using multiple sources of data means comparing and cross-checking data collected through observations at different times or in different places, or in various interviews.

5.12.1 Nature and purpose of triangulation

Fox and Bayat (2007) indicate that triangulation is an influential approach to increasing the quality of the study, mainly credibility. It is based on the idea of merging several perspectives for mutual validation of data, to confirm that all features of a phenomenon have been explored. This strategy of providing a number of different pieces of data also minimises distortion from

a single data source or from a biased researcher, as may be the case with data based on a single application of one measure. Triangulation is based on the importance of variety in time, space, and person, in observation and interviewing (different seasons, or days, different settings and different groupings of people). Hesse-Biber and Leavy (2006) aver that triangulation allows researchers to analyse a question or topic from multiple angles, sources, and varieties of expression. This can increase the trustworthiness of data and findings; that is, the degree to which others can have confidence in the authenticity, believability, and applicability of the findings.

5.12.2 Applicability of triangulation

Hesse-Biber and Leavy (2011) suggest that researchers and readers consider how the triangulation either contributed to confirmation of certain aspects of the study or to the completeness with which the phenomenon of interest was addressed. Triangulation of information informs methods in which data composed by numerous means are compared (interviews, observation). Triangulation of data sources minimises the range of data that might contribute to complete understanding of the concept. The study further alludes to theoretical triangulation which means that ideas from diverse or competing theories can be tested. This includes triangulation of the theory in considering the number of models from anthropology, restoration, sociology, and psychology. Triangulation of investigators occurs in a study in which a research team, rather than a single researcher, is used.

5.12.3 Benefits of triangulation

Babbie and Mouton (2001) state that triangulation, or the use of multiple methods, is a plan of action that will raise sociologists (and other social science researchers) above the personal biases that stem from single methodologies. By combining methods and investigators in the same study, observers can partially overcome the deficiencies that flow from one investigator or method. Triangulation could be in accordance with paradigms, methodologies, methods, researchers, etc. Therefore, triangulation is usually reflected as one of the best methods of increasing credibility in a qualitative study.

Maree (2014) adds that triangulation is critical in facilitating interpretive validity and in establishing data trustworthiness. Such could require researchers to check the extent to which conclusions based on qualitative sources are supported by a qualitative perspective. The study further advocates that such decreases the risk of casual links and methodical prejudice, and

trusts evidence composed from different kinds of personalities, groups and situations, using a variety of approaches. For the purpose of this study, one-on-one semi-structured interviews were used to triangulate data generated using artefacts and reflective activity methods.

5.13 Guided Analysis

Kisaka-Jwan (2018, p. 238) defines guided analysis "as involving categories a priori [sic] (categories determined in advance of data generation and analysis proceeds in relation to the prescribed categories) and grounded approach (where categories emerge from the data)." In this approach, units of analysis arise from the concepts in the literature, the principles of the theory, and the data. Thus, guided analysis relates the academic curriculum models from the literature, and the TPACK principles, to important issues that arise from the field data (Koehler and Mishra, 2009). These concepts were then grouped, connected, and categorised. Themes that emerged from the data and the theory were identified, and related to the concepts from the literature. Data indicating the identified themes was reported. Data from the various sources, such as reflective activity, artefacts, and one-on-one semi-structured interviews, was organised into these themes.

Hence, this study adopted a qualitative method. Such required analysing data in the form of interpreting words instead of numbers (Makumane, 2018; Shoba, 2018). Therefore, the data analysis method that was used for this study is guided analysis. This method, in Makumane' s (2018) view, is a negotiation of grounded theory and *a priori* analysis. According to Creswell (2014) and Roulston (2010), grounded theory fits in a qualitative study that attempts to determine a theory relating to a particular environment. Seale et al. (2007) relate to grounded theory as conceived as a way of generating theory through research data, rather than testing ideas formulated in advance of data collection and analysis. Corbin and Strauss (2008) explain grounded theory as a specific methodology developed for the purpose of building theory from data. The process of generating ideas through data requires an innovative approach to data selection. It involves a process of theoretical sampling of successive ideas as those emerge from the data. Sites and sources are selected flexibly for their theoretical relevance in generating comparisons and extending or refining ideas, rather than for their representational value in allowing generalisations to particular populations. In grounded theory, there are no grand theories that could be presumed to make predictions in advance of analysis.

Grounded theory is inductively derived from the study of the phenomenon it represents. It is discovered, developed, and provisionally verified through systematic data generation and analysis of data pertaining to that phenomenon (Babbie and Mouton, 2008; Cohen et al., 2011). Therefore, data collection, analysis, and theory stand in reciprocal relationship with one another. Researchers do not test a hypothesis to add to an already existing body of knowledge; rather, they do not know what it is that they do not know (Maree, 2011). Grounded theory allows us to study a relatively unknown social phenomenon around which a specified theory may yet not exist. Wiersma and Jurs (2009) define a theory as grounded in the data rather than based on some *a priori* constructed ideas, notions, or system. If no theory develops, the research will be theoretical, but will hold its descriptive significance.

Thus, the categories that were developed *a priori* are negotiated and refined in light of accommodating unfathomed but yet relevant categories discovered through interaction with the data (Khoza, 2015a; Makumane, 2018). Categories are determined deductively; that is, prior to interaction with data, and inductively; that is, through observation of empirical data. This method of analysis was fitting for this study. Various data-generation methods were used that made it possible for categories to appear that I might not have envisaged. For instance, through the use of interviews, open-ended questions were used in this study. Such gave room for spontaneity, deep probing, and clarifying responses to complex issues closely related to participants' experiences (Cohen et al., 2011). Open-ended questions resulted in unpredicted responses that may have yielded new categories. Guided analysis, as argued by Makumane (2018), involves determining categories before the generation of data, having to modify the predetermined categories as per interaction with data at the analysis stage.

The themes that were determined *a priori* were deduced from the phenomenon on which this study was based (lecturers' reflections), and guided by the research questions. The themes were thus deduced from the three propositions of lecturers' reflections: individual reflections (why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules?); community reflections (what lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies?); and expert reflections (what are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules?). These themes helped gather information on lecturers' reflections on the use of Moodle in teaching Business Studies. Categories were generated from

the nine concepts; and each concept represented the three propositions as guided by research questions. in order to attain a meaningful conclusion, as theorised by Makumane (2018).

Table 5.5: Categories of Curriculum Pillars as guided by their Propositions

Curriculum Concept	Propositions
1. Ambitions	Aim: *individual* Objective*: expert* Outcome: *community*
2. Content in Moodle	Content knowledge: *expert* Technological knowledge: *community* Pedagogical knowledge*: individual*
3. Learning tasks	Natural: *community* Certified: *expert* Observation: *individual*
4. Lecturer's capacity	Coordinator*: community* Scientist: *expert* Trainer*: individual*
5. Moodle as a resource	Hardware: *expert* Software: *community* Ideological-ware: *individual*
6. Communal support	Public: *community* Monetary: *expert* Substantial: *individual*
7. Learning environment	Open: *community* Specified: *expert*

	Closed: *individual*
8. Times	Flexible: *community*
	Fixed: *expert*
	Consensus: *individual*
9. Evaluation	Developmental: *expert*
	Cumulative: *individual*
	Uninterrupted: *community*

From the above table 5.5, data were then organised and structured for consequent analysis (Cohen et al., 2007). Deductively, predetermined categories, which were guided by the concepts of the curricular spider web, were scrutinised against generated data to decide whether these categories were represented in the data. Inductively, data was sorted and synthesised to identify patterns, categories and regularities that seemed to persist and that were in line with the research questions (Shoba, 2018; Zuma, 2019). Consequently, patterns that were not to be part of the *a priori* categories, were deduced from the data generated through reflective activity, artefacts, and one-on-one semi-structured interviews. Consequently, open coding was used to make sense of data. Open coding involves the researcher organising data, identifying patterns and categories, and assigning labels/symbols to describe a piece of text (Cohen et al., 2011; Kisaka-Jwan, 2018). Makumane (2018) adds that the essentiality of coding lies in arranging evidence and classifying data into identifiable categories for patterns to be established. These patterns are of utmost importance in facilitating manageable data analysis.

For the purpose of this study, through guided analysis, participants' responses were coded in order to identify patterns and categories. First, data gathered from the data-generation methods were transcribed from the audio-recorder used. Second, patterns and consistent themes were determined through thorough reading of data. The established topics and themes were then matched with the existing predetermined themes and categories for proper classification and categorisation. Consequently, topics that did not match any *a priori* categories were identified and given categories. Thus, this process assisted me in categorising data and making codes that facilitated subsequent analysis. To facilitate this process, data was edited for the purpose of data reduction. Thus, data was reduced for categories and patterns relevant to the research

questions. Categories (*a priori*) and patterns (grounded) were established from gathered data. These categories were labelled in order to assign them codes. The purpose of coding, thus, was to assist with categorisation and organisation of data to allow for development of patterns that would be critical to properly grouping the phenomena.

Creswell (2015) states that data coding begins by identifying small pieces of data that stand alone. These data parts, called segments, divide the dataset. A data segment is text that is independently comprehensible, and contains one idea, episode, or piece of relevant information. Segments are then analysed with codes, so that each segment is labelled by at least one code. A code is a name or a phrase that is used to provide meaning to the segment. Codes can be activities, quotations, relationships, context, participant perspectives, events, processes, and other actions or ideas. Maree (2012) avers that coding is the process of reading carefully through the transcribed data, line by line, and dividing it into meaningful analytical units. When meaningful segments are located, they should be coded. Coding is therefore defined as marking the segments of data with symbols, descriptive words, or unique identifying names. Whenever a meaningful segment of text in a transcript is found, a code or label is assigned to signify that particular segment. The coding process enables researchers to quickly retrieve and collect together all the text and other data that they have associated with some thematic idea so that the sorted parts can be examined together, and different cases compared in that respect.

However, Makumane (2018) suggests that coding open-ended questions can be especially complex, as answers tend to differ from participant to participant. To limit this problem in this study, categories that were predetermined, which were guided by the curricular spider web, were helpful in categorising diverse answers provided. In addition, as guided analysis was used, this allowed for more categories which had been misunderstood, to be accommodated, addressing new developing data. Concerning the matter of data transcription, Cohen et al. (2011) theorise that this process could be time-consuming and costly, especially if a scribe is hired. However, for this study, to avoid misinterpretation of results by an employed scribe, the researcher transcribed the recorded data during spare time. This allowed a researcher to become conversant with the information gathered on the site. It also enabled a researcher to choose relevant and suitable data, which would have not been possible had a researcher decided to hire a transcriber. Trustworthiness and ethical issues were adhered to so as to circumvent the infringing of participants' rights.

5.13.1 Inductive approach

Inductive approach theorising takes place after the research has been associated with qualitative data. The process starts with researching a topic before arriving at a theory (Fox and Bayat, 2007). Observing and identifying features and characteristics that appear to occur frequently, results in a grounded description. Inductive approach results in grounded theory: characteristics can be generated into a theory. Qualitative researchers gather data first, synthesising inductively to generate generalisations. Therefore, the emphasis is on inductive reasoning (Hatch, 2002) thinking which moves from the specific to the general (Fox and Bayat, 2007). The theory is developed from the ground up, from the detailed particulars, rather than from the top down. This approach is important because the qualitative researcher wants to be open to new ways of understanding. A predetermined hypothesis limits what will be collected and may cause bias. Qualitative researchers create a picture from the pieces of information obtained. Hesse-Biber and Leavy (2006; 2011) state that an inductive approach is regarded as dimensions of qualitative research. Qualitative researchers often use one or more of the following methods (ethnography, field research, interviews, oral history, auto-ethnography, focus-group interviews, case study, discourse analysis, grounded theory, content or textual analysis, visual or audiovisual analysis, evaluation, historical comparative method, ethnodrama, and narrative enquiry.

5.14 Ethical Issues

Studies (McNell and Champman, 2005; De Vos et al., 2005; Babbie and Mouton, 2001; Maree, 2007; Cohen et al., 2011) suggest the importance of the following research ethical issues: avoidance of harm to participants, informed consent to participate in the research, avoidance of deception of subjects or respondents, violation of privacy/anonymity/confidentiality, actions and competence of researchers, cooperation with contributors, release or publication (in written form to the public) of the findings, and debriefing of respondents. Rubin and Rubin (2005) further elaborate on issues of respecting interviewees. Such applies to respecting interviewees, not deceiving them, not pretending to be someone you are not, and not misleading participants into thinking that some benefit will come to them from the research, that you cannot deliver. Wasting time is disrespectful. Mockery or sarcasm is to be avoided, not just while interviewing, but also in the write-up of research results. Asking permission to record, and being responsive

to requests to turn the record off, is essential. If you feel that certain answers are worth quoting, ask permission immediately to use those quotes.

Ethical clearance to conduct research has been obtained from the university of KwaZulu-Natal. Four university lecturers teaching Business Studies participated in the research. Participants partook through artefacts, reflective activity, and one-on-one semi-structured interviews, which took thirty minutes per participant. Interviews were achieved through appointments which did not disrupt lectures. A consent letter was issued to participants including these conditions: There was no limit to any benefit that the participants may receive as part of their participation in this research project; however, there was no material benefit from participating in the research; participants were expected to answer all the questions by responding to each question in a manner that would reflect their own personal opinion. The identities of participants and their responses were kept confidential. Real names of the participants were not used. Instead, symbols such as A, B, C and D were used to represent participants' names. Participants were free to withdraw from the research at any time without any undesirable consequences to themselves. The participants were not forced to reveal what they did not want to reveal.

5.15 Conclusion

This chapter presented the importance of purposive sampling, data generation methods, guided analysis, inductive approach and benefits of triangulation. All these aspects are relevant to an action research study. Chapter Six elaborates on data analysis following guided analysis, which is based on the curriculum pillars, namely, reflections, Moodle as resource, ambitions, learning tasks, learning environment, evaluation, Moodle content, lecturers' capacity, period/time, and communal support.

CHAPTER SIX

DATA PRESENTATION, ANALYSIS AND INTERPRETATION (PART I)

6.1 INTRODUCTION

This section intends to present data and to deliberate on results, addressing the essence of the research project. The discussion of findings is essential because it generates a conversation between literature, conceptual framework, and theoretical framework with the purpose of establishing truth and/or actualities in line with the research questions put to the participants (De Vos et al., 2011). This process led to data analysis and interpretation after engaging with data generated through artefacts, reflective activity, and one-on-one semi-structured interviews. Data for all other themes were generated through all the methods articulated in Chapter Five. This chapter is based on the findings of the research questions: What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules? Why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules? What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies? The study is informed by TPACK, intertwining the individual, community, and expert reflections for using Moodle in teaching Business Studies at university of KwaZulu-Natal. Ten pillars (Content in Moodle, period/time, lecturer's capacity, evaluation, reflections, ambitions, communal support, Moodle as a resource, learning environment, learning tasks) respond to all three research questions.
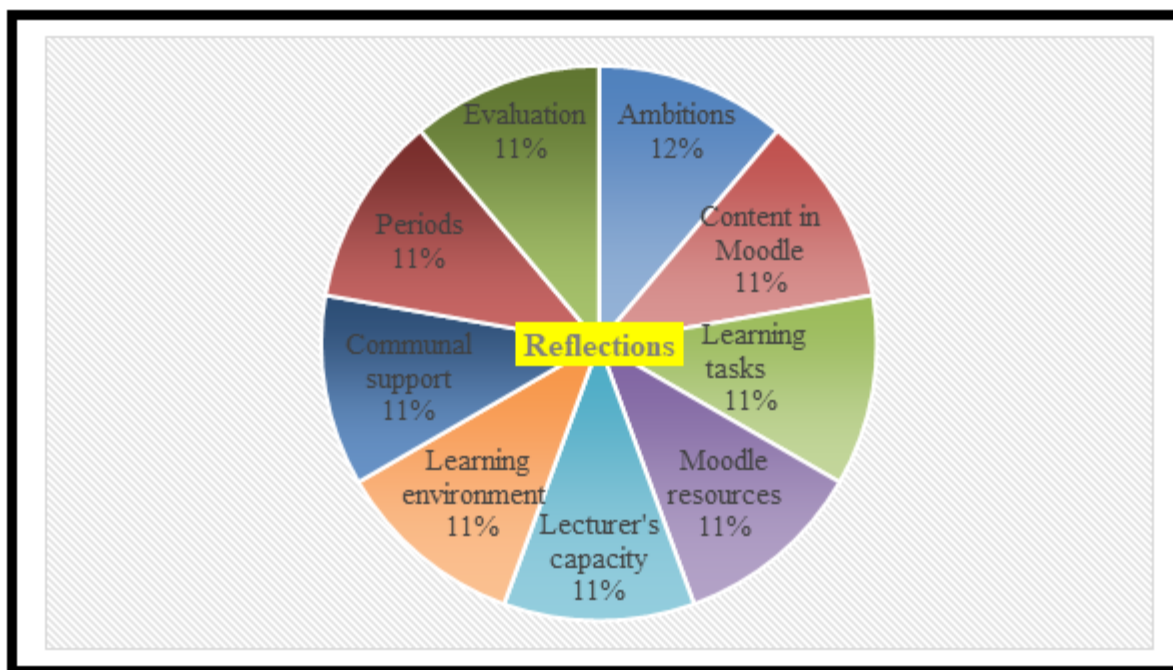
Figure 6.1: Graphical presentation of curriculum pillars

   (adapted from Van Den Akker, 2009)

Figure 6.1 shows the curriculum pillars as reflected in data presentation, analysis and interpretation in this chapter. The data was based on eight pillars carrying 11 % each with the ninth pillar carrying 12 % to make a total of 100 %. The eight principles were randomly allocated 11 % and the ambitions was allocated 12 % to make a total of 100 %. There was no specific formula to generate the percentage. This was done to inform the findings and be able to conclude by counting the number of words per principle. These principles were discussed as informed by reflections, which is the phenomenon of this study. The figure shows pillars at equal percentage at the beginning, meaning that all pillars are regarded as carrying the same weight. It is important to note that reflections are at the centre of all the pillars. The pillars were categorised as themes numbered from one to ten. Reflections are Theme One and resources is Theme Two. Ambitions will be Theme Three and content Theme Four. These four themes constitute Chapter Six. The other six pillars constitute Chapter Seven. Evaluation will be Theme Five; Learning tasks is Theme Six; lecturer's capacity is Theme Seven; learning environment is Theme Eight; times are Theme Nine and communal support is Theme Ten. Each theme will consist of three sub-themes. The discussion was framed by individual, community, and expert reflections.

