INTEGRATING TECHNOLOGY IN TERTIARY LEVEL ENGLISH LANGUAGE PROGRAMMES: CASE STUDIES OF MOODLE LEARNING ENVIRONMENTS

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ABSTRACT

While the potential of technology to enhance language pedagogy has been realised in some English language learning environments, there are contexts in which its use has failed to achieve its promise. Teachers' use of technology has also often been described as uneven or limited with the tendency of technology to be used on the periphery or on an 'ad hoc' basis. These gaps have provided the basis for this doctoral level study to investigate the integration of Moodle into English language programmes offered at two tertiary institutions in New Zealand. This study adopted the concept of "normalisation" (Bax, 2000, 2003) as the research perspective.

The conceptual framework for the research was developed based on five areas that explored teacher learning and thinking, and how these processes interacted with the complexities in the educational environment. The framework consists of technological pedagogical content knowledge (TPACK), sociocultural theory as applied to teacher learning, Activity Theory, language pedagogy, and the challenges of integrating technology in the context of tertiary-level English language classrooms.

The research followed a qualitative case study design. The English language programme was planned as the boundary for each case. Data collection involved the use of semi-structured interviews, classroom observations, and work-together sessions, which were conducted at the two case study sites. The main participants included teachers, with participation from students and other key informants. Data were collected over a period of twelve weeks in case study site one and eighteen weeks at site two. All data were thematically analysed using an inductive approach.

The findings from each case study were reported based on three categories in the Activity Theory framework: the object of the activity (its purpose), division of labour, and rules. The analysis of the findings in case study site one revealed one purpose (object) for using Moodle in the tertiary level English language programme, which was to use text-based, asynchronous activities to prepare the

students to speak in the classroom and develop their speaking skills. However, at case study site two, two purposes (objects) for Moodle use were identified. These were to use text-based, asynchronous activities to prepare the students to speak in the classroom to develop their speaking skills and to provide them with a bank of text-based resources for language learning. This unanticipated finding challenged the notion of the language programme as the boundary for a case and resulted in each purpose (object) functioning instead as a boundary for a case study. The result was that the single case study at site two was analysed and is reported as two case studies. The findings also revealed how the teachers interacted with their students and the relationships between the teachers (division of labour). The teachers experienced tensions within the existing practices and policies (rules) at each case study site.

Three key themes emerged from the findings. The first was that the teachers lacked a valid and clear conceptualisation of the purpose (object) for using Moodle. This theme illustrates the importance of a language syllabus, teachers' pedagogical content knowledge for effective language pedagogy, and task-based language learning. The second theme concerned the teachers' conceptualisation of the role of technology in realising the purpose (improvement of speaking competence and availability of resources for language learning). The role of Moodle in scaffolding students' learning to realise the object and the misconception that teaching in the online environment is the same as teaching in the face-to-face in the classroom are discussed. The third theme related to the individual teacher in the context of a learning community, especially the teacher's responsiveness to innovation and the uptake of opportunities for professional learning.

This research suggests three important factors that should be explicitly considered when integrating technology into tertiary English language programmes: teacher development, the language syllabus, and the learning community. All of these factors relate, are interconnected, and need to be considered in order for technology to be normalised in English language programmes and for the potential of technology to be realised in practice.

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-I can do all things through Christ who strengthens me-

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"We have a right to believe whatever we want, but not everything we believe is right." - Ravi Zacharias

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CHAPTER ONE: INTRODUCTION

1.0 Overview

While the potential of technology to enhance language pedagogy has been realised in some English language learning environments, there are contexts in which its use has failed to achieve its promise. Teachers' use of technology has also often been described as uneven or limited with the tendency of technology to be used on the periphery or on an 'ad hoc' basis. These gaps have provided the basis for this doctoral level study to investigate the integration of Moodle into English language programmes at two tertiary institutions in New Zealand. This chapter explains the concept of "normalisation" (Bax, 2000, 2003) used in this study and explored issues related to teachers, and the use of Moodle in the English language classrooms. Key terminologies used in this study are further described followed by a description on the structure of this thesis. The chapter ends with a summary of the main issues covered.

1.1 Background

Technology has the potential to support learning activities in the English language classroom. Studies have indicated that students can be supported in their learning of vocabulary through audio-visual technology (Cross, 2011; Prince, 2012) as well as captioned audio-visual and visual technology (Sydorenko, 2010). Providing students with the opportunity to interact in cyberspace can encourage their production of language output (Acar & Kobayashi, 2011) and support them to share, adapt, and create meaning through their interaction with web-based reading materials (Jalkanen & Vaarala, 2013). The use of web-based search engines can also help students notice and enhance their grammar for writing, (Acar, Geluso, & Shiki, 2011) and their speaking performance can be enhanced through the use of computer games (Franciosi, 2011; Sagae, Kumar, & Johnson, 2009). Thus, technology has the potential to support the learning and development of the four language skills (listening, reading, writing, and speaking) as well as vocabulary (Levy, 2009).

However, the potential of technology has not always been realised in some educational environments, as is evident in the educational technology literature

(Convery, 2009; Johnson & Walker 2007; Zhao & Frank, 2003). Various factors have been cited as posing obstacles to the use of technology in English language learning environments. Among them are the limited time available to use technology in the classroom (Barge, 2009; Kessler & Plakans, 2008; Kim & Rissel, 2008), the lack of access to technological infrastructure (Ebsworth, Kim, & Klein, 2010; Karabulut, 2013), the lack of training for teachers to use technology (Granshaw, 2010; Kessler, 2006, 2007; Vanderplank, 2010), and limited administrative support to use technology in the classroom (Convery, 2009; Garrett, 2009; Inan & Lowther, 2010). Often one of these factors is considered solely responsible for technology failing to achieve its promise in some English language learning classrooms.

This failure of technology to realise its potential in English language learning environments strongly suggests a need to consider the context in which technology is used. The teachers' use of technology in English language classrooms also needs to be taken into account. Both aspects are discussed in the following sections.

1.1.1 The Complexity of the Classroom Environment

The classroom environment is complex, but that complexity is seldom described by research exploring the integration of technology into teaching and learning (Schussler, Poole, Whitlock, & Evertson, 2007; Egbert, Huff, McNeil, Preuss, & Sellen, 2009). There are a myriad of human and the social factors that are part of this complex environment and contribute to it. Social factors include the institutional infrastructure, curriculum, and teachers' professional development, while human factors concern the teachers, programme and institutional administrators, as well as students. Each factor does not operate in isolation, but interconnects, relates, and grows out of others, and can promote or impede the use of technology in the educational environment (Blin & Munro, 2008; Chambers & Bax, 2006; Schussler et al., 2007). In fact, the classroom can be aptly described as a complex activity system.

Research investigating the integration of technology into teaching and learning must acknowledge the complex relationships between different factors in the classroom in order to more fully understand the use of technology in tertiary level English language programmes in classrooms. Such an approach will enable researchers to consider the multiple interacting activities and factors that can shape the use of technology in teaching (Chambers & Bax, 2006). This can also help avoid a sole focus on technology as the means to address the issues in the classroom (Bax, 2000). A broad-based approach also enables researchers to "include attention to the sociocultural dimensions" (Chambers & Bax, 2006, p. 467) to reveal the norms or values, which are inherent in particular classroom contexts. Focussing on complexity in the educational context enables researchers to not only inform practice within an immediate instructional programme, but more broadly in other contexts as well.

1.1.2 The English Language Teacher

There is evidence that language teachers do not always use technology in ways that can affect classroom language learning. While they are able to use applications such as email, word processing, or the Internet, such usage is mainly for personal purposes and seldom applied to classroom pedagogy (Garrett, 2009). In instances where teachers are using technology in the classroom, it is often described as being uneven or limited with the tendency to use it on the periphery or on ad hoc basis (Del Puerto & Gamboa, 2009; Guichon & Hauck, 2011; Kim & Rissel, 2008).

Obtaining insights into teachers' conceptions about technology and the value they attach to its role in serving classroom pedagogical needs can be a challenge (Blake, 2013; Hong 2010; Weibe & Kabata, 2010). The lack of such insights hinders our understanding of the activities that shape and are shaped by teachers' use of technology as they work within the sociocultural milieu of the classroom. Investigating the integration of technology should thus involve teachers using it on a regular basis, which could enable researchers to offer "a broad and balanced analysis of the various factors and their interaction" (Chambers & Bax, 2006, p. 467).

1.2 The Research Perspective

1.2.1 The Context for this Study

This study was conducted in two tertiary institutions labelled as Site A and Site B, each offering English language programmes in New Zealand. The quality of New Zealand education attracted the researcher's interest to pursue doctoral level study in the country. New Zealand is a popular destination for many international students pursuing tertiary level qualifications. For example, in 2011, the total enrolment of international students in New Zealand exceeded 82,000 (New Zealand Ministry of Education, 2012). International education is New Zealand's fifth biggest export with a value worth NZD$ 2.5 billion annually (Gooch, 2012; ICEF Monitor, 2012). However, not all international students are eligible to enrol directly into tertiary programmes of their choice despite their existing academic qualifications, as they are unable to fulfil an English language requirement. This requirement involves demonstrating evidence of English language proficiency through general standardised proficiency tests, such as the International English Language Testing System (IELTS) or the Test of English as a Foreign Language (TOEFL). For these students, tertiary institutions provide an alternative pathway by offering English language programmes to develop their language proficiency.

The researcher was located in a metropolitan city in New Zealand. The two local tertiary institutions provided the convenience sample case study sites for the research. During familiarisation visits, which included conversations with the administrators and teachers in each language programme, it was observed that each institution was equipped with a technological infrastructure such as multimedia-networked computers in computer laboratories and wireless connectivity across campus. The teachers were also provided with a multimedia networked PC desktop at their workstations.

It was also found that a learning management system (LMS) known as Moodle (Modular Object-Oriented Dynamic Learning Environment) had been adopted and supported at both institutions. All teachers were encouraged to use Moodle in the delivery of the English language programme. The researcher was thus interested to investigate how the teachers considered using Moodle as part of their English

language classroom learning activities. At both study sites, there were indications (from observations and conversations with teaching staff) that Moodle was used by most, but not all teachers. The LMS mainly functioned to provide the students with online versions of programme outlines and classroom based worksheets. Such use suggested that Moodle did not play an integral role as part of classroom learning activities. This state of practice prompted the researcher to adopt the concept of "normalisation" which also forms part of the research perspective and is briefly described in the following section.

1.2.2 Normalisation

This study adopted the concept of "normalisation" which was first introduced by Bax (2000) to investigate the integration of technology into tertiary-level English language teaching. As defined by Bax (2003), normalisation involves "the stage when technology becomes invisible, embedded in everyday practice and hence 'normalised'" (p. 23). The state of normalisation is achieved when teachers and students use technology as a learning resource on a daily basis as an integral part of every lesson (Bax, 2003). The concept of normalisation implies that supportive conditions exist, that is, technological resources are widely available within an educational environment, and teachers have had some training in using them. There are multiple educational technologies in an educational environment, which could be effective for language learning. One of these educational technologies which has become commonplace in most English language classrooms is the computer. Despite its ubiquity, Bax (2000, 2003) observed that in most language teaching environments teachers' use of the computer in the language classroom has yet to achieve the stage and state of normalisation.

The concept of normalisation has been adopted by a number of studies since its inception. Normalisation was regarded as a valuable, practical approach to work towards and a way to appreciate the complex educational environment consisting of a system of opportunities and constraints in which teachers functioned (Levy & Stockwell, 2006). One seminal study adopting this concept investigated two English as Foreign Language (EFL) tertiary level contexts to identify obstacles to normalisation and ways to overcome them by considering four categories:

logistics, consideration of stakeholders' knowledge, integration of CALL into the syllabus, and training and support for teachers (Chambers & Bax, 2006). The study indicated several key features for achieving normalisation and how the findings could address the integration of technology similar contexts (Chambers & Bax, 2006). Normalisation was adopted as an indicator of the extent to which educational institutions integrated technology in their language programmes (Ioannou-Georgiou, 2006; Kennedy & Levy, 2009). The role of technology in language learning was also discussed based on the concept of normalisation by a number of other researchers (Allford & Pachler, 2007; Davies, Rendall, Walker, & Hewer, 2009; Hansson, 2008). Other studies have applied the concept to study the use of Interactive Whiteboards (Cutrim Schmidt, 2008), podcasting (O'Bryan & Hegelehimer, 2007), and telecollaboration (O'Dowd, 2010) in language classrooms.

One of the factors that appeared to constrain normalisation is teachers' fear of, and apprehension toward, computers (Bax, 2000, 2003). There is a need to move teachers away from this sense of fear and anxiety, so as to enable them to embrace technology as a learning resource through daily use. By setting normalisation as the goal for teachers to work towards, Bax (2003) believes that the adoption of this concept potentially serves to, "identify the critical factors which normalisation requires" (p. 24) to inform practice within the immediate contexts as well as other similar language learning environments.

In urging teachers to work towards the state of normalisation, Bax (2003) maintains that computers and other educational technologies need to be considered as key learning resources in the classroom. Educational technology, as with other learning resources such as the course book, whiteboard, pen, and paper, needs to be carefully considered when used as part of classroom learning. The needs of the learners must first be carefully examined to determine how the computer as one form of educational technology can be used as an integral part of a lesson to serve those needs. This perspective of educational technology as a learning resource positions the computer as a tool to mediate learning (Kaptelinin & Nardi, 2006; Murphy, Walker, & Webb, 2001) where it is used regularly by teachers with the purpose of serving classroom learning needs.

Approaching the use of computers from a tool-mediated perspective enables teachers to dedicate their time to lesson planning as they decide how, when, and where computers could be used in a lesson should they decide to use them. Making such decisions requires that teachers take into consideration factors related to their classroom and the wider institutional environment. These factors involve their methodology, the structure of the language programme, the language learners, the availability of technological infrastructure, the institutional administration and policy, as well as the technology training they have received. How teachers consider each issue as they plan a lesson to include the computer as a learning resource provides insights into their thinking and decision-making process, as well as the challenges they have to face in the process. Such conceptions reflect how they engage with their complex instructional environment and reveal how their use of computers has been shaped, and informed by such interaction. As observed by Chambers and Bax (2006), the interactions between both the human and social factors are significant in determining the success, or failure of integrating technology in classroom teaching. Bax (2003) also argues that normalisation provides a goal to which teachers and institutions could work.

Eleven years since its inception, Bax (2011) revisited the concept of normalisation having realised the need to elaborate further on its theoretical base to provide further clarification. The concept was further enhanced by drawing on the literature on the history of sociotechnical innovation (Bijker, 1997) which reinforced the need to avoid simplistic views on the powerful potential of technology as the sole factor in determining technology's effectiveness (Bax, 2011). The theoretical basis for normalisation was further strengthened based on the neo-Vygotskian conceptual framework to consider "the importance of the social and cultural, as opposed to the purely individual… to understand the processes of normalisation" (Bax, 2011, p. 6). One major implication of the revisited concept is that when trying to understand a language teacher's contemplation on using a technological software or hardware, research should consider the sociocultural aspects when investigating the process of normalisation as it,

> should start from the standpoint that such a teacher is not to be conceived of as a 'sole agent' operating in isolation, deciding by her or his own volition whether or not to use that technology in the classroom, but as a social creature enveloped in and profoundly influenced by a mesh of wider cultural and human forces. (Bax, 2011, p. 8)

This re-examined concept further motivated the researcher to adopt the concept of normalisation by taking into account not only the technology or the teacher, but also the sociocultural conditions in the two tertiary institutions investigated. This all-inclusive perspective provided a basis to inform the aim for this research, which is described next.

1.2.3 Research Aim

The main aim of this research was to explore the use of Moodle in the two tertiary level English language programmes. This aim is guided by the following research questions.

- How did Moodle support classroom English language learning?
- What were the challenges of using Moodle in the two programmes?
- How could the challenges be addressed in the context of both programmes?

The research aim and questions further provided a basis for developing a conceptual framework relevant to this research. The aim and questions concern the teacher who plays a vital role in using technology in the language classroom and the context of the English language classroom. Both these aspects are briefly described next.

1.2.3 The Teacher and Technology

The teacher plays an important role in the language classroom. As such their conceptions of technology and how it should be used as part of classroom learning activities need to be considered. Their conceptions are examined through the Technological, Pedagogical, and Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) that addresses the interplay between the components of knowledge. Briefly, this framework considers the interactions that occur between

the three forms of knowledge (technology, pedagogy, content) and identifies the essential qualities of teacher knowledge that are required when teachers integrate technology in their pedagogical practices. Details of this framework are further described in the ensuing chapter.

Further, how teachers think and develop as they use technology in the classroom also needs to be considered. There are social and cultural aspects within the classroom environment that can interact with teachers' learning and practices, and can affect teachers' knowledge in integrating technology. Teacher learning is thus examined from the perspective of sociocultural theory. It concerns four interrelated principles, which are particularly relevant to this research. These principles concern teacher learning. Teaching learning is mediated; it is situated activity; it is goal-directed; and it involves participation in a community. These principles are further explained in the next chapter.

Adopting a sociocultural perspective of learning further provided a basis to adopt Activity Theory. Briefly, Activity Theory functions as a lens to interpret human activities as a developmental process interlinking both the level of the individual and the community within the activity system. At the level of the individual, the focus is on the subject who is the teacher and what he/she does when using a tool such as the computer to realise the object of the classroom learning activity such as learning a grammar point, and how that use affects the teacher and the outcome of the learning activity.

At the level of the community, other individuals such as students, fellow teachers, programme administrators, and technology personnel affect the teachers' use of the tool to realise the object. A division of labour exists within this community, which reflects how the roles and responsibilities are shared and distributed among them. The relationship between the English teacher and this community was mediated by the shared tool (the computer). Within the classroom environment, practices, norms, and policies such as classroom scheduling, assessment practices and requirements, and the course curriculum can constrain the teachers' actions when using the tool and their interactions with the community.

Thus, both the level of the individual and the community within the activity system are linked together through the teachers' use of the tool and these shape the outcome of the classroom learning activity. Activity Theory is an interpretive framework that is useful to explore and understand how the English language teachers in the context of this research integrated Moodle into their regular classroom learning activities. A detailed discussion of Activity Theory is provided in the following chapter.

1.2.4 The English Language Classroom

Context plays an important role in research as it locates and focuses it (Bryman, 2008). The context for this research was the classroom English language-learning environment in which teachers operated. As language learning is a complex and social process, teachers need to create conditions that can facilitate their students' language development through the classroom activities. These conditions can be created by providing learners with extensive and rich personalised language input, sufficient opportunities to produce output particularly in the context of interaction, and feedback on the learner's comprehension of input and production of output to enable them the opportunities to learn and participate in language learning. Various technology resources can be used to support teachers to create these conditions in the classroom-learning environment.

Although technology offers much potential to support conditions to facilitate classroom English language learning, other factors challenge the use of technology as an integral part of classroom learning activities. These factors are related to issues surrounding the access to technology, the conceptions, knowledge, and abilities of stakeholders particularly language teachers in their use of technology, the difficulties in integrating technology in the syllabus of language programmes, and the lack of training and development to support teachers' use of technology in the classroom learning environment. These challenges add to the complexity of the classroom environment and are part of the issues in the wider educational environment. Thus, these challenges are interconnected, related, and emerge from the complexities that occur in the classroom learning environment.

To investigate the challenges associated with the integration of Moodle in the tertiary level English language programmes in this research, the study employed a qualitative research framework, as is briefly explained next.

1.2.5 The Design of the Study

This study was qualitative and adopted a case study methodology. Data collection involved the use of semi-structured interviews, classroom observations, and work-together sessions. Work-together sessions involved the researcher sitting beside a teacher to provide verbal guidance on how to use the features of a piece of technology, which in this case was Moodle. The data at each institution were collected over a period of one teaching block at each tertiary institution offering the English Language programme. A teaching block differed from one site to another. At Site A, data were collected for a period of 12 weeks while at Site B data were gathered over a period of 18 weeks. The main participants included teachers, with participation from students and other key informants. The English language programme was the boundary for a case.

A total of five teachers took part in this study with three teachers from Site A and two teachers from Site B. Each teacher participated in a series of interviews and was observed in their respective classrooms. They also worked together with the researcher to plan a Moodle-based activity for their English language classroom lesson. The students from the classes taught by each teacher participant took part in focus group interviews. Key informants consisting of administrators of each English Language programme and Moodle support staff participated in individual interviews.

The teachers who participated in this study at both sites expressed their intention to use computers in their instruction. In particular, they were interested in exploring Moodle, which had been adopted and supported at both institutions. The teachers identified particular learning activities that they wanted to make available to their students on Moodle and intended to use them as part of their classroom

teaching and learning practices. The researcher worked with the interested English language teachers to make these activities available on Moodle.

1.2.6 Moodle

Moodle is a template-based system, and teachers or students can add content to it through the use of the features such as assignment submission, forum, quiz, and wiki. The systems also support a number of plugins such as enrolment methods, resource types, activities, and graphical themes. In the context of tertiary education, Moodle has been widely used as part of eLearning initiatives (Corich, 2005; Lane, 2008; Sausner, 2005). The Moodle Web site reports registered use of it in 239 countries with over 87,084 sites (http://moodle.org/). In New Zealand, an increasing number of tertiary level institutions use Moodle in their academic programmes (Corich, 2005; Mackintosh, 2012; Wyles, 2006).

Moodle's design was influenced by a socio-constructivist pedagogical orientation as it encourages discovery and inquiry-based learning. The use of Moodle, either on a standalone basis or as an addition to existing classrooms instruction can support collaborative interaction among learners (Brandl, 2005). Such assumed capability augurs well for interactive language teaching, which may also seek to integrate online learning tools such as computer-mediated communication (CMC) in developing communicative skills (Cziko & Park, 2003; González-Lloret, 2003). Moodle appears to be a suitable learning environment for language teachers as it offers the flexibility to explore ways in which computers can be integrated into instructional practices.

The use of Moodle has been explored as a convenient system that can support English language learning. A study conducted by Stanley (2007) investigated how Moodle could be used to support EFL students' learning of vocabulary in a tertiary level Intensive Reading course. The purpose of Stanley's study was to construct a student-generated glossary that would provide the students with information about the relevant vocabulary items and how these items were used in different contexts to encourage them to use the glossary to view new words. The use of Moodle supported this purpose as it enabled the students to control their

own learning, gave them a space to access new and important vocabulary at their convenience, and provided them with opportunities to learn beyond the classroom (Stanley, 2007). Dunne (2009) utilised the quiz and lesson modules in Moodle in a tertiary level English language writing course to assist learners in their learning of grammar to enhance their ability to effectively edit their papers. That study employed quantitative statistical analysis, which revealed that students who utilised the Moodle-based resources became better able to repair grammatical errors in their papers (Dunne, 2009). Further, Hirschel (2012) investigated EFL students' perspectives toward using technology in language learning through the use of three Moodle applications, which consisted of the quiz, forum, and glossary. The action research study was aimed at investigating students' views about these applications in terms of the provision of affordances, noticing, and comprehensible input. The students were appreciative of all three applications particularly the forum as it supported comprehensible output and interaction, and also the quiz as it challenged their understanding of terms and concepts.

This study likewise also concerns the integration of technology with a focus on the use of Moodle, and does so in two tertiary English language programmes in the context of New Zealand.

1.3 Terminology

Throughout this study, particular key terms are used to indicate concepts relevant and applicable to this research. These terms are:

Technology - The term technology as used in this study refers to devices such as computers, laptops, tablets, mobile phones, iPads, iPods, Interactive Whiteboards and any electronic devices that are either networked or non-networked, which are used solely for teaching and learning purposes. The term technology is used to refer to these devices as well as their related applications and software.

Online Learning Environment - This term refers to an interactive virtual space that enables users to connect synchronously and/or asynchronously for purposes of learning. In this space, users can access links to learning resources, download

learning materials, upload assignments for submission, and participate in activities such as discussions and quizzes.

Learning Management Systems - A Learning Management Systems (LMS) is a type of structured online learning environment that is designed to support the web-based delivery of learning for on-campus as well as off-campus learners. An LMS can support a variety of learning contexts from face-to-face classrooms to fully online courses. LMS consists of features that support a variety of resources and activities also known as plug-ins, which allow teachers to upload, organise, and disseminate course content, enable asynchronous or synchronous communication and collaboration between learners and teachers, and create learning materials. In the context of this study, the term LMS refers specifically to Moodle and is used interchangeably with it.

1.4 Structure of the Thesis

This thesis consists of eight chapters. This introductory chapter provides an overview of the study. Chapter Two presents the conceptual framework, which concerns teacher knowledge, sociocultural theory, and Activity Theory. Following this, the next chapter continues with a review of the relevant literature. The areas in this review concern studies related to the use of Activity Theory, language pedagogy, and the challenges to technology integration. Chapter Four describes and justifies the qualitative research framework used in the research, based on contextual and theoretical considerations. Details of the two study sites are also provided. Data collection and analysis methods are described and the criteria that were used to establish rigour in the study are explained.

The findings of this study are presented in Chapters Five and Six. Chapter Five reports the findings from the Study Site A based on the categories in Activity Theory. The categories relate to the purpose (object) for using Moodle in the English language programme, the teachers' interactions with their students and the teachers' relationship with one another (division of labour), and their reactions to the policies and practices (rules) in the educational environment that conflicted

with their use of Moodle. Chapter Six presents the findings from Study Site B which is also based on the categories in Activity Theory.

Chapter Seven discusses the findings of the study based on the three key themes that emerged from the data. The themes are the teachers' conceptualisation of the object, the mediation of the tool in relation to the object, and the individual teacher in the context of a learning community. Chapter Eight provides the implications and conclusion to this study. The discussion is based on three important factors that should be considered to achieve the state of technology normalisation. These factors include teacher development, language syllabus, and the learning community. The chapter concludes by describing the limitations of this study, suggestions for future research, and concluding remarks.

1.5 Chapter Summary

This chapter has provided a general view and direction for this doctoral level study, which concerned the integration of technology in English language learning environments. Although technology is able to enhance language pedagogy, there are contexts in which its use has failed to achieve its promise. There is a need to consider the complexity of the language-learning environment and the inconsistency in using technology among teachers for classroom learning purposes. To address these gaps, the research investigated two tertiary language programmes using Moodle in the context of New Zealand based on the concept of normalisation.

This research was aimed at investigating the integration of Moodle in each tertiary level English language programme by considering the complexity of the classroom language-learning environment and the teachers' use of technology. Both aspects contributed to the development of a conceptual framework for this study. The design for this study was qualitative and adopted a case study methodology. The main participants included teachers, with participation from students and other key informants.

CHAPTER TWO: THE CONCEPTUAL FRAMEWORK

2.0 Overview

This chapter presents the conceptual framework, which guided and informed the research. The framework consists of three main areas – Teacher knowledge, sociocultural theory as applied to teacher learning, and Activity Theory. The first area concerns issues related to teachers and technology, and addresses teacher knowledge based on the Technological Pedagogical Content Knowledge (TPACK) framework. The second area focuses on teacher learning from the perspective of sociocultural theory. The focus on sociocultural theory provides a basis for using Activity Theory, which is the third area of the conceptual framework. The chapter ends with a summary of the main issues covered.

2.1 Teachers and Technology

Teachers play an essential role in the language classroom as they determine the learning needs of the students and how these needs can be approached through instructional activities. They are responsible for delivering the subject matter and in deciding the most appropriate teaching methods to facilitate student learning. With the introduction and developments in technology, teachers are increasingly expected to use it in their classroom teaching (Blake, 2013; Egbert et al., 2009; Gruba & Hinkelman, 2012). Technology offers teachers the potential to enhance their instructional delivery through the use of various software and hardware tools to better engage their students in classroom learning (Cox, 2012; Garrett, 2009; Levy, 2009). In the context of language learning there is no longer debate on *whether* technology should be used (Kern, 2006; Selwyn, 2012), as its use so clearly augments the teaching and learning of the language skills, grammar, and vocabulary (Cox, 2012; Sarica & Cavus, 2009; Zou, 2013). It provides language teachers with a wider range of instructional options in the classroom (Oliver, 2011; Stockwell, 2007).

However, despite studies highlighting the potential of integrating technology in teaching, the educational technology research literature is replete with examples of how technological potential has yet to be realised in practice (Baker, Bernard, & Dumez-Féroc, 2012; Voogt, Erstad, Dede, & Mishra, 2013). Although teachers

use email, word processing, Power Point, and the Internet, their use of technology seems to be limited to enhancing existing practices rather than extending and changing what they do (Conlon, 2004; Garrett, 2009; Schroeder, Minocha, & Schneider, 2010). Technology has been largely used to transmit knowledge and information and is often employed in a disconnected or peripheral way (Bates, 2010; Lai, Khaddage, & Knezek, 2013; Selwyn, 2007).

Teachers frequently lack the knowledge of how to integrate technology in classroom activities (Compton, 2009; Toetenel, 2014; Zou, 2013). There is a tendency to use technology because of its novelty factor rather than to serve classroom pedagogical goals. This approach has resulted in the emergence of "new possibilities in pedagogy" and these pedagogical ideas have contributed to "new developments in technology" (Stockwell, 2007, p. 118). For example developments in Internet-based communication technologies have contributed to the growth of new instructional approaches utilising computer-mediated communication (CMC), which were not possible prior to the technology (Stockwell, 2007).

CMC refers to communication facilitated over the World Wide Web. This online based communication involves text based communication (email, discussion boards), audio-visual communication (Skype, video conferencing), and a variety of online tools available in social networking sites (Facebook), virtual realities (Second Life), and gaming sites (Goertler, 2009; Lafford & Lafford, 2005). CMC is divided into synchronous and asynchronous forms of online communication. Synchronous CMC is instantaneous and real time where interlocutors are present online as the same time to give and expect immediate virtual response from one another in either text based or audio visual forms or both. In contrast tosynchronous CMC, asynchronous CMC which is mainly text based communication, does not involve real time immediate communication as users are not required to be present online at the same time and thus, there is a delay in the communication between the time a message is sent and when it is received (Abrams, 2006; Razagifard, 2013; Smith, 2004).

Foreign/second language learners can now instantaneously communicate with native speakers across the globe through "a text-based "script" of the chat

conversation…for review or correction" (Stockwell, 2007, p. 118). Stockwell (2007) observes that technology has contributed to the growth of new pedagogy and vice versa, and describes this relationship as "a *symbiotic* one, where they are mutually dependent upon each other, potentially to their benefit, but also potentially to their detriment" (p. 118, emphasis in original). As such, the potential of technology remains unrealised as the teachers' use and knowledge of it does not reflect the "dynamic complex in which technology, theory, and pedagogy are inseparably interwoven" (Garrett, 2009, p. 720).

Further, the adoption of online learning technology has often been considered as a remedy for the problems in education. In the field of higher education in particular, the use of online learning applications such as LMS for example Moodle and Blackboard, enable learners to communicate with each other and their teachers, participate in learning activities, and access learning materials in asynchronous and/or synchronous ways. As online learning technology has been considered effective for delivering instruction and supporting learning in more effective ways than the conventional face-to-face learning approaches, (Pachler & Daly, 2011) it is often regarded as a cost effective measure for teaching (Garrote & Pettersson, 2011; Klobas & McGill, 2010; Selwyn, 2007). It also offers the promise of expanding opportunities for lifelong and flexible learning (Agostinho, Bennett, Lockyer, & Jones, 2013; Blin & Munro, 2008; Kukulska-Hulme & Traxler, 2013).

More recently, the creation of Massive Open Online Courses (MOOCs) offers learners unlimited participation and open access via the World Wide Web. MOOCs bring together a community of users who are interested in learning and experts who are interested in facilitating the learning (Liyanagunawardena, Adams, & Williams, 2013). Users are provided with a set of freely accessible resources which including video and reading materials, and participate in interactive forums. MOOCs enable users to participate by providing spaces for collaboration, which consist of different platforms, applications, and technologies (Kolukuluri, 2013; Kop, 2011). However, despite the optimism for online learning, the potential in many classroom learning contexts have yet to come to fruition. There are contexts where there is little evidence to suggest that the use of

online learning technology has made significant impacts in enhancing learning (Power & Morven-Gould, 2011).

Technology is certainly not impartial (Karlström & Lundin, 2013; Steel, 2009) and offers affordances and constraints in the instructional environment. The concept of affordance can be traced to Gibson (1979) who considered it to be based on an environmental perspective – "the *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill" (p. 127, italics in original). This view of affordance is binary that is it either exists or otherwise. For example a staircase is for climbing and whether it can be climbed easily or with difficulty is not considered. Thus, an affordance exists independently and is not related to perception.

Norman (1988) on the other hand, considers affordance as real and also perceived. Affordance is closely connected to past knowledge, experience, or culture of the actor which can cause an action to be either difficult or easy (Norman, 1988). For example a chair provides support and therefore enables a person to sit on it, but it can also be carried or placed against a door for added security. Norman's concept of affordance when applied to Human Computer Interaction (HCI) however is considered ambiguous resulting in widely varying uses of the concept (McGrenere & Ho, 2000). McGrenere & Ho (2000) argue strongly for a need to return to the definition provided by Gibson (1979), as they believed that affordances need to be separated from perception. This shift would enable the concept to be solidified to enable researchers and practitioners to clearly differentiate between the utility and usability of an object (McGrenere & Ho, 2000). The authors also argue for the need to incorporate "the notion of varying degrees of an affordance" in Gibson's earlier concept (McGrenere & Ho, 2000, p. 8).

The concept of affordance was further described by Hutchby (2001), as having functional, relational, and cultural aspects. The functional aspect of affordances consist of properties that "allow certain actions to be readily performed with them, and which therefore push behaviour in certain directions" (Tolmie & Boyle, 2000, p. 120). In terms of the relational aspect, the affordances of an object may differ for different users. Affordances can also be shaped by cultural factors. Objects

can be associated with values and conventions, which can determine how they are used. Affordances do not necessarily have to be based on the natural characteristics of an object (Hutchby, 2001).

Since the inception of Gibson's (1979) concept of affordance, diverse interpretations of it have emerged. These interpretations however, have not only extended beyond Gibson's (1979) view but are also essentially incompatible with it (Kaptelinin & Nardi, 2012). While the Gibsonian view offers some important insights, it has limited relevance to HCI (Kaptelinin & Nardi, 2012). Kaptelinin and Nardi (2012) argue for a need to consider technology affordance from a mediated action perspective. This perspective adopts a Vygotskian sociocultural approach that is concerned with human activities and minds as "mediated by culturally developed tools, including technology" (Kaptelinin & Nardi, 2012, p. 971). Technology affordances based on this perspective is thus considered as involving a three-way interaction between the person, the mediational means, and the environment (Kaptelinin & Nardi, 2012). Affordances from the mediated action perspective are considered as "action possibilities offered to the actor by objects in the environment" (Kaptelinin & Nardi, 2012, p. 973).

This perspective of affordances is of value to this study. Within the context of this research investigating the integration of Moodle in tertiary level English language programmes, the concept of affordance can be understood as having functional, relational, and cultural aspects (Hutchby, 2001). Thus, it needs to be fully explored in order to obtain deeper insights into the integration of Moodle to support English language learning and the challenges the technology poses in those contexts. The insights obtained could inform classroom practices and institutional efforts to integrate technology in their learning environments. The concept of affordance (Gibson, 1976; Hutchby, 2001; Kaptelinin & Nardi, 2006, 2012) was also considered in terms of how classroom activities shape and are shaped by the mediation of technology. Exploring technology from this aspect allows us to examine how it can shape human activity.

The use of technology in language teaching offers various affordances. As observed by Reinders and Hubbard (2013), it can promote learner autonomy as it

allows learners to access, store, and retrieve learning materials, share and recycle materials, interact with peers or teachers, and receive/provide feedback. However each affordance can emerge as a constraint if students are not "[w]orking with teachers, tutors or other resources (e.g., computer programs) to help them become autonomous and…interested and motivated to become autonomous" (Reinders & Hubbard, 2013, p. 366). Similarly, while technology can support teachers in their instructional approaches to modify language input and enhance feedback, each affordance can emerge as a constraint if such use is not grounded in methodological principles and pedagogical goals.

There is a need therefore, to avoid viewing technology as a powerful panacea for the problems in education. On its own, it is not significant as it is effective only in its relationship between users who appropriate it in relation to an object (van Lier, 2005). For example the presence of a computer in a classroom does not ensure that language learning occurs solely because it connects learners to online language learning materials. The teacher needs to plan a lesson that involves students using the computer as one learning resource to access the online materials so as to realise the learning objective of the language lesson. Teachers thus, need to consider technology as a learning resource and manage it in the same way as a chalkboard, course book and other resources are managed (Bax, 2000, 2003). This approach is possible only when technology is thought of as subordinate to learning and when the needs of students are carefully analysed and considered as priority (Bax, 2003).

As a learning resource, it can be argued that technology needs to be used on a daily basis, as an integral part of every lesson so that it becomes entrenched in instructional practices. Technology then can serve the needs of the learner with its presence going almost unnoticed – a process that Bax (2003) and Chambers and Bax (2006) describe as normalisation. As has been discussed previously, the concept of normalisation enables insights into understanding how teachers who use technology on a regular basis can fully integrate it and link it to classroom learning goals within the complex social and cultural environment of the classroom.

Approaching the integration of technology from the concept of normalisation provided this research with opportunities to explore teachers' regular use of it and consider how that shaped their instructional practices. In addition, how the use of technology interacted with the teachers' instructional skills and content was able to be investigated. Examining the teachers' perspectives on the use of technology in the classroom was important for revealing their classroom practices, an understanding that can contribute to the shaping of teachers' professional development (Borg, 2006). Teachers' perspectives can be investigated through exploring teacher learning "as the personal specific meanings teachers construe for knowledge, skills, or concepts, which in turn mediate their actions in practice" (Van Loi & Franken, 2010, p. 62). They can offer insights into how teachers understand, deduce, and define the environment in which they operate, and how this interpretation guides teachers' actions (Zeichner, Tabachnik, & Densmore, 1987).

Teacher learning is explored through the Technological, Pedagogical, Content Knowledge (TPACK) framework that addresses the interplay between the components of knowledge. The following section will address this framework.

2.2 Teacher Knowledge

2.2.1 Background

The Technological Pedagogical Content Knowledge (TPACK) framework was first proposed by Mishra and Koehler (2006). This framework was developed from the knowledge bases of teacher education. These knowledge bases concern the information that teachers should have, know, and understand that can support their thinking to inform their professional practices. Historically, teacher knowledge bases emphasise content knowledge, which concerns the subject matter that teachers are expected to teach and students are expected to learn (Mishra & Koehler, 2006; Shulman, 1986). However, this emphasis on content knowledge shifted to pedagogical knowledge, which concerns the approaches or processes involved in teaching and learning (Mishra & Koehler, 2006).

The shift in emphasis to pedagogical knowledge was often at the expense of content knowledge as the focus became primarily on classroom practices (Ball & McDiarmid, 1990). Content knowledge was thus considered as distinct from pedagogical knowledge. Realising that this distinction was insufficient in exploring the knowledge of teachers, Shulman (1986) proposed forming a relationship between both domains. The notion of pedagogical content knowledge (PCK) was introduced, which was the intersection of content and pedagogy. PCK as defined by Shulman (1987) "represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and represented for instruction" (p. 8).

Developments in educational technology pointed to the need to address the knowledge teachers needed to have, know, and understand to incorporate technology as part of their classroom instructional activities. The PCK framework was thus extended to include the knowledge teachers' needed to use technology. This extended framework was introduced as Technological Pedagogical Content Knowledge (TPCK) by Koehler and Mishra (2005). The acronym TPCK was later revised to TPACK which stands for Technology, Pedagogy, and Content Knowledge (Thompson & Mishra, 2007). TPACK reflects the three knowledge bases that function as crucial building blocks to inform teachers' thinking and practices for technology integration, and emphasises the three domains of knowledge as an "integrated whole, a "Total PACKage" … for helping teachers take advantage of technology to improve student learning" (Thompson & Mishra, 2007, p. 38, emphasis in original). This extended and revised framework is valuable in developing a richer understanding of the intricate network of relationships between technology, pedagogy, and content that inform teachers' instructional practices in the context of the complex educational environment. The acronym TPACK will thus be adopted in this thesis.

In addressing teachers' TPACK, the following section will discuss the framework in relation to the knowledge bases that are required of teachers teaching a second language. For the purposes of this discussion, the term "second language" also refers to learning another language as a foreign language. Teachers' pedagogical

and content knowledge will first be addressed followed by technology knowledge that completes the integrated framework.

2.2.2 Pedagogical Content Knowledge (PCK) for English Language Teaching

In the field of language teaching, the knowledge base of teachers refers to the skills, expertise, understanding, awareness, and knowledge (Day, 1993; Freeman & Johnson, 1998; Richards, 1998; Tedick, 2005). Research into the knowledge base of second language teachers has contributed much to the field of second-language teacher education (SLTE) despite the lack of consensus on what exactly teachers need to know to be effective practitioners in the language classroom (Faez, 2011). Day (1993) proposed four domains of knowledge for teachers of English as a second language which is central to SLTE: content, pedagogic, pedagogic content, and support. For Freeman and Johnson (1998, 2005), teacher knowledge bases relevant to SLTE concern three inter-related domains which are the teacher-learner, the social context, and the pedagogical process.

Richards (1998) proposed six dimensions for teacher knowledge based on Shulman's (1987) framework. These dimensions consist of theories of teaching, teaching skills, communication skills, subject matter knowledge, pedagogical reasoning and decision making, and contextual knowledge. Although the presentation of the six dimensions might appear fragmented, they have been acknowledged as being inherently integrated and interrelated (Faez, 2011; Grossman, 1995; Richards, 1998). In addition, the six dimensions proposed by Richards (1998) although dated, are comprehensive and feature the various domains covered in the literature. The presentation of the six dimensions also provides a clearer explanation of the differences between the dimensions. These reasons provide the rationale for adopting Richards' framework in this study to explicate the pedagogical and content knowledge that English language teachers need to have to ensure effective classroom instruction, which is described next.

The first dimension of teacher knowledge concerns the theories of teaching which are essential to inform the teachers' understanding of the nature and significance of classroom practices, and relates to different conceptions of language teaching.

It involves science-research conceptions, theory-philosophy conceptions, and art-craft conceptions (Zahorik, 1986). Science-research conceptions concern the development of teaching principles based on research in the psychology of learning. In the context of language teaching, the application of these principles is represented in task-based language teaching, audiolingualism, and learner training (Richards, 1998). These conceptions also concern tested models of language teaching based on classroom research and derives teaching principles from studies that involve the practices of exemplary teachers (Richards, 1998).

Theory-philosophy conceptions, on the other hand, are based on "generally data-free theories and principles that are justified on logical, philosophical, political, moral, or other grounds" (Richards, 1998, p. 38). Communicative language teaching and the proficiency movement are examples of these conceptions in language teaching (Richards, 1998). The theory-philosophy conceptions also include value-based approaches that are concerned with moral or ideological aspects, which emphasise humanistic teaching approaches, team teaching, reflective teaching, and the learner-centred curriculum (Richards, 1998). The art-craft conceptions emphasise the skills and personality of teachers. Teachers are encouraged to explore and discover what works best for them in the context of their classroom.

The next dimension concerns the knowledge of teaching skills, which is important particularly as teaching language such as English requires skills that are specific to the field. In addition to the general teaching skills that language teachers need to possess, they need to have acquired skills that are specific to language teaching (Richards, 1998). These skills involve the "repertoire of techniques and routines" that teachers need to have "to present and navigate their lessons" (Richards, 2010, p. 108). Teachers should have the knowledge of the skills required to begin a lesson, introduce and explain learning tasks, organise learning arrangements, assess students' comprehension, guide students' practice, monitor classroom language use, shift from one task to another, and conclude the lesson (Faez, 2011; Richards, 2010). Teachers also need to be able to adapt their teaching skills to the given situation as such flexibility can help them to enrich their repertoire of basic teaching skills (Richards, 2010). Over time through their prolonged experiences in

the classroom, teachers come to perform these skills fluently and automatically (Borg, 2006; Tsui, 2009).

As for the dimension of communication skills, teachers need to know and understand how to communicate effectively and have the required language proficiency to teach the language. English language teachers need to be proficient in English not only to teach in the language but to also explain the forms (grammar) and functions of the language. They need to achieve a threshold proficiency level in the language to enable them to teach effectively in English (Richards, 2010). Teachers who lack this threshold proficiency level tend to depend more on teaching resources such as textbooks and are likely to be unable to engage in improvisational teaching (Medgyes, 2001). However, a high proficiency in English does not necessarily make a better teacher (Coelho, 2004; Faez, 2011; Richards, 2010). Teachers who speak English as their first language need to have the knowledge of how to communicate with students who have limited language proficiency. Teachers need to be aware of their use of colloquial expressions, figurative language, accent, and speed of articulation (Coelho, 2004, Richards, 2010). They also need to be sensitive to issues related to intercultural communication particularly in multilingual and multicultural classrooms (LeGros, 2010; Roach, Cornett-Devito, & Devito, 2005). Thus, the ability to communicate effectively and be proficient in the language is necessary for all language teachers regardless of their background, to teach effectively.

In terms of the subject matter knowledge, this dimension concerns teachers' knowledge about the subject and language teaching, and consists of knowledge that only language teachers would possess (Richards, 2008, 2010). Much of this subject matter knowledge is drawn from the discipline of applied linguistics, which consists of a body of specialised academic knowledge. Some of these areas include the nature of second language learning, methodology, discourse analysis, sociolinguistics, testing and evaluation, and curriculum development, which are typical in the curricula of most MA programmes. Knowledge in the discipline of applied linguistics is part of professional education, which leads towards professional recognition and status but "does not translate into practical skills" (Richards, 2010, p. 105). For subject matter knowledge to be applied in practice,

teachers need to integrate the subject matter knowledge with their knowledge of pedagogy which consists of knowledge of the theories of teaching, teaching skills, and communication skills as described earlier, and pedagogical reasoning and decision making, and contextual knowledge which are addressed next.

Another dimension proposed by Richards (1998) concerns pedagogical reasoning skills and decision-making. This dimension reflects teachers as "active, thinking decision-makers who play a central role in shaping classroom event" (Borg, 2006, p. 1). The focus is on teacher cognition, which is central to understanding how teachers teach and how their beliefs and knowledge strongly affect their actions in the classroom (Borg, 2006; Richards, 2010). Teachers need to have the ability to recognise classroom pedagogical problems that may pose challenges to their students' language learning to develop alternative strategies for classroom teaching (Richards, 2008, 2010). Teachers need to draw from and relate their knowledge about theories of teaching, teaching skills, and subject matter to actual classroom situations. Thus, the dimension of pedagogical reasoning skills and decision-making is a specialised type of thinking, which is crucial to support them to plan and conduct their lessons (Richards, 2010).

Contextual knowledge is another dimension of teacher knowledge proposed by Richards (1998). This dimension is a significant as it concerns teachers' understanding of how language teaching is influenced by the context in which the learning activity occurs (Richards, 1998, 2010). This context concerns the social and the physical which involves the rules, infrastructure, standards, expectations, and personal backgrounds that function as the means, constraints, and direct influences that affect teaching and learning (Posner, 1985, Richards, 2010). Teachers thus, need to be aware of the societal, communal, and institutional forces that can have a bearing over their classroom teaching practices. As language teachers teach in a variety of contexts, they need to acquire the relevant contextual knowledge to be effective teachers in the classroom. Teachers need to socialise into the culture of the context to understand the norms, values, and practices (Faez, 2011; Richards, 2010).

The six domains of language teachers' content knowledge inform the pedagogical approaches teachers need to adopt as part of their instructional practices. Therefore, the PCK which concerns the intersection between content and pedagogical knowledge of teachers "includes knowing what teaching approaches fit the content, and likewise, knowing how elements of the content can be arranged for better teaching" (Mishra & Koehler, 2006). Further, both pedagogical and content knowledge provide the basis for teachers to incorporate technology and as such, requires that they have technological knowledge. The amalgamation of all three knowledge bases that informs teachers' thinking and classroom practices to serve classroom learning goals is addressed next.

2.2.3 Technological Pedagogical Content Knowledge (TPACK)

Mishra and Koehler (2006) expanded the focus on PCK to include technological knowledge. The Technological Pedagogical Content Knowledge (TPACK) framework addresses the interactions that occur between different forms of knowledge and identifies the essential qualities of teacher knowledge, which are required when teachers integrate technology into their pedagogy. In particular the framework recognises that teacher knowledge is complex, multifaceted, and situated, and argues that changes need to occur in teachers' knowledge and practices when technology is adopted in the classroom. The introduction of educational technology in the educational environment has often resulted in teachers having to deal with basic pedagogical issues in the classroom and reconstruct the dynamic balance between all three knowledge bases (Koehler & Mishra, 2009).

The TPACK framework informs the integration of technology in classroom teaching and learning. It emphasises the need for teachers to thoughtfully interweave the three main foundations of knowledge: technology, pedagogy, and content to develop good content and strategies for classroom learning activities (Mishra & Koehler, 2006). This form of knowledge is distinct from the knowledge of teachers who are specialists in their subject area or who are experts in using technology.

Developing quality learning experiences involves teachers having "a nuanced understanding of the complex relationships between technology, content, and pedagogy, and using this understanding to develop appropriate, context-specific strategies and representations" (Mishra & Koehler, 2006, p. 1029). The TPACK framework is illustrated in Figure 2.1 below.

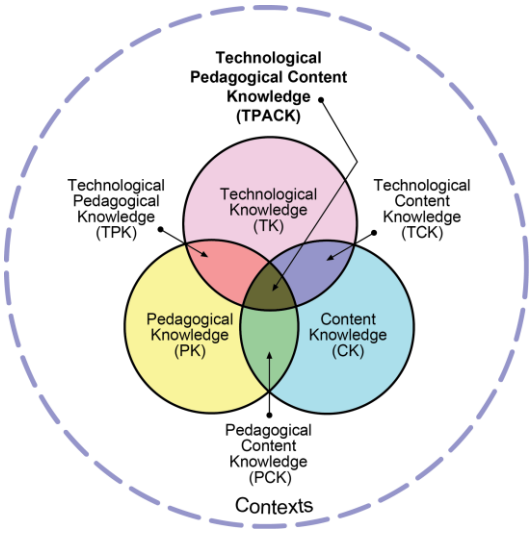

Figure 2.1 Technological Pedagogical Content Knowledge (Reproduced by permission of the publisher, © 2012 by tpack.org)

The TPACK framework concerns teachers being able to use technology to teach effectively and reflect their understanding of how technology can be used to serve pedagogical purposes (Koehler & Mishra, 2009). Effective teaching with technology requires that teachers be aware of the appropriate pedagogical techniques to use technology in productive ways to deliver content, to facilitate classroom learning, and to expand and enrich their students' construction of knowledge through classroom learning activities (Koehler & Mishra, 2009). The potential in integrating technology in the learning environment thus, can only be realised when teachers' knowledge of the content, pedagogy, and technology are carefully aligned which requires that they be competent in the three domains (Voogt, Fisser, Pareja Roblin, Tondeur, & van Braak, 2012)

The framework also points to a need for teachers to have digital literacy (Gilster, 1997). Gilster (1997) had expanded this term from existing notions of this literacy

which were largely concerned with the ability to use digital sources effectively (Eshet, 2002; Lanham, 1995) to the mastering of ideas about the effective use and application of technology as one of the many sources of information. Digital literacy can be conceived of as a state or condition that changes over time (Bawden, 2008; Belshaw, 2011; Martin, 2006), particularly as changes occur in the digital environment, which require new competences and new understanding (Hockly, 2012).

Belshaw (2011) outlines eight key elements characterising digital literacy, which could be applied to teachers who want to integrate technology as part of their instructional practices in the learning environment. These elements involve:

1. Awareness of the culture of online contexts so as to interact appropriately in them,
2. Developing the "habits of mind" through the use of technology,
3. Understanding how and for what purposes content could be adapted, revised, and reused,
4. Comprehending the workings of communication media so as to know how to communicate in digital environments,
5. Using technology with confidence to serve identified needs instead of being controlled by it,
6. Being creative with the use of technology by doing new things with new tools,
7. Approaching technology use critically, and
8. Considering the development of society through the use of technology.

Digital literacy thus, is part of technology knowledge and when considered in the context of the TPACK framework concerns it includes not just the technology being used, but also the *informed* use of technology to serve classroom learning needs. Teachers therefore need to be digitally literate to flexibly negotiate the intersection and interactions of content, pedagogy, and to inform their classroom practices (Koehler & Mishra, 2009).

To explore teachers' conceptions of technology integration, there is a need to consider how teachers think and develop as they interact with the pedagogical and

content knowledge. As knowledge is complex, multifaceted, and situated, teachers' conceptions need to be investigated in the context of their practice. In addition, there are social and cultural aspects within an educational environment that can interact with teachers' learning and practices, and can affect their knowledge in integrating technology. In order to address how these social and cultural factors interact with teachers' knowledge and affect their learning when integrating technology in their instructional practices, the present study adopts a sociocultural theoretical perspective as applied to teacher learning.

2.3 Sociocultural Theory as applied to Teacher Learning

A sociocultural theory of learning views learning as involving social interaction and collaboration. It acknowledges mental processing as situated within the cultural, historical, social, and institutional contexts of a broader community. A sociocultural perspective of learning is relevant to this inquiry as it provides a basis for exploring "teachers as learners" as they integrate technology in their instructional practices.

In the earlier part of the previous century, learning was often viewed as a process of obtaining knowledge through the process of transmission (Carbonell, 2013; Isbell, 2011; Wu, Hsiao, Wu, Lin, & Huang, 2012). Knowledge was considered concrete and to be acquired through a process of individual learning and in isolation. The focus was on human cognition and the ability of the human mind to absorb knowledge and information. These views have been challenged by the view that learning is a process involving social interaction whereby learners collaborate with others to facilitate the development of meaning. Knowledge is viewed as complex, multifaceted, and situated. Several terms have been used to describe these views. These terms include social constructivism which considers learning as involving the construction of knowledge through social interaction and collaboration (Bonk & Cunnignham, 1998; Hinshaw, Burden, & Shriner, 2012; Keaton & Bodie, 2011); situated learning which views learning as unintentional and occurring within activity, culture, and context (Fors, Bäckström, & Pink, 2013; Lave & Wenger, 1991); and distributed cognition which views thinking and knowledge as not confined to an individual but shared across objects,

individuals, artefacts, and tools in the environment (Gillen, Ferguson, Peachey, & Twining, 2012; Salomon, 1993). Despite the variations in terminology, these terms reflect a similarity in the fundamental beliefs about the nature of knowledge and the means to acquire it, and can be seen as sociocultural theories of learning (Anh & Marginson, 2013; van Compernolle & Williams, 2013).

Sociocultural theory views learning as dialogic as it occurs through social interaction and is dependent on participation in collective practices (Jonassen & Land, 2000; van Compernolle & Williams, 2013). Learning is understood within the context of activity or cultural practices (Nasir & Hand, 2006) with the goal "to explicate the relationships between human action, on the one hand, and the cultural, institutional, and historical situation in which this action occur, on the other" (Werstch, 1998, p. 24). This goal provides a basis for this research to elucidate the relationship between teachers' use of Moodle and the sociocultural contexts in which such use occurs. This relationship can be explained by exploring the use of Moodle in in the two tertiary level English language programmes.

Four interrelated principles of sociocultural theory of learning can be derived from prominent researchers in the area (Barab & Duffy, 2000; Jonassen & Land, 2000; Nasir & Hand, 2006; Salomon & Perkins, 1998). The principles that are particularly relevant to this research will be addressed: learning as mediated; learning as situated activity; learning as goal-directed; and learning as participation in a community.

2.3.1 Learning as Mediated

The first principle which is a fundamental concept of sociocultural theory is that the "human mind is *mediated*" (Lantolf, 2000, p. 1, emphasis in original). In interacting with the world, human action typically employs mediational means such as cultural tools to fulfil a task or objective. These cultural tools are located within their cultural context or society and play an important role as social mediators of learning (Bakhurst, 2009). The tools represent the cultural innovation and changes, which are the result of an accumulation of shared sociocultural

understanding and heritage of a community (Nasir & Hand, 2006; Vygotsky, 1978; Wertsch, 1991a).

Cultural tools, which are also known as "artifacts", can be "simultaneously material and conceptual aspects of human goal-directed activity that are not only incorporated into this activity, but are constitutive of it" (Lantolf & Thorne, 2006, p. 62). Cultural tools that are material can include implements of information handling such as computers, pencils, or notebooks, while tools that are conceptual can consist of language and arithmetic systems (Barab & Duffy, 2000; Cole, 1998; Salomon & Perkins, 1998). For example, a computer (material) can be used by a presenter to design a set of PowerPoint slides in the English language (conceptual) for a business proposal presentation. This activity is goal-directed and consists of both the material and the conceptual tools, which are not only integrated in the activity but establish it. These tools, particularly those that are of a conceptual construct, largely exist as a result of individuals participating and interacting with their sociocultural environment (Wertsch, 1991a, 1995).

The use of tools is critical to the nature of learning and development that occurs during human activity as in that process they infuse human development and become intertwined with the nature of thought (Vygotsky, 1978). As tools are used in human activity, their use becomes internalised (automatic), which results in human thought becoming cultural in nature (Nasir & Hand, 2006; Wertsch, 1985, 1991a, 1998). Therefore, cultural tools that are typically employed in human action as mediational means can shape the way individuals interact with reality and vice versa (Kaptelinin & Nardi, 2006; Vygotsky, 1978; Wertsch, 1991a, 1998). For example, a teacher teaching a group of English as Foreign Language (EFL) learners uses a course textbook for instructional purposes. The course textbook is the artifact and regular use of it has enabled the teacher to use it skilfully to support classroom language learning activities.

Wertsch (1998) analysed mediated action by emphasising the agent and the mediational means of cultural tools and argued that they cannot be examined separately because they interact. In the example of the teacher using the course textbook for instructional purposes, the teacher is the agent while the course

textbook is the cultural tool. The action of classroom instruction cannot be understood in terms of the mediational means – the course textbook – or the teacher in isolation. The course textbook by itself cannot provide the instruction; it must be skilfully used by the agent. At the same time, an agent without a course textbook or with an inappropriate one is unable to participate in the event.

The concept of mediation in sociocultural theory is particularly significant as it focuses on how learning and development occur through the appropriation and mastery of cultural tools existing in a given culture or society to accomplish thought and action (Säljö, 1999; Salomon & Perkins, 1998; Wertsch, 1991a). In the context of this study, the teachers' use of technology as a tool to mediate their instructional activities provided insights into how their thoughts and actions were transformed as they interacted with the tool.

2.3.2 Learning as Situated Activity

Another principle of sociocultural theory concerns the role of context in which the learning takes place. Learning involves a process of co-construction and occurs within social and cultural settings where systems of meaning or culture are shared among those who are part of the environment (Barab & Duffy, 2000; Lave & Wenger, 1991; Wertsch, 1991b). The process of learning is continuous as individuals are constantly engaged in making sense of their world through their interactions with others and by using cultural tools that are available within their environments.

The environment in which individuals exist and operate is not only complex, but replete with potential meanings, which can gradually become available as people act and interact within and with it (van Lier, 2000). Learning is defined as "the relationship between properties of the environment and the active learner" (van Lier, 2000, p. 257). Viewed from a sociocultural perspective, learning is considered "a matter of participation in a social process of knowledge construction" (Salomon & Perkins, 1998, p. 4) and is part of the activity that occurs within the sociocultural context. Learning and activity are interrelated (Nasir & Hand, 2006).

The concept of learning as situated emphasises activity as a broader system. This system includes individuals participating within it, interacting with others and using cultural tools, representational systems, and materials (Putnam & Borko, 2000). This concept acknowledges the critical role of social interaction and negotiation of shared meaning in constructing individuals' personal meaning. During the process of interaction, individuals become enculturated within the community's beliefs and practices, which in turn gives legitimacy to their practices (Barab & Duffy, 2000; Putnam & Borko, 2000; Salomon & Perkins, 1998). There are no boundaries between individuals and their world, as "learning, thinking, and knowing are relations among people engaged in activity *in, with, and arising from the socially and culturally structured world*" (Lave, 1991, p. 67, italics in original). The tools, concepts, social relationships between individuals, and the discourses that take place between participants in the setting constitute knowledge (Barab & Duffy, 2000; Salomon & Perkins, 1998). As such, the concept of learning as situated and that emphasises activity as a broader system focusses on what it means to be member of a community of learning (Barab & Duffy, 2000; Cole, 1998).

The view of learning as situated suggests the significance of authentic activities as the context for learning and development (Putnam & Borko, 2000). Authentic activities are defined as "ordinary practices of culture" which are "coherent, meaningful, and purposeful" to the activities of the community of learning (Brown, Collins, & Duguid, 1989, p. 34), reflecting professional practises in the real world. With regard to school-based activities, Brown et al. (1989) considered these activities as being not authentic as they do not reflect the conditions of the world beyond the school. However, this definition of authentic activities was disputed by Brown et al. (1993) who argued that if the goal of education is to prepare individuals to be lifelong intentional learners, activities that serve that aim are authentic. Brown et al. (1993) also asserted that activities that promote thinking and problem-solving skills are authentic as these skills are important in out-of-school contexts, regardless of whether or not they reflect what professionals do. Therefore, if learning activities are aimed at fostering such skills, they involve individuals learning the practices of inquiry and sense-making,

which means that “learning environments must provide opportunities for them to participate in such practices” (Greeno, 2006, p. 92).

This study adopts the positions of Brown et al. (1993) and Greeno (2006). Learning activities that promote thinking and problem-solving skills are considered authentic and can enhance the learning process. In the context of this study, the instructional environment in which teachers were integrating technology provided a suitable setting for authentic activities as it sought to promote thinking and problem-solving skills. Teachers’ use of technology as a resource in their daily instructional practices could provide them with opportunities to learn how to integrate technology in their classroom instruction.

2.3.3 Learning as Goal-Directed

The third principle of a sociocultural theory of learning relevant for this discussion involves the idea of learning as goal-directed. Goals are an important part of activities as they provide the impetus that can promote learning and development. In acknowledging the significance of goals in activity, Engeström and Miettinen (1999) observe that “human conduct tends to appear as a string of goal-directed acts of rational actors” (p. 11). Human behaviour can be shaped and directed by goals, and involves social and cultural forms of mediation, which are crucial in human activity (Lantolf, 2000; Leont'ev, 1978; Vygotsky, 1978).

The basic dimensions of human activity consist of three aspects and involve a structure that is mediated by tools or signs; the function that is characterised by goal-directed activity; and the mode of development, which is historical and social (Scribner, 1990; Wertsch, 1998). The tools or artefacts used in a goal-directed activity function as mediators that can transform their significance in achieving the goal (Barab & Duffy, 2000; Nasir & Hand, 2006; Vygotsky, 1978). These tools or artefacts can empower as well as constrain the goal-directed activity to also provide new avenues for action.

For example the use of a blackboard (tool) enables the teacher to demonstrate the steps (goal) in a mathematical problem to a large class through textual

representation. However, sometimes the writing on a blackboard cannot be seen by students seated at the back of the class thus affecting the goal. This constraint provides an avenue to the teacher to use an overhead projector to present the steps in future lessons as it provides a wider view or to require students seated at the back to share seats with their classmates at the front of the classroom during the teacher's explanation of the steps.

Thus, a key focus of human activity is "tool mediated, goal directed action" (Wertsch, 1995, p. 208; Zinchenko, 1985). Examining goal-directed activities can provide useful insights into understanding how individual cognitive processes and development interrelate with socially constructed knowledge, as the activities are part of the goals and activities of a sociocultural context (Cole, 1985; MacCleave, James, & Stairs, 2002). One example includes language teachers using the computer to prepare classroom learning worksheets to provide students with supplementary language learning exercises to support their language learning. Examining these goal directed activities (to support students' language learning) can provide insights into comprehending how the teacher's thinking processes and development relate to the principles of language learning.

The notion of learning as goal-directed emphasises the significance of identifying goals that are part of the activities that enable individuals to work towards achieving them. A process of meaningful and productive social interaction is required (Barab & Duffy, 2000; Smith, Teemant, & Pinnegar, 2004; Wertsch, 1998). By identifying the goals of a particular activity, individuals are assisted to adopt, through their interactions within the sociocultural setting, the ones that are of value to them (Salomon & Perkins, 1998; Wells, 1999; Wertsch, 1998).

While goals have been determined in activities, individuals who participate in those activities may not necessarily share the same interpretations of how they can be achieved in the setting, which can result in conflicts (Smith et al, 2004; Wertsch, 1998). Such differences can be attributed to the cultural experiences of individuals and also the need to co-ordinate the activity with the demands of the sociocultural settings. These tensions can affect how goals are understood and interpreted (Cross, 2010; Rogoff, Paradise, Mejía Arauz, Correa-Chávez, &

Angelillo, 2003). Therefore, learning as goal-directed involves a process of clarification, re-negotiation or adjustments in the direction taken within activities (Smith et al, 2004).

In the context of this study, how teachers integrated technology in their classroom practices was explored through the goals that teachers set in their instructional activities. Teachers' use of technology to mediate their activities towards attaining goals can provide insights into their understanding about the nature of language learning. Similarly, how the use of technology influenced these teachers' thinking and affected the goal of the activity can also be examined. Such insights potentially reveal goals that are valuable to language teachers in general and how they interpret these goals as they interact with their sociocultural environment.

2.3.4 Learning as Participation in a Community

The fourth principle of sociocultural theory emphasises the importance of individuals participating in the practices of a particular community to enhance the process of learning and development (Barab & Duffy, 2000; Sfard, 1998). The principle stems from the experience of apprenticeship where individuals learn by working under the guidance of those who are skilled (Lave & Wenger, 1991). Apprentices are gradually guided through the process of learning of the skills of a craft or trade as they undertake increasingly demanding tasks under the supervision and mentorship of a master craftsman.

The opportunity to participate in the practices of the community provides opportunities for individuals to learn (Lave & Wenger, 1991). This participation allows them to experience a learning process that involves continuous evolution as a renewed set of relations. Participants learn by negotiating and renegotiating meaning and in the process their understanding and experiences are in constant interaction and are mutually established (Lave & Wenger, 1991).By participating in the practices of the community, individuals can gradually achieve mastery and produce examples of mature practice (Lave & Wenger, 1991), and can learn to think, perceive, and behave like an expert (Nuthall, 1997).

Examining how teachers learned as they participated in the practices of integrating technology in the classroom is valuable to this study. It provided insights into how they negotiated and renegotiated meaning as a community of teachers to establish their understanding and experiences of using Moodle in the classroom. These insights were important to understand how they formed their perspectives about the technology and explain the decisions they made when using it to realise the intended goal.

2.3.5 Summary

This section has described the conceptual framework through identification of four, key, interrelated principles of a sociocultural theory of learning. The view that learning involves social interaction and collaboration is fundamental to this research as it frames an understanding of the complex, multifaceted, and situated nature of knowledge. The four principles lend themselves to addressing the nature of knowledge and how it is acquired through a view that perceives learning as mediated, situated, goal-directed and occurring through participation in the activities of the community. A sociocultural perspective of learning foreshadows the use of Activity Theory as an explanatory framework for the thesis, as explored in the following section.

2.4 Activity Theory

2.4.1 Early Activity Theory – The Concept of Cultural Mediation

The conception of Activity Theory, which includes the idea of mediation, began with Vygotsky in the early 1920s as a critique of the behaviourist concept, which was prevalent at the time (Isbell, 2011; Wu et al., 2012). Proponents of Behaviourism such as Thorndike (1913) and Pavlov (1927) considered learning as produced by stimulation-response-reinforcement. On the contrary, Vygotsky (1978) argued that human action is not simply a response to stimuli, but involves a process of mediation whereby the use of cultural artefacts or tools prompts or prevents action. Thus, "humans have access to the world only indirectly, or mediately, rather than directly, or immediately" (Wertsch, del Rio, & Alvarez, 1995, p. 21).

The early development of Activity Theory was based on an understanding of the significance of the human mind and its social nature (Kaptelinin & Nardi, 2006). The human mind is inherently involved in the process of interactions occurring between individuals and their world to accomplish actions as it exists, emerges, and develops to make the process more successful. For example driving a car, which is a tool of the society is initially beyond the driver. The mastery of the skills of driving occurs through the activity of the driver within the society. Activity Theory thus, concerns the concept of mediated activity which enables attention to be focussed on what individuals do when using a tool, and how that use affects them, and the outcome of the activity.

This early model of Activity Theory, which focussed on "activity" consisted of the subject, object, tool, and outcome. The concept of mediation, which is the main focus of early Activity Theory, is reflected in Vygotsky's model of mediated action as shown in Figure 2.2 below.

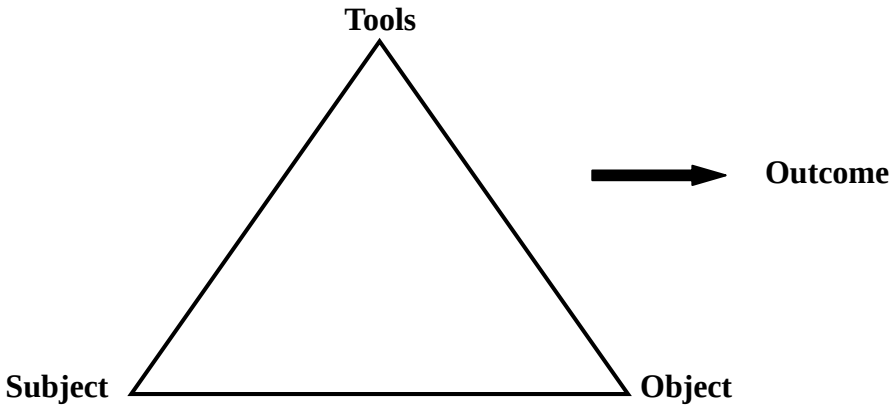

Figure 2.2. Basic AT representation (Issroff & Scanlon, 2002, p.78, reprinted with permission).

Activity concerns a "form of doing directed to an object" (Issroff and Scanlon 2002, p. 78). While the subject concerns an individual or a group, the object involves the product, which the subject acts on during an activity (Keengwe & Kang, 2013). The object thus concerns the motive of the activity. During the activity, the subject typically employs a tool which is simultaneously material

such as a computer, a hoe, or a mobile phone, and/or conceptual such as language or mathematical formula, to realise the object. The outcome refers to the overall purpose of the activity system (Keengwe, & Kang, 2013).