6.2 Data Presentation

The data generated using artefacts, reflective activity, and one-on-one semi-structured interviews, was presented, analysed, and interpreted. Data responded to three questions of the study: What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules? Why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules? What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies? The responses were drawn from the findings based on guided analysis of ten pillars, namely: reflections, ambitions, Moodle as a resource, content in Moodle, learning tasks, lecturers' capacity, learning environment, evaluation, communal support and period/time. Artefacts and reflective activity were used as Phase One. One-on-one semi-structured interviews were used as Phase Two. Participants were coded as PA (participant A); PB (participant B); PC (participant C) and PD (participant D).

Table 6.1 Analysis Table (Research Questions, Instruments, Derived Themes and Categories) arranged according to Research Questions

Research questions	Instruments	Derived themes	Derived categories
1. What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules?	✓ Artefacts ✓ Reflective activity ✓ One-on-one semi-structured interviews	**Theme 1**: Reflections	Individual Community Expert
		Theme 2: Moodle as a resource	Hardware Software Ideological-ware
2. Why do university	✓ Artefacts	**Theme 3**: Ambitions	Aims Objectives

			Outcomes
lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules?	✓ Reflective activity ✓ One-on-one semi-structured interviews	**Theme 4**: Content in Moodle	Content knowledge Technological knowledge Pedagogical knowledge
3. What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies?	✓ Artefacts ✓ Reflective activity ✓ One-on-one semi-structured interviews	**Theme 5**: Evaluation	Developmental Uninterrupted Cumulative
		Theme 6: Learning tasks	Natural Certified Observation
		Theme 7: Lecturers' capacity	Coordinator Scientist Trainer
		Theme 8: Learning environment	Open Specified Closed
		Theme 9: Period/Time	Flexible Fixed

		Consensus
	Theme 10: Communal support	Public Monetary Substantial

6.3 Artefacts

Table 6.2: Artefact One (PA Positive and Negative Views)

Artefact One: Positives
Brief explanation

PA: "*The picture above, I think is a perfect representation of good practice on the use of Moodle in teaching and learning. In the picture above, you will notice that both teacher and as well are students are making use of technological gargets. Also, if look critically you will notice that some desk in the classroom are empty, which means that some students are absent. So, to take all the students both present and absent along comes the importance and good use of Moodle in the teaching and learning. Hence, I see my good practice in the use of Moodle by posting the slides, notes, audio visuals, articles online through the use of Moodle to reach to all the registered students in my group*".

Negatives
PA: "*None*"

Brief explanation
PA: "*None*"

PA indicates an understanding of the imperative of using Moodle for both the students and lecturer in saying: "*in the picture above, you will notice that both teacher and as well are students are making use of technological gargets*". This suggests an understanding of the use of Moodle for personal use. PA states that both are making use of gadgets for teaching and learning. This captures the use of Moodle as a resource principle for individual reflection in teaching. PA also mentions that those who are not present in the learning environment can be reached through posting the slides, notes, audio-visuals, and articles online through the use of Moodle to all the registered students in his group. The use of Moodle in this case relates to community reflections. Students access information; and the lecturer reaches them easily through Moodle. The use of Moodle for expert reflection is not indicated in this artefact. Lecturers did not include all levels of reflection. There is still a need to capacitate lecturers in order for them to understand the use of Moodle on all three levels. The expert reflection is important. It addresses professional practice, however, it is not understood. This action research is therefore necessary to close this gap.

PA could not provide a negative view. This advocates a bias towards Moodle which suggests that there was no critical view offered. The response indicates that lecturers use Moodle however the frequency is not indicated. This response incorporates individual and community

reflections only. The expert reflection is not considered, however, it relates to professional needs of lecturers. Expert reflection informs the improvement in the practice. A positive response only may indicate that the use of Moodle has good results. Such may not be true at all times. The literature indicates that the use of Moodle should transform lecturers into critical thinkers. Critical thinking therefore requires an assessment which provides both a positive and negative stance by a lecturer. PA did not consider the critical analysis of the question in relation to the response to an artefact. A critical analysis relates to individual reflection, which will assist a lecturer to recognise the importance of reflecting on all levels in order to treat all reflections as equally important.

Khoza (2013b; 2015c) indicates that the use of technology is divided into two: that is, technology-in-education, and technology-of-education. The participant did not relate to such concepts. This suggests that he was not aware of the use of technology for these two reflections. Such could bring an understanding that the use as technology in teaching and technology of teaching is relevant for their reflections at all levels. Lecturers need to do more research on the use of technology in terms of these two elements. They also need to read the existing literature so that they will link the use of Moodle to their reflection. This will lead to them understanding their role in using Moodle when teaching their module as a researcher, trainer, or coordinator.

Moreover, this led to another pillar of the lecturer's capacity or role. In this case, the lecturer notes that he plays his role in a learning environment not always fully attended by the students. Such would be known as a specified learning environment. The lecturer' capacity here is as coordinator and trainer, which relates to community and individual reflections. The lecturer's capacity as a scientist is not indicated. This again suggests that only two levels of reflection are understood, with the exception of the one related to expert, as in the previous paragraph. The expert reflection in terms of an artefact is a challenge to lecturers. The literature does suggest that lecturers teaching particular discipline irrespective of place they teach in, should show the knowledge of their subjects and interests in furthering knowledge of the field (Darmalaksana, 2017). This relates to research which is associated with expert reflection that informs a lecturer's capacity as a scientist. Lecturers therefore need to read studies on their capacity which includes different levels, so that their reflections will be incorporated into all levels.

Reflection answers the question: "Why are you teaching?" Van den Akker et al. (2009) records that reflection is made up of three propositions (reflections for teaching), namely, individual, community, and expert. Van den Akker et al. (2009) places reflection at the centre of his

curricular spider-web. Reflection is a point of departure for any curriculum. We focus on curriculum as implemented by lecturers who are considered curriculum implementers, and who are obliged to know the reflection behind their practice. In this study, the concept of rationale is substituted by the concept of reflections; and the curricular spider-web as a whole is replaced by curriculum pillars. Curriculum pillars are the indicators of any curriculum, be it horizontal/competence, performance/vertical, or pragmatic (Zuma, 2019). With the propositions for ambitions, personal is replaced by aims (individual reflection), societal is replaced by outcomes (community reflection), and content is replaced by objectives (expert reflection).

In this study, Business Studies lecturers are expected to understand the three levels of reflection (individual, community, and expert reflection). Lecturers must be able to show understanding of the association between individual reflection and aims; community reflection and outcomes; and between expert and objectives. Objectives, like aims, arise from within the lecturer and represent the lecturer's short-term goals as they should be achieved by the end of a lecture (Khoza, 2013b, 2016b). Objectives are itemised components of the aim; and are statements of the lecturer's intentions for a specific lecture. Objectives are precise statements of the lecture aim, and use key words (Kisaka-Jwan, 2018). Objectives are formal intentions outlined by the lecturer to achieve the teaching targets. As demonstrated in the previous section, many lecturers tend to use aims/purposes and objectives interchangeably, viewing them as synonymous.

Moreover, (Kisaka-Jwan, 2018) asserts that, whereas objectives should be specific, measurable, achievable, realistic and time-bound [SMART], aims/purposes, on the other hand, are general, vague, and not measurable. For instance, while the aim reads "to equip students with knowledge and skills…." the objectives would read "students are able to….". The aims/individual are used by lecturers to reflect on their individual experiences on the use of Moodle in teaching Business Studies. Outcomes/community are used to reflect on the requirements of the community (student) in teaching Business Studies using Moodle. The objectives/expert reflections, help lecturers to reflect on the module content and the policy that governs the university in association with Business Studies module and Moodle.

Moodle usage in this regard speaks to communication for work to be done outside the learning environment which relates to the open-learning environment. This element addresses flexible times. Students will have to do the work which was done by others in a specified location. It

also brings in the fixed times when students attend the lecture following the time-table. In both times and learning environments, the issue of the agreed session or part is not covered. This suggests a closed session where lecturer's classroom does not have students. Consequently, the consensus time to meet to discuss the work done or to follow up on it is not covered. This further declares that, for the next data generation, as a researcher, more clarity is needed on these elements.

The lecturer uses Moodle to post slides for registered students. Moodle is used as a teaching method for professional reflections. This therefore suggests ideological-ware resources which link well with individual reflection. PA also said: "*students are making use of technological gargets*". This shows the use of Moodle as hardware and software: students use gadgets (Khoza, 2015a; 2016b; 2018a). This relates to community reflection. This indicates that the lecturer understands all the reflections for the use of Moodle in terms of its use as a resource. His statement captures the use as technology-in-education (hardware and software resources) and technology-of-education (ideological-ware). The learning tasks are also indicated as slides, audio-visuals, notes, and online articles. These learning tasks capture the certified tasks which will be completed by those in the lecture. The natural/informal indicate those that are absent. The missing tasks is observation tasks. There is no mention of how such are observed inside and outside the lecture. This represents the positives about the artefacts.

Resources play a vital role in the successful attainment of desired goals. Hence, resources formed part of the themes in this study to determine how their use, or lack thereof, affected the achievement of the French integrated curriculum goals. A resource, in the form of a person (educator) or an instrument/tool, should promote and communicate learning (Khoza, 2012, 2013b; Van den Akker et al., 2009). Notably, Makumane (2018) views lecturers as essential resources. Lecturers ultimately need to select relevant resources that would aid in effective teaching and that are consistent with goals, content, and teaching activities proposed. This resonates with the issue of alignment of curriculum concepts, and with Dlamini (2017) stating that ascertaining alignment translates to affording learners the opportunity of acquiring relevant knowledge. Makumane (2018) further posits that alignment requires tact and improvisation from the educator. There exists an array of resources, with not necessarily all of them relevant or appropriate for the goals, content, and activities proposed.

Resources are categorised into three propositions: hardware (HW), software (SW) and ideological-ware (IW) resources (Dlamini, 2017). HW comprises any resource that is tangible and facilitates the teaching and learning process (Khoza, 2015d). These include black/whiteboards, desktop computers, laptops, and cellular phones. These resources require users to follow instructions when using them, thus they summon factual enactment strategies. SW resources are materials that were made for the hardware in order to display information that facilitates learning (Khoza, 2012). These include emails, texts, and PowerPoint slides. The decision to use these resources is mostly influenced by learners' needs and experiences, hence social enactment strategies are used. IW resources help identify relevant HW and SW resources as they are cognitive processes that educators undergo (Amory, 2010). Put another way, IW resources exist in the mind of the educator, thereby making it unique, as each educator has a personal interpretation of theories and principles that surround the pedagogy of the subject matter. Thus, educators use individual enactment strategies. To ascertain continuous alignment of the curriculum concepts, resources become part of the themes that guide the data-generation process in both phases of the action research.

The communal support is captured through the online posted material. It covers only the public element which relates to community reflection. The monetary and substantial support are not indicated, which link well with individual and expert reflection, respectively. PA did not mention any negatives of artefacts which include the materials. This is incomplete, from a research perspective. The source may provide unrepresentative samples. This shows bias to the positive, whereas there might be constructive negatives of the artefacts. The artefacts provided show what the participant feels about the use of Moodle. Another participant may have a different view, depending on the understanding and attitude towards the use of Moodle. In terms of PA, reflections; learning environment; lecturer's capacity; period/time; Moodle as a resource; communal support; and learning tasks were covered, but not all at three levels, which is individual, community and expert reflections. Further engagement in terms of reflective activity and one-on-one semi-structured interviews is significant. The evaluation, ambitions and content were not covered.

Table 6.3: Artefact Two (PB views)

Artefact Two: Positives
Brief explanation
PB: "*Students should navigate easily to the important information needed to* excel".

PB shows the understanding of the use of artefacts on the part of the students. This relates to the use of Moodle as a resource for community reflections by the students. This suggests the use as technology-in-education, because it does not specify the type of information they need to excel in. Further engagement will necessitate more and deeper understanding of the use of Moodle. The other nine pillars will provide more depth for the research project. The only

covered pillar is Moodle as a resource in terms of hardware and software resources. The ideological-ware which relates to individual reflection as well as technology-of-education, is missing. This artefact shows a positive use of Moodle.

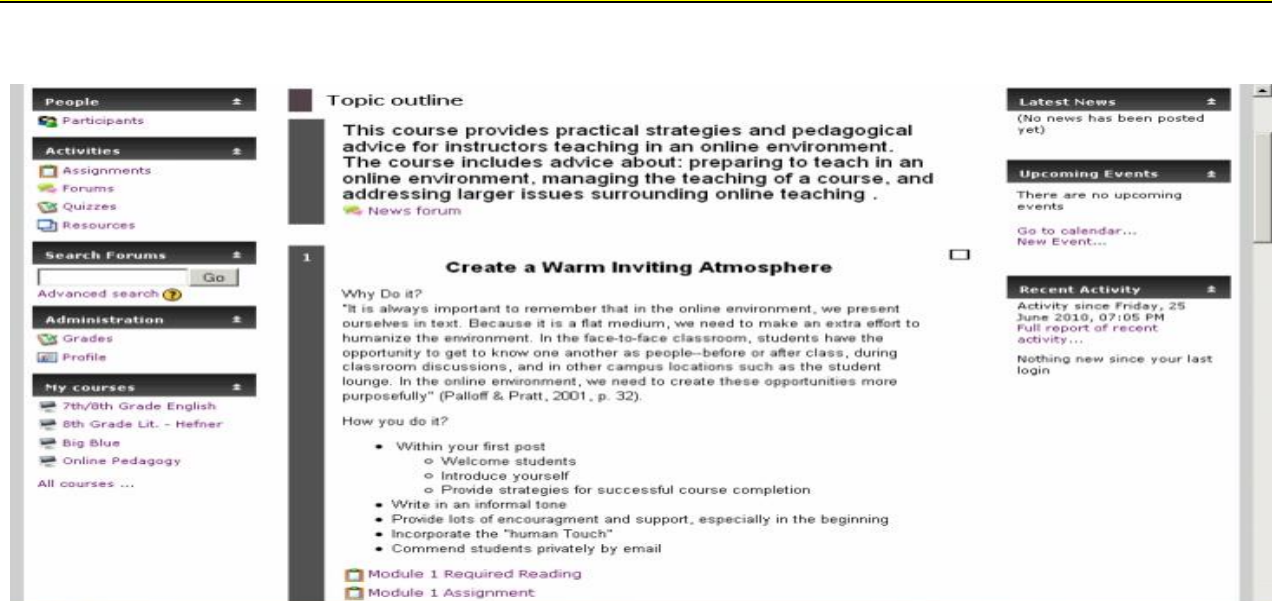**Table 6.4: Artefact Three (PB Negative Views)**

Artefact Three: Negatives
Brief explanation
PB: "*Don't just dump information on Moodle. Information overload may confuse students*".

PB indicates that information loaded onto Moodle should have clear instructions, to avoid student confusion**.** Although this is on the negative side, it captures the proper use of Moodle. In this case, the lecturer is supposed to give clear instructions which links to the objectives. The objectives are lecturer's intentions, which suggest expert reflection. Artefact Two, for PB, does not provide enough justification of his feelings. Artefact Two addresses dumping information and confusion students. This speaks to ambitions, as it relates to instructions which

may provide wrong outcomes for the students. This therefore suggests a different understanding of the use of Moodle.

It is essential to compare lecturers' experiences with data produced from artefacts (Zuma, 2019). During data-generation stages on the phenomenological research study cycle, artefacts were used as the first step. At this level, artefacts have been put forward because they comprise almost the same thoughts as the lecturers' common reflections depicted in the above paragraphs. Artefacts are human-crafted thoughts or substances that express emotions, feelings, and skills founded on what people are undergoing on a day-to-day basis. These artefacts have been utilised because they endorse a pure meaning directly on lecturers' experience, particularly during the first stage of data generation (Cohen et al., 2011). This necessitated understanding of lecturers' feelings about the use of Moodle. This stage also assisted me in being able to align artefacts to community reflection, indicating the opinions of lecturers.

Table 6.5: Artefact Four (PC Positive Views)

PC: "*At a professional level Moodle should be highly descriptive to students as to what the module is about. This must also include expectations from students and duties of both parties. The contents of the module must be constantly updated too. As you can see in this picture that the lecturer provided details about his/her course and attached relevant documents too. This is a good practice. I also like the introductory statement that is put there to make students feel welcomed into the module*".