In the context of an English language classroom for example, the English language teacher is the subject. The object of the activity is for the students to learn a grammar point such as the use of adjectives to describe a place of interest, during a lesson. The teacher uses the language (conceptual) and worksheets (physical) as tools to explain adjectives, and provide practice exercises to the students. This lesson is part of the overall purpose (outcome) which concerns developing the students' use of the English language. The process of interaction occurring in the classroom lesson which merges both thought and action of the teacher mediated by the tools, could only make sense in the context of the relationship between the teacher (subject) and the learning of the grammar point (object). To understand the processing of human thinking that drives individuals towards particular actions, there is a need to analyse how individuals interact with their world.

The development of the human mind is affected by events that occur as a result of the interactions of culture and society. For example, a migrant's perception of the standards of personal space in the new society is affected by the culture of the new environment. The migrant who comes from a culture that practises close physical space (for example Mexico or Brazil) is influenced when he/she interacts with the culture in the new environment that does not practise close physical space (for example Japan or Malaysia). As such, the culture of a society can shape the minds of individuals and determines their behaviour in society.

While language functions to mediate and regulate individuals' relationships with others during the course of carrying out an action, it also regulates and transforms their mental processes (Vygotsky, 1978). The use of language involves a higher psychological function as it integrates with individuals' thinking to shape their learning particularly in the making sense of new concepts (Lantolf, 2000). As such, individuals reflect their conceptions, knowledge, and beliefs through their use of language. For example a teacher teaching a language function such as

giving directions organises the students to work in pairs on an information gap activity. This activity requires the students to use language to complete the gap and in the process they are likely to learn how to give directions using appropriate language forms.

In the process of transforming the object of an action into an outcome, a variety of physical and symbolic tools are employed. These cultural tools can be in an outwardly-oriented physical form, such as a computer, a hammer, or a hoe, or symbolic in nature such as algebraic notation, language, and signs, which are inwardly oriented (Cole & Engeström, 1993; Engeström, 1994; Kaptelinin & Nardi, 2006). While the use of the physical forms of tools shape the environment external to the individual, the symbolic tools are involved in mediating the mental processes of the individual (Lantolf & Thorne, 2006; Wertsch, 1998). For example, in the context of an English language classroom, a teacher teaches a particular language form for the students to learn (object) by guiding them as they work on selected worksheets (physical tool) and using the language (symbolic tool). The teacher also learns during the teaching, which is a form of consciousness involving the use of the cultural tools, to "appropriate and master the tools for thinking and acting that exist in a given culture or society" (Säljö, 1999, p. 149) in order to create conditions that can enable the learners to learn the language form.

A fundamental assumption of early Activity Theory is that human action and mental development are shaped by mediation through use of cultural tools or artifacts (Jonassen, 2000b; Wertsch, 1998). As use of cultural tools mediates the human mind, it shapes the human experience by setting conditions under which an action can proceed. This results in an interaction between the human subject, tool, and object (Cole & Engeström, 1999; Kaptelinin & Nardi, 2006; Wertsch, 1998). Cole and Engeström (1999) describe cultural mediation as a recursive, bi-directional effect and that "mediated activity simultaneously modifies both the environment and the subject" (p. 9). For example, the integration of technology in language teaching assumes required conditions such as having the time to plan the lesson and explore the technology to ensure that learning occurs. However, the tool can also exert influence on the subject in deciding how the activity is carried

out in that it may "give rise to previously unknown activities and previously unknown ways of conceptualising phenomena in the world" (Lantolf & Appel, 1994, p. 8). This could be characterised as innovation.

2.4.2 The Development of Activity Theory: Relating the Individual to the Collective

Vygotsky's ideas were not developed fully during his brief lifetime, and his work was continued by Leont'ev, his student and colleague. Early Activity Theory was limited in its scope as it focussed on the individual, but Leont'ev extended the concepts in order to explain key differences between an individual action and collective activity (Engeström, 2001). While an action is concerned with an individual or group accomplishing a goal, an activity involves a community with an object and a motive (Bakhurst, 2009). For example, a candidate running for a political office campaigns in his/her constituency with a motive to obtain support to be voted in as a member of the government. This activity also involves a community of personnel who supports the candidate by scheduling the campaign sessions, organising the publicity, and ensuring the suitability and security of the campaign venues. This community shares the same motive with the candidate.

Leont'ev emphasised the significance of the object, which involves the product or the motive which the subject acts on during an activity, suggesting that activities are differentiated by the objects that are pursued (Barab et al, 2004). In describing the goals in activity, Leont'ev (1974) further distinguished them as immediate and the larger overall goals. He described activity as consisting of three hierarchical layers – activities, actions, and operations. At the top layer of this hierarchy is the activity itself and it is concerned with a motive which is the object. The object stimulates the subject to eventually attain it and in the process the subject transforms the object into an outcome. Activities involve actions, of which individuals are consciously aware and are often related to knowledge and skills. In the example of the communal hunt provided by Leont'ev (1981), the action of one group of hunters who beat the bushes to scare the animal in order to move them towards the direction of the second group who will kill it requires the related knowledge and skills. The beaters need to know when and how to beat the bushes

to ensure that the animal moves towards the desired direction, and ensure that it does not escape or attack them instead.

Actions, which are at the low level of the hierarchy, involve conscious goal-directed processes that need to be attempted to accomplish the object. For instance, making a hunting weapon is a low level action, which involves the finding of materials and tools that are suitable for that purpose. Operations, which are at the lowest ranking level are concerned with how action is actually conducted and largely involves automatic processes, as "every operation is the result of a transformation of an action, resulting from its inclusion in another action and its ensuing "routinization" (Leont'ev, 1974, p. 26-27). For example making a phone call entails the conscious action of dialling a phone number, but pressing the buttons on the phone is automatically performed.

Leont'ev's (1981) view of activity as consisting of three hierarchical layers involving the actions of the individual as part of the wider collective object of an activity can be extended to the educational context. A group of teachers might be focussed on working with others to teach a particular topic as a collective object, which is shared with the immediate group. For example in the context of the language classroom, teachers could work together to design reading comprehension exercises to support the students' development of reading skills. Although the activity involves working towards a collective object, the work consists of a number of individual actions such as searching, identifying, and evaluating the relevant resources that could be used to design the exercises. In turn, these individual actions consist of a variety of operations, which occur as habitual routines such as reading magazines or newspapers to select appropriate texts, adapting the selected texts to suit the level of the students, and formulating questions to assess students' understanding of the text. These operations are shaped by conditions in the setting. For example, the ease of searching for the relevant reading text might be affected by a limitation of resources or the availability of suitable resources. This challenge delays the activity as the teachers have to be more meticulous when identifying, selecting, and adapting the reading texts. These actions may move upwards on the hierarchical activity and become a conscious action, which requires a degree of attention and effort instead of an

automatic process. The conceptualisation of activity as advocated by Leont'ev (1974, 1981) focuses attention on how activities can be disaggregated into sub-components, and how individual activity is both collective and individual at the same time (Barab et al, 2004; Kaptelinin & Nardi, 2006).

Although Leont'ev emphasised the significance of a collective system, he did not extend Vygotsky's original framework model (Engeström, 2001) - it was developed further by Engeström (1987). His new structure emphasised the role of cultural mediation, the social, cultural, and historical context of activity, and the relationship between the individual and the collective. Activity Theory advanced the idea that a natural focus for the study of human behaviour is activity *systems*, which can be understood as historically conditioned systems of relationships among individuals and their proximal, culturally-organised environments (Cole & Engeström, 1993). For example, to provide further practice to develop students' listening skills, a teacher plans a lesson that requires the use of the school's self-access facility. The realisation of this plan is dependent on a number of sociocultural conditions. The facility might not be available at the intended time and rescheduling the session affects another teacher's subject schedule. Also, access to the facility might be hampered due to weather conditions of the day particularly when a shaded walkway is not available.

This expanded description of Activity Theory shifted from an emphasis on individual action and processes "to include a minimal meaningful context which is called an activity" (Issroff & Scanlon, 2002, p. 78). In describing this expanded model, Engeström (1987) conceptualised the activity system as comprising of six interacting components, which are the subject, the tool and signs, object, rules, community, and division of labour. Based on this conceptualisation of activity, the action of the individual becomes embedded as part of a system and meaning is derived from a community of people who share the same object (Engeström 1987, 2001). A diagram of this expanded description of Activity Theory which is also known as second generation Activity Theory is illustrated in Figure 2.3 on the next page.

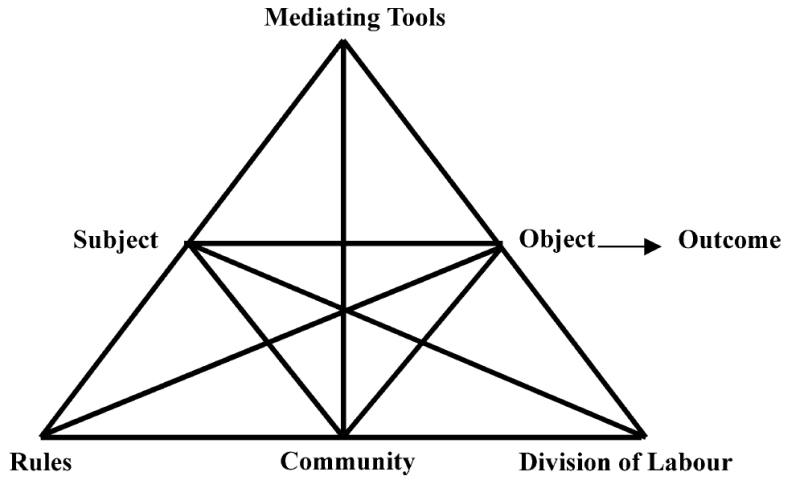

Figure 2.3 The mediational structure of an activity system (Lim & Hang, 2003, p. 52, reprinted with permission)

2.4.3 Components of Activity Theory

The subject refers to the individual or a group of individuals who are involved in any activity and who perceives that activity from their point of view. For example, in the context of classroom English language teaching, the teacher can be considered as the subject who holds the purpose of instructing, organising, and managing the students' language learning to enable them to master language forms and use and proceed to more advanced levels of language competence.

In terms of the object of the activity, all activity is object-oriented as it involves the way in which something is done which is directed towards an object (Kaptelinin & Nardi, 2006). Object-orientedness is a principle, which states "every activity is directed toward something that objectively exists in the world, that is, an object" (Kaptelinin, Nardi, & Macaulay, 1999, p. 28). "Object" can be understood as "*objectives* that give meaning to what people do"(Kaptelinin & Nardi, 2006, p. 66, italics in original), and represents the raw material or problem space at which the activity is directed and its transformation into an outcome through the use of the cultural tools (Engeström, 1993). The object can exist in terms of the physical such as a new home or a car, the conceptual such as a theoretical formula, or the virtual such as a website or computer programme. It can be a powerful sense-maker motivating the subject towards the activity to give it a direction (Engeström, 1993).

Therefore, what drives the activity is the need to transform the object into an outcome given that individuals have particular needs that have yet to be met, and believe that the activity they engage in will fulfil their needs (Kaptelinin & Nardi, 2006; Kuuti, 1996). The intentions that individuals have that motivate them to engage in the activity are part of the meanings they attribute to the object, which can shape how they relate to the object (Kaptelinin & Nardi, 2006; Yamagata-Lynch, 2003). Prior to engaging in the activity, individuals tend to draw tentative plans and objectives to conceptualise the object to orient them to the activity (Kaptelinin & Nardi, 2006). When individuals as subjects engage in the activity to begin to transform the object into an outcome, they make sense of the object by drawing on their intentions, which shape the transformation of the object into an outcome (Jonassen, 2000b; Kaptelinin & Nardi, 2006).

Meaningful activity is seldom accomplished individually within an organisation. While individuals perform individual actions, they are usually working as part of a larger goal-directed activity. Their ability to perform is dependent on groups of people within their context. For example, teachers are part of the wider institutional organisation including for example programme co-ordinators, administrative staff, and other teachers. As individual activity consists of a system of social relations, the activity cannot function in the absence of those social relations (Leont'ev, 1981). For instance, a classroom teacher can be supported by fellow teachers who have collectively prepared the resources for the lesson, administrative staff who provided the teacher with the latest student roll or organised the teaching spaces and schedules, and maintenance staff who ensure that the classroom is accessible and that teaching facilities are in order. The role of community is important in the mediating the activity system as it is united by a shared purpose through participants' defined roles and responsibilities. As such, an activity system is socially and contextually bound. It is shaped by the sociocultural factors in the environment that interact and relate with one another resulting in an outcome.

2.4.4 Activity Theory as an Interpretive Research Tool

Activity Theory offers a lens to interpret human activities as a developmental process interlinking both the level of the individual and the community within an activity system. The framework enables researchers to describe, clarify, and analyse human thought and behaviour against a backdrop of patterns and relationships within the context identified (Lantolf & Appel, 1994; Nardi, 1996a). With the activity system as a focus, an activity framework provides insights into observing "the actual processes by which activities shape and are shaped by their context" (Lim & Hang, 2003, p. 51) to observe potential personal transformation or identify hindrances that might occur.

With reference to the present study, the use of Activity Theory as an interpretive framework is valuable in exploring and understanding how English language teachers integrated Moodle in their regular classroom instructional practices as they interacted with the sociocultural aspects such as their colleagues and the programme administrators, students, assessment practices, and course requirements in their environment within the context of tertiary level language programmes. The relevance of Activity Theory as an interpretive framework for this research will be discussed based on five principles that underlie its philosophy.

The first principle concerns the prime research focus, which involves a collective, artifact-mediated, and object-oriented activity system that viewed within its networked relationships to other activity systems (Engeström, 2001). Individual and group actions which are goal-directed as well as the operations involved, are relatively independent, "but subordinate units of analysis, eventually understandable only when interpreted against the background of entire activity systems (Engeström, 2001, p. 136). For example, while teachers can be viewed as acting separately using technology in their instructional practices, their actions can be given meaning only when viewed as part of the wider network of relationships in an interactive activity system. The emphasis on viewing activity as a network of interactive relationships provided the researcher with the opportunity to investigate the activities that occur in the classroom. It also

allowed the researcher to explore how those activities in the wider context of the educational institution interacted with the classroom activities and vice versa.

The second principle of Activity Theory relates to the fact that an activity system is always a community of multiple points of view, traditions, and interests (Engeström, 2001). The use of the activity framework enables the research to consider the fluid and flexible conceptions of both the individual teachers as well as the community to explicate multiple perspectives in relation to the use of technology in the setting. The ability to represent participants' multiple voices within an activity system is particularly pertinent as the framework can capture the dynamics of the interplay between the teachers as facilitators and developers of classroom language instruction, and the community who provides support to the instructional activity.

The third principle is historicity in that activity systems take shape and experience transformation over time (Engeström, 2001). As Activity Theory addresses the relationship between the individual in relation to the larger collective activity system, the framework can be used to analyse the "inter-relationships between the local phenomena and the wider socio-cultural context" (Somekh, 2007, p. 8), to understand their problems and potential against their own history (Engeström, 1999). In examining these inter-relationships, the differences in cognition across cultures, social groups, and domains of practice can be explained by examining the historical developments, which have led to such differences (Engeström, 1999).

The fourth principle of Activity Theory focuses on contradictions that can play a central role as sources of change and development (Engeström, 2001). Contradictions are the result of the interactions between the components in an activity system and which manifest in the form of conflicts, problems, tensions or break downs within that system (Kaptelinin & Nardi, 2006; Kuuti, 1996). As activities are open systems, they are rarely stable or tension free. Contradictions are the rule and agent of change rather than the exception and while they do reveal problems, they can be a source of development (Cole & Engeström, 1993; Issroff & Scanlon, 2002; Nelson & Kim, 2000). Contradictions can be viewed positively

as challenges that need to be resolved to enable transformation in activity (Issroff & Scanlon, 2002; Nelson & Kim, 2000).

The final principle of Activity Theory concerns the possibility of expansive transformations in activity systems (Engeström, 2001). Activity systems take time to shape and develop. Such developments are attributed to the fact that the process of learning is not necessarily predictable and that knowledge is not static. As such, "people and organizations are all the time learning something that is not stable, not even defined or understood ahead of time" (Engeström, 2001, p. 137). Such reality underscores the need for individuals to learn new type of activities, which are yet to exist. By using Activity Theory as a framework in this study, the changes and developments that take time to materialise in an activity system as well as the acquisition of new knowledge can be observed, analysed, tracked, and interpreted. Such insights help to illustrate how teachers can progress through developmental stages in using technology for instruction. Insights from these developments can potentially inform research on how teachers and other individuals in the activity system cope with the learning of knowledge that continues to evolve.

2.4.5 Summary

This section has described Activity Theory by explaining the development of the framework. As a framework derived from a sociocultural theory of learning, Activity Theory can be used to interpret teacher thinking and explore their learning as they interact to integrate technology in their instructional context and interact with the surrounding environment. The framework is a useful tool for probing emergent sociocultural aspects that mediate, support or constrain the integration of technology in instructional settings. Furthermore, the framework also illustrates the importance of considering how various components of the activity system could be interpreted when technology is integrated into tertiary-level teaching.

2.7 Chapter Summary

This chapter described the conceptual framework used to guide the research. It emphasised the vital role of teachers and their understanding of technology, pedagogy, and content. Teacher learning was addressed through the use of sociocultural theory, which views learning as mediated, situated, goal-directed, and participatory. The use of sociocultural theory provided the basis to adopt Activity Theory to interpret teacher thinking and explore their learning. The use of Activity Theory emphasises the importance of context in exploring human activity, the context of language learning and teaching from the perspective of language pedagogy.

CHAPTER THREE: REVIEW OF RELATED LITERATURE

3.0 Overview

This chapter continues from the previous one and presents a review of the related literature. The review involves of three main areas – Activity Theory in the literature, the conditions that facilitate language pedagogy, and challenges in integrating technology. The first area describes studies that have used Activity Theory in the educational technology research literature. The second area concerns the context of language pedagogy and provides a description of conditions that can facilitate classroom language learning. The third area in this review presents the challenges in integrating technology. This chapter ends with a summary of the areas covered.

3.1 Activity Theory in the Literature

Activity Theory has been used to investigate human activity in a number of research areas such as workplace activity (Engeström & Sannino, 2010; Korpelainen & Kira, 2013; Warmington, 2011) and human computer interaction (Kaptelinin, 1996; Kapetlinin & Nardi, 2006; Wang & Shen, 2012). The framework is also used in a growing number of studies aimed at exploring and understanding the integration of technology in educational settings, which has relevance to this research (Antoniadou, 2011; Johnson, Ramanair, & Brine, 2010; Laferrière, Hamel, & Searson, 2013; Rambe, 2012; Westberry, 2009).

3.1.2 Activity Theory in the Literature – Technology Integration

Antoniadou (2011) investigated tertiary level student teachers' engagement in a telecollaboration activity using Activity Theory. The study was aimed at exploring the notion of contradictions, how contradictions transformed the activity's original objects, and the resulting learning outcomes. The participants consisted of one group of undergraduate level final year student teachers of English as a Foreign Language in Spain and another group of postgraduate student teachers of English as a Second Language in the United States. Both groups used Second Life as a platform for the telecollaboration activity. Data were

ethnographically collected and included video/audio recordings of tutorials, online chats, and classroom presentations which were later transcribed. The data analysis drew upon grounded theory. The use of Activity Theory to theoretically inform the study revealed three types of contradiction: intra-institutional, technology-based, and inter-institutional. It enabled the study to reveal how the participants managed contradictions and restructured the activity system by embracing new solutions in terms of new rules, tools, division of labour and objects (Antoniadou, 2011). The findings also emphasised "the interaction of multiple agencies and artifacts, and the role of artifacts, i.e., tools, rules, and division of labor, in both mediating and transforming the activity" (Antoniadou, 2011, p. 246).

Johnson et al. (2010) conducted a study situated within a perspective of Activity Theory to explore the mediation and affordances of the use of the interactive whiteboard (IWB) technology in a tertiary level English language classroom. The study was aimed at investigating how the different teachers in a tertiary level English language programme exploited the potential of the IWB to support classroom teaching and learning. Four teachers and their students participated in this qualitative study. Data were collected from interviews, focus-group discussions, and observations of classroom lessons. Transcriptions of these data were analysed using a constant comparison approach (Lincoln & Guba, 1985). The findings revealed that the teachers' use of the IWB gave the students the confidence to speak English spontaneously during lessons and to master the technology. The use of the IWB also enhanced "[t]eacher collaboration on curriculum resource development and the sharing of ideas and technical expertise about how to exploit IWB potential in the classroom" (Johnson et al., 2010, p. 209).

Laferrière et al. (2013) explored the use of Activity Theory in an information technology integration initiative involving the Remote Networked School (RNS) project in Canada. This study presented a systematic analysis of the barriers that needed to be overcome from an Activity Theory framework. Barriers were considered as tensions that pulled the elements of an activity system in opposing directions at four distinct levels of contradiction (primary inner, secondary, tertiary, and quaternary) (Engeström, 1987). The Activity Theory framework was

used to determine the tensions/contradictions and identify key actions that supported the development of conditions for implementing technology in RNS. Applying Activity Theory to the case of the RNS project revealed that "successful implementation of technology integration has been a process of overcoming obvious as well as culturally entrenched barriers" (Laferrière, et al., 2013, p. 471). The authors concluded that for essential conditions for technology integration to exist, overcoming barriers needed to be considered as a continuous exercise (Laferrière et al., 2013)

Rambe (2012) used Activity theory as an interpretive framework to explore the use of Facebook's potential to support tertiary level students' learning and engagement. This study was aimed at investigating how lecturer-student and student-peer engagement was cognitively supported using Facebook and how the use of the social networking site enhanced student access to resources and their peers. Lectures were considered as activity systems. Five lecturers and 850 students participated in this study, and the students were divided into three clusters. While two clusters of students were from "privileged backgrounds" the third cluster comprised of students with "disadvantaged backgrounds" who were from impoverished high schools and had limited ICT backgrounds. Data were collected through a series of interviews, classroom observations, post observations debriefing, and data mining of student and lecturers' online postings. Content of the data were thematically analysed. The findings indicated that the academic value of using Facebook was reliant on how it was integrated into the pedagogical design of the courses, the maturity of the students, and level of students' ICT competence. Adopting Activity theory as an interpretive framework "provided rich theoretical and analytical insights into collaborative learning in information rich, student-controlled learning environments" (Rambe, 2012, p. 1352). The framework revealed a shift in the cultural role and significance of lecturers as disseminators of knowledge to power brokers, facilitators, and mentors (Rambe, 2012).

Westberry (2009) investigated the nature of teacher and student participation in eLearning activities from an Activity Theory perspective as part of a doctoral study. The study conducted in the context of New Zealand tertiary education

examined learning activities mediated by asynchronous web-based technologies in three blended mainstream papers. Data collection involved semi-structured interviews, accounts, and observations of face-to-face and online activity. The data were analysed using Activity Theory as an interpretative tool and based on the techniques of grounded theory. The study illustrated that eLearning environment are complex and stressed the important role of the social and historical factors that contributed to shaping the participation of teachers and students in the learning activities. Westberry's use of Activity Theory also enabled her to explore teachers' and students' previous beliefs and understandings, which provided insights into how they made sense of the learning activities.

The use of Activity Theory in a number of research studies as described above indicates its relevance and value to educational technology research. This framework emphasises the importance of considering context in investigating technology integration. It supports research in interpreting learning activities in the complex educational environments by considering the relationship between the level of the individual such as teachers (and also students) and the community within this environment. It also enables researchers to provide a description, clarification and analysis of human thought and behaviour framed against a backdrop of patterns and relationships within the respective learning environments identified. These insights reveal how individuals managed tensions as they integrate technology as a cultural tool to realise educational goals within educational environments. The tensions experienced identify issues that need to be addressed in order to enhance efforts to integrate technology in real-life educational contexts.

As Activity Theory emphasises the importance of context in exploring human activity, the following section will address issues related to the context of language learning and teaching from the perspective of language pedagogy.

3.2 Language Pedagogy

This section provides a brief description of the context of language teaching and learning in which teachers function as they integrate technology in their instructional practices. In describing this context, this section acknowledges that language learning is a complex and social process, and that teachers need to create conditions to facilitate language learning. Such conditions relate to their knowledge of content, which can inform their classroom pedagogy (as was described earlier in the chapter) and how the use of technology can support language learning.

These conditions are created through instructional practices that provide learners with extensive and rich personalised language input, sufficient opportunities to produce output (particularly through interaction), and feedback on the learner's comprehension (Ellis, 2005; Franken & Rau, 2009, Nunn, 2006). By creating such conditions it is possible that both cognitive and social learning could occur. The use of technology can also enhance these learning conditions. The following section will discuss how teachers' instructional activities and the use of technology can support in creating conditions to facilitate language learning.

3.2.1 Language Input

Input is considered as the stimulus that enhances the language learning process of learners (Ellis, 1985, 1997) – the raw data to enable learners to derive meaning, and at the same time become aware of the rules and structures of a language (Chaudron, 1985; Ellis, 1990). By creating conditions that can facilitate extensive and rich personalised input, teachers can facilitate their learners' language acquisition and enable them to use language correctly within a variety of situations. Language input is necessary to equip learners with the aspects of the language to enable them to learn and use the language to socially participate in the language classroom.

Providing language input in the classroom is necessary and how teachers present it can determine how well or poorly learners will participate in language learning activities. Input can be presented as limited samples at a time to enable language

learners to “re-synthesise the language that has been broken down into a large number of small pieces with the aim of making this learning task easier” (Wilkins, 1976, p. 2). Language input can also be presented as integrated chunks at a time without attempting to exert control over the discrete structures or lexis for teaching and learning (Long & Crookes, 1992, 1993). It is aimed at enabling learners to organise the language in terms of the purposes for which they are learning the language and “the kinds of language performance that are necessary to meet those purposes" (Wilkins, 1976, p. 13).

Teachers need to create conditions through their instructional practices to ensure that the input they make available to language learners is comprehensible to enable it to be of value to the learners' learning. Input can be made comprehensible to the learner “with the help of context which includes extra-linguistic information, knowledge of the world, and previously acquired linguistic competence”, and through the provision of simplified input by the teacher through interaction (Krashen, 1985, p. 2).

The nature and amount of input can also contribute to learning. With regards to the nature of language input, input with some form of modification such as elaboration of lexical items, simplification of the phonology and syntax, elaboration of speech or adaptation of speech rate has been found useful in enhancing learners’ language development (Grgurović & Hegelheimer, 2007; Mangubhai, 2006; Turnbull & Arnett, 2002). Teachers can supplement language input in the classroom by providing learners with additional stimuli to further assist in their language learning. Such stimuli can be in the form of additional reading materials or language exercises, pre-teaching vocabulary items, providing learners with background information about a topic or using visuals to illustrate a language point.

Input in the classroom could be enhanced through the use of technology to facilitate students’ learning in the language classroom. Teachers could enhance the presentation of extensive and rich personalised language input, which is necessary for language learning through the use of multimedia technology. As multimedia involves the use of texts, graphics, video, animation, and sound in an

integrated manner it helps learners learn and remember new vocabulary (Cutrim Schmid, 2008; Kessler, 2013; Sydorenko, 2010) essential for language development.

Li (2013) examined the use of an interactive advance-organiser activity to support DVD comprehension of language input by foreign language learners of English. The study was aimed at determining whether the availability of advance organisers made the learners less reliant on the English language captions to support their initial comprehension in a multimedia environment. The study involved 95 tertiary level students who were randomly assigned into four groups: an advance organiser group, a captions group, a captions and advance-organizer group, and a group without advance organizers or captions (control group). Data were collected through a multiple-choice listening test, a post-test questionnaire and a retrospective interview. The findings indicated that the use of advance organisers as part of classroom learning activities supported the students' listening comprehension in the three groups as opposed to the control group. There was a decrease in their reliance on caption-reading input for initial comprehension by 50%. The use of the advance organisers provided the learners "with clues of upcoming aural input and help[ed] them activate their prior knowledge, which can thus be integrated into their working memory in the listening process to result in meaningful learning and increased comprehension performance" (Li, 2013, p. 25).

Yang and Sun (2013) investigated the use of OpenCourseWare (OCW) lectures and reported that they could support the learning of vocabulary by tertiary level learners of English as a foreign language. OCW refers to digital publication of high quality educational materials that are shared on the World Wide Web by universities and educational institutional institutions for non-profit use. In this study, the OCW consisted of authentic video lectures chosen from MIT (Massachusetts Institute of Technology) and Yale University on subject areas such as psychology, music, and physics. Data were collected through the administration of pre and post-tests. The findings revealed that viewing the OCW lectures once enabled the learners to gain vocabulary knowledge and in particular supported their learning of technical words. Yang and Sun also noted that

"Factors such as verbal elaboration on vocabulary and the degree of explicitness or clarity of elaboration" (p. 14) contributed to the learners' vocabulary gain.

3.2.2 Learner output and interaction

Another aspect that facilitates the process of language learning concerns providing language learners with sufficient opportunities to produce output (particularly through interaction). While output is considered as the production of language, interaction involves interlocutors (e.g. student-teacher or student-student) attempting to achieve understanding by adjusting their language through conversational negotiation of meaning. Both output and interaction play crucial roles in promoting language development (Gass, 1997; Long, 1983, 1996; Skehan, 1998; Swain, 1985). Providing learners the opportunity to produce output could enable them to practice and participate in the use of the language to inform their learning.

The opportunities to produce output can be created through getting students to work in pairs or groups in the language classroom. Pair or group work enables learners to communicate using the language whereby language mediates their joint construction of knowledge or in working together to solve language problems (Kim, 2008). Learners also have the opportunity to interact and practice the language in social situations. The interaction could enable them to notice gaps in their language and provide them the opportunity to negotiate meaning, which is essential to language learning (Swain, 2000).

Teachers can also optimise the production of output through the design and implementation of language learning tasks. Learners engaged in a task have the opportunity to learn language in a goal-directed context as the demands of the task can encourage learners to produce output and interact with the task and other learners to fulfil task requirements (Breen, 1987; Nunan, 1989). Tasks can be designed as either divergent or convergent. While divergent tasks involve learners working towards the same goal as a regarded outcome, convergent tasks concerns learners working on tasks which require them to arrive at some sort of agreement (Duff, 1986; Long, 1990; Pica, Kanagy, & Falodun, 1993). Both tasks provide

opportunities for learners to work on them and use language to mediate their interactions, which can enhance language learning. In terms of task implementation, pre-task planning plays an important role as it prepares students to be familiar with the demands of the task. It has a clear effect on complexity and fluency: "these performance features are almost always improved" (Skehan, 2003, p. 6).

Teachers can also use technology to facilitate learners' language learning to enable sufficient opportunities for them to produce output, particularly in the context of interaction. Research into the use of text based computer mediated communication (CMC) in language classrooms has suggested that technology can support interaction involving meaning-oriented communication and form focussed reflection, which are necessary conditions to enable language learning (Meskill & Anthony, 2005; Vinagre & Muñoz, 2011; Ware & O'Dowd, 2008). As text-based CMC involves self-paced written discourse, these features provide language learners with opportunities to notice their errors and modify their output (Lee, 2010; Shih, 2011; Smith, 2008).

A study conducted by Kessler, Bikowski, and Boggs (2012) found that the use of a Web-based word processing tool supported learners' engagement in a collaborative writing project. This study was aimed at exploring and understanding the fluctuating nature of collaborative writing in the contexts of Web-based writing. The study involved 38 foreign language learners of English who were enrolled in one tertiary-level English for Academic Purposes (EAP) programme. The programme was designed to prepare them to do research, write, and present a research project. The students were organised to work in small groups (three to four members per group) to collaborate as a team in the writing process using Google Docs. The group collaborative texts were analysed based on either language related (for example attention to form, meaning) or non-language related (for example formatting, planning) contributions. A survey was also administered and completed by all students. The findings from this study revealed that the students emphasised more on meaning than form and the grammatical changes they made were generally more accurate than inaccurate. The use of the Web-based word processing tool supported the students' text-based interactions as

they collaborated to produce the report. The students also found the use of the web-based tool as beneficial as it allowed them flexibility and fluidity during the writing process.

Vurdien (2013) reported that English as a foreign language learners were encouraged to develop their writing skills through the use of blogs as a computer-mediated tool. The study involved eleven university level students who created personal blogs to enable them to read each other's views, share ideas, and give feedback on their peers' postings as they planned for the writing of specific tasks (for example, a reports, essay, proposal). Data were collected in the form of blog entries, class discussions based on peers' feedback and questionnaires, and interviews. The content of the blog entries were a central element in the data collection as it provided insights into the learning experiences of the students. The findings revealed that the use of the blogs motivated the students' to develop their writing skills as it enabled them to interact with one another by providing feedback to their peers as well as to self-reflect. The interaction with their peers enabled them to negotiate meaning resulting in better planning and guidance in using the appropriate register/style when completing the writing task.

3.2.3 Feedback

Teachers can provide feedback through formal instruction to prompt learners to notice language forms, which can then contribute to their development of particular linguistic features (Lightbown & Spada, 1990; Tomasello & Herron, 1988, 1989; Trahey & White, 1993). Noticing language forms can act as a mediator between feedback and learning as it can draw learners' attention to these forms (Mackey, 2006). In addition, the effects of feedback and form-focused instruction have been found to contribute to language learners' accuracy in writing skills (Lightbown & Spada, 1990; Spada & Lightbown, 1993). As learners interact with others, the teacher, and the learning materials through participation in classroom activities, teachers need to create conditions in which learners can receive feedback to enable them to notice gaps in their language. Feedback can be provided based on two categories – positive and negative evidence (Long, 1996). Positive evidence provides language learners with models of what is

grammatically correct in the language being learned, and negative evidence provides students with direct or indirect information on what is acceptable.

Feedback can also be provided explicitly or implicitly. Explicit feedback involves explaining errors directly to learners and by providing metalinguistic explanations or overt error correction. Explicit feedback has been viewed as advantageous as it identifies the exact location and nature of the learners' errors, which can enable them to notice and act (Carroll & Swain, 1993). It contributes to learners' linguistic accuracy and is effective in the long-term (Lightbown & Spada, 1990; Muranoi, 2000; Williams & Evans, 1998) and is perceived positively by learners as it enables them to mediate instruction and language learning (Rosselle, Sercu, & Vandepitte, 2009). Implicit feedback can be provided in the form of recasts. Recasts involve providing learners with the correct form immediately after the error (Long, 1996, 2007) and generally occur with greater frequency in classrooms interactions (Ellis & Sheen, 2006). Recasts can assist learners to focus their attention on language forms. The use of recasts has been reported to be less threatening to the learners' confidence, and minimises disruption to the flow of interaction (Loewen & Philip, 2006).

Technology also offers the potential to create conditions that enable feedback to be provided to enhance students' language learning. The use of CMC, which enables web based communication either asynchronously or synchronously could support the use of Recasts as a form of implicit feedback in the adult L2 classroom. It could enable teachers to provide feedback to learners via email or online chat to support their language learning (Guichon, Bétrancourt, & Prié, 2012; Lee, 2006, 2008). CMC also facilitates interaction and collaboration between learners, which can enable them to provide feedback to one another and to raise awareness of the language structures they use in their communication (Kessler, 2009; Kessler & Bikowski, 2010; Shih, 2011) as well as draw their attention to focus on language form (Vinagre & Muñoz, 2011). The slower turn-taking in online chat communication allows language learners increased processing and planning time (Payne & Whitney, 2002; Sauro, 2009; Williams, 2005). The increased processing time promotes noticing and production of language which is beneficial for language learning, while the increased online

planning time enables learners to focus on language forms and monitor their language output (Sauro, 2009; Williams, 2005). Further, using text-based chat is advantageous due to it being enduring as opposed to the ephemeral nature of oral communication (Smith, 2005; Williams, 2005). This enduring aspect enables learners to review and compare their output with the feedback provided to improve their final written communication (Sauro, 2009).

Abuseileek (2013) conducted a study to examine the use of computer-mediated corrective feedback to the writing of foreign language learners of English. The study was aimed at investigating how giving and receiving computer-mediated writing corrective feedback affected students' writing performance over time. This study involved 64 tertiary level English as Foreign language (EFL) learners. They were randomly assigned into three treatment conditions involving the giving and receiving of computer-mediated corrective feedback comprising of track changes, word processor, and track changes and word processor, and one control group which did neither received no gave corrective feedback. Data were collected through the use of pre-test, immediate post-test, and delayed post-test. The findings revealed that "using a combination of track changes and word processor to check errors and provide corrective feedback about them is found to be very helpful for EFL learners while writing" (AbuSeileek, 2013, p. 331).

Liang (2010) explored how the different types of online interaction among small peer groups in a synchronous online environment facilitated subsequent writing and revision in the English as a Foreign Language (EFL) writing class. This study involved groups of EFL tertiary-level students in a writing course who used an Internet chat facility to provide peer responses on two different assignments. Data were collected from the online chat sessions, as well as student blogs and the two assignments. The students' online discourse was analysed based on the taxonomy of revision-related discourse as well as non-revision related discourse. While the former taxonomy included the negotiation of meaning, correction of error, discussion of content, and management of task, the latter involved social talk and technical actions. The findings from this study revealed that although the students considered providing peer responses online as fun, they did not support them in their subsequent writing and revision. An analysis of the students' interactions

indicated that content discussion, task management, and social talk predominated in the online chat instead of error correction, or meaning negotiation. The relationship between the different types of online interaction and subsequent writing and revision was found to be complex and dependant on group dynamics and makeup. The findings suggest that such complex online activity might not guarantee revision. This study has implications for language pedagogy in that while "revision-related online discourse in small-group synchronous writing tasks can provide potentially useful pedagogical insights and tools for the teaching of writing" (Liang, 2010, p. 57), there is a need for instructors to be proactive in modelling, scaffolding, and supporting such revision for it to benefit EFL writing.

Baralt, Pennestri, and Selvandin (2011) investigated the potential of using word clouds by examining the use of Wordle, a data visualization tool to support foreign language writing skills. The study was an action research to investigate how the use of Wordle supported classroom teaching of writing and enhanced students' writing. 18 tertiary level foreign language learners of Spanish who participated in this study were required to write and submit drafts of their essays electronically to create word clouds (Wordle) which were used as visual tools. These tools stimulated discussions on the lexical items used, writing strategies, and essay development. The use of Worlde enabled feedback to help the students enhance their writing. They were also observed to have used "more varied vocabulary, more verb tenses, and more accurate grammar in their writing" (Baralt et al., 2011, p. 20).

3.3 Challenges in Integrating Technology

While the use of technology could support to create conditions to facilitate language learning, efforts to incorporate it in the classroom in many educational institutions have not been without their challenges. Various factors have been identified as posing constraints to the use of technology for classroom learning and they have often reflected the same constraints over the years since the inception of technology in classroom learning (Karabulut, 2013; Kopcha, 2012). Some of the constraints concern teachers' limited access to technology (Bacow, Bowen, Guthrie, Lack, & Long, 2012; Johnson et al., 2013), the time required to

use technology (Kopcha, 2012; Laferrière et al., 2013), the cost involved in using technology (Bacow, et al., 2012; Liang & Chen, 2012), the limited training for teachers to incorporate technology in classroom learning (Johnson et al., 2013; Singh, Schrape, & Kelly, 2012), and the lack of administrative support (Bacow et al., 2012; Karabulut, 2013; Kopcha, 2012).

More often the constraints that hamper technology integration are part of the wider sociocultural environment within institutions and can affect classroom use of technology (Bacow et al., 2012; Karabulut, 2013; Laferrière, et al., 2013). Thus, many of these constraints are interconnected, related, and emerge from the complexities that occur in the wider educational environment (Laferrière, et al., 2013).

The following sections will describe the constraints that challenge technology integration in educational institutions. In doing so, it will base the description on four main clusters as identified in the seminal article by Chambers and Bax (2006) which adopted the concept of normalisation. These clusters consisted of logistics; stakeholders' conceptions, knowledge and abilities; syllabus and software integration; and training, development and support.

3.3.1 Logistics

Access is a logistical challenge to the integration of technology. In the recent Horizon Higher Education Report, Johnson et al. (2013) observed that technological infrastructure were still located in "buildings that simply were not designed to provide the radio frequency transparency that wireless technologies require" (p. 9). Providing wireless access is also costly (Violino, 2012). Such limitations can result in institutions being restricted in the types of technological hardware and software they can purchase which involve costs and affect potential for wider access of technology (Bacow, et al., 2012; Liang & Chen, 2012; Violino, 2012). For instance, obtaining licenses for learning software and maintaining these licenses are often costly although practical in areas where access to wireless connections may be difficult or not yet made available. Access to technology thus plays an important role in motivating teachers to use

technology (Ebsworth et al., 2010; Hutchison & Reinking, 2010; Liang & Chen, 2012) and affects particularly those "on the limited end of technology" (Karabalut, 2013, p. 178).

Also, a common practice in many tertiary institutions has been to centralise technological facilities such as computer labs for easier management and security (Cotner, Loper, Walker, & Brooks, 2013; Karabulut, 2013). However, this practice might affect teachers' access to such shared utilities as they are often required to make advanced bookings for their classes which could be a challenge as they need to compete with other classes as well. Although they might have access, the type of computer labs provided might not be within their control and they might not be able to make good use of the software available in the lab, or could not use the facility as the required application might not be installed (Karabulut, 2013). Limited access to technology can thus impede teachers' use of technology.

Time is another logistical factor that can hinder teachers' use of technology in the classroom. Bacow et al., (2012) observe that planning and using technology as part of classroom learning often impose demands on teachers' time especially at the initial stages of adoption. Teachers in their study were reported to be reluctant to commit their time to adopt the use of a LMS which required them to "migrate all the material to digital form, create or adapt a website, provide for online feedback…" (Bacow et al., 2012, p. 21). These demands were in addition to the existing requirements to develop a course which included sourcing for materials, preparing exam items, and marking assignments (Brandau-Brown, 2013; Jimoyiannis, Tsiotakis, Roussinos, & Siorenta, 2013). Furthermore, using technology often requires teachers to commit their time for training and at times for retraining to keep abreast with the latest versions of the technology (Bacow, et al., 2012; Kopcha, 2012). Such commitment can be difficult for teachers who are employed on a casual basis. Employing teachers on a casual basis is a growing trend at many higher institutions (Hodge, 2012; Jenkins, 2013). They are often unwilling to commit their time to attend training in the use of technology especially when they are not reimbursed for their commitment (Cahir, McNeill, Bosanquet, Jacenyik-Trawöger, 2014).

3.3.2 Stakeholders' Conceptions, Knowledge, and Abilities

Another obstacle to the integration of technology relates to the conceptions, knowledge, and abilities of stakeholders particularly language teachers as well as the institutional administration. Teachers' conceptions reflect their reactions towards technology which have been shaped as a result of their positive or negative encounters with it. Kessler (2010) reported that teachers who had no prior experience of using technology for classroom teaching were apprehensive towards its use in the classroom. This reaction was mainly due to their negative experiences with technology and a lack of awareness of its potential to support classroom activities (Kessler, 2010). Johnson et al. (2013) noted that some educators had a sense of apprehension towards technology due to the fear that an emphasis on its use would shift focus away from learning. Such conceptions of technology suggest that teachers lack knowledge about the potential of technology for language learning, which affects their ability to use it effectively to support classroom learning activities. This limitation potentially deters teachers from incorporating technology in their classrooms.

Another group of stakeholders include administrators in educational institutions who are responsible for implementing policies and encouraging practices related to technology. Administrative support is crucial to support teachers to integrate technology. Laferrière, et al. (2013) observed that restrictive policies on the use of technological hardware and software, and access to institutional server impeded teachers' attempts to integrate technology. The tendency for administrators to consider only the views of personnel responsible for managing technology infrastructure in the purchase of technological infrastructure frustrated teachers who believed they should have a say regarding hardware and on how computers could be organised in the classroom (Laferrière, et al., 2013). Graham, Woodfield, & Harrison (2013) investigated institutional adoption of blended learning (a combination of traditional face-to-face and technology-mediated instruction) to determine how university administration could support this endeavour. Attempts at implementing blended learning at a large-scale among various faculties were impeded due to a lack of administrative policy, structure, and the support from the

university administration (Graham, et al., 2013). Thus, institutional administrators who lack clear conception and knowledge as well as the ability to support teachers to use technology can impede efforts to integrate technology in educational institutions.

3.3.3 Syllabus and Software Integration

Efforts to integrate technology in educational institutions can also be impeded by the syllabus of educational programme and use of software. Current developments in the world today due to globalisation, internationalisation, and rapid developments of information and communication technologies (ICT) are continuously transforming lives, work, and learning (O'Dowd, 2013; Voogt et al., 2013). These developments have challenged the one-size-fits-all approach prevalent in many educational courses, which is neither effective nor acceptable to today's diverse students (Johnson et al., 2013). However, educational programmes have been slow to react to such demands as teaching strategies have often not been well implemented to respond to such changes through the use of appropriate technologies (Bacow et al., 2012; Voogt et al., 2013). Voogt et al. (2013) noted that many educational institutions lacked strategies on how to implement large scale pioneering teaching and learning approaches that can incorporate the use of technologies in their academic programmes. This limitation hinders technology integration.

Although technological software or applications are available in most educational institutions, teacher often experience challenges in integrating them as part of classroom learning. Jimoyiannis et al. (2013) reported that although teachers were familiar with using the Internet, it was mainly used to source classroom materials to prepare and support classroom traditional instructional approaches. While teachers were receptive towards the use of Web 2.0 applications such as blogs, wikis, and podcasts in education, they were unable to integrate these applications as they were restricted by the needs of the curriculum that mandated the use of a textbook (Jimoyiannis et al., 2013). Elsewhere, Kale and Goh (2014) reported that teachers experienced challenges in their attempts to incorporate their use of Web 2.0 applications in their classroom teaching. Although teachers were

familiar with at least one Web 2.0 application, their attempts at integrating it into classroom teaching was inhibited because of a standardised and structured curriculum, and a lack of clear ideas on how these applications could be effectively used to support their students' learning (Kale & Goh, 2014).

3.3.4 Training, Development, and Support

Teachers' lack of use technology in the classroom can reflect a lack of training (Bacow et al., 2012; Voogt et al., 2013). A lack of training has been cited regularly as an obstacle to teachers using technologies in their instructional practices (Johnson et al., 2013; Kopcha, 2012). Training, development, and support for teachers to use technology are important to ensure the success of technology integration in the classroom.

While support for the use of technology in the classroom is often provided through professional development (PD) activities such as seminars and workshops, such approaches have largely not been effective to support technology integration in the classroom (Kelly, Singh, & Schrape, 2011; Kopcha, 2012). Kelly et al. (2011) criticised conventional training for technology use that consisted of one-off workshops, as this form of support had limited continuity and did not consider the context of the teachers involved. As such training was also focussed on knowledge and skills transfer as it was mainly based on the expert-to-novice model and often supported discrete improvements in practice (Kelly et al., 2011).

Teachers also learn from their own experiences of using technology. While most teachers are familiar with using word processing, email, and the Internet (Garrett, 2009), their personal use of technology seldom translates into professional use (Dooly, 2009). Mishra and Kohler (2006) believe that teachers' lack of knowledge on how to use technology has been due to "a tendency to only look at the technology and not how it is used" (p. 1018). The authors argue that teachers' technological knowledge needs to be considered in its reciprocal interaction with their pedagogical and the content knowledge, and suggest the formation of the technological, pedagogical, and content knowledge (TPACK) framework which

has been previously discussed in section 2.2.3 in this chapter. The framework provides valuable insights into the nature of teachers' knowledge of how to use technologies effectively. Teachers' lack of knowledge on how to use technologies needs to be considered in efforts to address the challenges in technology integration.

3.3.5 Summary

Many issues contribute to hinder efforts in integrating technologies in the instructional practices of language teachers in the classroom. These issues reflect the interactions occurring between the social and cultural aspects with the educational environment. To address these issues, there is a need to explore how teachers integrate technology on a regular basis against such background.

3.4 Chapter Summary

This chapter has described the related literature review pertinent to this study. Studies adopting the use of Activity Theory emphasise the importance of context in researching educational technology, the relationship between the level of the individual such a teachers and the community within the educational environment, and how tensions could be managed to enhance efforts for technology integration. Conditions that can facilitate classroom language learning include the need to provide learners with extensive and rich personalised language input, sufficient opportunities to produce output (particularly in the context of interaction), and feedback on the learner's comprehension of input and production of output to enable them the opportunities to learn and participate in language learning. The use of technology has the potential to support these conditions as well but this is not without its challenges, which involved four main areas: logistics, stakeholders, syllabus and software, training, development, and support.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.0 Overview

This chapter describes and justifies the methodology used in this research. It explains the contextual and theoretical considerations that underpin the study. Following these considerations, details of the two study sites are described. The data collected at each study site consist of semi-structured interviews, work-together sessions, and classroom observations, and these methods are explained in detail. Next, the criteria for establishing rigour in qualitative research, which consists of creditability, transferability, dependability, and confirmability are explained. A description of how the data obtained were analysed is also provided. The chapter ends with a summary of the main issues presented.

4.1 Research Methodology

Research methodology has been defined as "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes" (Crotty, 1998, p. 3). In identifying a suitable research methodology to investigate the integration of technology in instructional contexts, the choice and use of the particular data collection techniques used in this study were guided by such considerations as the research context and conceptual underpinnings of various data collection methods.

This study investigated the integration of technology with a focus on the use of Moodle in two tertiary level English programmes in the context of New Zealand. It adopted the concept of normalisation and examined the teachers' use of Moodle in real-life contexts. The teachers expressed an interest to use Moodle as part of their classroom activities. The aim of this study was to explore the use of Moodle in each programme to determine how it supported classroom language learning, identify the challenges experienced in using it, and address ways in which the challenges could be addressed. The main participants in this study were language teachers and other participants such as students, programme administrators, and technology support personnel also took part in this study.

The study located the researcher in the instructional context to observe how teachers engaged with the social and human factors that interacted within the technology-enhanced environment. Such observations enabled the researcher to explore the teachers' perspectives of the integration of Moodle by examining their experiences, practices, and responses to the use of it in their instructional approaches. Their perspectives of the integration were obtained through a series of interviews, and based on field notes from classroom observations, as well as work-together sessions. The views of the administrators, technological support personnel, and students were also obtained through the interview method. The perspectives of all these diverse participants offered multiple perspectives on the integration process, and provided a holistic view of sociocultural dimensions of each instructional context.

The following sections will explore the contextual and theoretical considerations, which provided the basis for this qualitative research study.

4.2 Contextual considerations

The choice and selection of research methods are informed by the research questions and shaped by the context of the study. The following sections will explore the contextual considerations of this research by discussing the purpose of the study, the research perspective (normalisation) and the methodological implications of using Activity Theory as an interpretative framework.

4.2.1 The Purpose of the Study – Integration of Moodle

The overall purpose of this study was to investigate the integration of Moodle in the two tertiary level English language programmes. Patton (2002) asserts, "Purpose is the controlling force in research. Decisions about design, measurement, analysis, and reporting all flow from purpose" (p. 213). This study focused on individual English language teachers and examined their use of Moodle. The focus on the teacher was crucial as they "determine how and why technology is used in language teaching" (Egbert et al., 2009, p. 755) and in the process were directly involved in integrating computers in their language classrooms (Egbert, 2005; Kern, 2006). As teachers were actively operating

within the instructional context on a daily basis, there was a need to explore the integration of technology from their perspectives.

Their perspectives were explored through investigation of their previous and current experiences, practices, and affective responses to the use of technology in their instructional approaches. Such perspectives reveal the meaning they attributed to their experience of interacting within a technology-enhanced instructional context.

The research also obtained the views of the students, language programme administrators, and those who provided technological support to teachers in their use of Moodle. These views provided the study with multiple perspectives to further understand how Moodle was being integrated within these tertiary level English language programmes.

4.2.2 The Perspective of this Study – Normalisation

Identifying a suitable perspective is important as it "determines the outcome of the research, what we perceive as important, the conclusions we make, and the implications we suggest" (Egbert, 2005, p. 7). This study adopted the perspective of "normalisation" (Bax, 2000, 2003) through which technology is viewed as a learning resource in the instructional environment (see Chapter One section 1.2.2). By considering technology as a resource, it is considered commonplace in the language classroom and teachers incorporate it in normal instructional practices, similar to how a course book or the whiteboard would be used (Bax, 2000, 2003).

The concept of normalisation requires that research exploring the integration of technology consider the complexities that occur in real-life instructional contexts and the perspectives of teachers who are expected to use technology in their instructional practices. Attention needs to be focussed on the interactions that occur between the human and social factors that interrelate and operate within the context as they can determine how technology is integrated (Chambers & Bax, 2006). Teachers and their daily use of technology as a resource in the language

classroom also need to be considered. The decisions they make can be examined through responses to the issues and challenges that they experience during the integration process. The perspective of normalisation is important to this research, as it has placed technology centrally as a learning resource, which has allowed for a consideration of complex instructional contexts and the viewpoints of language teachers (Egbert, 2005; Egbert et al., 2009; Huh & Hu, 2005).

4.2.3 The Methodological Implications - Activity Theory

Drawing on Activity Theory as an interpretive framework has particular methodological implications given the descriptive nature of the framework. These implications concern the value of researching human activity in real-life contexts and of employing a variety of data collection methods to provide multiple perspectives of the learning activity. Both these implications are discussed below.

Activity Theory emphasises that research investigating human activities within a particular setting must be in the context of real-life activities. This focus enables research to investigate how people engage in activities that involve goals, objects, and outcomes, which drive that activity and the social and cultural relationships among groups of people (Engeström, 2001; Jonassen, 2000a; Kaptelinin & Nardi, 2006). As these relationships involve mediation through tool use, research needs to pay close attention to how, when, and where that mediation occurs. In particular, the concept of distributed cognition needs to be considered, as knowledge and understanding are not exclusive but are collectively shared among the community through the use of cultural artefacts. Activity Theory provides a robust interpretive framework for describing the culture of a setting particularly in relation to the cultural artefacts such as tools, the role of the community, and social rules. The use of qualitative data collection techniques, which include the use of interviews and classroom observations, are valuable and can contribute to a description of the classroom culture. This in turn can enhance deeper understanding of the meaning of activities that occurred in the educational setting.

4.3 Theoretical Considerations

The use of research methods cannot be regarded as simply a technical exercise (Cohen, Manion, & Morrison 2011) and methods are not value-neutral (Bryman, 2008, p. 4). Research methods are shaped by epistemological and ontological considerations, as well as the belief paradigm, which underpins them. A paradigm can be defined as "a set of propositions that explain how the world is perceived" (Sarantakos, 2005, p. 3). A paradigm also "shape[s] how the qualitative researcher sees the world and acts in it" (Denzin & Lincoln, 2003, p. 33). Having identified a suitable paradigm, a researcher decides on a particular way to view the world (Creswell, 2009).

The following section will briefly review two main aspects that informed the research methodology and the use of a qualitative approach. One aspect is the epistemological which involves positivism and interpretivism (Bryman, 2008). The other aspect is the ontological which concerns objectivism and constructivism (Bryman, 2008). These two main underpinnings are described in the following sections.

4.3.1 Epistemological Considerations

The epistemological "concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline" (Bryman, 2008, p. 13). Bryman (2008) identifies the epistemological from two broad opposing positions - positivism and interpretivism. Positivism regards knowledge as acceptable based on hard tangible facts that are observed and confirmed through the sense of experience (Bryman, 2008; Cohen et al., 2011). Such an approach involves the understanding of knowledge by gathering facts and conducting research from a value-free or objectivist perspective (Bryman, 2008). Interpretivism regards knowledge as obtainable by examining how the world is interpreted by those who participate in it. Intrepretivist research therefore, seeks to explain and by doing so, achieve understanding (Bryman, 2008). As people interpret their world differently, the understanding that they possess is personal and needs to be understood from their subjective viewpoints. Therefore, the epistemology of interpretivism recognises that there are a multiplicity of realities and considers that no particular one is

superior to another (Crotty, 1998). In order to understand such reality, the researcher needs to engage with the participant's world in its naturally occurring state. Such engagement enables the researcher to access and study the participants' interpretations of their world.

4.3.2 Ontological considerations

The ontological concerns the "nature of social entities" (Bryman, 2008, p. 18). In describing ontological considerations in research, Bryman (2008) observes that the focus of an ontological orientation is,

> the question of whether social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructionism build up from the perception of and actions of social actors. (p. 18)

An ontological orientation provides the basis for two broad positions: objectivism and constructivism (Bryman, 2008; Cohen et al., 2011). Objectivism concerns reality as independent from human consciousness and suggests that this is the same meaning for everyone (Bryman, 2008; Sarantakos, 2005). Constructivism asserts that reality is constantly changing, as it is continuously being constructed and reconstructed by people as they engage with their world (Crotty, 1998). As such, social entities are in a constant state of revision (Bryman, 2008; Cohen et al., 2011) and the activities and practices that occur as a result of the interactions between human beings and their world give meaning to the social entities (Bryman, 2008; Crotty, 1998). Individuals construct knowledge about reality and in the process involve them collectively sharing an understanding of a social entity such as the idea of culture which can act as a point of reference for individuals to construct meaning (Bryman, 2008; Cohen et al., 2011).

To summarise, this section has discussed the epistemological and ontological considerations. In particular, the interpretivist and constructionist positions illustrate a reality that is complex and changing. It is thus crucial that complexity is acknowledged and described as it occurs in a research context. This complexity provides a basis for the researcher to strive to avoid interventions as much as

possible although there were instances where such intervention was inevitable. The following section discusses the non-interventionist approach that was adopted in the research.

4.3.3 Non-Interventionist Approach – Work-Together Sessions

The study adopted a non-interventionist approach to explore the use of Moodle in two tertiary level English language programmes. The researcher did not intend to interrupt the participant teachers' daily practices within their classrooms. Moreover, as a foreign doctoral student, the researcher had incomplete knowledge of how language programmes were conducted in the New Zealand tertiary context.

As described in the previous chapter, the teachers who participated in this research had indicated that they wanted to use Moodle. They intended to make selected text-based exercises available in an online learning environment. They requested assistance from the researcher to guide them in using Moodle for that purpose. The researcher guided the teachers by working together with them in 'work-together' sessions to create online discussion spaces using the Moodle forum to upload these exercises online. The work-together sessions were conducted individually with teachers and at times convenient to them. Further details of the work-together sessions are described in the data collection section of this chapter.

The idea of the work-together sessions was developed as a partnership between the researcher and teacher participants. Such partnerships are advocated as a way for researchers to consider explicitly the classroom context when teachers integrate technology into instruction (Egbert, Akasha, Huff, & Lee, 2011, Egbert et al., 2009; Sharp, 2012). By considering the context in which language teachers function on a daily basis, a non-interventionist approach provided the researcher with the opportunity to observe teachers' practices and to explore their thinking by letting questions arise from teacher experience (Chapelle, Compton, Kon, & Sauro, 2004; Felix, 2005).

4.4 Qualitative Research

This study involved the use of qualitative research. Qualitative research is concerned with understanding human or social issues within naturally occurring environments (Creswell, 1998; Denzin & Lincoln, 2000). Such an approach locates the researcher in the world of the research participants to examine how they operate and interact in their environment. It enables the researcher to discover how participants understand and interpret their experiences (Bryman, 2008; Denzin & Lincoln, 2000). As qualitative research can enable in-depth interpretation of contexts, the holistic picture thus created can capture the complexity of the processes and the detailed views of participants (Creswell, 1998).

The qualitative research framework adopted in this study is also influenced by two main research approaches. These approaches are the ethnographic and the case study. Each approach is described in the following section.

4.4.1 The Ethnographic Approach

Context plays an important role in investigating technology integration as social and human factors that operate and interact within it can influence how technology is integrated. An ethnographic approach to research seeks to discover and investigate the "social and cultural patterns and meaning" within a context (Schensul, Schensul, & LeCompte, 1999, p. 1). The approach aims "to come to a deeper understanding of how individuals view and participate in their own social and cultural worlds" (Harklau, 2005, p. 179), by describing a culture and the understanding of it from an insider's perspective (Neuman, 2006). McCurdy, Spradley, and Shandy (2005) define culture as "knowledge that is learned and shared and that people use to generate behaviour and interpret experience" (p. 5). As the ethnographic approach is concerned with the social and cultural aspects, and how those who operate within the instructional contexts experience and interpret these aspects, it is suitable and useful in describing and understanding the context in which technology is integrated (Chambers & Bax, 2006).

In the context of this study, an ethnographic approach was employed as it explored a social setting which consisted of language classrooms; it focussed on a limited number of case studies as it involved two tertiary institutions which offered English language programmes; it dealt with data that were unstructured such as those obtained from interviews and classroom observations; and it analysed the meanings that people attached to their experiences of integrating technology in their social setting. To describe and understand the context, this study utilised the methods and strategies associated with an ethnographic approach as tools to generate data on the social and cultural aspects of teaching and learning contexts (Atkinson & Hammersley, 1994; van Donge, 2006; Watson & Till, 2010). Green and Bloome (1997) identified a three-way distinction with regards to conducting ethnography, adopting an ethnographic perspective, and using ethnographic tools. While the first two involves focus on the theory of sociology and/or anthropology, the third distinction relates to the use of techniques and methods, which are employed in fieldwork. This study adopted the third approach as it employed ethnographic techniques and methods such as interviews, and observations, which were carried out in this study as will be described later in the chapter.

4.4.2 Case Study

The case study has its origins in anthropology, sociology, history, and psychology (Simons, 1980) and has been used extensively in educational research (Adelman, Kemmis, & Jenkins, 1980; van Lier, 2005). A case study can be defined as "an intensive description and analysis of a phenomenon or social unit such as an individual, group, institution, or community" (Merriam, 2002, p. 8). It enables the researcher to gain comprehensive understanding of a phenomenon as a "functioning specific" (Stake, 2003, p. 135).

A case study is particularly useful for investigating complex phenomena to provide rich, detailed, and holistic descriptions of the characteristics of a bounded environment (the "case") (Creswell, 2009; van Lier, 2005; Yin, 2003). A case study is bounded and can focus on particular phenomena (Stake, 2003). This bounded aspect can also guide decisions about how data will be collected and

establishes what needs to be explored (Yin, 2003). The case makes the use of multiple methods in collecting data possible because the context is focussed (Yin, 2003).

In the context of this research, the use of the case study was considered appropriate. It involved examining the language teachers' use of technology in instructional activities particularly those that were constructed in the Moodle learning environment at two tertiary institutions, which offered English language programmes, as case study sites. The boundary for each case was the language programme. By emphasising a focus on the language programme as the boundary for a particular case, the natural context of the situation can be better probed in terms of its "…characteristics, dynamics, and purposes" (van Lier, 2005, p. 195), and as a process (Merriam, 1998) which can be approached from multiple perspectives (Yin, 2004).

In summary, the previous section has deliberated on the choice of the qualitative research framework as the methodological design in this inquiry. It considered ethnographic and case study approaches that are relevant to this study. In the following section, a brief description is provided on how the case study sites and research participants were identified. Following this description, the data collection methods that were used and how the data were collected for this study are described.

4.5 Case Study Site Selection

Two tertiary institutions each offering an English language programme were located in the same metropolitan area as the researcher and were selected as case studies on a convenient sample basis. Both institutions have technological infrastructure, which included Wi-Fi internet connection in and around the campus, computer labs, and computers in the library and the self-access centre for the convenience of students and staff. The teachers were also provided a desktop computer at their work area. They were encouraged to use technology in the language programme. These features were somewhat characteristic of many learning contexts (Kim & Rissel, 2008; Kirkwood & Price, 2014). While the

English language programmes may appear similar on the surface, each represented a case study that was unique in terms of course design, delivery, and administration.

Having identified the case study sites, the researcher applied for and received the formal university-level human research ethics approval to conduct the study. This approval allowed the researcher to access the teachers, students, and key informants such as programme administrators and those who provided technology support to the teachers in the English language programme at each tertiary institution. The following section will describe each case study site.

4.5.1 Description of Case Study Sites

The English language programme at each institution was offered at a pre-degree level to overseas students whose first language was not English. The English language programmes were aimed at developing student language proficiency to prepare them for tertiary level study. The students had not gained sufficient scores in the International English Language Testing System (IELTS) or the Test of English as a Foreign Language (TOEFL) to qualify them for direct entry into degree programmes. The following sections will describe each case study within their respective sites in terms of its structure, curriculum, access to computers, and the teacher participants.

4.5.1.1 Study Site A

Site A was a tertiary institution that offered academic degree programmes at undergraduate and postgraduate levels. The institution through an affiliated academic unit also offered a certificate level English language programme to international students who were unable to meet the minimum English language requirement to gain direct admission into degree level programmes such as Business, Computer Science, Engineering, or Education. The language programme was for a total of 12 weeks (a teaching "block"). There were four intakes a year for this programme, which corresponded to four teaching blocks. The academic calendar for the programme was independent of the semester-based

academic calendar of the institution. Data were collected from this site during the second teaching block (April – June 2009) for a period of 12 weeks.

The programme consisted of eight levels ranging from elementary to advanced. Student classroom contact hours at each level were 23 hours per week each class. Classes ran in the mornings from Mondays to Friday for three hours (9.00 am to 12.00 noon) per lesson and in the afternoon on Mondays, Tuesdays, Thursdays, and Fridays for two hours (1.00 to 3.00pm) per lesson. There were no afternoon classes on Wednesdays, as that time was reserved for staff meetings or professional development programmes. The morning classes at all levels focussed on the four language skills of reading, writing, listening and speaking, as well as vocabulary, and grammar. At the intermediate level (students who might be expected to score between a band of 4.5 and 5.5 based on a standardised assessment such as the IELTS) to the advanced level (students who might be expected to score between a band of 5.5 and 6.5 based on a standardised assessment such as the IELTS), the emphasis was on academic study skills such as note-taking, research, and oral presentations. The afternoon classes consisted of a language skills programme, which was compulsory for the lower levels (students who might be expected to score between a band of 1.0 and 4.0 based on a standardised assessment such as the IELTS). Those at the intermediate to the advanced level could choose from a range of options such as IELTS preparation, Business English, and Academic Reading and Writing, or Listening and Speaking.

This research focussed on a Level Five, which can be considered as an intermediate level. There were four classes at this level and each class had approximately 20 students. The level did not have a curriculum that prescribed the learning areas, determined the delivery of the academic content, recommended teaching approaches, or identified the number or types of assessments. There was also no language syllabus that provided the specific language learning content and how this content was organised and sequenced. The delivery of the Level Five programme closely followed the course outline, which was made available to all students including the researcher. The course outline described the structure of the level, listed the learning objectives, provided information on the classroom schedule, prescribed the textbook used, and explained the teaching methodology.

Classroom lessons were organised around five learning units based on the prescribed textbook which focussed on the reading skill. Each teacher was provided with this textbook and also an accompanying teacher's manual. The students were also provided with a copy of the textbook. Each learning unit in this textbook contained two chapters and each chapter consisted of four topics. In total there were 10 chapters and 40 topics, which needed to be covered during the 12-week teaching block. One chapter was covered each week and began every Wednesday of the week (this second teaching block began on a Wednesday) and ended on the Monday of the following week. A typical lesson consisted of students and teachers discussing the notes made by the students based on their daily reading of the texts in each topic in the textbook. Such discussions concerned the extent to which the essential information in the text were identified and included in the students' notes. The students were also required to complete a series of reading comprehension questions and occasionally vocabulary and grammar exercises in the textbook when time was available during the lesson.

In addition to reading, there were also listening and speaking activities. The listening activities corresponded to the topics in the textbook. Students listened to audio recordings of dialogues and lectures in a classroom lesson, wrote notes based on what they heard, and discussed the information within the same lesson. These notes were then used to support the students' classroom speaking activities and writing assessments. The classroom speaking activities were conducted every Monday at the end of each chapter. During the speaking activity, each student was provided with a printed "task card" that contained a set of rubrics. These rubrics stated the topic and listed key points to guide a student to speak about the topic. These task cards were prepared by teachers who had previously taught Level Five, but had since left the institution or were teaching at other levels in the programme. The students were organised in pairs and given one minute to individually prepare their responses following the requirements stated in a task card before taking turns to speak to one another about the topic for two minutes.

The writing activities were part of the course assessments and consisted of two process writing exercises, a summary, and a final essay. The process writing involved the stages of drafting, redrafting, and writing the final product, which

lasted for two weeks per exercise. The drafting stage involved the students composing a complete essay in class for two hours and submitting it as a first draft for the teacher's comments. In the following week, this first draft with the teacher's comments was returned to the students for redrafting. After incorporating the teachers' comments, this revised draft was submitted by the students to the teacher on the same day, as a second draft. Within the same week this second draft containing the teacher's comments was returned to the students for the final drafting and then submitted by the students as the final essay. The last two stages (redrafting and writing) were conducted for one hour each time during scheduled computer lab sessions, as students were required to word-process these drafts. There were two process-writing exercises at this level. The first exercise was conducted in week three while the second exercise was in week seven. The implementation of the process writing exercise is illustrated in Table 4.1 below.

Table 4.1

Implementation of the process writing exercises at Study Site A

Week	Stage	Location	Duration
Three / Seven	Drafting	Classroom	Two hours
Four / Eight	Redrafting (second draft)	Computer lab	One hour
	Writing the final product (final essay)	Computer lab	One hour

The last two writing exercises were the summary, which was conducted as an in-class assessment in week nine of the teaching block, and the final essay, which was administered in week 11 as part of the final examination for the level.

Course assessments at this level were progressive and included the assessment of the four language skills. In addition to the writing assessments described earlier, there were three reading and listening tests and two speaking assessments. The first speaking assessment was conducted in week seven while the second assessment was at week 12. As for the reading and listening the first test was administered in week nine, the second test in week 11, and the final test in week 12. In total, nine assessments (four writing assessments, three reading and listening tests, and two speaking assessments) were conducted during the 12-week

teaching block at this site. Table 4.2 illustrates the schedule of the various course assessments during the teaching block at Site A.

Table 4.2

Schedule of the various course assessments at Site A

Week	Course assessments
3	Writing assessment 1 (process writing)
7	Speaking assessment 1 Writing assessment 2 (process writing)
9	Reading and Listening Test 1 Writing assessment 3 (summary)
11	Reading and Listening Test 2 Writing assessment 4 (final essay)
12	Speaking assessment 2 Reading and Listening Test 3

There were marking criteria, which were used to evaluate the students' performance in each assessment. The students were provided with a summary derived from the criteria as feedback. The researcher was not privy to this information.

Computers were used by teachers and students at Level Five. All teachers had access to an individual desktop computer in their work area and were observed using various software applications (such as word processing, electronic grade book, web browser, and email) for teaching preparation and administrative work. Students had access to the computer in spaces that were designated for the English language programme. These spaces included a small computer room (seating capacity of approximately 10 students at any one time) located at the English Language Resource Centre and one networked computer lab (seating capacity of approximately 20 students at any one time). While the resource centre was located approximately a five-minute walk from the teaching rooms, the lab was located approximately a 10-minute walk away from the main classroom building. Both spaces were opened to students from Mondays to Fridays from 8.30am to 5.00pm.