Based on Table 6.5, the participant highlighted the expert reflections. Such were indicated at professional level through descriptive modules to students. The lecturer's objectives (don't use the course page for content) are also set out, including the aims of the lecturer. This is an instruction to students which serves as lecturer's role of being a trainer. The lecturer, as a trainer, links to objectives, which both address individual reflection. The lecturer's capacity is indicated as a duty. A duty relates to what a lecturer should perform in terms of job description. This may be in the policy of the university; and it relates to aims which address the expert (the content of the module should be updated) reflection. At individual level, the lecturer highlighted her interest in and appreciation of the students in her opening statement. The artefact therefore covered ambitions, content, and lecturer's capacity. This comprises three curriculum pillars. The other seven pillars (learning tasks, period/time, reflections, evaluation, communal support, learning environment, and Moodle as a resource) were not covered. The lecturer, in this instance, shows her interest and positive views on three pillars only. The propositions were all covered in one pillar, which is ambitions. The rest of the pillars were not indicated. The lecturer was biased towards those related to the picture, not considering all pillars. The reflections for positive views captures individual and expert reflections only. The community reflection is not indicated.

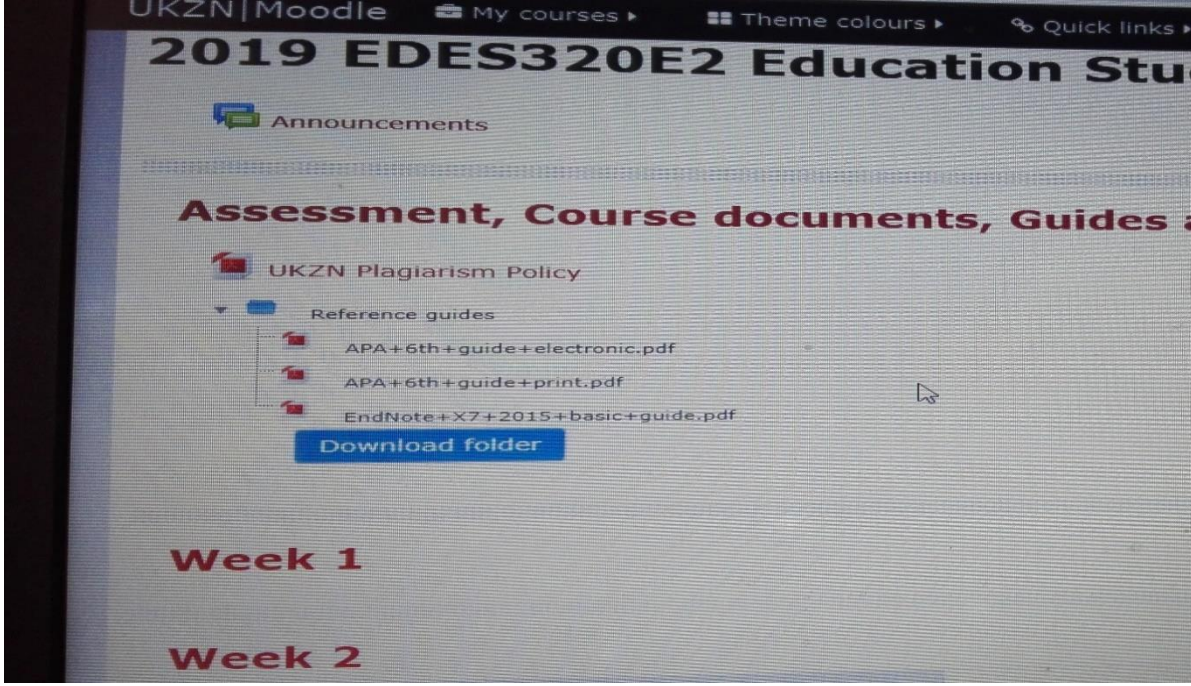**Table 6.6**: **Artefact Five (PC Negative Views)**

Artefact Five: Negatives
Brief explanation
PC: "*In this picture, there are no details provided to students about the module and expectations. There is only attachment which are not explained either. The module coordinator hardly updated any details regarding the module but only put unexplained attachments*".

Table 6.6 is a continuation of Table 6.5 in which a lecturer highlights gaps in the use of an artefact. This artefact shows gaps on three pillars indicated in Table 6.5, above. If Moodle is not used properly, it may not provide relevant information to students. It may also not assist lecturers to communicate effectively with students. The correct use of Moodle may arouse interest in lecturers and provide valuable information and direction to students.

Table 6.7: Artefact Six (PD Positive Views)

Artefact Six: Positives
Brief explanation
PD: *"It doesn't matter what time it is; I always make the time to update my students regarding the modules I teach".*

Table 6.7 indicates the positive use in terms of time and communication with students. The watch shows that Moodle is used in the evening. Although period/time has three propositions, the participant seemingly used Moodle for individual and expert use; no specific time is indicated. In terms of communication with students, a participant uses Moodle for expert reflections, hence it is used for the module taught. This further indicates the use of Moodle as technology-for-education; hence it is used for teaching purposes. The two pillars are incorporated into this artefact, including time, and Moodle as a resource. The other eight pillars are not mentioned. The participant enjoys Moodle use for only two pillars. The literature does not specify how many times Moodle should be used. This therefore suggest that lecturers may use Moodle more often. and may not have time to reflect. Therefore, more studies on the use

of Moodle, specifically on time, are important to guide lecturers on the frequency of using Moodle. This frequency will allow lecturers time to reflect for future improvement. The absence of frequency on time led to unrestricted use of Moodle, which is not aligned with all levels of reflection. Lecturers, as scientists, also need to read studies relating to frequency of the use of Moodle.

Table 6.8: **Artefact Seven (PD Negative Views)**

Artefact Seven: Negatives
Brief explanation
PD: *"I think my worst practice of the use of Moodle is that I overuse it. I can send/post/make at least 5 announcements one after the other in one day"*.

Table 6.8 shows the time in the evening in which a participant is still using Moodle. At this time, the participant sends announcements to students. This suggests community use. The announcements are not clearly defined as for activities, events, or simply lecture

announcements. Some students may not receive such information if not online. I agree with the participants that such may be overuse; however, it is good for those students who might still be online or still working. The use of Moodle in this artefact relates to its use for community reflection. This caters to only two curriculum pillars, that is, period/time, and Moodle as a resource. The participant shows that the use of Moodle is more than required, although it is not specified how many more times. This shows a negative view which is in line with critical thinking, hence the positive view was also provided.

With regard to artefacts, not all curriculum pillars were addressed fully in terms of reflections and their propositions. The artefacts covered ambitions, times, communal support, content, lecturer's capacity, learning environment, and Moodle as a resource. The learning tasks and evaluation are not included in the artefacts. Lecturers do not incorporate all the curriculum pillars when reflecting on their use of artefacts. The intervention, through reflective activity and one-on-one semi-structured interviews, assisted in making participants reflect on all curriculum pillars and reflections. Their responses therefore show that what the literature suggested was not fully provided by participants. This action research study is important in bringing to the awareness of lecturers the importance of reflecting on all curriculum pillars at all levels of reflection.

Table 6.9: Reflective Activity Questions Framed with Curriculum Pillars, Propositions and Reflections

Curriculum pillar	Question	Propositions	Reflection
Reflections	Question 1: *Why do you use Moodle to teach your module/why do you have an interest in the use of Moodle? (reflections)*	Individual reflection	Individual
		Community reflection	Community
		Expert reflection	Expert
Resources	Question 2:	Hardware	Expert

	What resources do you use when teaching a module using Moodle? (resources)	Software	Community
		Ideological-ware	Individual
Ambitions	Question 3: *How do you ensure justice when teaching your module using Moodle? (ambitions to be achieved)*	Aims	Individual
		Objectives	Expert
		Outcomes	Community
Content in Moodle	Question 4:	Content knowledge	Expert
		Technological knowledge	Community
		Pedagogical knowledge	Individual
Evaluation	Question 5: *How do you evaluate your module using Moodle? (evaluation)* *What content are you teaching using Moodle? (content)*	Developmental	Individual
		Cumulative	Expert
		Uninterrupted	Community

Learning tasks	Question 6: *What Moodle teaching tasks/activities do you use when teaching your module? (Learning tasks/activities)*	Natural Certified Observation	Community Expert Individual
Lecturer's capacity	Question 7: *How do you use Moodle when teaching your module? (lecturer's role/capacity)*	Coordinator	Community
		Scientist	Expert
		Trainer	Individual
Learning environment	Question 8: *Where do you use Moodle when teaching your module? (learning environment/location)*	Specified	Expert
		Closed	Individual
		Open	Community
Period/Time	*Question 9: When do you use Moodle when teaching your module? (time/time)*	Flexible	Individual
		Fixed	Expert
		Consensus	Community
Accessibility/	Question 10:	Public	Community
		Monetary	Expert

Communal support	*Are you permitted to use Moodle; and how do you gain access to Moodle when teaching your module? (accessibility)*	Substantial	Individual

With reference to Table 6.9, the first question asked lecturers about resources they use when teaching their modules. Lecturers' answers were anticipated to address the hardware resources influenced by expert reflection; software resources influenced by community reflection; and ideological-ware resources influenced by individual reflection. The second question sought lecturers' reflection on permission required in order to access Moodle; their responses had to be on the basis of substantial permission, monetary support, as well as public support. These answers were framed by expert, community, and individual reflection, respectively. The third question required lecturers to articulate on the ambitions that direct them to guarantee fairness in their teaching. Their ambitions were expected to be based on long-term goals (aims) framed by individual reflection, short-term goals (objectives) framed by expert reflection, and learning outcomes (learners' goals), framed by community reflection. The fourth question asked lecturers to reflect on the learning tasks used to teach the module content. This included certified tasks (content-centred), natural tasks (learner-centred), and observation (lecturer-centred).

Question Five asked lecturers how they observed their capacity on the use of Moodle when teaching their modules. This included being a trainer, coordinator, and scientist. This question was framed by reflections (individual, community, and expert) in order to guide and inspire lecturers to reflect on their capacities before, during, and after the practice of teaching and learning the modules. The sixth question sought lecturers to articulate on their choice of learning environment used when teaching modules. This question anticipated lecturers' responses on the basis of specified, open- and closed-learning environments. This question was primarily designed to examine the place used by lecturers when teaching using Moodle, such as a lecture hall, office, online facility, and others.

Question Nine was also asked with the intention of lecturers reflecting on the period/time they use Moodle for, in teaching their modules. Lecturers were anticipated to give their individual,

community, and expert reflection, while addressing time in terms of the fixed, flexible, and consensus times. The last question asked how lecturers use Moodle to evaluate their modules. Lecturers were anticipated to reply on the basis of developmental evaluation, cumulative evaluation, and uninterrupted evaluation. These propositions were framed by individual, expert, and community reflection. The use of this reflectivity activity had much power in this study. Lecturers' reflection threw light on the achievement of the study purpose, objectives, and research questions.

6.4 Theme One: Reflections

Reflection aims at providing lecturers with the skills and personalities to frequently question their teaching practice and environments with a view to improving their practice (Kisaka-Jwan, 2018; Mpungose, 2017). Reflection involves looking back at something and recalling what occurred and why it occurred. Reflection allows lecturers to learn from their experiences and to use this innovative knowledge to guide their future practice. This is called reflection-on-action, reflection-in-action, and reflection-for-action (Schon, 1983; Yanow and Tsoukas, 2009; Dreyer, 2015; Khoza, 2016b; Mabuza, 2018).

According to Van den Akker et al. (2009), when teachers teach they must have a rationale behind their actions. Rationale answers the question: "Why are you teaching using Moodle?" Van den Akker et al. (2009) notes that rationale is made up of three propositions (rationale for teaching), namely, personal, societal, and content. According to Van den Akker et al. (2009), rationale is at the centre of his curricular spider-web, which suggests that rationale is a point of departure for any curriculum, be it enacted or implemented. In this context, we focus on curriculum as implemented by lecturers who are regarded as curriculum implementers and are obliged to know the reflections behind their teaching. In this study, the concept of rationale is replaced by the concept of reflections; and the curricular spider-web as a whole is replaced by curriculum pillars. Curriculum pillars are the indicators of any curriculum, be it competence/horizontal, performance/vertical, or pragmatic. With the propositions for teaching ambitions, personal is replaced by ambitions for teaching (individual reflection), societal is replaced by ambitions as teaching (community), and content is replaced by ambition of teaching (expert reflection).

In this study, lecturers are expected to understand the three levels of reflection (individual, community reflection and expert reflection). Moreover, they must be able to understand the

association between individual reflection and aims; community reflection and outcomes; and expert reflection and objectives (Zuma, 2019; Makumane, 2018). The aims/individual reflections are used by lecturers to reflect on their individual capabilities in teaching Business Studies using Moodle. Outcomes/community reflections are used to reflect on the needs of the community (student) when teaching Business Studies using Moodle. Finally, the objectives/expert reflections, help lecturers to reflect on the module content and the policy that rules the university with reference to the Business Studies module and Moodle.

In response to the question: Why are you teaching using Moodle? participants responded by providing the following answers from the reflective activity: PA: "*I use Moodle to communicate effectively to my students, to enhance the quality of teaching as well as to accommodate all students*". PB: "*UKZN has prescribe Moodle for all first year modules. Accessible even off campus*". PC: "*I use Moodle but the university requires me to do so as means of professionally communicating with students. it allows me as a lecturer to convey announcements and attach relevant contents for students to read and become informed*". PD*: "I use Moodle to teach as it is one of the requirements by the university as we no longer print documents for students. Personally, I use Moodle because I'm a lecturer who enjoys playing around technology as I am in favour of any technology that makes life much more simplified for me".*

First, the researcher deduces from phenomenological research study, the reasoning behind Business Studies lecturers' use of Moodle is that when lecturers use Moodle they are mostly driven by community (societal reflections); the use of Moodle is influenced by the community or society needs (Khoza, 2016b). This appears from their direct responses, in that PA to PC cite the use of Moodle because they wish to communicate with students. PB: "UKZN *has prescribe Moodle for all first year modules. Accessible even off campus".* The first part relates to expert reflections. The second part refers to community reflections; however, in this context of reflections, it is misplaced. The accessibility belongs to another curriculum pillar which is Theme Ten of this study. Lecturers do not relate to their individual reflection when talking to the reflections for the use of Moodle. They understand only two levels of reflections, that is, community, and expert reflections. This was more evident during the reflective activity stage. Content reflection shows that lecturers know the reflections for teaching their modules. Lecturers at this point do not show the understanding of individual reflection for teaching the module.

From a Business Studies lecturer's reflection from Stage One (artefacts) and Stage Two (reflective activity), I deduced that lecturers are teaching Business Studies being driven by outcomes. Outcomes are aligned with a competence/horizontal curriculum. Competence curriculum places the needs of the community at the centre (Bernstein, 1999; Khoza 2016b). From lecturers' reflections, particularly on reflective activity, some lecturers (A and C) supported their answers to move past community reflection to expert reflection. Participant D indicated that she uses Moodle for teaching which relates to expert reflection. Participant D enjoys technology which speaks to community reflection. Moodle had made this participant's life easy, which relates to individual reflection. Participant D therefore understands all three reflections on the use of Moodle. Business Studies lecturers were further directed by objectives of their module which is aligned to a performance/vertical curriculum.

A performance/vertical curriculum places the needs of the specialisation at the centre (Bernstein, 1999; Khoza 2016b). This may be observed from lecturers' reflections in which they quote a lecturer using Moodle to attach relevant contents for students to read and become informed. From this phase, only two levels of reflection (rationale) were hinted at by Business Studies lecturers, namely, community and expert reflection. Individual reflection is not considered at this phase from artefacts and reflective activity; hence only one participant highlighted the objectives. This suggested a need for the third stage, that is. interviews.

Interviews were used as the third level of data generation following the reflective activity. For the purpose of this study, four pillars were grouped, which include reflections, Moodle as a resource, ambitions, and content. The other six pillars are part of Question Eight. Question One was therefore on reflections: Why do you use Moodle to teach your module/why do you have an interest in the use of Moodle?
Participants (PA, PB, PC and PD) responded in this question in their different ways.

> PA: "…*Moodle makes life easy especially when disseminating information to students on academic work and announcements …Information can be shared even if we are not in the same place at the same time*". This statement indicates the use of Moodle for individual (makes life easy) reflection; community (disseminating information to students) reflection. Participant A further indicated that information can be shared even if the students and lecturer are not at the same place. Moodle can be used to bridge the special gap. PB: "… *One big reflection why use Moodle is that it is accessible not only*

for contacting students but even students who are not on campus at the time if they have problems so they can access Moodle. So we do not have to use Moodle on campus. You do not need to be the location where I am at but you can still able to learn. …At personal level, Moodle is one of the many tools that are available that could be used while and I can understand, I can subscribe to Moodle, all of our students are easily to Moodle, that is why becomes like easy to use it". Participant B concurs with participant A that Moodle is easily accessible, and can make communication easy for people in different places.