The computer lab was a shared facility with other levels in the English language programme and the use of it was organised based on a schedule to ensure fair access. Although there were other computer labs available throughout the institution, the English Language Programme students had no access to them as these spaces were for students pursuing the various degree programmes.

The institution's campus was Wi-Fi connected and Internet access was provided on a pre-paid basis. The students were required to do this transaction electronically using their student identification card at stipulated terminals around the campus. Students were also able to access the Internet on their mobile devices by logging into their institutional student portals for the pre-paid access or by purchasing pre-paid or post-paid plans from the various mobile phone service providers in New Zealand.

In the classrooms, except for three rooms which each had an interactive whiteboard (IWB) recently installed, none of the classrooms had a computer. Students were taken to the computer lab as mentioned above to word-process the two process writing drafts. Lab sessions were organised as part of the classroom schedule before the teaching block commenced to ensure equitable access to the space for all Level Five classes to word-process their writing. Each Level Five class was provided access to the lab twice in this teaching block and each session was for the duration of one hour.

At the beginning of this study, five teachers voluntarily participated in the data collection. However this number of participants was reduced to three. One teacher had to opt out at the end of the second week of data collection, as she had to take a long leave to attend to a personal matter overseas. Another teacher was not able to participate in all interviews as she went on maternity leave during the latter part of the data collection. Three teachers participated in this case study and were identified as Teacher One (T1), Teacher Two (T2), and Teacher Three (T3). T1 coordinated the team of teachers teaching Level Five. This role required her to ensure the smooth running of the programme at Level Five in terms of the synchronisation of lesson topics and the administration of the required

assessments. She also assisted the Programme Administrator for the English Language Programme.

The three teacher participants came from different academic backgrounds with varying teaching experiences. They had undergraduate degrees that were not related to English Language Teaching (ELT). T1 was trained as a primary school teacher and during the period of the data collection, was pursuing a postgraduate diploma in Second Language Teaching (SLT), which was offered at the tertiary institution. Both T2 and T3 majored in language studies. In addition, all teachers had obtained the Certificate of English Language Teaching to Adults (CELTA). In terms of their teaching experience, all the three teachers had been teaching at the study site, T1 for eight years, T2 for approximately three years, and T3 for approximately seven years.

At this institution, language teachers were hired based on a continuing, fixed, or casual contract. Those on a continuing term contact were guaranteed employment every year. Teachers who were employed on a continuing basis worked an average of 40 hours a week. These hours included a classroom contact time of 19 hours per week. They were also expected to develop and update teaching and learning materials, prepare and mark course assignments and assessments, and attend main staff meetings as well as team meetings as required. As for teachers employed on a fixed term, they were hired on a yearly term and had to reapply for another contract every year. These teachers too worked an average of 40 hours a week, but their classroom contact hours varied and were determined by the number of classes at a particular level. They could also be assigned additional hours to teach as relief teachers and were paid on an hourly basis based on their fixed term salaries. Teachers employed on fixed term contract were also expected to develop and update teaching and learning materials, prepare and mark course assignments and assessments, and attend main staff meetings as well as team meetings as required. The casual teachers were employed on a needs basis and paid an hourly rate.

At this intermediate level, two teacher participants – T1and T3 were employed on a continuing basis and taught one class each – Class 1 and Class 2. T1 taught one

class (Class 1) for three days (Wednesdays, Thursdays, and Fridays) per week in the morning. T2 who was on a fixed term contract shared the teaching of Class 1 with T1. T2 taught Class 1 twice (Mondays and Tuesdays) per week in the morning. T3 taught another class (Class 2) from Mondays to Fridays every morning. In addition, each teacher taught on either a language skills programme or the options during the afternoon classes. In total each teacher taught 19 hours per week. Details of the three teachers, terms of employment, class allocated, and teaching schedule for Level Five are provided in Table 4.3 below.

Table 4.3

Details of the teachers, terms of employment, assigned class, and teaching schedule for Level Five - Study Site A

Teacher	Terms of employment	Class allocated	Teaching schedule
T1	Continuing	Class 1	Wednesdays, Thursdays, and Fridays (Three hours)
T2	Fixed	Class 1(shared with T1)	Mondays and Tuesdays (Three hours)
T3	Continuing	Class 2	Mondays to Fridays (Three hours)

These teachers had expressed their interest to participate in the research as they believed that the use of technology could support their students' classroom language production. In particular, they were interested in using Moodle, which had been introduced at this institution in 2006 and implemented in 2007. All teachers however, had never used Moodle in the programme prior to this study. There was no indication that the use of Moodle was mandated by the tertiary institution.

Support for teaching staff to use Moodle at this institution was provided by a centralised eLearning unit within the tertiary institution, which had been established two years prior to this study. Training in the use of Moodle was provided in the form of a series of workshops for teachers and was managed by the eLearning unit. These workshops were organised at designated computer labs and involved a hands-on approach. A schedule of the workshops, which were

organised throughout the year, was available on the main Moodle page and the main page of the eLearning unit. Teachers were encouraged to attend these workshops before attempting at using Moodle. Access to the LMS site, which was known as a "Moodle Paper" was provided by the unit upon request by the teachers. A Moodle paper consisted of the online site complete with all the accompanying features. One Moodle paper was provided to all teachers to be shared at Level Five. On the basis of Moodle training being readily available, the researcher assumed that the teachers had attended / were attending as will be described in the discussion chapter. This assumption however, was unfounded. The implications of the assumption will also be discussed in the concluding chapter.

The teachers intended to use Moodle to provide their students with the opportunity for asynchronous learning. Moodle was used to support the students' classroom speaking. Discussion forums were created on Moodle and involved the task cards used during the classroom speaking activities as described earlier. Instead of providing the students in class with a printed copy of a task card or rubric containing the set of criteria, which stated the topic and listed key points to guide a student to speak about the topic, the information was uploaded as text on to the online forum. The online text information was referred to as a "Speaking Exercise" by the teachers and this term will be used throughout this study in the subsequent chapters which reported the findings and discussed the key themes.

The students were then expected to post their responses online to the topic based on the key points in text form, to share the information with their peers outside classroom learning hours. They were required to incorporate the notes from their reading and listening classroom lessons in their online responses. This approach in using Moodle was aimed at giving students more time outside the classroom learning hours to prepare for the weekly classroom speaking activity. The teachers expected that the availability of many ideas online could provide the students with more information that they could use to help them prepare to speak in the classroom. During the classroom speaking activity, each student was given two minutes to speak about the topic in front of the class.

All three teachers at this study site agreed to take turns to upload the information by every Wednesday morning. They also agreed to organise classroom speaking activities for 30 minutes every Monday morning in the following week. As the teachers had never used Moodle, they requested the researcher's assistance to create the online forums. In total, nine forum discussions were created for each class on Moodle.

4.5.1.2 Study Site B

Site B was a tertiary institution that offered vocational and academic programmes ranging from the certificate to the postgraduate levels through several Schools. One of these Schools offered a certificate level English language programme to international students who were unable to meet the minimum English language requirement to gain direct admission into the mainstream programmes, such as Electrical Engineering, Hospitality, Nursing, or Engineering Technology. The language programme was for a total of 18 weeks. It was divided into two sessions of nine weeks each with a two-week study break at the end of the first session. There were two intakes a year for this programme which corresponded to two teaching blocks. The academic calendar for the programme corresponded with the semester-based academic calendar of the institution. Data were collected from this site during the second teaching block (July-November 2009) for a period of 18 weeks.

The English language programme consisted of four levels ranging from Level One to Level Four. Two levels were covered per teaching block of 18 weeks. For example, Level One was organised and delivered in the first session of nine weeks while Level Two commenced after the two-week study break and delivered in the second session of nine weeks. At each level, classes were conducted in the mornings from Mondays to Fridays while in the afternoons classes were organised from Tuesdays to Fridays. There was no afternoon class on Mondays, as it was reserved for staff meetings or professional development programmes.

Course delivery for each level was organised based on two separate modules – Listening and Speaking, and Reading and Writing. Students enrolled at each level

attended both modules as a class. The student classroom contact hours for the listening and speaking module were 11 hours per week while for the reading and writing module, it was 12 hours per week. In total, classroom contact time for one class at each level was 22 hours per week. The schedule for each module varied for each class. A lesson was typically for a duration of three or two hours and could be scheduled either in the morning from 9.00am to 12.00 noon or 10.00am to 12.00 noon, or in the afternoon from 1.00 to 4.00pm or 1.00 to 3.00pm.The programme was aimed at developing the students' language proficiency through the teaching and learning of the language skills. It also prepared them for tertiary level study by developing advanced study skills such as note taking, time management, and referencing.

The research focussed on a Level Three and Four, which consisted of students who scored between a band of 4.5 and 5.5 based on the IELTS test. There was only one class of approximately 25 students enrolled for the two modules at each level. The language programme did not have a curriculum that prescribed the learning areas, determined the delivery of the contents, or recommended the appropriate teaching approaches. There was also no language syllabus that provided the specific language learning content and how this content was organised and sequenced. Teaching and learning materials were prepared and developed by the teachers teaching a level and were sourced from a variety of online and printed resources. There was no prescribed textbook.

The delivery of the programme closely followed the requirements as stated in a course outline, which was made available to all students as well as the researcher. This outline contained a description and structure of the course, its learning aims and objectives, the teaching schedule, programme policy, and assessment guidelines. Classroom lessons for each module at Level Three and Four were organised based on four themes – Culture, New Zealand, Tourism, and Education. These themes were in existence since the inception of the programme but the sequence of each theme was determined by the Programme Administrator. Depending on the module, a typical listening and speaking lesson involved students listening or watching audio visual materials such as lectures, documentaries or films, and then discussing issues, presenting short talks,

completing comprehension, grammar, and vocabulary exercises, or debating particular topics. While listening activities were typically conducted as a whole class, speaking activities often consisted of individual or small group (not more than four members) presentations. A typical reading and writing lesson involved students reading and understanding academic texts, working on academic word lists, completing comprehension, grammar, and vocabulary exercises and writing journals and essays, as well as preparing essay outlines.

In terms of assessment, the students were expected to successfully complete and pass three assignments for each module. Although there was marking criteria for each of assignments, the researcher was not privy to such information. There was also an end-of-block assessment. All students were required to pass all assignments and the final assessments to be awarded a certificate.

Tutorials were also organised by the teacher teaching a module as part of the classroom lessons. During the tutorial sessions the teacher discussed the planning for the course assignments with the students or organised extended language learning activities either at the self-access centre or the computer lab to support the development of language skills, grammar, or vocabulary. Tutorials were usually organised once a week at the discretion of the teacher.

Computers were used by teachers and students at Level Three and Four. All teachers had access to an individual desktop computer at their work area and were observed using various software applications (such as word processing, electronic grade book, web browser, and email) for teaching preparation and administrative work. Unlike Study Site A, the students of the English language programme had the same access as all other students at the institution to networked computer facilities. The institution was also Wi-Fi connected and the cost for the use of the Internet on campus was part of course tuition fees. Computer facilities were provided mainly at the student hub– a common area where other amenities such as student study areas, library, cafés, and photocopying services were provided. This hub was open 24 hours for seven days a week.

There were also computer labs located on the institution's campus for all students to use. For teaching and learning purposes, one computer lab was assigned to this level and was located approximately a 20-minute walk from the main classroom building. It was opened from 8.30am to 5.00pm five days a week. This computer lab was a shared facility with other levels in the English language programme and the use of it was organised based on a schedule to ensure fair access. This computer lab was equipped with a commercially produced proprietary language learning lab system, which was purchased by the institution for the School. All teachers were encouraged to use this system, which was Windows PC compliant and available on a local area network. This lab system supported a multimedia based, open learning environment that enabled teachers and students to share learning materials and work together or independently to enhance language proficiency. For instance during a lab session, a teacher could assign a listening activity to a small group of students and they could listen to it using the accompanying headsets and complete the exercises while another group of students could be assigned to work on an audio-visual activity.

An online language-learning package had also been developed by a team of in-house IT programmers and one of the teachers from the language programme for the School. The package contained interactive language learning activities and exercises according to the students' level. A link to this online package was created on the students' portal. The School encouraged all language teachers to use the package and several teachers described using it as part of the self-access learning activity, which were organised as tutorials. There was no indication however, that the use of this online package was mandated.

All classrooms were equipped with an Internet networked desktop computer and a ceiling mounted LCD projector. These facilities were regularly used by teachers during lessons to present video clips, web sites, and PowerPoint presentations. Teachers also took students to the designated computer lab as mentioned above mainly for self-access learning activities. Access to this lab was scheduled on a weekly basis.

At the beginning of the research, four teachers voluntarily participated in the data collection. They consisted of two teachers both from Level One and Two and two teachers both from Level Three and Four. However, the two teachers from Level One and Two were unable to continue their participation in the study. One teacher asked to opt-out in the second week of the data collection, as she was assigned to an administrative task in the institution. Another teacher was unable to participate in the second and third teacher participant interviews, as there was a sudden increase in her teaching load. Thus, the number of participants was reduced to the two teachers teaching Level Three and Four who are identified as Teacher Four (T4) and Teacher Five (T5).

T4 and T5 had different academic backgrounds and teaching experiences – T4 was a Science major while T5 had majored in Theology and Philosophy. In terms of postgraduate qualifications, T4 held a postgraduate diploma in English Language Teaching (ELT) while T5 held a postgraduate diploma in Second Language Teaching (SLT) and a Master's degree in Applied Linguistics. As for their teaching experiences, both teachers had been teaching English to international students at this study site. At the time of the data collection, T4 had been teaching at the study site for approximately six years. T5 who had been employed at this site for a total of eight years had taught on the language programme for a total of five years. She had also spent three years working as part of a team at the institutional level to develop online materials for the English language programmes offered at the institution.

Similar to Study Site A, the teachers at Study Site B were hired based on a continuing, fixed, or casual contract. Teachers employed on a continuing as well as on a fixed term basis taught 21 hours per week. The casual teachers were employed on a needs basis and paid an hourly rate. At Level Three and Four, T4 was employed on a fixed term while T5 was employed on a continuing basis. Each teacher was assigned to teach one module for the one class at Level Three and Four based on a schedule. T4 taught the Listening and Speaking Module while T5 taught the Reading and Writing Module to the same class. Details of the two teachers, terms of employment, module assigned, and teaching schedule for Level Three and Four are provided in Table 4.4 on the next page.

Table 4.4

Details of the teachers, terms of employment, module assigned, and teaching schedule for Level Three and Four - Study Site B

Teacher	Terms of employment	Module assigned	Teaching Schedule
T4	Fixed	Listening and Speaking	Tuesdays (Two hours) Wednesdays (Three hours) Thursdays (Three hours) Fridays (Three hours)
T5	Continuing	Reading and Writing	Mondays (Three hours) Wednesdays (Three hours) Thursdays (Three hours) Fridays (Three hours)

In addition to teaching the assigned Module at Level Three and Four, T4 also coordinated and taught at another level in the English language programme while T5 taught at another level as well. In total, each teacher taught 21 hours a week.

The two teacher participants at this site like those in Study Site A, also acknowledged the potential in using technology to support their students' language learning. They too were interested to use Moodle as part of their module to provide their students with the opportunity for asynchronous learning. However while T4 had never used Moodle prior to this study, T5 has been using it for approximately five years and was appointed to assist other teachers in using Moodle at the School.

Moodle was initiated at this institution in 2003 and was implemented at the School for use in the language programme in 2007. The implementation was part of the 100 percent online policy initiated by the institution. The policy mandated that every course offered at the institution must provide an online presence. Each teacher teaching a module at a particular level in the programme was automatically provided a "Moodle site". A Moodle site consisted of the online site complete with all the accompanying features.

Moodle training involved the technical aspects and development of content, and the use of the LMS in course delivery. Training in the technical aspects and content development was provided by an independent team within the structure of this tertiary institution while training in the use of Moodle in course delivery was provided by a Centre which was part of the tertiary institution. Training was provided in the form of workshops and one-to-one support was also available on request. While technical training in the use of Moodle involved navigating the online environment, organising the layout of the interface, exposing teachers to how to access the LMS and the resources and activities, content development was concerned with how to present the content when using activities such as the Forum, Wiki and Quiz. Training in the use of Moodle in course delivery involved teachers and members of the training team discussing how their use of Moodle could support face-to-face classroom learning activities. The School offering the English Language programme also provided Moodle support for staff teaching on all levels in the programme. Two teachers were appointed by the School to assist other teachers in using Moodle. One of these teachers was T5 while the other teacher was from Level Two who had to opt out in the second week of the data collection described earlier. On the basis of Moodle training being readily available, the researcher also assumed that the teachers at this study site had attended / were attending as will be described in the discussion chapter. This assumption however, was unfounded. The implications of this assumption will also be discussed in the concluding chapter.

Similar to the teachers at Study Site A, T4 used the LMS to support the students' classroom speaking. Discussion forums were created on Moodle. However, unlike the teachers in Study Site A who had readily available materials in the form of the task cards, T4 had to develop her own materials for the online forum. They consisted of a set of rubrics that stated the topic and listed key points to guide a student to speak about the topic. These rubrics were uploaded as text to the online forum. This online text information was referred to as a "Speaking Exercise" by the teacher, and this term will be used throughout this study in the subsequent chapters which reported the findings and discussed the key themes.

The students were expected to respond to these speaking exercises online in text form to share the information with their peers outside classroom learning hours. They were required to incorporate the notes from their listening classroom lessons in their online responses. This approach in using Moodle was aimed at giving students more time outside the classroom learning hours to prepare for the classroom based speaking activities. The teacher had expected that the availability of many ideas online could provide the students with more information that they could use to help them prepare to speak in the classroom. Three classroom based speaking activities were organised based on the use of Moodle. The first classroom based speaking activity involved individual oral presentations (three minutes) while the second activity was organised as a course assessment involving small group oral presentations (eight minutes). The third classroom based speaking also involved small group oral presentations (five minutes). As T4 has never used Moodle, she requested the researcher's assistance to create the online forums. In total, three forum discussions were created for the listening and speaking module.

T5 used Moodle to provide students with a bank of learning resources to support their classroom learning activities. A link to a web based vocabulary exercise was created on Moodle as an extension to the classroom based learning activities. A discussion forum was also created on Moodle to provide students the opportunity to share their personal views about a topic as a post-lesson activity. The teacher requested the researcher's help to create the link to the exercise as a separate window and the discussion forum. In total one link to a web based vocabulary exercise and one forum discussion was created for the reading and writing module.

This section has provided a description of the two case study sites. The following section describes the data collection methods used and how data were collected for this study.

4.6 Data Collection Methods and Procedures

Data were collected from two case study sites using multiple methods, including semi-structured interviews, work-together sessions, and classroom observations. The research participants at each study site involved mainly teachers, with participation from key informants consisting of programme administrators, technology support personnel, and the students. All participants who volunteered their involvement in this study were provided detailed information about this study together with the informed consent form in accordance to the university-level human research ethics requirement, in both print and email copies. The detailed research information along with the informed consent form were provided to each teacher participant (Appendix A), key informant (Appendix B), and student (Appendix C). Data collection commenced once the researcher received a completed and signed informed consent form from every participant at each study site.

The data collection at each study site consisted of two phases. In Phase One, data were collected from the teachers, students, and key informants from each study site. The teacher data collection included three semi-structured interviews, work-together sessions, and classroom observations. Data were collected from the three teachers at Study Site A and the two teachers from Study Site B. The key informant data collection involved a one-time semi structured interview. At Study Site A the key informant data were collected from two participants while at Study Site B the data were collected from four participants. The students were interviewed once as part of a focus group. At Study Site A, two groups of student from the two classes at Level Five, participated in the focus group. Each group comprised of approximately six students. At Study Site B, one group of students from the one class at Level Three and Four comprising of approximately five students, participated in the focus group.

During Phase One, data from Study Site A were collected during the second teaching block (April-July 2009) over a period of twelve weeks while from Study Site B, the data were collected during the second teaching block (July-November

2009) for a period of eighteen weeks. The difference in the duration of each block did not affect how the data were collected.

In Phase Two, data were collected as a follow-up only from the teachers who participated in Phase One at both study sites. Data were collected through one semi-structured interview. At Study Site A, the data collection in Phase Two occurred in the third week of the third teaching block (July-September 2009) while at Study Site Two the data were collected in the fourth week during the first teaching block (February-June 2010) in the following year.

The following sections will discuss each method used in collecting the data and the participants involved as well as a description of how and when the data were collected at the two study sites.

4.6.1 Semi-Structured Interviews

The semi-structured interviews that were conducted at both study sites included the teacher participants, key informants (programme administrators and those who provided technological support to teachers), and the students who were taught by these teachers. All interviews followed the same procedure in that every participant received both print and email copies of these questions five days prior to each interview. A print copy was also provided during each interview. All interviews were conducted in an enclosed room and the interview was audio recorded. All interviews were scheduled at a time that was convenient for the participants.

With the teachers, the semi-structured interview was conducted individually and occurred four times during the research – three times during Phase One and once in Phase Two at both study sites. During Phase One at Study Site A, the first teacher interview was conducted at week one, the second interview at week seven, and the third interview at week ten. At Study Site B, the first teacher interview was conducted at week four, the second interview at week eleven, and the third interview at week 15.

The questions in the first interview were aimed at obtaining information about the background of each teacher participant (see Appendix D). The interview concerned their previous and current experiences, practices, and affective responses to the use of technology in their instructional approaches. The second interview occurred after work-together sessions ended. The questions in this interview were aimed at obtaining each teacher participant's responses on their experiences of having worked together with the researcher on Moodle (see Appendix E). The third interview took place after the final classroom observation session. The questions in this interview were to obtain the overall responses of each teacher participant about their entire experience of their practices involving the use of Moodle during the period of the study (see Appendix F).

During Phase Two every teacher who participated in Phase One at each study site was interviewed once. At Study Site A this interview was conducted in the third week of the new teaching block while at Study Site B, it was in the fourth week of the first teaching block in the following year. This interview was designed as a follow up to investigate each teacher's progress with integrating technology having participated in the study in the previous phase (see Appendix G).

As for the key informants, the semi-structured interview was also conducted during Phase One. It occurred as a one-time individual interview and was conducted at the end of the phase at both study sites. At Study Site A two key informants were individually interviewed at week 12 while at Study Site B, three key informants were interviewed at week 18. The timing for the interview was at the convenience of each key informant. The questions in the key informant interview were aimed at obtaining their views concerning the role of computers within the programme and institution, the eLearning concept, the support they provided to teachers in using technology, and the challenges the teachers experienced in integrating technology in their respective contexts (see Appendix H).

Student data were collected once in a focus group setting during Phase One at each study site. At Study Site A, the focus group involved two groups of students (approximately six participants per group), while at Study Site B it was

participated by one group (five participants). Each focus group was conducted towards the end of the phase at both study sites. At Study Site A, the focus group was organised at week 10 and at Study Site B, it group was organised at week 13.

The questions in the focus group were aimed at obtaining the students' responses about their experiences participating in the activities (forums, and online exercises) organised by their respective teachers in the Moodle learning environment (see Appendix I).

4.6.2 Work-Together Sessions

The idea of work-together sessions as a method of data collection was part of the non-interventionist approach discussed earlier. These sessions involved all teacher participants and commenced after the first teacher interview. During these sessions the researcher sat beside individual teachers and provided verbal guidance on how to create forums and links in the Moodle learning environment as requested. The researcher guided each teacher to use the relevant features in Moodle such as 'group setting' to form small student groups, 'activity' to create a discussion forum, and 'resource' to create links. Information in the form of text was uploaded into discussion forums for groups of students and links to web based language learning exercises were also created. Each work-together session took place at the teacher's request and convenience. At each study site, the work-together sessions occurred differently and are described accordingly below

At Site A, the first work-together session was conducted in the first week of the teaching block with the teacher participant group in a computer lab, as they reported being unfamiliar with Moodle. A shared Moodle site had been provided to the teachers, and the researcher began the session with a basic introduction to Moodle and its features. The researcher then worked with each teacher to organise their respective students into groups and create an introductory forum discussion for their respective group of students in Moodle. This first group work-together session lasted an hour.

The subsequent work-together sessions at Study Site A continued on an individual basis. The individual work-together sessions involved two teachers - T1 and T3. T1 requested for three individual work-together sessions, which were conducted in the second, fifth, and sixth week respectively of the teaching block. T3 requested for two sessions, which were conducted in the third and fourth week respectively of the teaching block. T2 did not request for any individual work-together session. Each work-together session involved the researcher guiding each teacher to create a Moodle discussion forum. In total, six work-together sessions occurred at Study Site A, which comprised of five individual based sessions and one group based session. Each individual work-together session lasted between 15 and 20 minutes.

At Study Site B, work-together sessions involved the researcher working with both teachers - T4 and T5 on an individual basis. T4 who was teaching the listening and speaking module requested for a total of two work-together sessions, which were conducted in the fourth and eighth week respectively of the teaching block. In the first work-together session the researcher guided the teacher to organise small groups from the list of enrolled students and to create a discussion forum in the Moodle learning environment. This session lasted approximately 30 minutes. In the second session, the researcher guided the teacher to create a Moodle discussion forum and this session took approximately 20 minutes. T5 who was teaching the reading and writing module also requested for a total of two work-together sessions, which were conducted in the second and sixth week respectively of the teaching block. In In the first work-together session the researcher guided the teacher to create a link to a web based language learning exercise in the Moodle learning environment to enable it to appear as a separate window. This session took approximately 10 minutes. In the second work-together session the researcher guided the teacher to organise small groups from the list of enrolled students and to create a discussion forum in the Moodle learning environment. This session lasted approximately 20 minutes.

All individual work-together sessions took place at a teacher's desktop computer in her work area. The researcher wrote notes during each session. These notes consisted of information about the features within the Moodle learning

environment, which were explored and used during each session, the date, and duration of each session. The information was further summarised and shared with the individual teacher concerned to ensure a fair summary of what transpired at each work-together session. The summarised information was referred to during the second and third interviews.

4.6.3 Classroom Observation

Classroom observations were also conducted as part of data collection. The focus of each observation was the individual teacher – how a particular teacher taught the lessons, managed the classroom activity, and interacted with students. The classroom observations were non-participant in nature as the researcher only observed the activities in each classroom and did not interact with the students or teachers during the lessons. The researcher sat at the back of a classroom and only made notes of what was taking place during a lesson as it occurred.

The non-participant classroom observation is particularly useful in studies that are of an exploratory nature. It enables insights into the individual teacher's classroom pedagogy to construct as well as establish detailed and comprehensive descriptions of the patterns of behaviour, and thought of the teacher in the classroom context (Larsen-Freeman & Long, 1991; McCutcheon, 1981; Weir & Roberts, 1994).

Two different types of non-participant classroom observations were conducted at each study site – familiarisation observation and observation of the teachers' planned outcome of the Moodle-based activity. The purpose of the familiarisation observations was to familiarise the researcher with how a tertiary level English language teaching class functioned in the New Zealand context. The observation of the teachers' planned outcome of the Moodle-based activity was to enable the researcher to observe how each teacher followed up on their students' interaction with the Moodle based activities as part of the face-to-face classroom lessons. This second type of non-participant classroom observation was the main focus of the observation data at both study sites.

Prior to conducting the observations of the planned outcome of the Moodle-based activity at each study site, the researcher informed each teacher of its purpose. The frequency, timing, and duration of each observation were also negotiated with each teacher participant.

At Study Site A, one familiarisation observation was conducted once in each teacher's classroom. Each observation was for the duration of 60 minutes and was conducted in week two and three of the teaching block. The classroom observation of the teachers' planned outcome of the Moodle-based activity only involved the teachers who were teaching on Monday mornings as the classroom speaking activities were conducted for the first 30 minutes during that day on a weekly basis throughout the block. Thus, only the classroom lessons of T2 and T3 were involved in the observation (T1 taught from Wednesday to Friday – refer to Table 3.2). A total of three classroom observation sessions were conducted. T2 agreed to two classroom observation sessions. The first observation session was conducted in week five while the second session was in week eight. T3 allowed only one observation session and it was carried out in week seven. Each observation of the planned outcome of the Moodle-based activity was for the duration of approximately 30 minutes. At this study site, a total of three classroom familiarisation observations and three classroom observations of the teachers' planned outcome of the Moodle-based activity were conducted by the researcher.

At Study Site B, one familiarisation observation was also conducted once in each teacher's (T4 and T5) classroom. Each observation was for the duration of 60 minutes and was conducted in week two and three of the teaching block. The classroom observations of the planned outcome of the Moodle-based activity were conducted once and only in T4's classroom which involved the listening and speaking module. T4 allowed the researcher to conduct one classroom observation session during a listening and speaking lesson. It was for the duration of approximately 40 minutes and conducted in week seven. A total of two classroom familiarisation observations and one classroom observation of the teachers' planned outcome of the Moodle-based activity were conducted by the researcher at this study site. However, this classroom observation did not take place in T5's

classroom, as the activities created in the Moodle learning environment were not followed up by the teacher as part of the face-to-face classroom.

A time-based open-ended observation sheet was used during the observations of the planned outcome of the Moodle-based activity (Appendix J). This template consisted of three columns – time, observation notes, and comments. The start and end time of every step in a lesson was written in the 'Time' column while each step in an activity that occurred in the classroom lesson was written in the 'Observation notes' column. This information involved the teacher's verbal and written instructions as well as actions during an activity, and the students' verbal and written responses as well as actions during the lessons. The researcher also wrote comments about each step in the activity in the 'Comments' column. Such information included questions the researcher intended to ask the teacher during the second interview to seek clarification. The information from these observations was further summarised and a print copy of it was provided to the individual teacher whose classroom lesson was observed. This summarised information was provided five days before the second interview together with the interview questions.

This section has described the use of multiple methods to collect data from each study site. These methods consisted of the semi-structured interview, work-together sessions, and classroom observations. The semi-structured interview involved the individual teachers, key informants, and the students. Work-together sessions which were part of the non-interventionist approach involved only the teachers. Classroom observations were non-participant and involved the teachers' planned outcome of the Moodle-based activity.

Table 4.5 on the next page provides the details of the data collection at each study site based on the phases.

Table 4.5

Details of the data collection at each study site for phase one and two

Phase	Study site	Data collection periods	Participant type	Number of participants	Data collection methods	Frequency	Duration	Timing
One	A	Second teaching block (April – June 2009) 12 weeks	Teachers	Three	Semi structured interview	Thrice	40-45 minutes per interview	Week 1,7,10
					Work-together sessions	Six	15-20 minutes per session	Week 1-6
					Classroom (familiarisation)observations	Three	60 minutes per observation	Week 2, 3
					Classroom (Moodle based) observations	Three	30 minutes per observation	Week 5,7,8
			Key informants	Two	Semi structured interview	Once	45 minutes per participant	Week 12
			Students	12 (two groups)	Focus group interview	Once	20 minutes per group	Week 10
	B	Second teaching block (July - November 2009) 18 weeks	Teachers	Two	Semi structured interview	Thrice	40-45 minutes per interview	Week 4,11, 15
					Work-together sessions	Four	10-30 minutes per session	Week 2,4,6,8
					Classroom (familiarisation) observations	Two	60 minutes	Week 2,3
					Classroom (Moodle based) observations	Once	40 minutes	Week 7
			Key informants	Four	Semi structured interview	Once	45 minutes per interview	Week 18
			Students	Five (one group)	Focus group interview	Once	20 minutes	Week 13
Two	A	Third teaching block (July – September 2009)	Teachers	Three	Semi structured interview	Once	30 minutes per participant	Week 3
	B	First teaching block (February – June 2010)	Teachers	Two	Semi structured interview	Once	30 minutes per participant	Week 4

4.7 Validity and Reliability in Qualitative Research

Research needs to incorporate particular standards to ensure quality to enable the findings of the study to be considered valid and reliable (Morse, Barret, Mayan, Olson, & Spiers, 2002). According to Lincoln and Guba (1985) the validity and reliability of a qualitative study involves rigour and concerns a particular set of criteria. These criteria are credibility, transferability, dependability, and confirmability, and in qualitative research are termed as "trustworthiness" (Lincoln & Guba, 1985, p. 290). The following sections will examine each criterion separately with regards to this study.

4.7.1 Credibility

Credibility is concerned with whether the researcher had accurately understood and reconstructed the participants' construction of reality in order to ensure the congruence (Lincoln & Guba, 1985). To enhance the credibility of qualitative research, Merriam (2002) recommends several strategies that can be used. They include triangulation, member checks, peer review, and prolonged engagement.

Triangulation is a strategy used to enhance credibility. Triangulation involves the use of multiple approaches to enable a particular point in research to be viewed from a variety of angles (Cohen et al., 2011; Sarantakos, 2005). Common forms of triangulation are methods triangulation which involves the use of multiple methods to collect data, investigator triangulation which involves the use of several different researchers, paradigm triangulation which involves combining together the use of quantitative and qualitative data, and the triangulation of data sources which involve time, space and person (Cohen et al., 2011; Merriam, 2002; Sarantakos, 2005).

In this research, triangulation of methods and data sources was used. Data were collected through a multi-method approach that included interviews, classroom observations, and work-together sessions. The data were collected from various sources during this study, and they consisted of teachers, key informants, and students. Teachers who were the main participants in this study were interviewed at several points during the study. Both forms of triangulation provided a

comprehensive view of how Moodle was integrated in the English language programme at each study site, which enhanced the credibility of this study

Member checks were also conducted as a strategy to enhance credibility. Member checks involved the researcher asking the research participants to comment on the researcher's interpretations of the data that were obtained from them during the study (Merriam, 2002). Such feedback is necessary to determine whether the interpretations made by the researcher reflected the responses provided by them (Byrne, 2001; Lincoln & Guba, 1985).

In the context of this study, member checks were conducted particularly with the teachers who were the main participants in this study, throughout the duration of the language programme. While data from these teachers were generated from classroom observation and work-together sessions, the interviews provided the opportunity to seek further clarification and to verify that the researcher's interpretations credibly reflected the participants' intentions. The participants were provided with a summarised account (in print) of the classroom observations and work-together sessions. During the second and third teacher participant interviews, the interpretations of the summarised data were shared orally with each teacher.

Another strategy used to enhance credibility was peer review. This strategy involved the researcher consulting with the supervisory panel and two peer reviewers. The researcher’s interaction with them provided different viewpoints on the data and challenged him to rationalise the interpretations made and at instances, reconsider them. The review with peers was conducted in two stages. In the first stage, the researcher worked together with a peer reviewer to analyse 50 per cent of the raw data. In the second stage, approximately ten per cent of the analysed data were then shown to another peer reviewer for the purposes of confirmation. The researcher asked the peer reviewer to verify whether the interpretations made on the analysed data made any sense to him (Lincoln & Guba, 1985). During the discussion, the researcher and peer reviewer agreed on most of the analysis made on the data but there were minor differences with regards to the choice of words and phrases used in the interpretation. The

researcher's discussions of the raw and analysed data in the peer review process strengthened the interpretations as well as the overall analysis of the data, and stimulated the researcher's thinking about the data and how they could be organised and presented. The interactions that took place between the researcher and the peer reviewers during the peer review process were invaluable in enhancing the credibility of this study.