In addition to that PC: "…*we are required by the university to use Moodle. Professionally because we are moving from using papers so we put everything online. That is why we use Moodle in our modules. It's a requirement more than anything. Because we living in the 21ˢᵗ century, so I need to use technology, in my teaching, Moodle … it makes everything easy you know communication, you are able to communicate with students even if not with you at the moment in time. …It benefits me because I have to upload content and announcements on what to do in class and I can access their content to use for learning".* Participant C started by indicating the expert reflection for the use of Moodle. The university requirement relates to policy matters of the university. Participant C also alludes to the use for communication with students. This associates well with community reflection. At individual level, participant C discusses informing students of what must be done in class. This suggests objectives which are aligned to individual reflection. Participant C therefore uses Moodle more for community and expert reflection. Participant B and C are using Moodle more for community and expert reflection. This advocates a need for a shift to the individual level, which is in line with individual reflection.

Adding to that, PD: "…*Ok, I am very much interested because I am a person who love to work around technology and learn more about technology and also I believe I am gonna save more time rather than just you know discussing everything in class. It becomes easier with students so they can browse through to whatever they need to do with the information, download it, save it and look at it again. So I really enjoy the technology. …Personally I use it because my research is based on it so I use and so yah academically*". Participant D indicated that she has much interest in working on Moodle in order to learn the technology. This points to individual reflection. Further to that, participant D relates to its use by students to search for information. Students can be instructed to work on Moodle, which relates to lecturer's objectives. This

relates to individual reflection. The use for research then is properly aligned with expert reflection.

The responses by participants above show three reflections on the use of Moodle, including the individual, community, and expert reflections. When participants indicate that Moodle makes life easy and they are interested in Moodle, this shows that, at a personal level, lecturers understand how Moodle benefits them as individuals. Again, when lecturers relate to communicating announcements to students, especially when they are not together, this relates to community reflections on the use of Moodle. Lecturers also pointed out that they use Moodle to upload module-related information, and as a requirement by the university. This policy matter speaks to expert reflections. PA and PB share the same sentiment, that Moodle bridges the gap between students and lecturers, especially when students and lecturers are not in the same location. Moodle is therefore important as a tool to be used by individuals, to disseminate educational material and proper communication between lecturers, university, and students.

Lecturers derived satisfaction on Moodle use as they deliberated on all three reflections. The use of Moodle by lecturers is in line with what the literature presents, however, lecturers seem to use it more for community and expert reflections. Individual reflection therefore need also be considered as it addresses objectives which are linked to lecturers' intentions. Lecturers need to try to use Moodle at all levels so that none of the reflections is neglected. It will be worth knowing whether lecturers have time for reflection, and how they reflect. This recommends studies on how and when lecturers reflect, including relationships between reflection and improvement in practice. This calls for examining the resources that lecturers use when using Moodle, based on the three reflections above.

6.5 Theme Two: Moodle as a Resource

A resource is anything that helps learning to occur (Khoza, 2012, 2013). Internet resources are anything (HW, SW and IW) that allows the Internet to distribute information, to allow cooperation and interaction to occur between individuals and their computers, regardless of geographic locations (Sodje, 2018). Resources play a vital role in the successful attainment of desired goals. Hence, resources formed part of the themes in this study to determine how their use, or lack thereof, affected the achievement of the Business Studies curriculum goals (Makumane, 2018). A resource, in the form of a person (educator) or an instrument/tool, should promote and communicate learning (Khoza, 2012, 2013; Van den Akker et al., 2009).

Makumane (2018) views lecturers as crucial resources. Lecturers need to select relevant resources that will help in effective teaching and that are compatible with ambitions, content, and learning tasks projected.

This resonates with the issue of alignment of curriculum concepts, and with Makumane (2009) stating that ascertaining alignment translates to affording learners the opportunity to acquire relevant knowledge. Makumane (2018) further suggests that alignment requires tact and creativity from the lecturer. There are many resources, however, not all of them are pertinent or suitable for the ambitions, content, and learning tasks suggested. Similarly, with previous themes, resources are categorised into three propositions: hardware (HW), software (SW) and ideological-ware (IW) resources. HW comprises any resource that is tangible and facilitates the teaching and learning process (Khoza, 2015d; Sodje, 2018). These include black/white boards, desktop computers, laptops and cellular phones, Smartphones, iPods and tablets. These resources require users to follow instructions, thus they summon factual implementation approaches. SW resources are materials that were made for the hard-ware in order to display information that facilitates learning (Khoza, 2012).

Further to the above, the decision to use these resources is mostly influenced by students' needs and experiences; hence community implementation approaches are applied. IW resources help identify relevant HW and SW resources as they are cognitive processes that lecturers undergo (Amory, 2010; Shoba, 2018). Sodje (2018) suggests that cellular phones, including Smartphones, laptops, iPods and tablets are HW resources which students use for learning. SW resources such as WhatsApp, Facebook, and Twitter, to mention a few, are used in conjunction with HW components to carry information (Khoza, 2013). IW resources exist in the mind of the lecturer, thus making it distinctive. Each lecturer has a personal clarification of theories and principles that surround the pedagogy of the subject matter. Thus, lecturers use habitual implementation approaches. To determine uninterrupted orientation of the curriculum concepts, resources become part of the themes that direct the data-generation method in both phases of the action research.

Participant views on the artefacts is indicated by these responses:

PA: "*he uses laptop, OHP, USB, journal articles, document reader, power point, textbooks*" PB: "**Quiz**" and PC: "*uses a computer, Internet and articles*". PD: "*I use both hardware and software*". Participants here indicated some common resources they use when teaching their modules using Moodle. Laptop, computer/desktop, software and hardware are some examples.

Additional tools are OHP, journal reader, PowerPoint, textbooks, and Quiz. This shows that lecturers may use different resources while teaching the same students from the same university. This goes with the understanding of the use of different tools by lecturers. Based on the above discussion, it is therefore important to look at types of resources which includes hardware, software, and strategies to use such, which relates to ideological-ware. This will help to align the use of Moodle with various reflections − individual, community, and expert reflections. At this stage, lecturers indicated the use of Moodle as hardware and software, which relate to individual and community reflections only.

PA and PC indicated that they use Moodle resources such as laptop, OHP, USB, journal articles, document reader, PowerPoint, textbooks and Internet; while PB only cited Moodle for Quiz. PD indicated Moodle use as technology-in-education and technology-of-education. The use of Moodle as technology-for-education is not indicated. This shows that all participants understand the use of Moodle as hardware and software resources − Moodle for community and expert reflections. The individual and expert reflections are not indicated. This requires clarifying the use of Moodle for individual and expert reflections. Interview sessions will delve into how lecturers use Moodle for individual and expert reflections. With reference to PB, the use of Moodle for Quiz suggests that Moodle is used for teaching some tasks, such as for expert reflection. The individual and community reflections are not clarified. Further to that, PA is using Moodle as software and ideological-ware resources. Unlike other participants, PB included ideological-ware and excluded hardware. With reference to reflections, no participants used individual reflections. This requires further intervention which will provide more clarity on the use of Moodle as hardware, software and ideological-ware resources. This intervention will also have to provide three reflections for the use of Moodle; the individual reflection is not mentioned. Interviews therefore will be used to cover the reflections and use a resource. Reflective artefacts and reflective activity could not provide all three uses and propositions.

Question Two: What resources do you use when teaching a module per Moodle?

> PA: "…*This is a very important question. Well resources I use includes laptop, desktop in my office and also my tablet because this is more convenient even if I am not in a space to open a laptop".* Participant A indicated use of laptop and desktop in the office and tablet as a matter of convenience. This suggests the use of Moodle as a technology-in-education. This relates to the use as hardware resources, which aligns with expert

reflection. The software and ideological-ware resources are not covered. Therefore, individual and community reflection is not covered. PB: *"...There are various tools that we use, one big thing we are able to link to different resources, you can also put videos in there and the whole course outline, put content of the course outline, you can do quizzes and questionnaires and if you want students to answer questions. ...Live chat so that if students can you ask questions now and yes can respond. ...Yah, I use a computer to upload information, mostly computers but I also as well I also my smartphone especially if there is an urgent information I want to communicate with students if I am not on campus at the moment so they can get a message as well. One big programme that they use, Turnitin like for example you can install it with Moodle students can get online and do assignment and can do research and quizzes".*

Participant B related to the use as technology-in-education and technology-of-education. In linking different resources, this use of software relates to community reflection. Putting content on Moodle relates to the use as hardware, which associates well with expert reflection. Moodle can also be used so that students can go online to do assignments, research, and quizzes. This suggests the use as a method of teaching which relates to individual reflection, and links to ideological ware.

Similarly, PC indicated the use laptop or computer, Internet access or data when at home*. ...If you do not have Wi-Fi, you need data to use. You need Wi-Fi, you need to understand as well, you as a person you are a resource.* PC: *"...I am guided by TPACK because it is concerned with it".* Participant C, as well as hardware and software resources, included the TPACK theory. This relates to individual use which is in line with ideological-ware resources. PD: *"... Ok, resources ... ok, I use laptop, I got a laptop that I use to... to upload the slides and assessment tasks because we use assessment tasks to do assessment ...assessment tasks are also uploaded on Moodle. Yah, basically yes, we use laptop and at times I use my desktop because I have one in the office ...Software, I am not sure because it is installed by the university for us. So you just go in there, you just don't even know the type of software that you are using. Everything that you are using is installed by the university for us. ... with learning theories, I am more of a constructivism person, I enjoy seeing students making up their own minds to draw their conclusions, you just provide them with concepts whatever information, they work around it with their own concept ways of thinking I think all of that".*

Participant D cited the similar use as other participants except that she incorporated the theory which is constructivism. This indicates that participants A and B were not informed by any theory to use Moodle. The theory emphasises the use for individual reflection. Based on the responses by lecturers it is clear that commonalities prevail in terms of the use of Moodle as a resource. All lecturers mentioned laptop, desktop, software and hardware resources. The use of Moodle as a resource by lecturers shows that they use it more for community and expert reflections. Lecturers indicated hardware, which relates to expert reflection, and software relating to community reflections. Theories were mentioned by two participants which relates to individual reflection, linked to ideological-ware. Lecturers use technology both as technology-in-education and technology-of-education. The literature also confirms that, besides the computer, laptop, software, and hardware, other tools can be used. These include PowerPoint, journal articles, WhatsApp, document reader, and other software tools available. With theories, lecturers seem to believe in constructivism as a popular theory. Hence TPACK can be related to Moodle in the technological components in common. However, other theories such as CHAT are also relevant because they speak to technology integration and other approaches to be used when teaching using Moodle. Hence Moodle is used as a resource. It is also important to discuss the goals of using Moodle. Section 6.5 reflected on Moodle as a resource from participants' responses. It is clear that participants use Moodle in teaching. This is evident through the participants' responses to the question asked on the usage of Moodle.

6.6 Theme Three: Ambitions

Teaching targets/goals comprise aims, objectives, and outcomes (Kisaka-Jwan, 2018). These serve to ascertain the effectiveness of the teaching/learning process, and are a requirement for teaching (Kennedy et al., 2006; Khoza, 2013b). Kisaka-Jwan (2018) contends that measuring learning outcomes is a crucial component of quality assurance endeavours at universities in Kenya, and indeed in all universities worldwide (Van den Akker et al., 2009). The teaching targets/goals are generated from the subject content and measured through assessment processes. This therefore stresses the need for teaching targets (aims, objectives, and outcomes) to be specific and clear. Current education practices emphasise quality of service provision, accountability, and fair evaluation in teaching. There is a need to clarify these three propositions as key components of the teaching and learning process, geared towards attainment of teaching ambitions (Khoza, 2016b). Aims link well with individual reflection for teaching, based on what the lecturer aims to achieve in teaching Business Studies using Moodle.

All tasks have a fundamental aim, hence teaching, being an activity, has its main purpose/aim (Khoza, 2016b). Aims are long-term plans/goals for teaching, and indicate the teachers' intentions. Teaching aims focus on what will be covered in a given semester or a level in that subject/course (Khoza, 2013b, 2016b). Thus, aims represent broad general statements of what the lecturer expects to teach in a specific course/module. Khoza (2016b) reveals that aims serve to inform the students of the lecturer's intent and to define the focus of the lesson; aims are given at the start of a lecture. The aim further informs the ensuing teaching methods and the evaluation practices used. Aims are an essential element of teaching as they outline the focus/purpose of teaching, thereby assisting the structure of the lesson, ultimately guiding the teaching and learning practice. The aims consequently inform the teaching approaches and the evaluation activities employed to measure whether the teaching objectives have been met and outcomes accomplished (Kisaka-Jwan, 2018). Aims provide the lecturer with clear direction of suitable teaching initiatives that will lead to the anticipated outcomes. This draws on habitual use that relates to an individual's own identity. Aims infer a lecturer's prerogative in expecting what is to be attained in the learning environment.

Objectives, like aims, arise from the lecturer and represent the lecturer's short-term goals as they should be achieved by the end of a lecture (Khoza, 2013b, 2016b). Objectives are itemised components of the aim, and are statements of the lecturer's intentions for a specific lecture (Kennedy et al., 2006). Teaching objectives are precise statements of the lesson/lecture aim, and use key words (Mpungose, 2017; Sodje, 2018). Objectives are prescribed intentions drawn by the lecturer to accomplish the teaching ambitions. As demonstrated in the previous section, many lecturers tend to use aims/purposes and objectives interchangeably, and view them as synonymous. However, Zuma (2019) asserts that, whereas objectives should be specific, measurable, attainable, accurate, and time bound, aims/drives, on the other hand. are broad, ambiguous, and not quantifiable. For instance, the aim may read: "to equip students with knowledge and skills". Objectives therefore speak to expert reflection for teaching because they are lecturers' short-term intentions to achieve long-term individual ambitions.

Khoza (2013b, 2016b; Makumane, 2018; Shoba, 2018) define outcomes as clear statements of what the students are expected to achieve, and/or how they should demonstrate the stated achievement. Various researchers suggest that outcomes should be generated using key words that are specific, measurable, observable, achievable, and a reflection of the various levels of

complexity, as envisaged by Bloom's taxonomy (Kennedy et al., 2006). This would make them more precise, easier to compose, and clearer than objectives, and acting as a common currency that facilitates clarity and transparency in modules/programmes. Learning outcomes, unlike aims and objectives, represent students' achievements, being statements of what students are expected to know, demonstrate, understand, or be able to do at the end of a lesson/semester/time of study. Learning outcomes are student-oriented which makes it link well with community reflection.

With reference to participants' responses compared with ambitions, PA: "yes, *in my teaching I am permitted to integrate Moodle"*. This statement suggests that Moodle is used for expert reflection, because the participant uses it in teaching to integrate with subject matter. This confirms the use as a method of teaching which speaks to teaching aims (in teaching) and objectives (to integrate Moodle). The statement: "I *access Moodle using my staff details to log in"* suggests the use of Moodle for community reflection. This use does not provide clarity on whether it is used to achieve student learning outcomes. This implies the use on the part of the lecturer for his community reflection. The outcomes are therefore not covered by the response of the lecturer. There is still a challenge in understanding the three levels for the use of Moodle. In this instance the community reflection was not associated with outcomes. PB: "*Yes, I'm permitted. UKZN has created access for staff and students"* This shows that the lecturer uses Moodle as permission granted by the university for communication purposes. Hence it does not speak to teaching ambitions. It suggests that Moodle is used for community reflections which is not linked to learning outcomes. PB therefore does not relate the use of Moodle to the three propositions of ambitions.

PC: "*I have never been a module coordinator so I have limited access to Moodle"*. PC is only able to send a communiqué if the coordinator has added her on the module in Moodle. Module coordinators have full access to operating every part of the module on Moodle. PD: *"I am permitted as a module coordinator and to have my modules to be setup on Moodle. Dr. X usually is responsible for this"*. PC shows limited understanding on the use of Moodle with reference to three reflections and propositions. PC indicated the use of Moodle for communication purposes which relates to community reflection. PD also indicated that access is the prerogative of the coordinator; Moodle can be accessed by the coordinator. Although the community reflection is mentioned, the aims, objectives, and outcomes are not covered. Expert and individual reflections were not indicated. It is therefore clear that lecturers do not understand the use of Moodle under Theme Three which is teaching ambitions. All participants

responded to the use of Moodle permission instead of ambitions. This recommends a further intervention during Stage Three of data generation to assist lecturers with understanding the three reflections and propositions of this theme. This understanding will ensure a proper alignment of the use of ambitions and reflections for proper teaching as suggested by studies above.

Question 4 was on ambitions: How do you ensure justice when teaching your module using Moodle? (goals to be achieved)

PA: "… *each module has its own aims and objectives which I outline at the beginning of each lecture ...this necessitate the understanding of what is expected to be achieved in a long and short term learning process.* On the part of the students … *learning outcomes are clearly defined at the start of each learning session*".

Participant A seem to cover all propositions of ambitions as indicated, at the beginning of each lecture. Participant A therefore understand all three levels of reflection in terms of ambitions.

PB: "…*the good thing about Moodle is that when you are teaching students may not understand you on spot but because of Moodle you are able to upload material, so if there not getting on spot they can play back, rewind until they understand what you are talking about. And if you put instructions they are always able to read the instructions even if you are not there. If you want to direct them to YouTube as well, I put the instructions there, they always be able to find if even if you are not there they can put on cloud and able to access later. I find Moodle useful that now you can do live feedback if you are checking them on spot, because they are alive now you can see if they are lagging behind. Then you can if something is serious they you can address it*". This response concurs with the response of participant A above. The aims, objectives and outcomes are covered as they link to expert, individual, and community reflections, respectively.