In addition, the strategy of prolonged engagement was used to enhance the credibility of this study. At each case study site, data were collected over a period of one teaching block consisting of twelve weeks in study site one and eighteen weeks in site two. During these periods, the researcher conducted a series of interviews with the teachers, interviewed key informants as well as students, worked together with the teachers using Moodle, and observed classroom sessions. The prolonged engagement at each study site enabled the researcher to gather valuable data from a variety of sources (teachers, key informants and students), observe classroom practices, work alongside teachers as they worked on Moodle, and develop rapport and trust particularly with the teachers, which contributed to enhancing the credibility of this study.

4.7.2 Transferability

Transferability concerns "the degree to which findings can be generalised across research settings" (Bryman, 2008, p. 376). In discussing generalisations in qualitative research the term "working hypothesis" (Cronbach, 1975, p. 125) is rather appropriate. Cronbach (1975, p. 125) observes that "When we give proper weight to local conditions, any generalization is a working hypothesis, not a conclusion". Therefore, a working hypothesis which takes into consideration the local conditions can guide practitioners in making choices as they are able to monitor and evaluate the results of the research in order to make informed decisions about their own contexts in the future (Cronbach, 1975; Merriam, 2002).

Lincoln and Guba (1985, p. 297) maintain that, "at best only working hypotheses may be abstracted" as they may allow transfer between contexts contingent on the degree of similarity between them. This transferability is more dependent on the

readers than the researcher, as only the former knows the receiving context and it is the responsibility of the latter to provide "sufficient descriptive data" (Lincoln & Guba, 1985, p. 298). The researcher is responsible to provide the data to enable the readers to empathetically experience the happenings for themselves and to draw conclusions from the data (Stake, 2003). Such description can assist the readers to decide if the sending and receiving contexts are sufficiently similar to transfer the findings accordingly (Lincoln & Guba, 1985).

The concept of transferability in this research can be addressed by providing "*rich, thick description*" (Merriam, 2002, p. 29, italics in original) of each research context. In the context of this study, a detailed description about the two English language programmes in terms of their overview, structure, curriculum, technological infrastructure, and teachers, have been provided in this chapter. Each language programme is unique and is described in detail as a case study to reflect the uniqueness of each context. Such detailed description of each language programme would provide the readers with the sufficient information to determine how similar each of the two contexts are to their own settings in order to establish the transferability of the findings obtained, based on the similarities (Merriam, 2002).

4.7.3 Dependability

Dependability is an important feature in quantitative research. It is concerned with whether the results obtained in a study are consistent with the data that were collected to ensure that the findings were dependable (Lincoln & Guba, 1985; Merriam, 2002). To ensure consistency and dependability, Merriam (2002) proposes a number of strategies that a qualitative researcher could use, and they include triangulation, peer review, and audit trail. As the first two strategies have been discussed earlier, the following section will address the audit trail method.

The audit trail method was first suggested by Guba and Lincoln (1981) and involves keeping a detailed record of how the data were collected and analysed during the study. The method involves keeping a detailed record to provide a trail of the researcher's process and activities which can be followed by readers for

purposes of authentication (Lincoln & Guba, 1985; Merriam, 2002). Such records can best explain how the conclusions of a study were made (Dey, 1993).

In generating an audit trail for this study, the researcher kept all the research data, which consisted of the original digital audio recordings, interview transcripts, and field notes from classroom observations as well as work-together sessions in a digital format. In addition, copies of the ethical approval letters from each study site, participant consent forms, research instruments such as the interview questions and classroom observation grid, and email communications were also kept. The researcher also kept a handwritten research journal, which documented the experiences during the research. This journal contained information, which was recorded on a daily basis. The information consisted of the researcher's thoughts as well as feelings, records of informal communication with participants, observations of the environments at each research site, and the appointments made with the participants during the process of the research. The information in this journal proved to be useful as the researcher frequently referred to it to stimulate memory when writing this methodology chapter as well as in analysing the data. All these resources contributed to an audit trail that can show readers how the researcher had arrived at the findings of this study.

4.7.4 Confirmability

Confirmability concerns the researcher ensuring that his/her own bias does not influence the research process (Bryman, 2008; Patton, 2002). It involves the need for the researcher to take the necessary steps to ensure that as far as possible, the neutrality of the research is maintained (Lincoln & Guba, 1985). The researcher needs to ensure as far as possible that the findings of the study reflect the views and experiences of the research participants, and not the preferences of the researcher (Shenton, 2004). To ensure the confirmability of the findings in this study, the researcher employed the peer review and audit trail strategies as discussed earlier.

4.8 Data Analysis

Data obtained from this study were all text-based and consisted of interview transcripts and field notes. The interview transcripts were derived from the interviews involving the individual teachers, key informants, and student focus groups. All interview data that were in audio form were transcribed verbatim via word processing and organised into tables with the relevant columns, rows, and headings. Each audio recorded and transcribed interview data were saved electronically into separate files and labelled according to the phase, study site, data collection method, and participant type. The teachers' audio recorded and transcribed interview were further saved and labelled based on the sequence of the interview and individual teacher. To ensure that each transcribed interview was accurate, the researcher re-listened to each audio-recorded interview against the transcription more than twice and checked every utterance line-by-line during the data analysis and reporting of the findings.

The field notes from the classroom observation and work-together sessions, which were initially hand-written, were word processed and also organised in the same manner as the interview data. Each interview and field note text data were saved electronically into separate files and labelled according to the phase, study site, data collection method, and individual teacher. To ensure that each field note was accurate, the researcher re-checked each word-processed information against each original hand-written field note more than twice during the data analysis and reporting of the findings.

All data were thematically analysed using an inductive approach. An inductive approach is defined as one in which the researcher works with the data using a bottom-up strategy. Using a process of inductive reasoning, the researcher reads and re-reads the data, and interprets them to derive emerging themes and categories (Lincoln & Guba, 1985; Strauss & Corbin, 1990).

Data analysis commenced once the data collection process was completed. There were large amounts of text data from each data collection method that needed to be examined to derive the emerging themes. Although the issue of data overload

is common to qualitative researchers (Cohen et al., 2011), using an inductive approach to thematically analyse the data helped the researcher to make sense of them.

The inductive approach enabled the researcher to disaggregate the data into units and then to reorganise the units into new structures with newly acquired meanings (Dey, 1993). These can be thought of as semantic units (Sarantakos, 2005). This process involved the researcher reading, interpreting, selecting, and labelling the interview transcripts and field notes. A semantic unit can be defined as a "*unit of coding*" which is considered as "*the most basic segment, or element, of the raw data or information that can be accessed in a meaningful way regarding a phenomenon*" (Boyatzis, 1998, p. 63, italics in original). The size of a unit of meaning can be as minimal as a phrase. What determines the size of the unit is to some degree based on the need to preserve some of the surrounding context (Braun & Clarke, 2006).

During the process of data analysis, the researcher focussed on the overall aim of the study. This aim was to investigate the integration of Moodle in each tertiary level English language programme by considering the complexity of the classroom language learning environment and the teachers' use of technology. The researcher was guided by the conceptual framework which concerned sociocultural theory as well as Activity Theory which was the interpretive framework for this study. The units of the text that were deemed relevant to the main aim were identified and selected accordingly. These were further categorised based on the components in Activity Theory - the subject, tool, object, division of labour, and rules (Appendix K).

The use of Activity Theory as an interpretive framework provided the emphasis on viewing activities related to the use of Moodle within each language programme as a network of interactive relationships. It enabled the researcher to explore how those activities in the context of the classroom interacted with the wider context of the institution, and vice versa. The fluid and flexible conceptions of both the individual teachers as well as the community were also considered when explicating multiple perspectives about the use of Moodle in each

programme. The framework also provided insights into how the activity at the individual level of each teacher operated and how it related to the wider community and vice versa. The following sub-section explains the process involved in analysing the data derived mainly from the interviews that were conducted

4.8.1 Analysing the Interview Data

The main data obtained in this study were from the audio-recorded semi-structured interviews involving teachers, students, and key informants at each case study site. The data from individual teacher interviews at the various stages (teachers were interviewed four times, refer to Table 3.4) were also analysed together with the data from the key informant interviews and student focus groups and field notes from classroom observations and work-together sessions. Data from these interviews and the field notes complemented the teacher interview data in terms of clarifying and supporting the information each teacher provided and vice versa.

The analysis began with the individual examination of each teacher participant's transcript corresponding to their interview stages. Following this individual examination, the transcripts were analysed across teachers within each stage. Next, the students' interview transcripts were examined according to their groups followed by an analysis across the groups. The transcripts of the key informants were examined individually based on their role within the context of the study.

All interview transcripts of the teachers, students, and key informants, were carefully read several times and analysed using a constant comparison approach (Lincoln & Guba, 1985). Such approach involves reading and re-reading the utterances in each interview transcript. Through a process of inductive reasoning, emerging patterns and themes that indicated a relationship with the overall objective of this study and the conceptual as well as the interpretative framework were observed and identified (Goetz & LeCompte, 1984). As patterns and themes emerged during the analysis, the researcher constructed categories, which were accompanied by a related description. These categories were continually refined

during the process of analysis to accommodate for any overlaps and ambiguity. The transcripts were carefully read again and units of text containing meaningful phrases, which reflected a category was compared, removed, and grouped accordingly.

The overall relationships, patterns, and themes from the categories that were generated were further reconceptualised into new constructs based on the Activity Theory framework. The reconceptualisation involved a process of categorisation, which defined the units "by their *membership in a class or category - by their having something in common"* (Krippendorf, 2004, p.105. italics in original). This categorisation can be considered as a form of coding as it created labels or tags that could be used to assign units of meaning to the information that were described or inferred (Miles & Huberman, 1994). The categorisation process assisted the researcher in understanding and interpreting these categories to form criteria that further guided the analysis of the data (Appendix K). These criteria, which reflected the components of the Activity Theory framework consisted of:

- The Object of the Activity – This category recognises that all activity is object-oriented as it involves the way in which something is done which is directed towards an object (Kaptelinin & Nardi, 2006).
- Subject-Tool-Object – This category of relationship focuses on the physical tool (for example, computers, worksheets, books, and pens) and conceptual tools (for example instructional strategies) which are used by the subject (teacher or student) to direct the activity towards the object
- Community-Division of Labour-Object – The data placed within this category of relationship concerns how the classroom activity is organised, shared, or distributed among the participants to address the object. This community mainly refers to the teachers, students, and key informants who are part of the activity.
- Subject-Rules-Community – The data grouped under this category refer to the explicit and implicit rules that govern the relationships between the participants within their roles as they interact with each other.

In arriving at these criteria, the researcher consulted the literature related to the use of Activity Theory, which explored the integration of technology in educational settings (Brine & Franken, 2006; Issroff & Scanlon, 2002; Kaptelinin & Nardi, 2006; Karasavvdis, 2009; Westberry, 2009; Yamagata-Lynch, 2003). Based on these studies, the criteria were developed which enabled the researcher to place the data in the categories and provide "clear operational definitions" (Miles & Huberman, 1994, p. 63). These operational definitions enabled the data to be consistently coded over time by the researcher and peer reviewers (Miles & Huberman, 1994).

The application of an Activity Theory framework to interpret the classroom teaching and learning activity also involved the concepts of contradiction (Engeström, 2001, Kaptelinin & Nardi, 2006; Westberry, 2009) and affordances (Kaptelinin & Nardi, 2012) Data were evaluated in terms of how they captured the tensions and stresses between the various factors within the educational context, and how these conflicts influenced outcomes.

4.9 Summary

This chapter has described the research methodology used in this study. It has provided the basis for using the qualitative research framework based on contextual and theoretical considerations. The study adopted ethnographic techniques and use of the case study. The contexts for this study were identified based on convenience. Two tertiary institutions in New Zealand which each offered an English language programme were identified as case study sites.

Multiple methods were used to collect data. These methods consisted of the semi-structured interview, work-together sessions, and classroom observations. To ensure that the findings of this study were valid and reliable, a set of criteria relevant to qualitative research to determine rigour was adopted. The criteria consisted of creditability, transferability, dependability, and confirmability. Credibility was enhanced through triangulation, member checks, peer review, and prolonged engagement, while transferability was supported by providing a detailed description about the two tertiary level English language programmes. As

for dependability, it was enhanced not only through the use of triangulation and peer review, but also through the use of the audit trail method. Confirmability was ensured through peer review and the use of the audit trail method as well. Data collected from each case study site were thematically analysed using the inductive approach.

Having established the plan that provided the research design and the strategy to carry out this research, data were collected using the appropriate methods and instruments. The data were then analysed accordingly and the findings are presented in the next two chapters.

CHAPTER FIVE: FINDINGS PART ONE

5.0 Overview

The findings are presented as two separate chapters for case study Site A and B respectively. This chapter reports the findings from Study Site A within three categories in the Activity Theory framework. These categories are the object of the activity, division of labour, and the rules. Study Site A concerns one language programme which formed the boundary for this case study. The findings for this case study are presented in the form of description, data, and interpretative commentary.

5.1 Reporting the Findings

As discussed in the previous chapter, data for this research were analysed using an inductive approach and interpreted thematically within an Activity Theory framework. The patterns that emerged from the findings indicated that various factors operated in a systemic and interrelated manner. These factors are organised based on the framework of Activity Theory as described in Chapter Two. They relate to three main categories, which are the object of the activity, the division of labour, and the rules.

5.2 Findings from Study Site A

5.2.1 A Brief Description of Case Study One

As described in Chapter Four (Research Methodology) this case study was a classroom based activity in a tertiary level English language programme at an institution in New Zealand and explored the use of Moodle for language teaching in two intermediate level classrooms. Moodle was used with a view to support the students' classroom language speaking. Data were collected in this case study through interviews, work-together sessions, and classroom observations. The participants consisted of three teachers (T1, T2, and T3), two key informants, and two groups of students consisting of six members each group.

5.2.2. The Object of the Activity

In this case study, one object was identified. It concerned preparing the students to speak in the classroom to develop their speaking skills. Moodle was used as a platform to provide the students with opportunities to rehearse ideas to enable them to speak in the classroom.

5.2.2.1 Technology to Support Classroom Speaking

For the three teacher participants, technology centred on the computer. They considered the computer as having the potential to prepare their students to speak in the classroom. A restricted view of technology as including only computers was reflected by T1 who considered their potential in connecting to the Internet. This restricted view of technology was shared by all teachers in this case study. T1 explained,

> *as a team we had sort of talked about the fact that this could be useful for our students, just a different way of learning, learning through a different medium. We just thought, yeah, this would help them particularly for their speaking, preparation for speaking.* (Teacher One/Interview One)

Furthermore, T1 perceived the use of a computer as replacing face-to-face interaction. She considered the computer as enabling students to interact with each other in an online environment and through group work. However, this view did not suggest that she understood how interaction might support language learning within the face-to-face spoken context as discussed in Chapter Three section 3.3.2 in the review of the related literature.

T1's view of interaction thus reflected an incomplete understanding about the nature of second/foreign language learning. Discussing the notes students had made (based on their reading of a text and listening to a related audio recording of a lecture or dialogue) on a topic during classroom based lessons, did not ensure that they were able to post ideas about it in the form of text in the online forum to be shared, and later used to support classroom based speaking presentations. The teacher needed to encourage interaction in the classroom. Students needed to be supported to interact with their peers and the teacher about the content and the language used in the text to enable them to notice their own gaps and adjust their

language to develop their learning. T1 thus, lacked deep understanding of the nature of language learning as was obvious in the following quote,

> *I guess for me it will mean learning without the face-to-face interaction in the classroom but learning via the computer, but having the interactions all via the computer, so you can interact with other students, the teacher. The classroom I guess is the computer….I guess when I was thinking about using technology here, students interacting with each other, discussing a topic, putting their ideas down in note form, or writing paragraphs, responding to each other, interaction with the teacher... .* (Teacher One/Interview One)

T2 believed that computers support students' independent learning. She explained,

> *To me it means that students are not so bound to the classroom environment, that they can access information and access activities from their own homes or from computer labs or whatever and learn in their own time and under their own steam without a teacher standing over their shoulder.* (Teacher Two/Interview One)

T3 also considered technology to mean the "computer". In her view, having computers was important to lift the profile of the English language programme and to enhance course delivery. Furthermore, her view was that, as the students enrolling in the programme came from countries that were technologically advanced, they were accustomed to technology. She believed that these students expected technology to be used in the classroom and that they could be better engaged during classroom learning activities through its use. She observed,

> *….students come from technologically advanced countries and they're impressed with the quality of teaching but they're not very impressed with the lack of technology here. People are changing, the new people coming through, the young people, they're different. They've grown up with iPods, computers. They're used to a lot more attractive things in life, they're used to more colour and movement and simply sitting in a classroom with a whiteboard isn't quite enough anymore. And, also we can teach them so much like we can engage them so much better just by having the teaching a little bit more exciting, a little bit more interactive, a little bit more colour.* (Teacher Three/Interview One)

T3's views about the potential of using the computer in the language programme appeared to reflect a common misconception that the presence of technology in the classroom ensures that students are engaged in their learning. In fact, the existence of technology in learning environments does not guarantee that students

are be engaged in classroom learning or are be motivated to learn because they are familiar with it.

In summary, all three teachers in this Case Study One understood technology as involving only the computer, and this is an important finding. This incomplete understanding of technology appeared to have also influenced T1 and T2 to believe that the computer could replace classroom interaction, and for T3 to consider the computer as a necessary part of the language programme because students were familiar with it. Their limited understanding of technology suggested that they considered online and classroom-fronted teaching as interchangeable contexts for learning and that the capability of the computer determined classroom pedagogy. Their view that classroom interaction could be replaced with the computer indicated their lack of awareness about the nature of second/foreign language learning. Both these latter issues are addressed in the subsequent chapter.

5.2.2.2 Teacher Perspectives of Moodle

In spite of the fact that Moodle had been implemented three years prior to this research, none of the teacher participants had used it for instructional purposes. Moreover, none had attended any training in its use. Their views about Moodle appeared to have been largely derived from anecdotal accounts of the experiences of others who used it such as teachers from other departments within the tertiary institution, their own children studying at university, or from their own experiences as undergraduate or postgraduate students.

T1's view of Moodle was based on anecdotal information from the experiences of other teachers within the institution who had used it and her own children. T1 seemed to believe that using Moodle was advantageous as a repository for classroom resources, to enable asynchronous learning, and to save classroom time. In her view, Moodle provided a space for teachers to make learning resources available for students to access and with which to interact online. Using Moodle in her view could reduce the time spent in the classroom preparing students for classroom speaking activities and assessments. This meant that the

teacher could focus on other language learning materials that needed to be covered during classroom time. She explained,

> *Some of the things that maybe a time consuming in class because this particular class that we have, we have quite a lot of materials to get through. At these initial stages, wow it's quite long, so even being able to post some things up on the site and students interact with them on the site rather than taking up class time. Moodle would have been helpful for that.* (Teacher One/Interview One)

Similarly, T2 had heard as an undergraduate student at the institution, that Moodle could function as a repository for classroom resources and to support asynchronous learning. She, however, had no experience in using Moodle for classroom teaching as she described,

> *I knew where it was and I knew how to get to it but I don't think I've ever had to use it for anything before. I know there's things like Moodle that have been used by other schools in the university and I sort of just had the idea that they were somewhere where you could get on, access resources like notes or course outlines or things as well as have discussions on topics.* (Teacher Two/Interview One)

T3's perspective of Moodle was similar to that of T2. However, unlike T2 who had never experienced Moodle as a student, T3 had used it when taking a foreign a language course at the institution. In that context, it had been used as a repository for language learning materials. As a student, T3 had used Moodle to download language exercises or to obtain answers to these exercises. She described its use,

> *Because I'm studying up at university my lecturer would do it just to Moodle anyway and that's how for example we get our homework each week or any other notices or he did something in class and we didn't get the answers, he'll post it on Moodle, so only as a sort of receptive user… for me it's a bit of a platform like Facebook where it's a website that specific people who can go to it, who can find answers to questions, get connected with the course.* (Teacher Three/Interview One)

The anecdotal accounts of the experiences of others with regards to Moodle within the tertiary institution and the experience of using it as a student, indicated that the LMS largely functioned as a repository for learning materials at this institution. This function of Moodle was further confirmed by one key informant who was involved in providing institution-wide support to all teachers using

technology. In describing the support provided to the teaching staff at the institution, she observed,

> *There certainly that sort of aspect here ….the idea that Moodle is used as a repository of information. And so we try to engage the staff with thinking about other things that they can do, other ways that this can function. It has (worked) to some extent, but we haven't really got any way to measure that yet.* (Key Informant 1/ Key Informant Interview)

To summarise, although these teachers had neither used Moodle in their instructional practices nor attended training, they knew something about its capabilities. While anecdotal information from the experience of others influenced T1 and T2's perspectives of Moodle, the experience of using it as a student influenced T3's view of it. Despite their different backgrounds regarding Moodle knowledge, all teachers viewed it as a repository for learning materials to enable students' learning. For these teachers, Moodle functioned as an 'add-on' to support a traditional teacher-directed approach to learning. This perspective suggested that the teachers' general lack of understanding of Moodle affordances determined how they used it to prepare their students' for the classroom speaking activity.

5.2.2.3 Using Moodle to Support Classroom Speaking

As described in the Description of Study Site A in the Research Methodology Chapter, the teachers uploaded a set of text-based speaking exercises in the Moodle Forums that were created. Each exercise consisted of a set of rubrics that stated the topic and listed key points to guide a student to speak about the topic. Students were expected to post their written responses online to these exercises.

The teachers organised the students into a number of small online groups. This strategy was adopted as they believed that it enabled the students to share and exchange ideas with more students, as compared to working in pairs in the classroom to prepare for the speaking presentation as was the usual practice, before Moodle was used in this study. The online approach enabled the students to read the responses from other groups within their class, which could expose them to additional ideas to help them prepare for their classroom speaking. T1 explained,

> *We just took time in class to, to have practise in class but this way students could revisit it a lot more. And I just think, so in class they may interact with one other person and I'm getting ideas from you and you're getting ideas from me but this way, you're potentially interacting with, well we put them into groups you know, by the end you're interacting with five people and therefore getting a lot. Even if you've got read-only access to the others you're actually learning a lot more than just from the one-on-one in class. And, it also gave them I think that when they wrote in, it gave them a bit more time to think and a bit more time to use the ideas and the language rather than two minutes to prepare a speech.* (Teacher One/Interview Two)

While T1 was confident that Moodle provided an alternative learning environment and replaced face-to-face classroom interaction, she was unable to articulate a clear understanding of the affordances of online text-based interaction. She was not able to confirm whether students' online written interactions prepared them to speak in the classroom and the speaking assessments. T1 admitted,

> *I never did the actual discussions on the Monday at all.In our mid-block test it was a significant difference just in a sense of being able to talk about the topics and use the language and ideas. I don't, I've never asked the students, hmmm....I haven't graded or evaluated how often they'd go on….*(Teacher One/Interview Two)

Prior to this mid-block speaking assessment, an intensive classroom speaking practice session was organised for every class at Level Five during a scheduled lesson to prepare the students for this test. During this session, the students were provided with task cards that followed the same structure as the speaking test script and required them to practice with a partner. This session (instead of Moodle) may have helped the students to speak confidently about the topic during the test. It suggested that the assessment was closely linked to classroom instructional practices and providing this intensive session allowed for concentrated practice – important for language production. Moodle appeared to have little influence in preparing the students for the speaking test.

T2 assumed that as Moodle provided students with opportunities for asynchronous learning to support their classroom language production, the students would access these online speaking exercises and post their responses on their own. However, the teacher later realised that the students did not access Moodle unless they were taken to the computer labs as part of the requirement to word process

their writing for the last two stages (redrafting and writing). Students who completed the amendments to their drafts were often encouraged to spend the remaining time to get on to Moodle.

In addition to having to take the students to the computer lab, T2 had to show them repeatedly how to post their responses to the online exercises. The students' dependence on the teacher suggested that they lacked knowledge and confidence in using Moodle. While T2 expected them to be independent in their own learning as they were using technology, this was not the case. T2 remarked,

> *I thought it would be something that would benefit the students to prepare for their speaking. I don't think they did see the same objective. I think that was something that we learnt as we went along that although we expected it to be something that they would do at home and be completely outside of class except for that discussion time on a Monday morning when they brought all that together, it's not how it worked out at all. They needed to be taken to the computer lab, told get on to Moodle and do it now and then shown again, and again, and again how to do it before they would participate.* (Teacher Two/Interview Two)

Furthermore, T2 observed that the students' responses to the online speaking exercises revealed that they were unable to understand the key terms used in the question and instructions in the exercise. It appeared that T2 had assumed that her students understood the meaning of the key terms when in reality they had not.
Citing one particular exercise, which required them to 'Describe' and then to 'Explain', their answers, the teacher noted that most of the students' online responses did not extend beyond the requirement to provide a description. T2 explained,

> *They get questions that say, describe something and then they have to sort of analyse it and they get so caught up in the describing and they don't get on to the other stuff and so that's something that a lot of them fell into that trap with this question. That was something I sort of realised after they'd started posting some replies….* (Teacher Two/Interview Three)

The information in these speaking questions was derived from the task cards that were developed by teachers who had previously taught Level Five and were used in every teaching block. These teachers had since left the institution or were teaching at other levels in the language programme. Despite the continued use of the task cards, there was no indication that the key terms ('Describe', 'Explain')

used in the question and instructions were explained. It appears that the teachers assumed that these terms were understood by the students. Furthermore, there was no indication that the teachers such as T2, who were not involved in developing the content of these speaking exercises, were briefed on the requirements.

As for T3, her use of Moodle was to free up classroom time for other learning activities. To ensure that the students spent time outside the classroom to prepare for their classroom-based speaking activity, she was preoccupied with enhancing the presentation of the online speaking exercises. She believed that the strategy boosted the look and feel of the online information making it interactive. Her concern for such enhancement reflected her views as described earlier, that technology would attract students' interest and would positively affect their people's views of the programme.

T3's use of Moodle revealed a purpose that was not pedagogically-oriented. It appeared to reflect her sense of awe with the cosmetic capabilities of Moodle and not an awareness of how it could be used to serve classroom learning needs as evident in her admission that,

> *It's so much more friendly though, not knowing that we could do anything else. I tried to just make it more attractive and bring it a bit more alive and interest the students and I mean colour, it's just that thing of wanting it to just look a little bit more attractive really and that was the only way I could see that I could do it, so I did that. I tried to make it sort of easily conveyed and with different fonts…. I mean I necessarily uploaded it change the fonts to colour because I think things should look a bit user friendly so I changed font and colour and uploaded it for my five groups within about eight minutes. Coz' I just truly did it before I got to class and I was on a time limit….* (Teacher Three/Interview Two)

To enable the students to post their ideas in the online forum, T3 had organised them in small groups to share their ideas with each other. A similar approach was also planned for the classroom-based speaking lesson in which the same students would work in groups. T3 appeared to believe that this arrangement might help students to support one another during the classroom speaking activity.

During one classroom observation session of the speaking lesson, the students' attendance posed a problem. Because several students were absent from class, T3

had to reorganise those who were present into new groups. Each group had approximately four students. However, this approach did not result in the students supporting one another. During the lesson, one to two students out of each group were able to do their oral presentation effectively. The remaining students who individually spoke in the classroom had to be continuously prompted by the teacher during the speaking activity. T3 described this outcome,

> *I then moved my class into groups, five groups. Some of us, they should have all had sort of four students, but saying that I've just had, which can happen in any class at any time, I had one student get home sick and just go home. Another one who's not really, hasn't participated in the class remained for the duration of the course so far. And, I've had another student who has a history of not attending class and with the social promotion that's going on, so, I've had off my class, I've then had three students who hadn't actually participated or shown up in class, and then oh another one who never turned up. So of all the groups established, some of them had ended up possibly only two contributing members.* (Teacher Three/Interview Two)

During the focus group interview involving six students from T3's class, the researcher sought their views about this observed classroom based speaking lesson. Most students agreed that they should contribute their ideas to share them online with everyone. However, they all agreed that a number of their classmates were not committed to sharing their opinions, particularly the ones who were absent in class. The students explained that student absence was common in this class. They suspected that their classmates who were often absent were unaware that they were required to contribute online and this affected the classroom-based speaking activity. This student stated,

> *I think we should, can share our opinion with class…But some students in this class not come to class, not contribute in class…. (*Student/Focus Group (2) Interview)

Another student from T1 and T2's shared class did not see the value in using Moodle to prepare them to speak in the classroom. He considered writing and speaking as two unrelated activities. As students were required to post their ideas online in writing, his view was that it did not provide them practice in speaking. He preferred to practice speaking face-to-face with his classmate. He argued,

> *Is it helpful or not? I think it's not helpful because in the Moodle we don't discuss, we write, we should speak. Because speaking and writing are not the same. So when we get Speaking test, for the test, we speak to each*

> *other. I speak to her (points to classmate), I get more information than to go to the Moodle and see and discuss.* (Student/Focus Group (1) Interview)

These students' responses appeared to indicate that the teachers did not clearly explain how the use of Moodle was part of the object which was to prepare the students to speak in the classroom. While the teachers were aware of this object, how they could achieve it through the use of Moodle was less clear and seemed to have contributed to a tension relating to their students' expectations. Classroom time was not spent on interactive learning but in getting the students do their oral presentation. The teachers did not seem to realise the importance of interaction in language learning and this reflects their lack of understanding about language learning. This further suggests that the teachers lacked clarity in conceptualising the object, which could be attributed to their lack of understanding of language learning.

In summary, the teachers appeared to be unprepared for the challenges they faced in using Moodle because they assumed that teaching in the face-to-face classroom and in the online environment were interchangeable. They were ill-equipped in terms of knowledge about language learning and how to use Moodle to realise the intended object which was to prepare the students for the classroom speaking activity. While they were aware of this object, they lacked a clear and valid conceptualisation of it – perhaps due to their limited knowledge about language learning and use. Thus, each teacher held different conceptions of how the object could be realised and adopted different approaches to achieving it.

5.2.3 Division of Labour

The use of Moodle in this language programme also revealed the interaction between the teachers and their students and also the relationship between the teachers to realise the object. The teachers held particular attitudes as to the support they needed to provide for their students' contributions online and in the classroom. Their attitudes appeared to be informed by their expectations of the potential for using technology in relation to the object of the activity. In addition, their lack of experience in using Moodle highlighted the need for the teachers to cooperate with each another as they taught the same level in the language

programme. The manner in which these teachers operated within their roles to support the students, by providing them with feedback and to collaborate with one another as colleagues further reflected how the work involved in transforming the object of the activity (improved speaking competence) was shared and organised. In the process of using Moodle, the teachers experienced particular tensions, which affected the object of the activity.

5.2.3.1 Teacher – Student Interaction

T2 did not provide any online feedback to the students' postings. Her rationale was that since Moodle afforded the students the opportunity for independent learning, her provision of feedback on their online writing might undermine this potential. Moreover, as the students were expected to include content that had already been taught in class in their posting, there was no necessity for her feedback. This attitude reflected T2's assumption that as the students were exposed to the content they were able to reproduce what was required in their online posting. She seemed to consider that her role as a teacher was to transmit the content to her students who were then expected to include it in their online posting. Such assumptions indicated T2's lack of pedagogical knowledge. In sharing her assumptions, T2 explained,

> *So, at the start we thought that it would be more hands-off, more student-student interaction and I think it was but not in a way we expected….Yeah, for me I felt like that was an opportunity for them to contact more with each other but I think for some of them, that was not what they wanted. They wanted more comment on what they'd said or perhaps more correction of their work. So they had different requirements and different wants from the system….* (Teacher Two/Interview Two)

T2 acknowledged that her reasons for not providing feedback conflicted with some of the students' expectations. They expected her to comment or to correct their language errors – as stated in the student focus group interview. In raising this issue, one student in the focus group interview explained,

> *I think one problem even if we write in the Moodle, there is no response from teacher because we don't know whether or not our writing is correct or not. It is very important for us. I'm just writing, don't know whether it's grammatically correct or not. So, if no correction, no suggestion, no improve in what's expect, no response from teacher, to say it's ok, correct, I agree or something like that. So my interest becoming down.* (Student/Focus Group (1) Interview)

Since no online teacher feedback had been provided, the students were not convinced of the value of Moodle and gradually stopped contributing online.

T3 considered it necessary to give feedback to students' online writing and did so by posing questions to their contributions. However, she found the practice of posing questions as a form of feedback to every student's online posting was daunting. She spent considerable time reading through each piece of writing and posing a question related to their content. Although she admitted being overwhelmed with the task, she believed that providing feedback was necessary particularly as one of the other teacher participants was doing the same. T3 also wanted to avoid creating an impression that she did not value her students' online work. T3 stated,

> *When I read the responses and I have replied to them which we haven't done this week so I don't think it's been posted yet, that kind of reply and I said to them, I've just had a look at what you wrote and I've put a little reply to each of you…. I probably felt overwhelmed by the whole thing and then I realised that some people were like doing this, so I thought well I need to do that with my class as well, so I wanted to, you know do it for my class as well as other teachers were doing, you know I'd hate to think that my students were posting theirs and the teacher never bothered to look at it and yet the other classes you know, the teachers did. So it was like, well, ok I'll do that as well, you know.* (Teacher Three/Interview Two)

The sense of being overwhelmed likely influenced T3's decision to provide the online feedback once and to only one forum. Providing feedback to every student's response in the online learning environment is possible but the nature of such feedback is different compared to the face-to-face classroom learning environment. Particular strategies need to be implemented to enable not only the teacher but also the students to provide feedback to one another. T3 seems to lack knowledge about online pedagogy related to feedback.

To ensure that her students were aware that she had provided feedback to their postings, T3 informed them about it during classroom time. Her students reported that she provided feedback, which consisted of questions to probe their responses to the exercises. In describing the aspect that they liked about the use of Moodle, one student acknowledged that she appreciated her teacher's feedback. However,

the feedback was provided only once throughout the use of the forums and did not concern their use of grammar. This student stated,

> *….because when you put the idea and your English and teacher corrected them ask the question. This is a good but she not to correct your grammar. But only one time she do it (ask question) on Moodle. After that never!* (Student/Focus Group (2) Interview)

To summarise, the use of Moodle to support the students' classroom speaking reflected the teachers' beliefs about whether feedback needed be provided to the students' online contributions. While T2 believed that giving feedback was unnecessary, this view conflicted with students' expectations and they then stopped posting. T3, on the other hand, considered online feedback to be necessary to ensure that students did not feel neglected. She also felt some peer pressure to provide feedback. However, despite this belief, she was only able to provide feedback once in the form of questions to her students' contributions in one forum. It appears that these teachers' reservations about providing feedback were most likely due to their lack of understanding that teaching online and in the classroom are significantly different.

5.2.3.2 Teacher-Teacher Co-operation

Although T1 and T2 were sharing the teaching of one class, they were often unaware of the other's instructional behaviour. This suggests that there was a lack of clarification between them about their individual roles and responsibilities in co-teaching the class. Their roles were assumed rather than discussed. These assumptions were challenged as both teachers used Moodle as a shared tool to work towards the object of activity (students' classroom speaking).