PC: "…*when I use Moodle maybe I can comment that one of my goals is to ensure that students understand how to use technology as Moodle in their teaching ...for me it makes things easier because it has to do with everything in communication. It makes it easy to communicate if I have access to it. ...I am able to talk to my students, for whatever the information, everything we put it on Moodle. Lecturers that are going to*

be cancelled etc. ...You can reach all of them at once. Let's comment that I have a class at half past two today and I prepare everything I put attachments for them, then all of a sudden, there is a strike then I will just put that let's cancel the class. It is the best for communication for us. If the coordinator has put me through as a lecturer than I have access. Most lecturers put us there so that we work as a collective not one person as they have more access". Participant C seemed to focus more on objectives in terms of giving instructions when communicating to students, linking to individual reflection. The aims and outcomes are not covered in her responses. This is not in line with the literature, meaning that an intervention through interviews was relevant to capacitate a participant.

PD: "*Ok, basically each and every module has its course outline and within each course outline there are objectives and aims of that particular module. So everything you are teaching you have to refer to those objectives in to check if you meet them or not. So that it's a like a guideline to us. You can't go against it.* In response to a further question: which theory do you use when teaching your module? PD: *"You need to ensure like for me as I comment that I am a constructivism kind of a teacher, it means I cannot do everything else, I cannot go to feed students with information".* This response is in line with Kaminski (2005), who believes that the communal constructivist pedagogy is reinforced in Moodle through the convenience of effortlessly generated environmental tools, such as journals, isolated discussion boards, chat rooms, assignments, workshops, and file-exchange area, quizzes and survey support, mail integration, and more. The study asserts that Moodle was introduced to promote a social constructivism learning environment in which students use their experiences to create knowledge.

This does not mean that this is the only theory relevant for Moodle. Other studies and findings may suggest and arrive at different conclusions. In response to the issue of objectives, PD: "*Obviously that what I am gonna write in my objectives. I am not a person who is gonna be feeding students with information ...I don't see them as empty vessels, I see them as somebody who works with me to create knowledge.* The participant here shows that the use of Moodle can be intertwined with a particular theory in order to address the needs of students. This infers community reflection. Moreover, as the theory is used to teach students, it also speaks to individual reflection. "*Learner outcomes, yes by the end of that particular lesson. You can stipulate it also in the module outline. Yes, like every time you go to class you need to emphasise, at the*

beginning of a lecture you need to show them and tell them that these are the aims and objectives and outcomes of the module. So you need to emphasise them. And also see if these have been met by the end of that particular session that we had with them". PA indicated that the emphasis on aims, objectives and outcomes during each lesson is important. This relates well with expert reflection because aims and objectives are for the teacher/lecturer.

The responses on ambitions could not provide the desired outcomes during the artefact and reflective activity. Lecturers were confusing ambitions with communal support. As the interview was conducted, clarity was sought through probing questions; lecturers then provided correct answers. In this pillar, lecturers indicated that all modules have their own aims, objectives, and outcomes. Lecturers indicated that these are clearly outlined at the beginning of each lecture. Their responses during interviews after intervention then show that they understand that objectives relate to expert reflections. Such is what they want to achieve in the short term. With aims, participants showed that they related to individual reflections. The responses indicate that outcomes are for students; therefore, outcomes relate to community reflections.

Lecturers are clear in terms of ambitions and how they relate to their profession. Hence PA, PB, PC, and PD concur with one another that aims, objectives, and outcomes should be written at the beginning of each lecture. Although this might be clear, the literature and findings do not indicate when lecturers reflect on these and how they can affect their time, pedagogy, and learner performance. It is therefore important that more studies be conducted on the relationship between ambitions and reflections and the teaching of a module. This further allows for viewing how lecturers use these ambitions when teaching a particular content using Moodle.

6.7 Theme Four: Content in Moodle

Content knowledge entails deep knowledge of the subject matter and its structures (Mabuza, 2018; Shoba, 2018). Content knowledge is acquired; hence Business Studies lecturers need to be qualified and trained to teach the Business Studies. It is anticipated that qualified Business Studies lecturers possess content knowledge and pedagogy after the vigorous training undergone on handling scientific knowledge (Mabuza, 2018). A classroom teacher should primarily hold scientific knowledge in order to teach any subject as both the content and the

curriculum knowledge. Shoba (2018) adds that the knowledge of content is an essential element for teaching, intensely influencing it. Such content and curriculum knowledge is referred to as pedagogical content knowledge (PCK).

The PCK helps lecturers in the learning environment to interpret and change the content knowledge, in facilitating learning. Govender and Khoza (2016), and Makumane (2018) add that content is knowledge that is to be transmitted to learners. Content represents *what* is to be taught/learned. This implies that the educator should possess a certain level of knowledge to be able to expertly transfer it to learners. Mishra and Koehler (2006) posit that this constitutes cognitive knowledge of the discipline in question to allow for effective interpretation of prescribed content. Educators' understanding(s) of the subject matter affect(s) *what* they teach their learners. Every learning environment lecturer should possess content; but more especially the curriculum knowledge (PCK).

Due to technological improvements, there are developing theories such as the technological pedagogical content knowledge (TPACK) theory. This is considered the extension of the pedagogical content knowledge (PCK). The TPACK model emphasises the inter-connections and interactions between the content, pedagogy, and technology. The model of knowledge about content, pedagogy, and technology is central for developing a curriculum: planning, implementation, and evaluation of modern curricula in teaching any discipline. The content forms part of the TPACK theory as content knowledge imperative for lecturers to teach students. This content knowledge needs to be integrated into technology, that is Moodle, and used per different strategies to teach it. The three propositions and reflections are thus covered. PA stated that all the lecturers were required to teach content according to EDES 320 module outline. PC: "*contents for Education studies, teaching and learning theories, assessment in education, curriculum concepts etc.*" PD said "*It depends on the content to be covered, however, almost anything and everything can be uploaded on Moodle, for example, I upload slides used in class, assessment tasks and make announcements*".

The participants' responses show that they all know and have content knowledge as they indicated the modules they teach. Lecturers do indeed possess content knowledge as suggested by studies in Theme Four above. The responses, however, do not indicate technological knowledge. PC covered pedagogical and content knowledge. This relates to expert and individual reflections. The community reflection is not covered. Participants did not understand

that content and pedagogy should be aligned with technology in order to ensure that all three levels of reasoning are covered. Further clarity during interviews should be sought in order to fully align reflections with propositions.

Question 5: What content are you teaching using Moodle?

Khoza and Fomunyam (2018) assert that educators/lecturers must have content knowledge, pedagogical knowledge, and technological knowledge for effective content delivery using Moodle. The researchers further announce that lecturers chose the content informed by individual, community and expert reflections. Zulu (2017) declares that academic knowledge is the technique a teacher employs to teach a particular learning area or module. Shoba (2018) specifies that content knowledge is knowledge of the subject, or of a module to be taught or learned. Khoza (2013b) and Mpungose (2017) express that lecturers should understand the technological resources for teaching. The participant then responded on the content question as follows:

> PA "…*I teach Business Management for undergraduate students*". PB indicated that "*Content…I would comment that we use everything in Moodle. The whole syllabus that we teaching. We like examples just like homework, assignment you can put in Moodle as well …Moodle outline, yah, ok like I do Economics 101 and Economics 370*". PC said "*Professional content, academic one include EDES code depending on the semester I teach it, ok I teach … So mostly it works around …The theories Vygotsky, constructivism in class and Piaget, depending on semester such as EDES 210, 310 or 410*". Participants A, B, and C cited their content and theories that inform their modules. This suggests expert reflection.

> PD: "*Content, ok …like the module that I am referring to is just an introduction to education. What we basically doing is to introduce all the modules that the students will be taught for the entire four years in the university. For example, if there is a particular one on educational psychology using different world views, yah and there is History and there is Geology, there is philosophy and so we are using it basically to introduce, we are not going in-depth. We are basically introducing it because it's a first year module. It's like the one that we are doing, the one that I am coordinating, its introducing modules in the first, second, third and fourth year years. So these modules, they learn throughout, some are for the second years, third years and fourth years but*

we need to introduce all of them at once. It's one module yah, EDES 113". Participant D also indicated the modules she teaches as did the other three participants. All participants have the content and pedagogical knowledge which relate to expert and individual reflection.

With reference to the content, all lecturers were clear about the content they are teaching from artefacts, reflective activity, to interviews. This pillar is not a great challenge. Lecturers indicated the content they upload on Moodle. Lecturers therefore have content knowledge which in terms of TPACK as the theory for this study is covered in content component. Lecturers indicate that they upload this content onto Moodle and can develop slides. This covers technological and pedagogical knowledge which relates to community reflection and individual reflection, respectively. The literature and findings, therefore, are in line with content, pedagogical, and technological knowledge, which relates to expert, individual, and community reflection. The teacher-centred; content-centred, and learner-centred approaches to teaching should also be considered; because they supplement the content, pedagogical. and technological knowledge. The teacher-centred approach is associated with individual reflection; content-centred links to expert reflection; and learner-centred to community reflection. In the RPCAMR theory, content, and pedagogy should be reviewed to meet the needs of students using Moodle resources. In terms of the four pillars discussed above, lecturers show understanding of all reflections. On ambitions, more clarity is needed, in order to avoid confusing such with communal support.

6.8 Conclusion

Chapter Six discussed four curriculum pillars namely: reflections, Moodle as a resource, ambitions, and Moodle content. This follows the same format which was used in Chapters Two and Three. This chapter presented the responses of participants on artefacts which represented their personal feelings on the use of Moodle. This was regarded as a first stage of data generation, eliciting views so that the next step will be the reflective activity. It is important to find out such views before intervention, because artefacts show the difference of opinions. Artefacts therefore are regarded as community reflection; hence the topic presents different views of lecturers. This chapter deliberated on four curriculum pillars based on the second stage, which is reflective activity. The four curriculum pillars were also discussed based on responses from participants, on reflective activity. Moreover, these responses were analysed in

conjunction with what transpired in the literature review, of which all is framed by reflections (individual, community, expert) as a study phenomenon. The ten curriculum pillars are too unwieldy for discussing in one chapter, therefore it was essential that six other pillars be discussed in Chapter Seven. The next chapter therefore discuss evaluation, learning tasks, lecturer's capacity, learning environment, period/time, and communal support.

CHAPTER SEVEN
DATA PRESENTATION, ANALYSIS, AND INTERPRETATION (PART II)

7.1 Introduction

Chapter Seven is a continuation of Chapter Six: it discusses the themes which were not part of Chapter Six. The analysis and interpretation of this chapter is also based on data generated through artefacts, reflective activity, and one-on-one semi-structured interviews. In Chapter Six, four artefacts were discussed, based on all ten curriculum pillars. Participants had not separated them, as in the reflective activity. Chapter Six further discussed four curriculum pillars (reflections, Moodle as a resource, ambitions, and Moodle content). This chapter therefore discusses six pillars (evaluation, learning tasks, learning environment, period/time, lecturer's capacity, and communal support). Content was discussed as the last pillar in Chapter Six. Evaluation follows: after teaching a particular content, it is important to assess students to check whether they have understood what has been taught. Therefore, the next section starts by discussing evaluation.

7.2 Theme Five: Evaluation

According to Sodje (2018), evaluation may be known as tasks taking place that are anticipated to guide the learning course towards the intended aim. Evaluation takes the form of developmental/formative (evaluation *for* learning), cumulative/summative (evaluation *of* learning), uninterrupted/continuous (evaluation *as* learning). Formative evaluation monitors and supports teaching and learning. Cumulative evaluation gives a whole picture of student development at any given time. The uninterrupted evaluation is a combination of both the developmental and cumulative evaluation.

Hardware and ideological-ware are regarded as theory resources (Dlamini, 2017). Hardware (HW) resources refer to any type of machine, tool, or resource used for the purpose of enhancing teaching (Khoza, 2013b; 2016b). PC: "*there are electronic evaluation forms that students need to fill online and comment on the module. From the teaching, assessment, facilities and contents*". Lecturers know that there are resources available for students to use for content as a facility, and for assessment. The use of resources for content and evaluation

relates to expert reflections; the use as facility relates to community reflection, and for teaching as individual reflection. This is because content and evaluation form part of approaches used during teaching. The use of Moodle as facility expedites communication between a student and the lecturer. Teaching is regarded as individual reflection; therefore, a lecturer decides on how to use these resources to teach content and evaluate students. Lecturers pondered three reflections, although reflection is on cumulative evaluation which links well with expert reflection. Lecturers need to know that they must administer evaluation tasks which can help them to advance their practices (Mpungose, 2017).

These resources in the learning environment arise as two types which are substantial human resources. Resources are identified as influential in the learning environment provision of developmental evaluation (Dlamini, 2017). PB: "*set up quizzes and set up Question Paper evaluation for the delivery of the module*". PD: "*I make use of the Quiz section installed on Moodle. I prefer an online Quiz as it is much quicker and there is no marking*". PB and PD showed a similar understanding of the use of Moodle as it informs developmental and cumulative evaluation. The Business Studies teacher or lecturer is seen as the key resource in the provision of subject matter during curriculum evaluation in teaching and learning.

Business Studies teachers or lecturers are influential in that they act as main facilitators in developmental evaluation. Lecturers are regarded as human resources. Business Studies teachers or lecturers act as human resources, whether trained or not, remaining resources in the teaching and learning of Business Studies in the learning environment. The participants' response shows that Moodle is used for developmental evaluation which relates to individual reflection. Fomunyam (2014) adds that the quality of the developmental evaluation depends on the quality of the Business Studies lecturer as an individually determined human resource.

The learning environment which lecturers must understand deals with the usage of the teaching and learning materials available; and integrates extra preparation time for using these materials in the learning environment. PA: "*towards end of every semester, students are encouraged to go to Moodle and complete evaluation form*". This indicates the continuous use of Moodle, showing the uninterrupted use of resources. Lecturers understand that Moodle can be used over a particular time which associates well with community reflection. The participants' responses show that, although not all lecturers cover each form of evaluation, all three reflections and

forms of evaluation are covered. This advocates the importance of looking at learning tasks used for evaluation.

Participants were expected to respond to questions based on six pillars which were not part of Question Seven. Lecturers responded to all the questions, showing their understanding of the six pillars. The first question in this category was on evaluation. How do you evaluate/assess your module using Moodle?

> PB: *"…Students evaluation, I put evaluation form online, then you can ask students to write the evaluation which is anonymous, like I don't see who wrote the evaluation. They (university) give me the evaluation so that I will know what they (students) said. A further probing question was asked on how one evaluates the module. PB: Formal or informal assessment…"* They are two types of assessment, they are formative and summative. For formative assessment, quizzes, you can assess to check if students are understanding you can put that quiz. Also when you give them an assignment, they put it in there in Moodle and then you can go straight to inbox and students can see what is there, then you can write a report …Assignments are summative in a way because they carry a year mark which will go to their exam. Assignments are summative. For formative assessment I use quiz, for them to improve but for summative you give marks that you cannot change".

Based on the responses above, participant B said that the university gives students an opportunity to be evaluated. The university also allows students an opportunity to evaluate the courses lecturers teach. These forms can be completed by students anonymously. This type of evaluation does not form part of evaluation strategies that lecturers use to check students' understanding. This evaluation is a way of the university gaining feedback from students. Participant B did not fully grasp the question. After rephrasing of the question, the expected answer was provided. The formative (developmental) and summative (cumulative) assessments were indicated as used to evaluate students. The continuous (uninterrupted) was not included as an answer. Participant B understood the question in terms of two types of evaluation. The uninterrupted evaluation was not covered, which represents the combination of both developmental and cumulative evaluation. Participant B may not reflect on all three levels of reflection because formative and cumulative speak to individual and expert reflection. The community (uninterrupted) reflection was not covered.

Participant B indicated that quizzes are used as developmental evaluation. Assignment is used as cumulative evaluation. Developmental evaluation relates to evaluation as learning; and cumulative evaluation relates to evaluation of learning (Sodje, 2018). Participant B further indicates that cumulative evaluation forms part of students' final year mark. Cumulative evaluation links to expert evaluation.

> PC: *"…So far we don't really assess them. All of our assessment are manual. Our assignment and test scopes, we post on Moodle such as deadline, we post on Moodle in the form of evaluation, they type in evaluation. If there is a scope, we put manually so that they will see what they will be tested on. Exam scopes is posted on Moodle for students to see what areas they need to focus on. We don't necessarily post something that is of an assessment. We haven't done that yet…".* This response shows that participant C was also responding to course evaluation by students, similarly to what participant B alluded to earlier. I simplified the question asked on the type of evaluation administered. PC: *"… We do post formal or summative assessments. We post the scopes and instructions on Moodle…".*

On the first response, participants were responding on general evaluation conducted by the university. The second response was responding directly to the question citing that certified or cumulative evaluations are posted on Moodle to evaluate students. Lecturers follow the same process to evaluate students at the university. The difference between responses by participants' B and C is that participant C did not specify assignment and quiz as a type of developmental and cumulative evaluation. The uninterrupted evaluation was not indicated at all.

> In responding to the same question of evaluation, PD: *"…Ok, so when you get to Moodle there is a section for evaluation. So I think there is a form but I never done it before, students normally do it. We ask they evaluate the module but everything has been uploaded by the university. You can just log in you get the evaluation form. You get it you just send to the relevant people because it's done online…".* PD also responded in the same manner as participants' B and C. This shows that their understanding of the question was the same. I continued asking probing questions to redirect the participant to forms of evaluation. PD: *"…Mostly by students, but for me I use obviously I give them an assignment, I give them tasks, I give them what do call this. Quiz, I give them at the end of the year, at the end of the semester they have it as*

an exam…" This response was then answering the question on types of evaluation given to students. After that response, participant D went back to evaluation of the course by students. The uninterrupted evaluation was not indicated. PD: "…*They are evaluating the module itself and the lecturer who taught the module and they want you to make some sort of suggestions, what do think this module can be. Better planned or runned something of some sort. It's for the university but if you want to have access to it you can but I have never had it. Once I have submitted it ok with me. Whatever they said I don't have a problem…*".

The evaluation part of this study shows that the use of a quiz as an evaluation task is popular amongst lecturers. The forms of evaluation, included the developmental and the cumulative; however, the uninterrupted evaluation was not suitably linked to their use as combination of developmental and cumulative evaluation. Further to that, uninterrupted evaluation was not indicated as forming part of everyday tasks, during the end of the semester and year, as evaluation for learning and evaluation as learning. Assignments are linked to cumulative evaluation which links well with expert reflection. Quiz relates to everyday activities used to check understanding of what is taught in class, therefore it relates to community reflections. The uninterrupted evaluation relates to the combination of the two forms of evaluation which then relates to what a lecturer wants to achieve using different tasks. This suggests an individual reflection. The discussion of evaluation leads to reviewing types of learning tasks used to evaluate students.

7.3 Theme Six: Learning Tasks

Sodje (2018) explains learning tasks as items and aspects that the teacher wishes students to know, understand, and be able to do at the end of a lesson. Learning activities are named as: content-centred, teacher-centred, or student-centred (Khoza, 2015c; Shoba, 2018). Content-centred learning activities are all learning tasks, regardless of where and when they take place, which have a great impact on the learning experience. They have a set of common features drawn from the curriculum, namely, they are planned in advance, with clearly defined outcomes, focusing on what students should do. Such activities give students feedback on their learning as part of the experience. This suggests the teacher-centred approach which relates to individual reflection. Teacher-centred tasks link well with observation tasks. This study replaces content-centred with certified tasks, teacher-centred with observation tasks, and

student-centred with natural tasks. All these tasks are aimed at assessing what is being taught in the learning environment in order to ensure that lecturer and student achieve the content of Business Studies.

Natural learning tasks apply when teaching is aligned with the needs of the community. It is correct to declare that all education is geared towards meeting market needs. All educational activities are aimed at producing graduates that will address the needs of the community (Sodje, 2018). Therefore, Business Studies is one of the subjects designed to address business concepts which will allow students to become entrepreneurs (the scarce resources of our society). Observation learning is learning that puts the student at the centre of the learning process. The lecturer facilitates the learning by using problem-based methods to instill learning. This is an educational method in which learners can learn both content and thinking approaches through the experience of resolving problems with knowledge they already have in their cognitive structure. In the present study, the student-centred learning relates to community tasks. Students take charge of their learning; the lecturer observes whether learning does take place. This form of learning suggests the community reflection. Learning is driven by the intention of observing what students can demonstrate. The content-centred learning is dominated by the unpacking of the content for students.

The responses of participants were indicated as follows: PA: "*outline the online quiz*". PB: "*formative assessments*". PC: "*nothing yet*". Based on the PA response, only one type of task is used which relates to observation tasks. The students will be given a task to perform; and the lecturer observes whether they are achieving the hoped-for objectives. This therefore indicates the individual reflection. The expert and community reflections are not indicated in this response. Lecturers should have a deeper knowledge of diverse learning activities. These activities should also be used in order to ensure that different learning capabilities are considered. PA stated the formative assessment. This shows that the participants did not comprehend the question well; hence it should have been formative tasks not assessment. This implies that, during interviews, more clarity should be sought in order to differentiate between tasks and assessment. PC could not provide an expected response. PD: *"I make use of the Quiz, upload slides, make announcements for students. Moodle is our space for communication"*. Lecturers therefore have varied understanding of learning tasks as indicated in their reflective activity feedback. This was dealt with during interviews where probing questions were asked relating to different kinds of learning tasks, and their relation to reflection.

On the learning tasks question, participants responded as follows:

> PB: "…*We do class activities to see if they understand the content. I put it there on Moodle, quizzes, I like quizzes the most. So we do a quiz there they answer on spot and you can see if they understand or not and you can assist on spot. Checking understanding of unpack content – both, it depends on the lesson for the day if it's generally new content, I teach content then I will use quizzes to check if they understand that content but mostly I start by do a quiz and see how far are they with understanding because every day they come with something – to base it from known to unknown, so in this case you find it what is that known and build form there ...Yes, baseline assessment*".

Participant B indicated that class activities are used to check whether students understand the content. These activities are put on Moodle and students can respond to activities such as a quiz while the lecturer observes whether they understand them. PB further stated that Moodle is used to check whether to unpack the content. After unpacking the new content, quizzes are used to check understanding. Participant B also indicated that he believes that students possess some knowledge. Therefore, an inductive approach is used to teach new content. The baseline assessment is used to find out what students know. Quizzes, in this instance, are learner-centred which links well with community reflection. While the lecturer uses the quiz to assess whether students understand the content, at the same time, he observes them on Moodle and assists them. This relates to observation tasks which are teacher-centred, also linking well with individual reflection. The content is also unpacked for students. This process is taking a content-centred approach which relates to expert reflection.

> PC: "…*I love that question, I don't know what I would say that Moodle is complex but it has a lot of components, which you can utilise as a lecturer. If you are not aware of them, you not going to be able to use them. Like if you know how to attach file you can use that component to attach a field. We only use the attaching part for module that our coordinator wants us to teach.* This response relates the use of Moodle to addressing content. This indicates that participant C uses Moodle to unpack the content for students. This suggests a certified task which relates well with expert reflection.

PC: …*Online quiz – I remember with my honours studies our lecturer has quiz posted on Moodle them we can go there and choose the update. I am not fully conversant with Moodle because I have not been trained. Other components of it I am still working on …I am aware of the online quiz; I am aware of the discussion forum where you can talk about issues. Those two I know. Online quiz is the cross question students need to answer them during their spare time. You as a lecturer you are able to check their progress*…Participant C indicated that she knows about online quizzes the same way as Participant B; but she indicated that she was never trained on using Moodle for activities. The online quiz takes the direction of the natural task which is ultimately associated with community reflection. PC: "… *Discussion forum actually you discuss as a group, lets students are not clear with constructivism theories they can indicate that hey I am struggling with this theory, can someone explain, then other people can share information…*" This response shows that participant C engages on observation tasks and is informed by a particular theory. This relates to individual reflection. In further responding to clarity-seeking questions on whether PC also engages in activities to unpack the content, PC: "…*Yes, definitely, I unpack content, I put on Moodle and students can put a question and I can respond so all parties can see the question and the answer. There is an option there if you want to reply particularly to the student you can reply to an individual or to a group – use option for individual or a group…*". With reference to this response, participant C speaks about unpacking of content for students. This suggests a certified task that takes the direction of expert reflection.

PD: "*Ok, uh under Moodle activities I know there is a lot of them, some I am not familiar with them. So what I normally use its announcement, there announcement part, all we update students on the contents of the module whether it is an assignment or what. Go to upload assignment and also use the lecture part of it. You know where you upload slides you know and I also use the quiz there is also a quiz*".

Participant C indicated that she uses Moodle frequently to update the module content, assignment, and for uploading slides. This suggests the natural and certified tasks. Such an announcement relates to communication, which is not part of the activities. Participant D therefore engages in community and expert reflections. The observation tasks relate to individual reflection. Participant D did not reflect on all levels. Individual reflection is important because it addresses the lecturer's intention in using a particular task.

The responses of participants on learning tasks from artefacts to reflective activity show that lecturers could not clearly distinguish between the use of learning tasks for evaluation and learning tasks used in Moodle. The responses are similar to evaluation in the sense that the quiz is still popular as a learning task that relates to natural activity, which is linked to community reflection. The certified and observation tasks were not included. Lecturers rely on one learning task which requires more studies to be conducted in order to apprise them of other learning tasks. Hence, lecturers mentioned communication and uploading slides. These are not learning tasks but the use of Moodle as a hardware and software resource. The observation tasks could have related to teacher-centred activities conducted in class or using discussion forums. These relate to individual reflection. The certified learning tasks link to content-centred approach activities. Such relates to what a lecturer should give as formal tasks to students or in unpacking content for students.

The administration of the tasks could be monitored by the lecturer using Moodle. Had such learning tasks been mentioned, that would have meant lecturers understand all learning tasks. During interviews, participants cited various tasks such as quizzes, unpacking content and observing students performing such tasks. Lecturers do reflect on three levels of reflections although they could not mention the teacher-centred, learner-centred, or content-centred approaches, as indicated by literature. Further research must be undertaken to explore how the different tasks and approaches and the use of Moodle contribute to successful teaching and learning. These tasks are administered by someone in a particular learning environment, who in turn plays a particular role.

7.4 Theme Seven: Lecturers' Capacity

Dlamini (2017) suggests that another category emerging from theory resources other than hardware is ideological-ware. Ideological-ware includes those resources that drive and inform theoretical assumptions that support the use of other theoretical resources. These resources include teaching methods, and the experience of both the teacher and the learners in the classroom (Khoza, 2012). Fomunyam (2014) believes that teachers or lecturers are the most essential resources. In the learning environment, interactions in the implementation of developmental evaluation involve reinforcement of learning of Business Studies. PA said the role is exercised "*by posting the slides, notes, audiovisual, assignment topics, articles online through Moodle to reach all the registered students in my group*". PD: *"Same as above. I use it for teaching and assessment".* The teaching technique (ideological-ware) that the Business

Studies teachers select impacts the usage of developmental evaluation approaches in the teaching of Business Studies. This further suggests the expert reflection.

In Chapter Three, the role of the teacher or lecturer was presented as coordinator, scientist, or trainer. The research studies suggest that Business Studies teachers or lecturers, being the main curriculum implementers, should understand the ideological-ware resources that support the envisioned curriculum before its implementation (Hoadley and Jansen, 2013; Khoza, 2013b). Hoadley and Jansen (2013) further asserted that Business Studies teachers or lecturers should understand what drives the course, in order to intensify the chances of accomplishing an absolutely attained curriculum. Business Studies has been promoted by the individual drive which is the curriculum that locates itself as an interface between the expert and the community reflections. PB: "*to upload content on Moodle. Set up quizzes*". This relates to individual reflection.

Lecturer capacity in the implementation process of the curriculum is vital, lecturers being a link between prescribed curriculum and attained curriculum (Hoadley and Jansen, 2013). Lecturers are entrusted with several roles in order to interpret and effectively implement the curriculum. Van den Akker et al. (2010) contend that the capacities that lecturers undertake must expedite learning and speak to expert, community, and individual needs of learners, while incorporating educational aims. Lecturers must be aware of the roles that they are supposed to undertake during the implementation process; such are defined in the intended curriculum. These, according to this study, are the role of a coordinator, scientist, and trainer of learning programmes, and that of a subject specialist. The lecturer, as a facilitator, confirms attainment of aims by generating a favourable atmosphere wherein students build their personal understanding as per their necessities (Kennedy et al., 2006). In this way, lecturers are informed by student needs, and thus strive to meet these needs through provision of appropriate tools that would aid learners. Therefore, community implementation approaches dictate this capacity.

As interpreters and designers of learning programmes and materials, lecturers must be conversant with the expectations of the intended curriculum so as to design programmes that would achieve prescribed learning outcomes (Mabuza, 2018). PC: "*communication and posting relevant contents*". Thus, creativity and intellectual uniqueness are required for lecturers to promote this capacity. Lecturers are influenced by their idiosyncratic interaction

with their environment and their learners. Lecturers therefore tailor their planning to suit the environment. This suggests routine implementation approaches. Finally, lecturers are also expected to be subject specialists. This is driven by actual implementation approaches. Lecturers need to have broad knowledge of content. In addition, they ought to be able to systematically and strategically transfer that knowledge to learners (Bernstein, 1999; Shiro, 2013). Such relates to all three capacities of a lecturer, alluded to earlier in this paragraph.

Question 7: How do you use Moodle when teaching your module? (lecturer's capacity)

PB: "…*I would comment that coordinator; you find that most I am the one who find out from known to unknown. If I conduct teaching finding what is known and assist them to understand the new content. In a way they wouldn't know something and I would unpack the objectives of what I am teaching…*" This statement suggests the lecturer's capacity as a coordinator which relates to community reflection. With regard to answering the lecturer's capacity as a trainer, participant B said *"…So in a way I want to train them to be life-long learners. How do you make conclusions, even if I'm not there they continue to be life-long learners…"?* This reply suggests individual reflection. Expert reflection is not mentioned; participant B may be reflecting on two levels only.

 PC: *"…My role? ...ok, so far, my role has been an instructor more than anything. I don't want to lie ...Professionally I see more of myself as a professional to my students. Everything that I communicate is of professional manner hence the university requires..."* This advocates the community reflection. Participant C: "…*My role is to instruct them on what they need to consider*..." This suggests a lecturer's capacity as a trainer, which takes the direction of individual reflection. Further to that, in responding to a question that asked whether she used Moodle for research, the participant said "…*No I haven't use Moodle to conduct research. I receive information from the coordinator prior to disseminating to students so I don't do much of research…*". This response indicates that the lecturer's capacity as a scientist has not been accomplished. A lecturer's capacity is as a coordinator and as a trainer, which relates to community and individual reflections. The lecturer's capacity as a scientist is not covered, relating to lack of expert reflection. Not all levels of reflection have been taken care of.

PD: *"... No, I... I it is just that it's something I never thought of it. I don't even know what my role is. I know that I am coordinating the module. I am the one who do*

whatever that needs to be done. So I don't know what my role is. I just play whatever role, what comes into my mind, sometimes you need to put yourself in the shoes of the student..." This statement indicated that the participant could not clearly distinguish her role as she teaches her module. The role of coordinator seemed to be clearer than as scientist and trainer. PD was asked about conducting research. PD: *"…Researching, yes definitely because whatever content that we have we can't just very 100% on it, we need to go and find more information, we need to simplify it..."* This speaks to a lecturer as a scientist.

PD: "… *the most important part is simplifying it that information for students so that at the end of the lesson they have a better understanding of what was expected of them …Because if you just take it as it is you will never be able to understand it, so at the end of it you need to simplify it to ensure it is at that level..."* Further responding to the question of trainer, PD: *"…Instructor, yes we do a lot, for example, we do not do it anymore but we use to give them a course pack or course outline and we use to print it for them. So once it was printed we need to give them instructions for example this group of you will go and collect at that particular area, or be posted on Moodle, now we don't use that, we have pdf, we just have soft copy, so we just sent it, upload it, so they download it themselves but yes we instruct them – we give them instruction yes we do…".* This response suggests a lecturer's capacity as a trainer, although the word instructor was given.

The lecturer's capacity was not clearly understood at the beginning until more clarity was sought through asking probing question during the interview session. In the reflective activity, lecturers focused on uploading slides, communication with students, and conducting assessment. These roles form part of other pillars such as evaluation, and Moodle as a resource. Participants were further not sure about roles except as coordinators, which relates to community reflection. With further engagement during interviews, responses were clear that lecturers do play the role of a researcher and instructor. This was evident when participants indicated that they research content, simplifying it for students before teaching it. Participants further indicated that they give instructions on Moodle related to academic work. These suggests expert and individual reflection, respectively. The interview sessions were therefore relevant for me and for the lecturers as well, as more information was acquired. Although this was achieved, lecturers must conduct more research on their roles, especially as scientists, in

order to align them with the three reflections. The next pillar is the learning environment, where the learning takes place.

7.5 Theme Eight: Learning Environment

A learning environment may be found in diverse locations (a room with rows of desks, chairs, and a chalkboard in a traditional setting), cultures, and contexts in which students learn (Sodje, 2018). Learning is not limited to the classroom setting alone, because learning can take place outside of school locations and in outdoor environments. Mpungose (2017) and Shoba (2018) suggest three main learning environments or deliveries of instruction: traditional or face-to-face, online, and a combination of face-to-face and online (blended learning). This study replaces face-to-face learning environment with specified, online with open, and blended with flexible. A specified learning environment is defined as a teacher-centred delivery of instruction in a classroom, or to classes of students who receive information from the teacher. PA: "*Moodle can be used on campus and off campus*". This suggests a specified learning environment; hence students can be given instructions by the lecturer to use Moodle both on campus and off campus. Participants understand that Moodle as a resource is open for communication within and outside the learning space. This therefore relates to expert reflection.

An open learning environment is described as access to educational prospects for learners in both non-traditional and disqualified ways using some technologies. PB: "*students can be anywhere in the world*". This shows that a lecturer understands the open learning environment which relates to community reflection. The word anywhere is not specific to a particular place, therefore Moodle can be accessed anywhere; however, the lecturer should have qualified this by saying anywhere where there is Internet access. The word anywhere is too wide open; some spaces may not have Internet access, such as spaces in deep rural areas, where students may not have resources to connect to the Internet. A flexible learning environment is a blend of face-to-face instruction with online or computer-mediated instruction. PC: "*I use it in my office at UKZN, home or anywhere where there is Internet access*". PD: "*I use it in class, outside class and even at home. There's no specific place*". This shows an understanding of three situations or contexts in which an office may be a specified (university office, home) environment; and anywhere where there is Internet access. This indicates the combination of

specified and open; which then suggests a flexible learning environment. Lecturers understand the use of Moodle although they did not all mention all three environments in their responses.

The question was: Where do you use Moodle when teaching your module? (lecture hall, office, home).