As the students' online postings to the exercises declined, T1 felt that they needed to be reminded to access Moodle and she expected T2 to do so also. This expectation possibly prompted T1 to raise the issue during a team meeting to suggest that both teachers regularly remind the students to post their responses. T2 recommended that the students be reminded to access Moodle during the scheduled lab sessions. T1 stated,

> *I think, because I teach with another person, we don't always know what the other person is doing but I think that, the teacher to always be giving reminders, you know, just remember to go on Moodle and then she said creating a specific time to do it then it took out.* (Teacher One/Interview Three)

However, despite the suggestion, T2 believed that it was T1's responsibility to implement the suggestion to remind the students to access Moodle as the latter spent more time teaching the class (Wednesdays-Fridays). There appeared to be an implied understanding that since it was T2's role to upload the speaking exercise, T1 was responsible to inform the students that it was available on Moodle and to remind them to post their contributions. However T2 did not communicate this to T1. T2 argued,

> *I felt that it wasn't really my responsibility because T1 has them for most of the week and really we only start saying ok here's the new Moodle topic, get on to this around Wednesday when it's actually T1's. I don't do that, T1 does that. I set up the discussion. (*Teacher Two/Interview Two)

This lack of communication between the teachers indicated that their understanding of their roles and responsibilities were assumed rather than negotiated. T2 believed that she was not responsible for reminding the students to access Moodle as she had fulfilled the obligation to upload the speaking information online. Thus, she believed that there should be a fair distribution of roles.

T1 also observed that the use of Moodle created a bond among the participating teachers, as they often discussed the relevance of Moodle in relation to improving students classroom speaking. She believed that the teachers were committed to work together to find ways to effectively encourage the use of Moodle and were concerned about the decline in the online response rates. The teachers believed that as a result, the students were not prepared to speak on the assigned topics as expected during lessons.

T1 believed that the teachers were encouraged to discuss other ways in which they might further scaffold their students' classroom speaking through their instructional approaches. Such discussions dominated the team meetings and their casual conversations. It is possible that their use of Moodle might have

highlighted a need for them to enhance their existing instructional practices. For T1, their experiences in using Moodle resulted in the teachers forging closer relationships with each other as they pursued a common cause. T1 disclosed,

> *I guess we talked a lot about the value of it in doing it so that was, that sort of, I think bonded us together and we were trying to work out how to make it more effective probably, teaching point-of-view and I think, yeah, I think that was useful.* (Teacher One/Interview Two)

However, T1's belief that the use of Moodle had forged closer relationships among the participating teachers is questionable. Although T1 and T2 shared the teaching of one class as well as a Moodle site, they did not negotiate their shared roles; their understanding of roles was implicit.

While T1 also believed that their use of Moodle had encouraged them to discuss effective ways to support the students to speak in the classroom, there was no indication that such discussions resulted in an outcome. It was observed that the teachers continued uploading the speaking information and expected the students to speak on an assigned topic in the classroom based on the ideas posted and shared online. The students' online postings continued to decline, and they were still not prepared to speak on the assigned topics as expected during lessons. In fact, T3 found that the use of Moodle did not change her classroom practices. She explained,

> *No. Other than the sort of just little artificial adding in or going to the lab and doing Moodle and then on a Monday morning discussing it, it hasn't really become any greater a part, I don't think of our teaching style*. (Teacher Three/Interview Two)

There were indications that T1's exploration of Moodle made her realise that it was possible to use computers to support the students' classroom speaking. Besides using Moodle exclusively to upload the speaking exercises, activities such as grammar practice and additional exercises could also be made available online through embedded links. This expanded use of Moodle required all the teachers to be involved simultaneously instead of taking turns to work on Moodle. The realisation of the extended potential of Moodle to help students learn and the need for a different mode of teacher collaboration were evident as T1 explained,

> *I think that maybe as a team, we could do that. Like this time we just all had turns in posting stuff but we couldn't do something like one person you be responsible for, for example posting them all or posting half of them, the other person you be responsible for finding certain grammar points and putting up extra, extra links. I think that could, I think that could work rather than, well trying to do everything*. (Teacher One/Interview Two)

However T1 did not share her realisation with the other participating teachers, although she was responsible for coordinating the team teaching the Level Five. This lack of communication suggests that T1 might not have perceived her role as empowering her to implement changes in the teachers' classroom practices at this level.

In summary, these teachers' use of Moodle as part of realising the object of the language learning activity further revealed how they viewed, shared, and distributed their roles as they cooperated with one another in the instructional environment. Although they were grouped as a team to teach Level Five there was a lack of communication among them about their respective roles, which appear to be assumed rather than negotiated.

5.2.4 Rules

The teacher participants experienced various challenges as they used Moodle to relate their classroom activities to the object of the activity. The challenges were shaped by the rules existing within the instructional environment. These rules posed constraints particularly relating to the assessment requirements, the speaking exercises, the availability of time, access to training opportunities, and infrastructure. These issues were interconnected and emerged as the teachers used Moodle to support the students' classroom speaking. The following sections examine each of these constraints and explore how they influenced or were influenced by each other in this Case Study One.

5.2.4.1 Assessment Requirements

As explained in the Description of Study Site A in the Research Methodology Chapter, the language programme consisted of nine assessments, which were scheduled as part of the programme's twelve-week calendar. The assessments

began in the third week of the teaching block and were conducted on an average of one assessment every two weeks. It is likely that the high number of assessments and the frequency of conducting them contributed to the teachers' workload. It also indicated the significance of assessment in the programme. The teachers needed to cover the required course materials within the stipulated programme schedule. From the classroom observations and conversations with the teachers, it appears that they believed that their classroom teaching was constrained by the demands of the assessments, as they had to prepare students for the tests on a weekly basis.

The emphasis on assessments affected the teachers' plan to add additional computer lab sessions to their classroom schedule during a particular week. These sessions were intended to give the students the opportunity to access a computer to get on Moodle and share their ideas in the forum. The teachers realised that the students were not posting their ideas online unless they were taken to the computer lab. However, the tight assessment schedule particularly in week nine prevented them from proceeding with the plan. During that week, two assessments were scheduled – Reading and Listening Test 1 and Summary writing. T1 explained,

> *Just.....we didn't get to the lab to do it, they had tests during that time and I felt there was a lot to take on (with Moodle) and we were quite busy…that week we had tests on a Monday and that week (week nine) was a busy week, writing, assessments, teaching…quite a heavy workload, yeah.* (Teacher One/Interview Three)

For T2, the requirement to cover the course content so as to prepare the students for the assessments inhibited her freedom to explore the use of Moodle. She reported experiencing conflicts between using Moodle, preparing and conducting the assessments, and covering the required course content. The teacher thus concluded that Moodle was unsuitable for an assessment-oriented language programme.

Instead, she considered Moodle to be better suited for the afternoon language classes, which she also taught. These classes did not have any assessments as they were intended to supplement the students' development of language skills. T2 was

teaching an afternoon class and believed that since it was not assessment-oriented, she could explore use of the recently installed Interactive White Board (IWB) on a regular basis. This experience reinforced her view that Moodle was better suited to the afternoon classes. T2 concluded,

> *It really depends on what the sort of curriculum is for the class because there was so much other stuff that we had to get through. Maybe if it was an afternoon class, it might be more freedom because they're not so rigidly assessed, there's not so much....* (Teacher Two/Interview Two)

The need to conduct the assessments and to ensure that the students were prepared for them appeared to determine the teachers' classroom practices and delivery of course content. It is possible that the teachers believed that the purpose of language learning was to help the students fulfil the requirements of assessment instead of developing their language proficiency. This suggests that that they lacked understanding about the process of language learning.

5.2.4.2 The Speaking Exercises

Another constraint that the teachers faced when using Moodle concerned the text-based speaking exercises that were used in the Moodle forum. As explained in the Description of Study Site A in the methodology chapter, the contents of these speaking exercises were from the information in the task cards that were used in the classroom face-to-face lessons during the speaking activity.

The information stated the topic and listed the key points that a student was required to speak about in class. The teachers decided to upload the information in the online forum as a speaking exercise for two main reasons. First, the information reflected the classroom speaking and assessment tasks. Second, as these task cards were readily available and had been organised to reflect each topic taught in the classroom, the teachers did not perceive a need to develop new materials for the purpose of using Moodle to support the students' classroom speaking.

T3, however, did not consider the information in these online speaking exercises as encouraging the students to post responses online. In describing the information on last four online forums, she observed that the listed key points repeatedly

required the students to "Describe", "State", and "Explain". She believed that such repetition did not support the students to speak in the classroom. They were still unable to speak about the assigned topic in the class. She believed that the information in these speaking exercises needed to be revised. She remarked,

> *I think revising the types of questions that were posted, just making it very relevant. I think the last one was a bit repetitive*. (Teacher Three/Interview Three)

Similarly, T2 considered it necessary to revise the information particularly the key points used, which she referred to as questions, to prepare the students for the classroom speaking activity. She perceived that these questions did not provoke the students to discuss the topic online to gain more ideas to support classroom speaking. However, she believed that reviewing them might compromise the initial purpose of adopting the exercises, which was to provide the students with opportunities to practice speaking by describing the topics. She explained,

> *I think the way we set our exercises, if we had simpler questions that were more provoking discussion rather than something that wanted them to elaborate on some long topic, they'd be more likely to contribute. But, that would lose some of the benefit that we actually intended it for in the first place, to get them practising that speaking topic.* (Teacher Two/Interview Three)

T1 considered the format of the speaking exercises as posing a constraint to the use of Moodle to support the students' classroom speaking. She believed that the format needed to be varied as it reflected the conditions of the speaking assessments, which were conducted individually. She observed that using the assessment-based format for the classroom speaking exercise did not encourage the students to articulate their ideas online to enable them to be exposed to the ideas of others and thus have more ideas for productive use in the classroom. Thus, as mentioned earlier, students' online posting continued to decline and they were observed to be unprepared to speak on the assigned topics in the classroom.

To encourage them to articulate their ideas online, T1 suggested varying the format of the Moodle speaking exercises to provide students with additional support materials. Although she did not specify how to do so, she was cautious

that a varied format might jeopardise the students' performance in the assessments. She explained,

> *I think we could do perhaps a lot more, a lot more support material for students and I think it was good to have a different type of medium for them, so, ermmm, I think in respect of their speaking test, I think these were appropriate, they were good but, we could have varied it you know we could have varied the format but the format was very familiar.* (Teacher One/Interview Three)

The three teachers believed that the speaking exercises did not encourage the students to post their ideas online to support them to speak in the classroom. However, despite suggesting a need to improve the speaking exercises the teachers did not offer any specific recommendations or communicate their beliefs to one another. They appeared to be hesitant to initiate any improvement to the exercises, as this required that the teachers spend their time developing a new set of exercises.

5.2.4.3 Time

Time was an important issue among the teachers in using Moodle to realise the intended object. They believed that using Moodle constrained the time that was available for them to manage their in-class teaching workload. Besides focussing their time on classroom planning and teaching, as well as conducting and evaluating the assessments, the teachers needed to learn how to navigate through Moodle and upload the speaking exercises. Balancing both demands was challenging particularly for T1, both at the onset as well as throughout the teaching block.

As T1 had no previous experience or training in the use of Moodle, she found that learning how to use it was difficult. She often grappled with Moodle tasks and she was unable to follow the numerous steps in uploading the exercises and organising the students into groups. There was also no documentation provided to guide her to work with Moodle. She explained,

> *And, I think we just have quite a heavy workload and you know, the whole setting up was enormous at the beginning. It took not a whole morning but you know it took a long time, setting up at the beginning so that, you've got to factor that in…. it does take a lot more time and it took, it takes another, it takes extra chunks during our day, during our week that we have to factor in.* (Teacher One/Interview Three)

Similarly, T3 believed that using Moodle imposed demands on her classroom time. She also experienced difficulties in using Moodle, as she had no previous experience or training in its use. She was unable to remember the procedures involved in uploading the exercises and had to continuously explore Moodle through trial-and-error. This approach was time consuming. T3 explained,

> *I think just on top of teaching my programme, been adding Moodle would probably take me about three times round to really get familiar with it all, just because it was a bit of a steep learning curve... Those first few meetings would probably show that, would reveal the fact that we were, you know, probably time constraints more than anything else within the course content.* (Teacher Three/Interview Three)

These teacher participants considered the use of Moodle as time-consuming and a distraction from their 'real' work of language teaching. This suggests that the teachers considered Moodle as a peripheral tool in the language programme and not a core classroom resource. This view has implications for the concept of normalisation. However, the view that Moodle was time-consuming was more a reflection of their lack of training and knowledge about the pedagogical use of the LMS.

5.2.4.5 Support for Moodle Use

Moodle training was provided but access to it was an issue at Study Site A. Support for all teaching staff to use Moodle was provided by a centralised eLearning unit, which was established, prior to this study. The unit consisted of a small team of four personnel with two of them providing Moodle support to all staff. During the key informant interview, one of these personnel who provided the Moodle support described it as consisting of a series of hands-on technical training workshops, online tutorial, and communication via email. One-to-one assistance was also available upon request. Help desk assistance was also

provided, but this support was managed by a separate technology support unit that worked closely with the eLearning unit.

However, being a newly established centre with a small team, supporting all staff throughout the institution was a struggle for these people. They were stretched in terms of the services they could provide and had to be careful with type of support they could deliver. This key informant explained,

> *We are limited as you know there's not many of us so we have to fairly careful about what we commit to, we're stretched. Because we're also a beginning unit we also have to establish ourselves in the university. And we have to be careful about that because we can't promise more than we can deliver.* (Key Informant 1/ Key Informant Interview)

The struggle in providing the support could have affected the wide and immediate availability of Moodle for teachers, particularly in terms of providing one-to-one support.

Nevertheless, the Moodle technical training workshops were organised every semester (including during the teaching recess) based on the institutional academic calendar. A schedule of these workshops was available on the main Moodle page and the main page of the eLearning unit. Four workshop sessions managed by one of the personnel from the unit, were organised over four days in a computer lab in the afternoons and each session lasted for two hours (1-3pm). The first workshop focussed on the basics of using the various 'resources' on Moodle such as linking a file and creating a link to a web page while the second workshop concerned the setting up of the Moodle environment such as organising the layout based on topics or weeks and also the use of 'activities' such as creating a forum or a wiki. The third workshop dealt with creating assessment activities in Moodle, while the fourth workshop concentrated on creating Moodle based activities that involved group participation and managing access to the created activities and resources.

Despite the support in the form of the technical training workshops, none of the teachers reported having attended them. There was also no indication that they consulted the online tutorial or sought assistance via email or the helpdesk. While

the latter two forms of support (online tutorial and email or helpdesk) could have been accessed at their leisure, the teachers reported not being able to attend the workshops as the times clashed with their teaching schedules. T2 experienced this predicament as she remarked,

> *I did notice that there were training sessions set up. I thought oooohhhh! that would've been really good but I sort of missed the first slot and then I saw that the second lot were at the same times as when I was teaching….With the training sessions that are offered by the Moodle staff, I think just knowing about them, like, we don't always realise what's happening so knowing when they're on, you know, as long as there's a good time for us, that would be something I would be keen to go along to.* (Teacher Two/Interview Two)

Thus, the teachers could not access the Moodle training provided due to time, which was an important issue at this study site for the teachers. All three teachers taught 19 hours per week (the programme involved 23 hours contact time for students per week), which resulted in them having limited time available to attend the training sessions which were organised over the four days in the afternoons.

The Programme Manager who participated in a key informant interview acknowledged that the teachers' difficulty in attending Moodle training was due to time. She believed that while Moodle training was available and that the teachers were interested, the teachers needed was more time to access the training. She argued,

> *Time for the teachers to do anything and I mean even prepare things to go on Moodle. We are very fortunate here, we do have support here, it's not that we don't have the support. We don't run to the university semester…it's not that they're not interested (to attend Moodle training), definitely not, it is time….I believe they would get the support where I see no issues as far as they wanted to but not the support for time*. (Key Informant 2/ Key Informant Interview)

T3 who had not attended any Moodle training nevertheless believed that it was important. She believed that training might more quickly assist the teachers to develop competence as Moodle users. T3 was sceptical of the institutions' commitment to supporting teachers' need for Moodle training as relief teaching would need to be organised given that the workshop sessions clashed with their teaching schedules. T3 reasoned,

> *I think if the institution really, really wants us doing this, we need support, a lot of teachers who are familiar with teaching but lost when it came to Moodle. And, so, in a way, because it's the unknown, because it takes time, because it's risky and because they don't have that competence either. The system fails, really, I mean, what could the institution do? So, the institution really I think, to make this technology work, we need to be up skilled. It could say well, we kind of value teachers, we'd better put them through Moodle training programmes. Well, then you're going to say at what point in the 23-hour teaching are those teachers going to come?* (Teacher Three/Follow-up Interview)

Thus, the teachers were not able to access Moodle training sessions although they were keen to do so. The schedule for the technical training workshops clashed with their teaching schedules. Also, the teaching hours for the continuing staff restricted the time these teachers could commit to attend the workshop sessions over a period of four days. The real problem might not have been the lack of Moodle training, but the difficulty in attending it due to a lack of time. Attending the Moodle technical training workshops would be important to ensure that the teachers have the basic technical knowledge of the LMS that could serve as a foundation to support them to experiment with its integration. The lack of such fundamental exposure to Moodle could constraint efforts to develop their professional learning, a concept, which will be addressed in the subsequent discussion chapter.

5.2.4.5 Infrastructure

The teachers believed that the lack of access to technological infrastructure at Site A constrained their use of Moodle. As only one computer lab was allocated to all levels in the tertiary level English language programme and as this facility had to be shared among several teachers, there were scheduling issues. Each class at Level Five was provided access to this lab twice during the teaching block for a one-hour slot each time to enable the students to word-process their writing drafts. This constraint was highlighted by the Programme Manager during a key informant interview where she explained,

> *it's just as I said, computer access is a big issue... During the morning programme we wouldn't have enough computers. We struggle now to just get the writing drafts typed out... We've only got two computer rooms, we have one lab, General English has the other, we fought hard to keep what we've got, really really hard, it's just a nightmare. We really had to squeal to get it.* (Key Informant 2/ Key Informant Interview)

For the teacher participants, access to the lab was crucial as it provided the opportunity to encourage students to access Moodle to post their responses online. The students were reminded to access Moodle once they had completed the amendments to their writing drafts to post their responses online. This strategy may have contributed to the students depending on the teachers to take them to the lab to access Moodle as described by T2 earlier. However, many of the students were not able to access Moodle at all during these scheduled lab sessions as they spent all their time rewriting their drafts.

The lack of access prompted T1 to attempt to schedule additional lab sessions to enable students to work solely on Moodle. This was not possible however, as no empty lab slots were available within the schedule. Moreover, they were only assigned one computer lab for the programme. T1 believed that the limited access to computers constrained the use of Moodle at this site,

> *The computer time particularly the language institute when everyone's writing essays on the computers that was just finding that time and enough computers. When the rest of the university is on holiday that's not a problem! I don't think any of us ever had a problem with that but I can see that could be a potential problem.* (Teacher One/Interview Three)

There were opportunities for the students to access Moodle after class at the spaces designated to students from the English language programme. These English language programme students were provided access to designated computer spaces, which consisted of the English Language Resource Centre (seating capacity of 10 students at any one time) and two computer labs (seating capacity of between 18-23 students each at any one time). These spaces were open from 8.30am to 5.00pm from Monday to Friday. However, as the afternoon lessons ended at 3.00, these spaces were often fully occupied with students from other levels in the programme. The students from Level Five had to look for a space and this took time. By the time they secured a computer work space, they

were left with limited time to get on to Moodle. The limited access to the available infrastructure was described by one student as follows,

> *I need to find a computer and find an empty lab to work which is hard to get when you finish at 3 o'clock and all the computers are full and everyone is sitting. I should do it for one or two hours but it's hard.* (Student/Focus Group (1) Interview)

The lack of access to computers constrained the teachers' use of Moodle in the following teaching block. The one computer lab designated to the various levels in the programme was redesignated as a shared institutional facility. The teachers were required to book the lab through a centralised booking system and compete with the degree programmes in the institution for access. This one dedicated computer lab was even more heavily booked during classroom teaching hours than had previously been the case. This made it difficult for T1 to schedule additional lab sessions to enable the students to use Moodle. As a result, the teachers decided not to continue with Moodle in the new teaching block. T1 explained,

> *It's not as easy to get computer times either because we've lost a computer lab. Well, we have the one over at the other block and then we've got all these classes all timed right there, all writing, typing two essays. So, in terms of, we just don't have as much access to the computer labs.* (Teacher One/Follow-up Interview)

For T3, the use of Moodle was further confounded by the lack of classroom-based computers. Although the classrooms were located in a new building, the only technology to which they had access was a portable audio-cassette and CD player. To obtain access to Moodle, the teacher had to take the students to the computer lab, which was a difficulty as described above.

The frustration of having limited access to computers prompted the teachers to conclude that they would be able to use Moodle only if each classroom was equipped with computers. T3 believed that having one or more computers in the classroom would enhance learning by enabling students to work on a variety of online activities prepared by the teacher. Given the absence of the computers in the classrooms, T3 concluded that using Moodle was a challenge. She argued,

> *If we ended up teaching them in more interactive environments where our classrooms actually sort of had computers you know, as you could go to one group, ok, you guys go to the six computers at the back, what you should do dadadadadadada for Moodle and the rest of us be doing something else. Yeah, that kind of primary school type classroom where you can send students off to do things but for us it's taking the whole class to the lab! Or, like when our classrooms are little bit more technological maybe, even if you had one laptop at the back of the room, you could have a group doing it and uploading it and checking with the teacher with the grammar and 20 minutes of class time, it would be up and going.* (Teacher Three/Interview Three)

T3's perspective seemed to reflect the view that effective classroom teaching with technology was dependent on close computer access. This view further constrained her attempts at using Moodle in the following teaching block. She continued to highlight the lack of technological infrastructure as a barrier to the teachers' attempts at using Moodle.

Not all the classrooms lacked technological infrastructure, however. Earlier in the year an IWB unit had been installed in three classrooms with two units being in the new building. The IWB might have provided an excellent tool for speaking without involving Moodle at all. As it employs the use of graphics, text, animation, audio, and video in an integrated manner, the IWB could have offered teachers the potential to use it in relation to the object of the activity.

However, T3 did not take the initiative to use it. She cited being unable to attend the training sessions as the reason for not using the IWB. Similarly, T1 did not use the IWB, although T2 did attend training and was using the IWB regularly. The failure of the two teachers (T1 and T3) to take advantage of this indicates that they might not have been interested in using technology despite having easy access to it and the opportunity for training. It also suggests that the real problem might not have been a lack of access to technological tools, but that these two teachers lacked the knowledge of how to use technology and possibly lacked the will and means to learn more.

To summarise, there were five main factors that constrained these teachers' use of Moodle in Case Study One. These factors relate to the assessment practices, the

speaking exercises, time, access to training, and availability of technological infrastructure within the educational environment. These constraints as cited by the teachers reflected their perception of the issues involved. Although they were able to address these constraints, there was a sense of reluctance on their part to do so. Such hesitance suggests their lack of knowledge about language learning as well as in the use of Moodle in preparing the students to speak in the classroom.

5.3 Chapter Summary

This chapter reported the findings from one case study, which consisted of a tertiary level English language programme at Site A. The findings were presented based on three main categories in the activity framework – the object of the activity, the division of labour, and the rules. The object of the activity in this case study site was to prepare the students to speak in the classroom to develop their speaking skills. All three teachers who participated in this study considered technology as consisting of only the computer. Moodle was considered as a repository for learning materials to enable students' asynchronous access to learning materials and was used as an 'add-on' to support the traditional teacher directed approach. The use of Moodle to realise the intended learning object challenged these teachers' preconceived ideas about technology and Moodle, revealing their lack of a clear and valid conceptualisation of the object.

The teachers' use of Moodle to realise the learning object revealed how they shared their interpretation of the object of the activity with their students and their colleagues. The teachers did not consider it a necessity to interact with their students to provide feedback to the latter's contributions in the online learning environment. Their view of feedback appeared to indicate their lack of awareness on how to use Moodle to scaffold their students' learning. Despite working as a team to teach the intermediate level in the language programme, there was a lack of communication among the teachers about their respective roles, which appeared to be assumed rather than negotiated. This sense of a disconnection indicated the need to encourage them to learn from one another.

The teachers experienced conflicts and tensions within the existing policies and practices as they worked towards realising the object of the learning activity at this Case Study One site. Five main interconnected issues emerged posing constraints to these teachers' use of Moodle to mediate the object. These issues concerned the assessment practices, the speaking exercises, the lack of time, the limited access to training, and the availability of technological infrastructure within the educational environment. These constraints as cited by the teachers reflected their perception of the issues involved. Although they were able to address these constraints, there was a sense of reluctance on their part to do so. Such hesitance suggests their lack of pedagogical knowledge and limited knowledge in using technology to realise the object of the activity.

CHAPTER SIX: FINDINGS PART TWO

6.0 Overview

This chapter describes the findings from the second study site (Site B). It was assumed at the outset of this study that as Site B consisted of one language programme, the programme would constitute the study's boundary. However, two objects were identified in the one language programme, which was unexpected. Each object delineated the boundary for a separate case resulting in two case studies. This chapter reports the findings from each case study based on the same three categories from the Activity Theory framework, as discussed in Chapter Five. These categories concern the object of the activity, division of labour, and the rules. The findings for this case study are presented in the form of description, data, and interpretative commentary.

6.1. Reporting the Findings

The data from Site B were analysed using the same inductive approach as described in Chapter Five and were also interpreted thematically within Engeström's Activity Theory framework. As with the previous case, the patterns that emerged from the findings relate to three main categories, which are the object of the activity, the division of labour, and the rules.

However, unlike Study Site A, two different objects were identified within the one language programme, which was delivered as two modules (Listening and Speaking; Reading and Writing). In the listening and speaking module the object concerned preparing students to speak in the classroom and it was similar to Case Study One. As for the reading and writing module, the object was to provide students with a resource bank for language learning. The two different modules, with different objects were regarded as the cases and are reported accordingly.

6.2 Findings from Study Site B

6.2.1 Case Study Two - A Brief Description

As described in Chapter Three (Research Methodology) this case study was a classroom-based activity in a tertiary level English language programme at an institution in New Zealand. The case study explored the use of Moodle for

language teaching in one intermediate level classroom, which focussed on the listening and speaking module. Moodle was used with a view to help the students develop their speaking skills and speak in the classroom. Data were collected in this case study through interviews, work-together sessions, and classroom observations. The participants consisted of one teacher (T4), four key informants, and one group of students consisting of five members.

6.2.2 The Object of the Activity

6.2.2.1 Technology to Support Classroom Speaking

As with the teachers from Case Study One (Study Site A), T4 believed that there was a use for technology to support students' classroom speaking but "technology" meant "computers" (only). Her view of technology was restricted and did not include other devices such as tablets, laptops, or Smartphones.

She was clear about why computers supported students' speaking in the classroom. The computer provided her access to the Internet, which enabled her to source for learning materials she could use in the classroom particularly to support classroom speaking activities. Teachers in this programme were required to develop their own classroom teaching and learning materials as there was no prescribed textbook. Most of these materials were sourced online and included online sites such as YouTube, which T4 used to teach grammar point. In addition, the computer enabled her access to presentation software such as PowerPoint, which was useful to display pictures to the class during a lesson to encourage them to speak about a topic. T4 explained,

> *The computer enables me to search for a lot of resources online for activities. Power Point for brainstorming, discussion and structure authenticates the mainstream experience for students. I'm trying to use it more and more in my teaching. Also YouTube to teach a grammar point…* (Teacher Four/Interview One)

The view that technology involved only the computer was also held by the Programme Administrator, as described in a key informant interview. She considered the use of the computer in classroom teaching as the best approach, as the students enrolled in the programme were computer savvy – they would be

familiar with using it. As such, she also believed that student access to the computer lab was an important aspect of programme delivery. She stated,

> *I think it is a very important part (of classroom teaching) because computers are so ideal and students are computer literate and they like doing things on the computers, sort of natural…. Everybody has to take their class to the computer lab so they have to do something.* (Key Informant 2/ Key Informant Interview)

T4's view that "technology" meant using a computer also appeared to be influenced by institutional policy on the use of technology in programme delivery. All teaching staff were expected to use computers in their teaching and T4 believed that this policy reflected the institution's overall direction in using technology. Every classroom was equipped with a desktop networked PC and a ceiling mounted LCD projector.

T4 considered it necessary to develop her own skills and knowledge in using the computer in her classroom to gain the confidence to use it regularly to deliver content to her students. It appeared that her view of technology to support the students' classroom speaking was attributed to the need to use computers to comply with institutional policy. She reasoned,

> *Well, certainly from resources point of view, yes. In the classroom, yeah, I think that (the computer plays a role) there is because the institution's directions is going further and further into technological aspects of teaching and if I want to keep up I really need to keep up skilling in that area…. if I, when and if I become confident then I feel I'll be able to pass more information on to the students and make more use of it (the computer), that'll be useful to them.* (Teacher Four/Interview One)

T4's view of the computer as a device she needed to master to enable her to deliver content reflected a knowledge transmission philosophy of teaching. This philosophy considers knowledge as a discrete body of facts that needs to be transferred to learners and learned in isolation from considerations of context (Carbonell, 2013; Isbell, 2011; Wu et al., 2012). It does not consider how knowledge can be mediated by the teacher and peers through interaction, which is important in learning language. T4's view of teaching suggested that she lacked understanding about the nature of second/foreign language learning.

T4 expressed an interest in exploring computer use in her language programme. In particular, she was interested in using Moodle with a view that it could support her students' classroom language speaking. The following section will explore her perspectives on Moodle.

6.2.2.2 Teacher Perspectives of Moodle

Despite the fact that Moodle had been implemented at this institution five years prior to the data collection, T4 had never used it for instructional purposes. When it was first introduced to the language programme, a preliminary training session was organised for teachers to demonstrate how to access and upload resources into Moodle, but the training did not provide any exposure on how to tailor Moodle use to particular classroom contexts. T4 explained,

> *We were shown how to access Moodle and how to load resources on to Moodle. Yes, but not really direct applications in the classroom. Nope, on how to use Moodle for teaching.* (Teacher Four/Interview One)

T4 did not use Moodle as part of classroom teaching. It is possible that she did not consider Moodle to be relevant to classroom use. The initial exposure to the technology focussed on the technical aspects and as such did not stimulate her to explore it for classroom teaching. Although a Moodle site was provided for the listening and speaking module as part of the institution's policy on 100 percent online presence, T4 did not use it as she later revealed to the researcher during the first work-together session.

T4's beliefs about Moodle appeared to be informed by anecdotal accounts from other teachers at this Site. She had observed that they used Moodle to communicate procedural information to students, such as class cancellations or postponements and the latest assignment questions and requirements. Such use of Moodle reflected a knowledge transmission approach as described earlier. These teachers' use of Moodle might have influenced T4's view of it as a platform for one-way distribution of information. In explaining how her perception of Moodle had been formed, T4 stated,

> *only through eavesdropping on other conversations happening around me and stuff…. Well, from what I've seen my other colleagues who do more as active Moodlers, I think that it gives the students a kind of an avenue, a forum to, well, teachers and students to communicate. And, yeah, basically that's it, just communications.* (Teacher Four /Interview One)

T4 also shared with the researcher during the first teacher interview her observations of how Moodle was being used by other teachers. It was used to provide students with links to external learning materials to supplement classroom learning, which included grammar and vocabulary exercises, reading texts, and audio visual materials. These materials were provided online to enable their students to access them outside classroom hours. T4 believed that this use of Moodle (to upload materials) could be of particular benefit to lower level proficiency students as they needed more exposure and practice in English than they could obtain during class time. Such resources could extend their classroom learning. She explained,

> *At the lower levels if where the students actually use them or not, it, you know, the teacher finds a good website and puts it on there for students to practise. There's some really good pronunciation ones that would be really good. So I can see it.* (Teacher Four/Interview One)

The anecdotal accounts of how Moodle was used by other teachers at this study site indicated that the LMS largely functioned as a repository for learning materials and as a platform for communication. These functions of Moodle were further confirmed by the Moodle Administrator of the institution who participated in a key informant interview. In describing how Moodle was generally used by the teaching staff throughout the institution, she observed,

> *people who say that they use Moodle for their class and you find that all they're doing is actually just uploading documents – PDF, PowerPoint, Word…. All they're doing is using it as a storage area, just documentation that they also hand out to the students in class. They use it as a form of communication as in for example to say this class is cancelled today*. (Key Informant 3/ Key Informant Interview)

To summarise, although Moodle was introduced to this language programme and a site was provided for T4's module, she had never used it for classroom teaching. The preliminary Moodle training had not encouraged her to use it because the training had focussed on the technology and not on pedagogy. Her perspective of

Moodle appears to be influenced by the experiences of other teachers who were using it. She perceived Moodle simply as a one-way platform to distribute information to students and to provide them with additional links to learning materials for further language practice. T4's understanding of Moodle suggests that it functioned as an "add-on" to support teacher-directed information transmission. This perspective of Moodle suggests T4's limited understanding of how an LMS could be incorporated as an integral part of classroom language learning activities. Her use of Moodle to prepare the students to speak in the classroom is explored in the following section.

6.2.2.3 Using Moodle to Support Student's Classroom Speaking

The first activity created by T4 in Moodle involved the use of the Forum. The teacher uploaded a speaking exercise consisting of a set of text-based rubrics that stated the topic and listed key points to guide students to post their responses online in the form of text. A link to a web based audio lecture was also created in this forum. A printed newspaper article related to the topic was distributed to the students during a lesson. The students were expected to listen to a particular section of the audio and read the article to identify key points that they were required to incorporate in their written online responses to the exercise.

The teacher had planned to implement the Moodle activity as a "time-filler" during a one-hour self-access session in the computer lab. However, as there was an overlap in the booking of the lab, the session continued in the classroom. T4 explained the requirements of the Moodle based activity and assigned it as homework. The students were given five days to post their written responses online and were then expected to use the ideas available online to support them to speak individually for three minutes in a classroom based oral presentation the following week.

Nevertheless, despite being provided with this learning opportunity, T4 reported that most students did not post online responses and the few students who did had not referred to the resources provided. The students' limited online responses affected the planned classroom-speaking lesson. During the non-participant

observation of this classroom speaking lesson (40 minutes), it was observed that many of the students were unable to speak about the topic in class.

During the second interview, T4 shared with the researcher her realisation that students did not refer to the resources (web based audio link and reading article) provided in the forum to respond to the exercise. She believed that providing resources to students did not foster a sense of independence among them as she had hoped. This realisation prompted her to conclude that she needed to develop speaking exercises that would be of value to students' learning and not as a "time-filler" during self-access sessions. T4 was encouraged to explore other ways Moodle could be used to help students prepare for classroom speaking. In reflecting on this experience, the teacher recalled,

> *So, putting things like resources on there, I think that is really good for fostering independence but there's no guarantee that these students would look at them. So to find activities that are of value, not just busy work like maybe throw a quiz on there or something which might be good but it might also just be a little bit of a time filler. So to have activities that actually extend into something useful is something I would be more interested in seeing how I could use it.* (Teacher Four /Interview Two)

T4's realisation however, reflected her incomplete understanding about the nature of language learning. While providing students with the resources was important, T4 needed to encourage interaction in the classroom. The students needed to be supported to interact with their peers and the teacher about the content and the language used in these resources to help them to notice their own gaps and adjust their language to develop their learning. Ensuring such interaction would enable students to appreciate the value in using the resources to support them to respond online to the speaking exercises and later on speak in the classroom.

T4 proceeded to use Moodle to support students' classroom speaking by involving them in creating the second forum discussion. For this forum, she organised her students to work as small groups in the classroom to think of two or three questions based on a lecture they had attended. Each group of students were then required to upload these questions in the form of text for students from another group to answer. The students were expected to use the content from the lecture to form their questions as well as to respond to the questions. They were then

required to use the text-based ideas posted online to support them in a classroom group discussion session, which was organised as part of the course assessment.