> PA: "…*Moodle is not place bound, everywhere provided one is connected I can use*". PB: *"…All of the above, when setting material at office, after work preparing for the following day. In fact, I do teaching in class, so do like quizzes. One-on-one for other students as I teach more than 1000 students so you find that I do not have much time so, I ask them to raise their hand and I put that on Moodle and they can answer from there …Sometimes in class I will put on Moodle. I find something when you at home, that could be nice for teaching like dealing with third years that I would like them to engage with current content, so if I do something at home before I forget it I upload it there, and comment that hey we do this in class tomorrow. Please make yourself ready. If they get a message, then they prepare it when you come to class the following day".* The responses by participants show that they use Moodle anywhere as they indicate that it is not place bound. The use of the descriptor anywhere suggests that the responses cover specified, closed, and open learning environments, which are related to expert, individual, and community reflections, respectively.

> PC: *"Moodle is used anywhere, in my office, at home, even when in an aero plane, access it on my phone, laptop, at home in a bath I can use Moodle. As long as I have Internet that is key part to it. I feel there is no need to use Moodle on lecture hall because I am with students, so when you are with them, maybe when I am in the lecture hall then there is an article that I did not put on Moodle I can put it at that time (communicate it with them). There is no need to use it in class because you are with students. Only if students are on Moodle while in class then I will assist them. Maybe if they can't download an article of they don't see when the article was posted then I assist them.* PD: *"…I use it everywhere; I use it everywhere. At home if I have to type something then I recall I just send to students. Even when I am eating at home. I will stop eating and go and post whatever I need to do with it. At campus, at the lure, when you are busy at the rest room, you remember something that you need to do at that particular time. I use it everywhere".* PC and PD also agree with PA and PB that Moodle can be used anywhere.

With regard to learning environment, all participants seemed to respond in a similar manner showing that they use Moodle at the same locations. The learning environment was well articulated by participants from reflective activity to interviews. Participants show good understanding of the use of Moodle in a specified, closed, and open areas. Participants indicated that Moodle can be used at the office, at home, and in lecture halls. Participants' responses indicated that Moodle can be used anywhere, meaning that it is not place-bound, provided there is connection. The identification of these places therefore shows that participants understand their link to specified/lecture halls (expert reflection); office/closed (individual reflection) and home/open/anywhere (community reflection). The learning environment was linked to time as anytime.

7.6 Theme Nine: Period (Time)

Period (Time) is a valuable and scarce resource that must be managed and controlled (Shoba, 2018). Mabuza (2018) defines instructional time as all the time educators and students use for the purpose of attaining educational purposes. This definition embraces the study times, preparation time, actual learning time, transition time, and examination times. Lecturer reflections on when are they teaching Business Studies were anticipated to be guided by either expert reflection (fixed time), community reflection (consensus), or individual reflection (flexible time). The participants responded to the question: *When do you use Moodle when teaching your module?* PA: "*after lecture times*". PB: "*during the semester in which the module is offered*". PC: "*throughout the semester. Moodle is always open of the module is still taking place so every day. Day or night*". PD: "*Any time of the day. There is no specific time*". The first response indicates that the participants use Moodle after lecture times, which means that when teaching, PA follows the traditional method of teaching.

This may not be true, because most universities have data projectors, computers and Internet access. This indicates that the participants did not comprehend the question correctly. However, this response speaks to flexible time which links well with individual reflection. Fixed and consensus time is not catered for. PB indicated that he used Moodle during the semester in which the course is offered. This response is broad and covers all aspects which comprise all reflections. However, it does not specify the actual usage, whether during or after teaching hours. PC shows that she understands that Moodle is available; but could not respond directly to the question. PD indicated that Moodle can be used at any time, no specific time prescribed. No boundaries are set for the use of Moodle. Lecturers have different understanding of the use

of Moodle in terms of reflections and reflections. The next step of interviews, more clarity seeking and follow-up questions were asked of participants.

In response to the time question, participants shared similar sentiments as those expressed apropos of the learning environment:

> PA: "Moodle *has no time restrictions for me. Whenever I feel like using it or the need arises I use ... any time, 24 hours I use it*". PB: "*…I would comment that all the above (spare time, fixed time, consensus) as well, for instance at work. I use Moodle, after work, if I am busy with something over the weekend if I see something that we need to discuss I put it up there on Moodle as well. Even during weekends. The good thing about Moodle is that it is not work bound only you can use it anytime.* PA and PB agree that there is no time limit for the use of Moodle. Responding to the question on who incurs costs when Moodle is used during spare time and not within the university, PA and PB: "*…Cost – if you use at home, the one big cost there is Wi-Fi that is Internet, so university do not pay for that. University pays when you use it at work. Some of students do not open emails if they are not at university (students). Students need to connect they can't use it if they are not on Internet they need to connect first before they upload to Moodle...*"

> PC: "*You see with me; I don't do much activities outside academic space/time ...I use Moodle whenever I feel so, even when I am at home. If I feel like going to Moodle, I just go there. Mostly during the week, I am at work I use it at work and at home. Not all ideas come through while you are at work sometimes ideas come through while you are at home, then you can just grab a laptop and remind students*". PD: "*…Again anytime, there is no specific time like that I am at campus I can only use it when I am at campus. I use it everywhere, anywhere, anytime. I overuse it I know*". PA, PB, PC, and PD all agree on the use of Moodle that it has no time restrictions.

In terms of time, all lecturers were clear, indicating that Moodle can be used at any time. Again this relates to the response given on learning environment. Time and learning environment were answered in a similar manner, indicating that lecturers and students are not time bound. Time were understood in terms of fixed time, which relates to expert reflection. Flexible relates to community reflection and consensus links to individual reflection. In terms of the fixed, flexible and consensus factors, the literature and findings provided the same understanding. The literature and findings did not view time in terms of frequency. Further studies should be

conducted to indicate the frequency on the use of Moodle in with regard to hours, weeks, or months.

7.7 Theme Ten: Communal Support

Accessibility denotes availability of education to any individual, regardless of their social, political, and individual stance (Mpungose, 2017; Makumane, 2018; Zuma, 2019). Accessibility, in this study, is replaced by communal support which is categorised as substantial support, monetary support, and public support. Substantial support denotes infrastructure and the proximity of the institutions for both lecturers and students. According to van den Akker (2010), communal support is about physical access to education; meaning the school is reachable for all. Public support indicates eliminating any cultural obstacles which hinder the right to education. Monetary support advocates removing financial barriers that impede the right to education. In this study, substantial support is aligned with expert reflection, which is then termed expert support (meaning access to a formal institution of learning). Monetary support is aligned with community, which is termed community support (meaning access to education depends on financial dynamics of supporting the system). Public support is aligned with individual reflection which is termed individual support (meaning that one has the right and choice to adopt a specific culture).

The participants responded as follows: PA: "*at the end of each lecture week, I usually post notes, slides, audiovisuals and articles of the topics that we covered that week online through Moodle so that all the registered students in my group can download the materials to support their individual study*". PB: "*content can be saved and viewed offline*". PC: "*basically responding to students' queries and addressing them even if we are on physical contact*". PD: "*I always ensure that feasible goals are set so that it becomes easier for us to achieve them. As a lecturer, I have to constantly remind students to log into Moodle so that they are kept updated*". The response by PA relates to substantial and monetary support, neglecting public support. A lecturer provides students with information using laptops and Internet for all registered students. The lecturer did not indicate how Moodle is accessed to post all bulletins, relating to individual reflection. The response also relates to time rather than to communal support. PD's response shows a clear understanding of Moodle in terms of communal support.

PB indicated that content can be saved and viewed offline. This response is not clear: it does not specify who views this content. A further engagement for clarity and empowerment is

necessary during the next step of data generation. PC indicated that students are assisted through responding to their queries. It is not clear how is this done, whether online or during lectures. Physical contact does not seem to address the use of Moodle; hence the responses may be verbal. PB and PC still need empowerment in terms of specifying communal support as comprising substantial, monetary, and public support.

In response to communal support on the question raised as follows: Are you permitted to use Moodle, and how do you gain access to use Moodle to teach your module?

>PA and PB: "…*Yes, we are allowed because we are working for UKZN, we are allowed to use, we are encouraged to use it. We yah, because we are normal loaded systems in our own computers. We don't have to create a new code for Moodle we use the same code in my normal everyday work…*" These responses indicate that both participants are at the same level of understanding. This relates to expert reflection. Both participants refer to permission by university. PB: "i*n terms of cost for accessing Moodle, although I am not speaking for the university now but if you not on campus they you have to pay for your own access. When you are staying within the campus – registered students can access Wi-Fi. If you experience problems, students can use library to access Moodle. For those who stay in residences, all residences under UKZN – they have access…I know of one of the contract that if you lease a building to UKZN you must have access to Wi-Fi connection. For Wi-Fi as soon as they get student number they get free Wi-Fi. If you are on campus you can set Wi-Fi and log in. I would comment that free although someone has to pay for it...*" This statement by PB indicated the permission that incorporates community reflection.

>In responding to cost issues, PB: "*…what I do know that I have learnt very late is that in most universities if you are student in many universities you are able to access Wi-Fi without having pay like there is thing called Eduram. Like if you go to university of Free State I don't have to go to passages and ask what the Wi-Fi password here, I just connect. Someone from UP to UKZN can access Eduram Wi-Fi without having to pay for it. As a staff member, it is available for both the staff and students – that is why I want to comment that it's free, but how university pays for it I am not sure but there is no need for password…*" This statement relates to communal support, related to community reflection, although it is not specific to one university.

PC: "*…So I for me I am a lecturer I am not a coordinator so people who use the Moodle the most are coordinators. So they upload the module so we go to them. I tried to ask them to add me as so that I can get access. But if I am not part of that module I don't need access. If I want to communicate with our students, we use email as well …There is free access for staff, at home I use personal data. Students staying at residence owned by university have access to it. Those staying at home, they pay. Basically students are paying because they pay for staying. Free in a way but they pay for tuition so it is part of the package*". PD mentioned that at times she needs to be added to Moodle by the coordinator; however, she can gain permission to access Moodle.

PD: "*…Alright, yes, we do have permission but got the ITS guys who are in charge of the technology part aspect of the university. Basically what we ask them to assist us in creating or have our module on Moodle so that it becomes easy for us to have access to it …We create our own password. Once the module has been set up, they are done we have to do everything on our own…so we use the same password, we use the one that we use to log in at the university*".

Lecturers indicated that they upload slides and notes for registered students to access online. This speaks to community reflection. Participants further indicated that students have access to Moodle using Internet and Wi-Fi. Such is subsidised by the university on campus or on university-contracted residences. This links to monetary reflection. Further to that, lecturers indicated that they can log in using university passwords. Information Technology Services personnel assist with programming aspects. This speaks to substantial support which links well with individual reflection. The communal support such as ambitions, lecturers' capacity, and learning tasks showed some gaps at the beginning. However, some understanding was shown after interviews. Therefore, a second phase of interviews was not necessary.

Table 7.1: Numerical Presentation of Data Analysis in Number of Words

Theme/Principle	Number of Words	Percentage
Moodle as a resource	1620	13 %
Ambitions	2229	17 %
Content	1103	9 %
Evaluation	1663	13 %
Learning tasks	1715	13 %

Lecturers' capacity	1427	11 %
Learning environment	978	8 %
Period/time	804	6 %
Communal support	1242	10 %
	Total :12781	**100%**
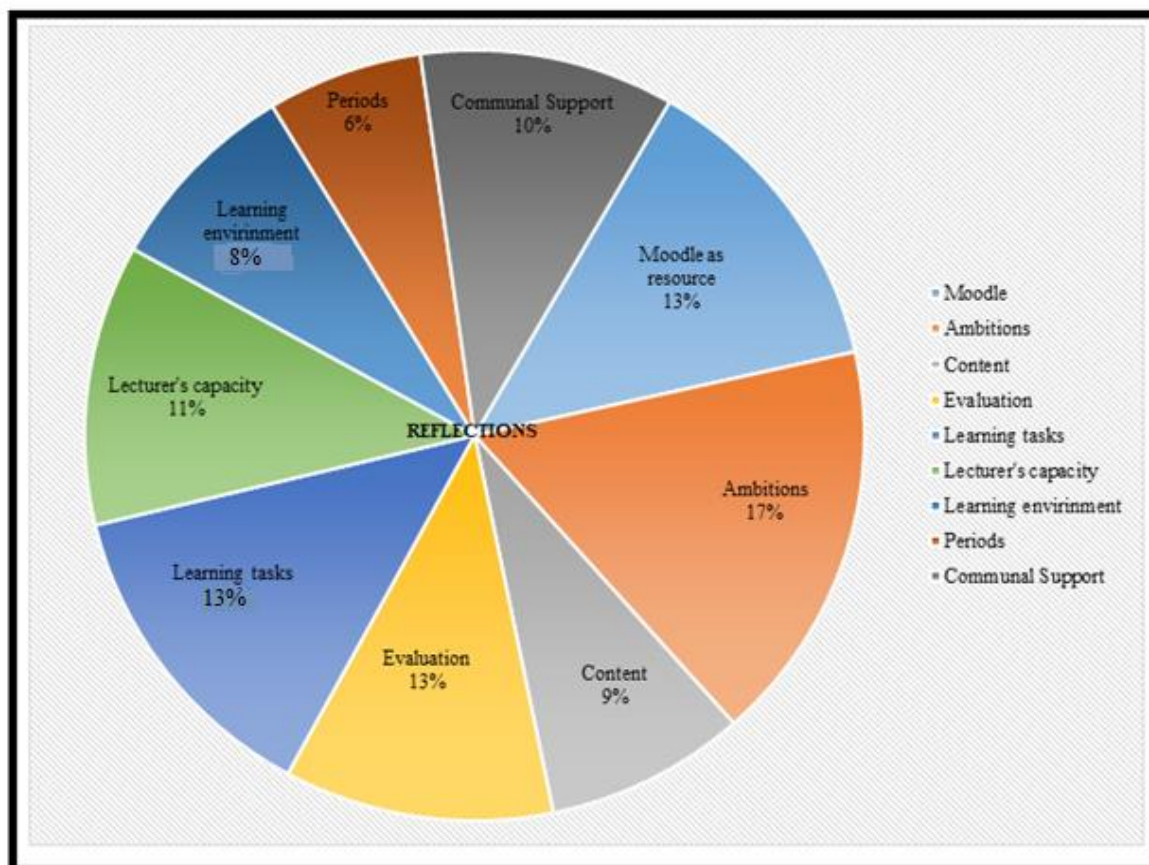
Figure 7.1: Pie chart – presentation of curriculum pillars results

Table 7.1 and Figure 7.1 indicate the results of data analysis from lecturers' responses compared with data. The themes that show higher scores include ambitions, learning tasks, lecturer's capacity, Moodle as a resource, communal support, and evaluation, all above ten per cent. The content, learning environment, and period/time scored below ten per cent. In the analysis of data factual section, it emerged that times, content, communal support, learning environment, and ambitions show better understanding on all levels of reflections. The table and graph indicate ambitions as scoring the highest; whilst the period/time, content, and learning environment scored the lowest. Participants showed understanding of ambitions as the

curriculum pillar that shapes up a lecture. Participants offered a great deal of information. With the other three (time, learning environment, and content) they also show no gaps and no clarity was required.

Some gaps were seen in lecturers' capacity, Moodle as a resource, learning environment, learning tasks and evaluation. When it comes to tables and graphs, these themes scored closer to twelve per cent and lecturers were clear on themes after asking probing questions. The scores may not necessarily mean that the highest scoring theme is the most important − such depends on the perceptions of lecturers and their responses. Some studies may reveal a different picture of the order of themes and scores. In this study, ambitions showed the highest score, which means the data analysis shows its importance, as regarded by lecturers. The nine themes (content, evaluation, period (time), lecturer's capacity, learning environment, communal support, Moodle as a resource and learning tasks) originally carry the same percentage except for the ambitions, that carried twelve per cent. This was to ensure that the total sum of themes is equal to 100 % for calculation purposes. Moreover, the curriculum pillars should be treated equally because they are all important.

7.8 Conclusion

This chapter discussed six curriculum pillars (evaluation, lecturer's capacity, learning environment, time, and communal support). The reflective activity and interviews were used as a data-generation method to facilitate the analysis of this chapter. Both the reflective activity and interviews show that lecturers are clear on evaluation, learning environment, time, and communal support. With regard to lecturer's role, learning tasks, ambitions, Moodle as a resource, and evaluation, some gaps were identified at the beginning. However, the interview session brought clarity.

CHAPTER EIGHT

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

8.1 Introduction

From the beginning, this study has attempted to explore lecturers' reflections on the use of Moodle in teaching Business Studies. This objective has been sustained through the study and remains in this chapter, which theorises lecturers' reflections as depicted in the previous chapter. The intention of this chapter is to analytically reflect on the summary of findings, present concluding remarks and make recommendations. This is in order to establish the impact that this particular action research has had on lecturers' profession. It also attempts to address research questions that have driven this study which are:

> ➤ What are university lecturers' reflections on the use of Moodle in teaching Business Studies postgraduate modules?
>
> ➤ Why do university lecturers have particular reflections on the use of Moodle in teaching Business Studies postgraduate modules?
>
> ➤ What lessons can be learnt from the lecturers' reflections on the use of Moodle in teaching Business Studies?

In attempting to address these questions, the researcher used a critical action research, which included two phases, as discussed in detail in Chapter Five of this study. In addition, literature was reviewed to position the phenomenon of this study in a body of already existing studies, attempting to close the gap in the literature. Therefore, the questions and objectives of this study are addressed, using the findings that were presented in Chapter Seven. In addition, this chapter presents recommendations that might be useful to university lecturers, university curriculum designers, and the Department of Higher Education.

8.2 Summary of findings

8.2.1 Reflections

The findings in Chapter Seven above suggest that lecturers were reflecting on three levels, namely individual, community, and expert reflection levels (Mpungose, 2017). The responses from reflective activity and interviews show that lecturers understand their individual, community and expert reflections for teaching Business Studies using the Moodle learning management system.

8.2.2 Moodle as a Resource

Lecturers seemed to have a clear understanding on the use of the Moodle LMS for all three reflections. This is evident when lecturers refer to the use for communication with students, uploading slides and assignment. Such relates more to use in disseminating information to students, and uploading information as required by the university.

8.2.3 Ambitions

Ambitions address aims, objectives, and outcomes, which are relevant in guiding lecturers in their teaching profession. Aims provide the long-term goals for teaching, which relates to expert reflection for teaching the module (Khoza, 2015a; 2016a). Objectives, on the other hand, provide the short-term intentions of the lecturer for teaching a particular module (Shoba, 2018, Makumane, 2018; Mpungose, 2019a). The learning outcomes relate to the learners' needs, which are community reflections (Sodje, 2018; Kisaka-Jwan, 2018). Objectives relate to individual reflections while aims relate to expert reflections.

8.2.4 Content in Moodle

The content as a curriculum pillar, as articulated in the curriculum spider web (Van der Akker, 2009) is an important pillar in any curriculum presentation. Content, therefore, in this context, is viewed as a competence/horizontal approach and a performance/vertical approach (Hoadley and Jansen, 2012; Khoza, 2018a; Zuma, 2019).

8.2.5 Evaluation

Evaluation refers to the various forms of assessment tasks and strategies used during teaching (Dlamini, 2017; Mabuza, 2018). The study relates to developmental, cumulative, and uninterrupted evaluation, which links to community, expert, and individual reflections, respectively. The literature further emphasised the importance of understanding these forms of assessment as assessment of learning, and assessment as learning (Mpungose, 2017).

8.2.6 Learning Tasks

This study alluded to natural, observation, and certified tasks (Brandl, 2005; Alier and Casado, 2014, Mabuza, 2018; Mpungose, 2017; Zuma, 2019). The natural tasks relate to community reflection; observation tasks relate to individual reflection; and certified tasks relate to expert

reflection. The study discovered that lecturers use quizzes, homework, and assignments as the learning tasks on which to assess students.

8.2.7 Lecturers' Capacity

This study categorised lecturers' capacity in terms of coordinator, instructor, and scientist (Mundy et al., 2012; Mchunu and Msibi, 2013). The coordinator relates to community reflection; trainer to individual reflection, and scientist links well with expert reflection.

8.2.8 Learning Environment and Period (Time)

The two curriculum pillars were well understood by all lecturers; hence they indicated that Moodle is not time- or place-bound. Moodle can be used anywhere and anytime. These responses indicate that lecturers understand the use of the Moodle learning management system in open, closed, and specified learning environments. The responses by lecturers, further show that they grasped the flexible, fixed, and consensus times. These curriculum pillars are linked well with all levels of reflection.

8.2.9 Communal Support

Communal support, or accessibility, relating to substantial monetary and public support, were properly linked to all reflections. Lecturers indicated that they accessed Moodle by using their password to log in. They further indicated that it was the requirement of the university that they use the Moodle learning management system. Moodle is free on campus for both staff and students, while all incur costs when using the system at home.

8.3 Conclusions

8.3.1 Reflections

Understanding such reflections helps lecturers to align their teaching to their reflections.

8.3.2 Moodle as a resource

Universities should capacitate lecturers, emphasising the importance of using technology-of-education. This addresses individual reflections which is associated with pedagogical aspects of the teaching practice. This does not mean that the use of technology-in-education is not important; however, the use of technology-of-education also includes relevance of content delivery and strategies.

8.3.3 Ambitions

Hence lecturers indicated that aims, objectives, and outcomes are clearly outlined at the beginning of each lecture, showing that they understand all levels of reflection.

8.3.4 Content in Moodle

Lecturers seemed to understand the content they are teaching, using the Moodle learning management system and relevant strategies. All levels of reflection were covered, including technological knowledge (Moodle resources); content/modules (content knowledge); and uploading slides and notes to teach in class (pedagogical knowledge).

8.3.5 Evaluation

Lecturers showed understanding of evaluation. Lecturers indicated that they use quizzes and homework for developmental evaluation, assignments as cumulative evaluation, and these add to the year mark and both developmental and cumulative as uninterrupted evaluation.

8.3.6 Learning tasks

Lecturers were not clear about the difference of these types of learner tasks. Hence there is more use of natural and certified tasks, to the exclusion of observation tasks.

8.3.7 Lecturers' capacity

Lecturers' capacity was understood as being at the level of a coordinator. The instructor and scientist were not understood, especially at the initial stage of data generation. With more engagement during interview session, it became clear that lecturers do instruct students and conduct research before teaching a particular content. This, according to them, is to give clear direction on tasks, and to communicate proper content guidelines. The issue of simplifying content for students was also mentioned. Lecturers' capacity at a university takes in all three levels of reflections. However, lecturers themselves do not realise this while teaching their modules using the Moodle learning management system.

8.3.8 Learning Environment and Period (time)

The unprecedented Covid-19 pandemic and any other future unknown social challenge suggest further planning by universities to have an alternative non-face-to-face online learning. This eventuality was not planned; therefore, universities should amend their policies to accommodate the procedural off-campus learning environment. This will ensure proper planning when unprecedented events take place in future. Lecturers and students will know how and when online teaching will during such times.

8.3.9 Communal support

The use of passwords relates to substantial support; and relates to individual reflection. A requirement by the university is a policy issue on expert reflection. The free access while connected to the Internet relates to community reflection. The communal support therefore ensures that lecturers can prepare their work, communicate with students, upload slides, notes, assignments, conduct research, give instructions, and monitor students' progress. All of these work to the benefit of the students, university, and lecturers, which is in line with community, expert, and individual reflections, respectively.

8.4 Recommendations

8.4.1 Reflections

This understanding of levels of reflections should be passed on to students so as to enhance their profession, and also to relate to these reflections during their practice.

8.4.2 Moodle as a resource

The use of Moodle as a resource will also ensure continuous learning in a paperless state, especially during times where normal face-to-face learning cannot take place. This has been evident during the Covid-19 outbreak, where social distancing was the order of the day. Universities were closed down; which required that students and lecturers communicate using technology. The study suggests further research on feasibility of using other digital resources such as Microsoft teams, Skype, Zoom and other virtual systems for learning purposes.

8.4.3 Ambitions

The university and lecturers have been able to align the content, students' needs, and their teaching intentions with their practice.

8.4.4 Content in Moodle

Lecturers know that the content and levels of reflection imply that the university is doing enough on this aspect. However, it is recommended that the content taught at university be aligned with that taught at secondary school level. This is because schools feed universities, and universities provide schools or learning institutions with professionals who teach students. An observation is that the university content topics in Business Management, especially for students pursuing teaching as profession, differ from what they teach after completing their degrees. There a need for more in-service training at the workplace to remind practicing teachers of their secondary-school topics. This therefore requires universities or schools to align their content to bridge the content gap noticeable after tertiary education. This includes the introduction of students to CAPS policy documents while at university. Such will assist practicing teachers to understand that CAPS is a competence curriculum which is teacher-centred.

8.4.5 Evaluation

The individual evaluation of lecturers by students was also mentioned. Such is accomplished through evaluating Moodle for students to assess how lecturers teach and how the course is run. This suggests that the needs of students and the university are addressed. Further to that, it is recommended that lecturers use more of other evaluation types to cater for differing student needs. This will ensure that lecturers align their evaluation to teacher/content-centred and student-centred approaches which are applicable to content and lecturers' capacity, as components of curriculum pillars.

8.4.6 Learning tasks

The study therefore recommends more capacity building of lecturers on observation tasks. Such addresses individual reflection which has a bearing on the individual professional practice. Students can be observed performing observation tasks using various Moodle tools, such as discussion forums.

8.4.7 Lecturer's capacity

The university must capacitate lecturers, clarifying their roles, and further requiring them to do research on their roles; hence this addresses job description.

8.4.8 Learning environment and Period (time)

Further research should be undertaken on significance of learning environment and its impact on proper utilisation of university learning space.

8.4.9 Communal support

The substantial, monetary, and public support should be enforced by universities to ensure continuous online teaching and learning. This continuous online teaching and learning will take place even during the unprecedented situation such as Covid-19, which is beyond human control. Lecturers and students, therefore, should be provided with gadgets and data to use off campus and at homes while they cannot access the universities.

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ANNEXURE B: Ethical Clearance Letter

UNIVERSITY OF KWAZULU-NATAL ™

INYUYESI YAKWAZULU-NATALI

19 January 2017

Mr Sifiso Muhle Mlaba 213570073
School of Education
Edgewood Campus

Dear Mr Mlaba

Protocol reference number: HSS/1703/016D (LINKED TO HSS/1265/015)
Project Title: Exploring postgraduate lecturers' reflections using Moodle In teaching Business Studies at a South African University

Full Approval – Expedited Application

In response to your application received 11 October 2016, 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)
Humanities & Social Scinces Research Ethics Committee

/pm

cc Supervisor: Dr SB Khoza
cc. Academic Leader Research: Dr Thabo Msibi
cc. School Administrator: Ms Tyzer Khumolo
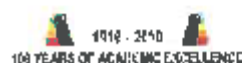
ANNEXURE B: Turnitin report

337

Abstract

This dissertation presents the qualitative action research study of four lecturers reflecting on the teaching the Business Studies or Management modules using the Moodle learning management system in a South African university. This study employed a critical methodological model. The main purpose of undertaking this study was to explore the lecturers' reflections when teaching Business Studies or Management modules using the Moodle learning management system in a South African university. Consequently, reflective activity, artefacts and one-on-one semi-structured interviews were employed in generate data generation, to confirm the process of triangulation during the exploration of lecturers' reflections. This study used non-probability sampling methods, comprising of purposive and convenience sampling. A group of four accessible lecturers with relevant experience and expertise in teaching Business Studies or Management modules was selected. The research project adopted guided inquiry to analyse data generated through the use of deductive and

ANNEXURE C: Gate Keepers Letter

UNIVERSITY OF ™
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

20 August 2015

Dr Simon Bheki Khoza
School of Education
College of Humanities
Edgewood Campus
UKZN
Email: khozas@ukzn.ac.za

Dear Dr Khoza

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) provided Ethical clearance has been obtained. We note the title of your research project is:

"University lecturers' reflections on the experiences of using Moodle in teaching postgraduate modules".

It is noted that you will be constituting your sample by handing out questionnaires and conducting interviews with Academic staff teaching postgraduate modules on all campuses.

Please ensure that the following appears on your notice/questionnaire:
* Ethical clearance number;
* Research title and details of the research, the researcher and the supervisor;
* Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
* gatekeepers approval by the Registrar.

Data collected must be treated with due confidentiality and anonymity.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book.

Yours sincerely

PROFESSOR D JAGANYI
REGISTRAR (ACTING)

ANNEXTURE D: Consent letter

<div align="center">

Box 281

Creighton

3263

</div>

Dear Participant

My name is Sifiso Muhle Mlaba. I am a PhD student studying at the University of KwaZulu-Natal, Edgewood campus, South Africa. I am interested in exploring lecturers' reflections on the use of Moodle to teach modules at a South African university. I have observed the use of Moodle in teaching modules varies among university lecturers irrespective of the DVC's intentions of phasing Moodle as mandatory for the maximum potential usage. Thus, I am doing an action research. This means that I will be also involved in this research. Therefore, to gather the information, I am interested in requesting any kind of relevant information seeking your reflections on the use of Moodle to teach modules.

Please note that:
• Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
• The interview may last for about 30 minutes, relevant documents will be analysed, and the reflective activity will be sent to you via e-mail.
• 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 you may receive as part of your participation in this research project;
• Data will be stored in secure storage and destroyed after 5 years.
• You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
• You are free to withdraw from the research at any time without any negative or undesirable consequences to yourself.

- Real names of the participants will not be used, but symbols such as A, B, C, D, and E will be used to represent your full name.
- 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	

This research project is supervised by Prof. S.B Khoza. His telephone number is (031) 260 7595 at the University of KwaZulu-Natal and his email address is khozas@ukzn.ac.za

Thank you for your support, co-operation and valuable time: Best wishes from

SM Mlaba

Ixopo

Tel. 039 797 3700

Cell: 083 542 2390

Email: Mlaba.sifiso@gmail.com

Please sign the following declaration and include your full names as indicated:

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

ANNEXURE E: Artefacts

Draw/provide/paste an artifact/object that you think it represents your **good practice** on the use of Moodle in teaching your module(s). Provide a brief explanation that gives a clarity or indicating your feelings based on the artifact.

Your Artifact One
Your brief explanation

Draw/provide/paste an artifact/object that you think it represents your **bad practice** on the use of Moodle in teaching your module(s). Provide a brief explanation that gives a clarity or indicating your feelings based on the artifact.

Your artifact Two
Your brief explanation

ANNEXURE F: Reflective Activity

Question 1	Why do you use Moodle to teach your module/why do you have an interest in the use of Moodle? (reasons/reflections)
Answer	
Question 2	What resources do you use when teaching a module using Moodle? (resources)
Question 3	How do you ensure justice when teaching your module using Moodle? (goals to be achieved/ambitions)
Question 4	What content are you teaching using Moodle? (content)
Question 5	How do you evaluate/assess your module using Moodle? (evaluation)
Question 6	What are the Moodle teaching tasks/activities do you use when teaching your module? (Moodle tasks/activities)
Question 7	How do you use Moodle when teaching your module? (lecturer's role/capacity)
Question 8	Where do you use Moodle when teaching your module? (learning environment/location)

Question 9	When do you use Moodle when teaching your module? (time/period)
Question 10	Are you permitted to use Moodle and how do you gain access to use Moodle to teach your module? (accessibility/communal support)

ANNEXURE G: One-on-one semi-structured interview

Question One:	*Why do you use Moodle to teach your module/ why do you have an interest in the use of Moodle? (Reasons/reflections)*
Sub-question	1. What community/informal rationale/reflection/reason that made you to use Moodle? 2. What expert/formal rationale/reflection/reason that made you to use Moodle? 4. What individual/personal rationale/reflection/reason that made you to use Moodle?

Question Two	*What resources do you use when teaching a module using Moodle? (Resources)*
Sub-question	1. What software resources do you use when teaching using Moodle? 2. What hardware resources do you use when teaching using Moodle? 3. Which learning theories or theories that guides your teaching when using Moodle?

Question Three:	*How do you ensure justice when teaching your module using Moodle? (goals/ambitions to be achieved)*
Sub-question	1. What are your aims of using Moodle? 2. What are the objectives of using Moodle? 3. What are the student intentions in the use of Moodle? (outcomes)

Question Four:	*What content are you teaching using Moodle? (content)*
Sub-question	What module content do you cover when using Moodle? *(you can provide me with the module outline)*

Question Five:	How do you evaluate your module using Moodle? (evaluation/assessment)
Sub-question	1. What Moodle activities do you use during evaluation/assessment for learning? 2. What Moodle activities do you use during evaluation/assessment as learning? 3. What Moodle activities do you use during evaluation/assessment of learning?

Question Six:	*What are Moodle teaching activities do you use when teaching your module? (Moodle activities)*
Sub-question	1. What Moodle activities do you use to engage students? 2. What Moodle activities do you use in to unpack the content? 3. What Moodle activities do you use in to ensure the attendance of students in your lecture?

Question Seven:	*How do you perceive your character when using Moodle? (lecturers' role)*
Sub-question	1.Is your role appear as the instructor (trainer), assessor (scientist) or facilitator (coordinator) when using Moodle?

Question Eight:	*Where do you use Moodle when teaching your module? (location/ learning environment)*
Sub-question	Which learning environment is most conducive for you to use Moodle? 1. Lecture halls (specified) 2. Office (closed) 3. Home (open)?

Question Nine:	When do you use Moodle when teaching your module? (period/time)
Sub-question	Which period is most suitable for you to use Moodle: 1. Spare time (flexible period) 2. During working (fixed period) 3. After work (consensus period)

Question Ten:	*Are you permitted to use Moodle and how do you gain access to use Moodle to teach your modules? (accessibility/ communal support)*
Sub-question	1. Do you have any cost implications in the use of Moodle? (Monetary cost) 2. How do you access the use of Moodle? (Physical/substantial ability) 3. Is the any cultural influence when using Moodle? (Public/societal influence)

ANNEXTURE H: Letter of editor

Lydia Weight
NTSD English Specialist
SACE No: 11135129

E-mail: lydiaweight@gmail.com

Pinpoint Proofreading Services

40 Ridge Rd

Kloof

Durban

3610

24 May 2020

To whom it may concern

This is to certify that I, Lydia Weight, have proofread the document titled: Exploring postgraduate lecturers' reflections on using Moodle in teaching Business Studies/Management at a South African University by Sifiso Mlaba. I have made all the necessary corrections. The document is therefore, ready for presentation to the destined authority.

Yours faithfully

L. Weight