T4 believed that involving the students in creating the questions and then assessing the classroom speaking activity might encourage the students to participate. She also believed that since students were provided with an opportunity to be involved in developing the activity, they would be more likely to consider it to be valuable for supporting their classroom speaking. She explained,

> *I wanted something more, some sort of opinion within the class activity where they had to produce some sort of logical progression, with the basic question, their answers to it, the other group's answers to it, the next group's answers to it so they could see an on-going value. I think they felt it was very valuable.* (Teacher Four/Interview Two)

In reflecting on this second Moodle forum activity, T4 believed that her students regarded their involvement as valuable to their classroom speaking. She based this belief on her observation that they were much more actively involved posting and responding to one another's questions as compared to the first online forum activity. During the classroom speaking activity, she observed that the students were enthusiastic in articulating their views. T4 remarked that they included the required content as expected in the speaking activity.

However, it is likely that the students considered this second Moodle activity as valuable because it was part of a speaking assessment. They might have felt the pressure to speak and to rely on the ideas available online to support their classroom production so as to obtain a higher grade. The assessment factor perhaps explains their active participation as described by T4.

This successful experience in using Moodle appeared to further encourage T4 to create a third forum discussion. This forum contained a speaking exercise, which was related to a film the students had watched during a classroom lesson. The teacher designed and uploaded her own speaking exercise in the form of text to the forum. This forum was organised as a debate and the students were divided into two main opposing groups. Each opposing group was further divided into two

sub-groups. The exercise consisted of a set of rubrics that stated the topic and listed key points to guide students to post their responses online according to the group that they were assigned. This Moodle forum was organised in the week before a two-week study break, at the end of the first session of the teaching block. The teacher expected the students to post their ideas online during this study break to prepare for the classroom based speaking activity when they returned for the second session.

However, T4 disclosed during the second teacher interview that only a few students answered the questions in the forum during the break. The slow response prompted T4 to send out messages through Moodle to each group to remind them about the exercise. Despite the reminders, students still did not post their ideas online. Given the lack of response, T4 explained that she had to organise the students into groups after they returned from break and encourage them to brainstorm ideas. Students then discussed the topic in class to prepare for the speaking activity. The teacher explained,

> *The third forum discussion when they come back they're going to, two groups of for and against to present their reasons to the rest of the class and then ultimately the class will decide. The responses are not coming in! I've been trying to promote the discussion but hasn't worked. So I think when they come back to class on Tuesday, even if they haven't Moodled, I will put them in their groups so they can get their pals ready*. (Teacher Four/Interview Two)

T4 considered this third discussion forum as having limited success in supporting the students' classroom speaking. As the students were expected to post their responses online during a two-week break, T4 believed that they had been unable to recall the film's content and were not able to post their ideas online. Moreover, she sensed that as the students' classroom speaking was not assessed, they might not have considered the activity to be important. She explained,

> *The third topic, that one took place over the holidays. Well, that wasn't an assignment as such, so yeah, I do consider that was a factor.* (Teacher Four/Interview Two)

However, during a focus group interview with five students from T4's class, the researcher elicited their views about their experience of the classroom lesson based on this third forum activity. All students reported that they found the

opportunity to brainstorm and discuss the topic during the lesson as supporting them to debate about it later on during the lesson. One of the students explained,

> *We discuss the topic in the class after the break. It was quite good. It's like sharing of ideas. In class we had a debate like a panel discussion, if we agree or disagree to some ideas. We are able to practise to speak out, to say out loud our opinions…. I think we didn't have enough time to discuss in class before this.* (Student/Focus Group Interview)

The opportunity to brainstorm and discuss during the lesson appeared to have enabled the students to interact with one another to enhance their understanding of the topic. It seemed to have supported the students to interact with their peers about the content and the language of the film they had watched in the previous three weeks. The interaction would have helped them to share their ideas and enabled them to notice their own gaps and adjust their language to prepare for the classroom based oral debate activity.

To summarise, T4's use of Moodle appears to have provided her with insights into factors that affected the students' classroom language speaking. She believed that proper planning, involving students to create questions, and assessment as important factors to ensure the students' online participation and support their classroom based speaking activities. Despite the realisation, only the second Moodle based forum activity seemed to have realised the intended object although one could also speculate that it was because it was assessed. However, similar to the teachers in Case Study one, she appeared to lack deep understanding of the nature of second/foreign language learning. She was not aware of the important role of interaction in language learning as she appeared to assume that providing students with the online learning materials could encourage them to respond to share ideas online. Students needed to be supported to interact with their peers and the teacher about the content and the language used in learning stimulus (audio lecture, newspaper article, lecture, forming questions, video material). Thus, although T4 was aware of the object, which was to support students' classroom speaking, she lacked a clear conceptualisation of it

6.2.3 Division of Labour

The use of Moodle to support the students' classroom speaking affected T4's tasks in the instructional setting. There were three tasks which she engaged with regularly, with her students including communicating with them online, creating a student-centred learning experience, and providing clear online rubrics and questions. These tasks appeared to be shaped by her beliefs in the potential of using technology to enable the students to speak in the classroom. In terms of relating to her colleagues, T4 had the confidence to assist other teachers in their use of Moodle.

6.2.3.1 Teacher – Student Interaction

The interaction between T4 and her students in the Moodle learning environment involved a one-way distribution of information about course requirements, such as reminding them about their homework and the required after class readings. The teacher explained,

> *Because with Moodle, I can email things, don't forget your homework or we're going to do this tomorrow so don't forget to read this page etc. I know that I can communicate even when there's no class.* (Teacher Four/Interview Three)

However, despite being aware of the ease in communicating with her students in Moodle, T4 did not provide any feedback on their online postings. She did not believe that commenting on their ideas encouraged them to be independent or to be responsible for their own learning. Developing such independence and responsibility among the students were important to prepare them for the degree programmes.

The teacher's reluctance to provide feedback seems to have been influenced by the courses she attended at the institution. These courses were delivered based on a student-centred pedagogy and course participants were expected to be independent and responsible for their own learning. T4 believed that she needed to adopt the same approach in the delivery of the language programme as well as in the use of Moodle.

During two classroom observations (one familiarisation and one planned outcome of the Moodle-based activity), T4 also did not provide any feedback or comments to students' oral responses in class. However, during the classroom familiarisation observation, she did provide feedback to expressions that were written by the students on the whiteboard. During this lesson, the students were asked to write out the language functions and forms they would use in their oral expression for a particular topic on the whiteboard. T4 proceeded to correct their written grammar and spelling followed by an explanation and discussion.

During the second teacher interview, T4 explained that she did not provide feedback on the content provided by the students in their responses to one another. She seemed to expect that the students would provide feedback about the content on their own since they were already exposed to it via the listening and viewing resources used during lessons. Her lack of content feedback to students' online ideas might have indicated that she expected them (not her) to comment on each other's postings. When sharing her views about providing feedback to the students' content ideas in the classroom and on Moodle, she rationalised,

> *I took quite a hands-off approach to that and let them go for it. Because I'm really concerned about fostering independence and with these guys at their level, with mainstream the next level, to get them as much as possible to be independent and responsible and, for all the courses I've taken, postgraduate courses, it's really student driven, not teacher driven.* (Teacher Four/Interview Two)

T4's approach in expecting her students to provide feedback to one another on their own on content ideas suggested that she lacked awareness of the role of interaction in language learning. Interaction is necessary in language learning as it enables learners to negotiate meaning and provides for them a context to notice their gaps and adjust their language (Kim 2008; Long, 1983, 1996; Skehan, 1998; Swain, 2000). To realise such interaction, students need to be facilitated to provide feedback to one another to prompt them to notice gaps in their language forms. They cannot be expected to provide feedback on their own without interacting with one another about the speaking exercise and the resources related to these exercises. It appears that T4 lacked understanding of this aspect of language learning.

T4's decision not to provide feedback seemed to have contributed to the students' reluctance to participate online. They were expecting her to provide feedback on their use of grammar and spelling in their online postings. However, as such feedback was not provided they felt uncomfortable and were discouraged to continue posting their responses to the speaking exercises. This discomfort possibly explained the limited online postings for the third online speaking exercise. In sharing the reasons for their reluctance to post their responses to the third speaking exercise uploaded in the forum during the focus group interview, one student explained,

> *It's like, I find in the Moodle, especially when you post a comment, hmm... there's no grammar checking or spelling by teacher, hmm... So sometimes we think, that it's quite embarrassing for us to present our work because we don't know if our grammar or our spelling is correct.* (Student/Focus Group Interview)

It could be conjectured that there appeared to be a lack of communication between T4 and her students about the issue of feedback. While T4 believed that feedback should not be provided on content to create a sense of independence and responsibility, there was no indication that she communicated this belief to her students. Her students too did not communicate their expectation for feedback from her on spelling and grammar. They probably assumed that she would provide feedback (spelling and grammar) because they posted their responses online in writing in a way that was similar to when they wrote the language functions and forms on the whiteboard in the classroom as described above.

To support the students to speak in the classroom, T4 believed that it was important to provide clear rubrics in the speaking exercises uploaded in the Moodle forum. This belief could be linked to her understanding that the written form was devoid of contextual clues. It was necessary to ensure that the online information was communicated clearly to the students to avoid ambiguity. T4 disclosed that she often read and reread the rubrics of the exercises she created until she was satisfied that the information would be extremely clear to students. The need for such clarity also appeared to have encouraged her to reflect on the purpose of presenting the information online.

To gauge whether the students regarded the information uploaded on Moodle as relevant in supporting them to speak in the classroom, T4 observed their online behaviour. She believed that if the students posted their ideas online and used the ideas in their classroom speaking, then they considered the information as important for their learning. Conversely, if the students did not do so, it indicated that they did not consider the online information and activities as important. It appeared that she considered the students' behaviour on Moodle as a form of feedback on her pedagogy. She explained,

> *So, all in all, I'm just being very thorough about most things that I do….I can see those steps and really think about what I'm putting on there, how the students are going to might use it and then when they don't use it or use it really well, gives me direct feedback too. It has been very valuable, yeah.* (Teacher Four/Interview Three)

It can be speculated that T4 considered Moodle as a platform for obtaining feedback on the students' level of participation. By using Moodle for that purpose, T4 could view her students' progress from the periphery and considered this as a form of feedback. As such, she possibly did not see a need to provide feedback to the students' ideas online.

In summary, T4's use of Moodle to support students' classroom speaking had implications for her role as she interacted with the students. While her use of Moodle enabled her to issue reminders to students, she did not perceive the necessity of providing feedback to their online responses. Feedback was in conflict with her view of encouraging students to be independent and responsible for their own learning and to prepare them for degree courses. As the rubrics uploaded online were text-based, she was aware of the need to be meticulous in its presentation to avoid ambiguity. This need had also encouraged her to reflect on the purpose of presenting the information online. T4 regarded the students' online behaviour as a form of feedback to determine whether they considered the information and ideas posted online as important. As with the face-to-face classroom learning context, T4 did not provide feedback to students' content ideas in the online learning environment. This approach suggests that she viewed classroom based teaching context as interchangeable with the online learning environment.

6.2.3.2 Teacher – Teacher Cooperation

T4 believed that her experience of using Moodle served as a positive role model for other teachers. She was able to support other teachers particularly those who had recently been hired to use Moodle. As the new staff usually had had no experience using Moodle, they depended on other teachers to guide them

Although there were two teachers who were appointed by the School to assist other teachers in using Moodle at the School, this support depended on the availability of these teachers for consultation. T4 was able to work with others and show them how to access Moodle, upload course resources such as assignments, and create links to web based grammar activities. The experience of having used Moodle appeared to have provided T4 with the confidence to assist other teachers in using it. She explained,

> *I've had several colleagues ask me to help them get on to Moodle and to put resource on it and I was able to do that.* (Teacher Four /Interview Two)

It appears from T4's explanation, that she only provided assistance for specific teacher requests on areas such as accessing Moodle or uploading resources into it. These areas concerned the knowledge that she gained through anecdotal accounts from other teachers using Moodle and her observations of how it was used by other teachers, which formed her perspectives of it as described earlier.

Despite learning how to create and organise three Forums during this study, she neither recommended nor provided assistance with the use of this application (Forum) to teachers who approached her for assistance. It could be possible that she considered herself as having limited exposure and experience of using the Forum to be able to share the experience with colleagues. This limitation suggests that she lacked confidence in using Moodle and in supporting her colleagues to use it which could be addressed through professional learning activities.

6.2.4 Rules

T4 also experienced various challenges when using Moodle to address the object of the activity, which was for students to speak in the classroom. The challenges

were shaped by the institution's rules, which posed particular and interconnected constraints around assessment, resources, time, and support for Moodle use. The following sections will examine each of these constraints individually and explore how they influenced or were influenced by each other.

6.2.4.1 Assessment

T4 believed that the emphasis on assessment was a constraint to her use of Moodle. She regarded the second Moodle forum activity as a success because it was organised as part of an assessed speaking assignment. For this module, the students were expected to complete three assignments and take a final test as part of the course assessment. T4 observed that her students were more active posting their responses in the second online forum as compared to the first and third. Students' positive reactions to the second forum activity led her to the conclusion that they perceived value in using Moodle only when it contributed to their grades in an assignment. She explained

> *As for the second one, that was one of the best. I think it was interesting to them but it was also being marked as part of their assignment. The first and last ones were not! I definitely think that it being marked as part of their assessment was a huge factor for their active responses…. Once again, if there's a carrot dangling, you know like a mark to get or something, you often made that kind of thing.* (Teacher Four /Interview Three)

Although T4 believed that assessment was the key factor that motivated students' online participation, she did not organise the subsequent online forum in the same way. That would have required her to spend considerable time and effort to construct appropriate rubrics and questions, and to be meticulous in ensuring that the information was presented clearly online.

T4's belief that assessment was an important aspect in ensuring that students were motivated to participate online suggested that it determined her classroom practices and delivery of course content. Perhaps, as with the teachers in Case Study One, T4 believed that the purpose of language learning is to help the students fulfil the requirements of assessment instead of developing their language proficiency. This suggested that that she lacked understanding about the nature of language learning which affected how she conceptualised the object.

6.2.4.2 Resources

Another factor that appeared to pose a constraint to T4's use of Moodle in the programme relates to the fact that there was no bank of resources containing content relevant for the course. She believed that if content were readily available, she could refer to it to develop learning activities for the classroom. She appeared to consider it important to have a bank of resources as it could also provide her with ideas for constructing the rubrics that stated the topic and the key points for the Moodle forum activities. She explained,

> *Only from my point of view would be ideas that I could take and run with it, how to use it more, actually content…. So, having a bank of resources that are little more readily available with the kind of activities you can do and how to do those activities suggestions that kind of thing, to me that would be useful. Well, need to keep it dynamic because otherwise it just becomes static, just one more discussion question. (*Teacher Four/Interview Two)

It is possible that T4 had to search for ideas on her own to construct the relevant rubrics and questions for the Moodle forums as there was no readily available bank of resources. Such content also needed to be varied to encourage the students to post their responses online. T4 disclosed that she often had to look for ideas for the forum from a collection of commercially produced language learning textbooks. Although she was able to draw ideas from them, the process took considerable time and effort. This could have influenced her belief that not having a bank of resources posed a challenge to her use of Moodle.

As described above, teachers at this study site were required to develop classroom learning materials on their own. During the key informant interview, the Programme Administrator explained that teachers developed materials based on their own classroom learning needs and personal preferences. Some teachers had a collection of materials, which they used regularly and it was a challenge to negotiate the best set of materials for the language programme due to differences in beliefs and pedagogical approaches among these teachers. Although the team meetings, which were usually organised on Monday afternoons, provided an avenue for the teachers to share their materials with one another, most teachers were not responsive to this opportunity and preferred to continue using their own materials. T4 observed,

> *Some (teachers) have a lot of other resources and they want to use them because they've been using them for years. Some people prefer doing things in slightly different ways and it depends on people really…. Another is that it's quite difficult to negotiate what resources we should use, again, it's with different personalities, different ideas and so different beliefs…. Our team meetings, lots of sharing, lots of sharing but not everybody likes other people's resources so they just say yeah, ok and do their own things.* (Key Informant 2/ Key Informant Interview)

It appeared that a lack of resources was much less of an issue; it was the unavailability of suitable ones. It was possible that what T4 experienced was a lack of resources, which she perceived to be suitable for use in the online environment to support the students to speak in the classroom. The unavailability of suitable resources points to the absence of a prescribed curriculum in the programme. There were no guidelines to indicate what resources could be used for teaching and teachers of this module developed their own materials based on their perception of students' classroom learning needs.

6.2.4.3 Time

T4 perceived lack of time as constraining her intention to explore Moodle use. She realised that Moodle had more potential than she had previously perceived. T4 believed that by increasing her use of Moodle, she might be exposed to more ideas on how to use it beyond just Forums. While T4 appeared to be interested to learn more about Moodle, she however, suspected that she did not have the time to explore it. She stated,

> *I think I've sort of only touched the tip of the iceberg and I think that as I use it more, then more ideas would flow to me on how to use it. It's worked quite well in what I've used. I've been surprised and happy with the way it's worked out. So my insight would be minuscule as to what different ways things can happen, and I think that would be something well worth learning. But I think it will also take time that I'm not sure that you have in your everyday teaching life which is unfortunate*. (Teacher Four/Interview Two)

T4 believed that there was limited time to learn more about Moodle due to her existing workload. In addition to teaching this listening and speaking module and developing classroom leaning materials, she was also teaching another reading and writing module (at another level in the language programme). T4 was also expected to develop classroom learning materials for that module. In addition, she

was the coordinator for that level and was responsible in organising the delivery of the module's content, managing a team of teachers, and conducting weekly team meetings. Managing these commitments imposed demands on her time, which she would have liked to spend to explore Moodle. Time appears to be a constraining factor for T4 to explore the use of Moodle.

As explained in the Description of Study Site B in Chapter Three (Research Methodology), teachers such as T4 who were employed on a fixed term as well as those on a continuing basis taught for 21 hours per week. This requirement, as explained by the Programme Administrator during the key informant interview, gave teachers very little time to meet, share ideas or discuss their classroom experiences. This limited time also affected teachers who wanted to explore the Moodle tutorial that was available, as she explained,

> *Not enough time. We're teaching on average 21 hours a week. So, people usually have two hours in the morning and two hours in the afternoon, so it doesn't leave much time for discussions or to do anything really…. There are a lot of tutorials on Moodle as well so if people had time. I would love to use Moodle more effectively and regularly. But I don't have time to learn about it.* (Key Informant 2/ Key Informant Interview)

Furthermore, at this institution, the teachers in the language programme were expected to use two other technological applications besides Moodle as part of course delivery, and this expectation was perceived as a constraint by T4. The applications consisted of an online language learning package which was developed for the programme and a proprietary language lab system as explained in the Description of Study Site B in Chapter Three (Research Methodology). Training workshops were organised for the language teachers to familiarise them with the use of the language lab system. The online package was designed to be used by students for self-access learning, and teachers were not provided with training on how to use it.

It appeared that T4 considered the requirement to use these additional applications as a burden, but she believed that the proprietary language lab system in particular could be used together with Moodle. However, as previously stated, T4 had a heavy workload that constrained her ability to explore combining the use of the lab system and Moodle. She described,

> *It's what we have happening here now is Moodle is one thing, the institutionally designed package is another thing and then that [product name] is another thing. So I suspect that Moodle could be married into the [product name] stuff because if you can picture an online Moodle discussion and then as a teacher with the [product name] software, you can bring it to where you want, put them in groups, do what you want but that would take time for me to be able to figure out how to do it and process it and utilise it so that because using three different things is quite daunting.* (Teacher Four/Interview Two)

The expectation to use the three technological applications (including Moodle) imposed competing demands on T4's time, and she considered the expectation to be overwhelming. The time required for planning was in conflict with the time she needed to spend to prepare for classroom teaching and resource development for this module as well as the other module at a different level, as described earlier. Given the competing demands on her time, T4 abandoned the idea of using the proprietary language lab system with Moodle.

Time appeared to be a factor that limited T4's interest in further exploring the use of Moodle. While she was interested to further learn about the LMS, the demands of her workload, including the required teaching hours, prevented her from devoting any time that was available to explore it. Also, the institutional expectation to use two other technological applications in addition to Moodle further limited the time available to explore the LMS. Although time appeared to be a factor that constrained T4's use of Moodle, it was beyond the teachers' control as it was related to the guidelines set by the institution. This further suggests a mismatch between institutional expectations and what was reasonable to expect from the teachers.

6.2.4.4 Support for Moodle Use

As described in T4's perspectives of Moodle earlier, although training in the use of the LMS was provided, she did not consider it as supporting her to use the LMS as part of classroom teaching. Thus, she perceived that there was a lack of support for her to use Moodle and considered this a constraint. As explained in the Description of Study Site B in Chapter Three (Research Methodology), Moodle training involved the technical aspects and content development as well the use of

it in course delivery. Training was provided in the form of workshops while one-to-one training was also available on request.

When Moodle was first introduced, training in the form of a workshop was organised for the teachers in the programme by the School. The training was organised one year prior to the data collection. It focussed on the technical aspects of using Moodle. During a key informant interview, the Programme Administrator explained that the training exposed the teachers to the steps involved in accessing Moodle, locating the various resources and activities, and using the features available. However, as this training did not require their active participation (hands-on), she believed that it was insufficient to support the teachers to use Moodle as she explained,

> *We've had one workshop on Moodle last year and that's not enough…. It was organised from within [name of institution]. We have a special unit for that. They explained how to use Moodle, showed us where the resources are, explained to us what we can do with it and how to use it but it wasn't hands-on, it was just people sitting and listening.* (Key Informant 2/ Key Informant Interview)

However, hands-on training for Moodle was available on request at this study site particularly to support staff to use the technology as part of course delivery. It was provided on a one-to-one basis or to a small group of teachers by a Centre, which was part of the tertiary institution. Teachers or the School could submit a request for training personnel to provide the support either on site or at a designated computer lab.

In describing this support, one of the training personnel from the Centre explained during a key informant interview that it involved him discussing with teaching staff how to use Moodle to support their face-to-face teaching. The support provided was dependent on the teachers' level of familiarity with Moodle as he stated,

> *When it is identified that a person needs some training in technology, the school or they will make an appointment with me and I will go and sit down with them and talk out what the requirements are and work out what they need to be doing based on that…. My focus is to find out where they are and what they want to be doing in their teaching and in most cases supporting their face-to-face teaching.* (Key Informant 4/ Key Informant Interview)

Although such support was available at this study site, there was no evidence that the School or T4 had requested this form of personalised Moodle support. It could have been organised as a follow up to the one workshop training that was provided for teachers to support them to use Moodle as part of classroom activities. T4 could have benefitted from this personalised form of Moodle training to support her to realise the object. This form of support could also have encouraged professional learning among the teachers as will be further discussed in the next chapter.

Two teachers were also appointed by the School to support teachers to use Moodle in the language programme. As explained in the Description of Study Site B in Chapter Three (Research Methodology), one of these teachers was T5 who was also a teacher participant in this interview. The other teacher was teaching Level Two who had earlier participated in this study but had to withdraw as she was assigned to an administrative task at the institutional level.

During a key informant interview the Head of School explained that the two teachers were appointed to support all teachers to ensure that Moodle was used in compliance with the institution's policy on 100 percent online presence. However, the support they could provide was constrained due to their own teaching workload. As such, they were not able to fully provide the expected support. This constraint possibly explained why some teachers sought for help from T4 as described earlier. The Head of School explained,

> *There are also staff within the School who will give limited support…. I've asked those two staff to use that little bit of time they have available out of teaching, to help other staff get their class Moodle sites up to speed but you can't ask people to do too much because they've got their own teaching load.* (Key Informant 1/ Key Informant Interview)

In addition to the institutional and school level support for Moodle use, the teachers were also provided with access to online tutorial support. This online tutorial was developed by the same people who provided the workshop training to the teachers at the School as described earlier. The tutorial contained basic guidelines on Moodle use. It was accessible on the main Moodle site. T4 reported being aware of the online tutorial but she did not access it.

Teachers using Moodle at this site could also seek support from the Moodle helpdesk, which was run by the Moodle Administrator. When T4 experienced a problem with organising the students into groups for the forum, she did contact the Moodle helpdesk and received some assistance. While the Moodle Administrator did explore various ways to help T4, T4 reported that she was unable to provide an immediate solution as expected. Instead, T4 later received an email, which referred her to the online tutorial. She explained,

> *I've only seen the title online support. I have never clicked on it but I have rung the Moodle lady about the grouping thing to ask them how to put the students into the groups for the forum. I stayed on the phone with her for quite a long time while she tried the different things but, and then she spoke to some colleagues and stuff and sent the email. The email was a link to where you could find help.* (Teacher Four/Interview Two)

T4's action of contacting the helpdesk to deal with her problem instead of accessing the online tutorial suggests that she did not perceive the latter as providing her with the support she needed.

Although there were various forms of support for Moodle use at this study site, T4 did not consider them as assisting her to use the LMS for the purposes of classroom teaching. T4 considered the initial Moodle workshop session as technical oriented. It also did not involve the teachers' participation. The support from the two teachers assigned to assist other teachers with the LMS was constrained by time. Although there was an online Moodle tutorial it was not accessed by T4 and the help desk assistance she sought did not provide the support she expected. These forms of support are necessary to ensure that T4 has the basic technical knowledge of Moodle as a foundation to support her to explore with its integration. The lack of the support for Moodle use appeared to have constrained T4's efforts to develop professional learning, a concept which will be addressed in the subsequent discussion chapter.

To summarise, there were four main factors that constrained T4's use of Moodle in this second case study. These factors related to language assessment, lack of resources, limited time, and a lack of support for using Moodle. While T4 recognised these factors as posing constraints to her use of Moodle she was unaware of how to address them. The emphasis on assessment suggested her

limited understanding about second language learning which affected how she conceptualised the object, while the lack of resources reflected the need for a prescribed curriculum. Time was a limiting factor to explore Moodle due to the demands and expectations made on the teacher. Although there was support for Moodle use, it was limited and ineffective to enable T4 to use it as part of classroom learning.

This section presented the findings from Case Study Two at Site B. The following sections will present the findings from Case Study Three also at Site B. These findings include the three main categories in the Activity Theory framework, which consisted of the object of the activity, the division of labour, and the rules.

6.3.1 Case Study Three – A Brief Description

Case Study Three involved the same intermediate level classroom in the English language programme at Site B. It explored the use of Moodle in the reading and writing module. Moodle was used with a view to provide students with a resource bank for language learning to develop both the reading and writing skills. Unlike the previous two case studies, the activities that were created in the Moodle learning environment were not followed up by the teacher as part of the face-to-face classroom. Data were collected in this case study through interviews, work-together sessions, and classroom observations. The participants consisted of one teacher (T5), three key informants, and one group of students consisting of five members. The key informants and students were the same as in Case Study Two.

6.3.2 The Object of the Activity

6.3.2.1 Technology as a Resource Bank for Language Learning

T5 sensed that there was use for technology in the language classroom and believed that it could function to provide students with self-access resources for further consultation and activities to develop their reading and writing skills. Similar to the teachers in the Case Study One and Two, she considered technology as involving only the computer. She regarded the computer and data projector as essential facilities in a classroom. However, T5 did not consider the computer as

playing a central role in classroom pedagogy. Instead she believed that it enhanced instructional delivery and could enable student learning.

T5 reported that she regularly used PowerPoint to present information such as grammar and vocabulary items for the students. During a classroom familiarisation observation session, she was observed using it for the teaching of academic words and the analysis of grammatical errors in their writing. The teacher explained,

> *I think it's becoming essential to me. So, when I look at a classroom now, I tend to see whether it has a data projector and a computer. I don't think the computer needs to have a dominant place in the classroom but as augmenting the teaching. So for example I use the power point everyday not as the main focus of attention for a lesson but at some point, I'm almost always using the power point to illustrate a particular language point in the student interaction*. (Teacher Five /Interview One)

T5's use of the computer suggests a behaviouristic model of teaching. She regarded the use of the PowerPoint as a stimulus to draw the students' interest and attention during the lesson. It appeared that she believed that enhancing the presentation of information, such as grammar and vocabulary, could enable students to better learn language content. As she also used PowerPoint to address her students' grammatical errors in their writing, this suggests that she believed that using the computer could reinforce the learning of grammar.

Further, T5 used the computer to prepare classroom teaching materials that were later produced in print. The computer was used to develop materials for language learning exercises such as grammar worksheets, reading and comprehension, and academic word lists. These materials were mainly sourced from the Internet and either adopted or adapted for classroom use. T5 printed out these materials on paper and distributed them to students during lessons. Students were required to work on these materials and the answers were discussed during lessons. Perhaps T5 believed that these printed materials provided her students with the resources they would need to support their reading and writing skills.

Further, T5 considered the computer as providing access and support to online language learning. This view seemed to be due to her experience in developing

online materials for the English language programmes offered at the institution, as explained in the Description of Study Site B in Chapter Three (Research Methodology). T5 spent three years working as part of a team at the institutional level to develop these materials. These materials, which contained vocabulary and grammar activities were designed to be accessed by students and teachers through networked computers. It is possible that her involvement in the team made her aware that she was able to use the computer not only to prepare and provide students with paper-based classroom materials as described above but also to deliver learning resources online. She revealed,

> *I quickly got used to preparing word documents and photocopying and printing them out. But, an introduction to online learning or more sophisticated use of the computer would have been really during my time at this institution... I was in the School from 2001 to 2004 and then joined a group which was intent at that time with online learning mainly English language, online learning, various programmes.* (Teacher Five /Interview One)

T5's use of the computer to provide students with printed and online learning materials reflected a pedagogical assumption that classroom language instruction involves one-way delivery of content. By providing students with learning materials in the classroom, she expected them to learn independently. As such, there was no indication that T5 considered the role of interaction in language learning. Interaction is necessary and conditions that encourage it need to be created in the classroom. Students need to be supported to interact with their peers and the teacher about the content and the language used in the text to enable them to notice their own gaps and adjust their language to develop their learning. Ensuring that students were provided access to learning materials either in print or online did not guarantee that they learned. T5's view of teaching suggested that she lacked understanding about the nature of second/foreign language learning in this regard.

T5 also expressed an interest in exploring computer use in her language programme. In particular, she was interested in using Moodle with a view that it could support her students' classroom language speaking. The following section explores her perspectives on Moodle and is followed by an examination of how she used it in the reading and writing module.

6.3.2.2 Teacher Perspectives of Moodle

T5 was using Moodle because it was institutional policy. All programmes were assigned a Moodle site and teachers were required to use it to ensure that their courses provided an online presence. T5 disclosed that she used Moodle to provide her students online copies of learning materials that were used in the classroom. She believed that this approach enabled the students to access the classroom materials for further reference or in the event they lost them. Thus, her use of Moodle appeared to be in compliance with this institutional policy. She remarked,

> *I use Moodle as a background support system for what was being taught and learned in the classroom, it just backs up what they do in the classroom. So I would give them essential information in the classroom and then I back it up on Moodle. For example I give them all a paper copy of the assignment and if they lose it they can go to Moodle and print it off. I put key documents, links to good sites, something like APA referencing.* (Teacher Five / Interview One)

T5's use of Moodle suggests that she considered it as a repository for learning resources. This perception appears to be influenced by her view of technology as a resource bank for students' language learning and her interpretation of institutional policy. She possibly believed that by using Moodle as a repository, it enabled the students to extend their learning as they were provided with access to the resources in the online environment as well as in the classroom.

This belief reflected the views of the Moodle Administrator at this study site as described in Case Study Two earlier. There was a tendency among many teaching staff at this institution to use Moodle as a repository for learning materials. The teachers in the language programme were no exception. The Head of School during a key informant interview had observed this tendency among the teachers. Moodle was used to provide students with access to learning materials used in the classroom. She remarked,

> *I know that the teachers are using it to put material they've covered in class. They're putting it on Moodle so that students can access it out of time or if they miss a hand-out, students can access them.* (Key Informant 1/Key Informant Interview)

Further, T5 did not consider Moodle as playing a central role in the classroom. She supported this view with reference to the course outline, which she regarded as an important document. It described the programme, specified the objectives, and provided guidelines on course delivery as well as assessment. As the content of this document did not stipulate Moodle as a requirement for course delivery or as part of course assessment, she interpreted the absence of such information as indicating that using technology was not important to the reading and writing module.

Thus, although T5 did use Moodle, she did not intend it as part of the course requirement. It is possible that she used Moodle to store copies of classroom learning materials to convey to the students that it was not an important aspect of the course but that it offered them an alternative environment besides the classroom, to access materials to develop their language learning. They were thus, not compelled to access Moodle as it contained the same materials that they received in the classroom. She explained,

> *All the classroom teaching and learning that I do is founded on a foundation document that we must fulfil learning outcomes that we must fulfil. I had to say to students that there, there wouldn't be anything exclusively on Moodle, and also wasn't part of assessment. So I could urge the students to go there but I couldn't, there was no compulsion as far as assessment went.* (Teacher Five/Interview One)

T5's view that Moodle was not a requirement in the programme because it was not stipulated in the course outline reflects that she might not have understood the purpose of the document. While the course outline did stipulate content related to the description, objectives, structure, schedule, and assessment in the programme, such information was intended as a guideline for course delivery. There appeared to be no indication that the document expected her to use particular classroom resources such as a pen, paper, textbook, or computer, and data projector to support her classroom teaching, but she was observed to use them in her lessons. In fact, as a guiding document it offered her the flexibility to adopt suitable instructional approaches and use the relevant classroom resources to fulfil the programme's objectives. Her insistence that Moodle was not a requirement in the module because it was not stipulated in the course outline suggests that she might

not have considered the technology to be a resource that could play a vital role in classroom learning activities.

Nevertheless, T5 found Moodle easy and convenient to use as it enabled her to upload classroom learning materials online. She considered it an effortless process as it involved the click of a button. It was also convenient to use Moodle. She was able to access it from her workplace or from home at any time. The ease and comfort in using Moodle could have resulted in T5 using Moodle on a regular basis.

However, T5 suspected that despite using Moodle for a number of years she was not fully exploiting its potential. She believed that she had reached a state where she was unable to explore Moodle further beyond using it to provide students with a resource bank for their language learning. While she was aware that there were various features on Moodle that she could use, she admitted to not exploring these features. Nevertheless, it seemed that she considered her participation in this study as an opportunity to explore and increase her existing knowledge and experience in using Moodle as she revealed,

> *Well, I like Moodle, it's not, it doesn't look too glamorous there aren't too many moving parts but it has got a solidity about it that I like and it sits there and it's always accessible and I've had, I've worked with Moodle probably for five or six years but I think I've got to a stage where I've reached a plateau and that's the part of the reason why I came in and said yes to you. I knew I was using Moodle constantly but I didn't think I was exploring its possibilities fully. I thought that this is an opportunity to gain more knowledge and experience myself. And, for example, I knew you could have a discussion but I'd never taken the time just to click the right buttons.* (Teacher Five/Interview One)

To summarise, T5 did not consider Moodle as important in this language module. She considered it merely as a repository for students to access online language learning materials. This perception of Moodle appeared to be shaped by her interpretation of the institutional policy, which required her to ensure that the programme provided an online presence and her belief that students learned when provided with learning materials. Moreover, as the course outline did not stipulate the use of Moodle, she interpreted it as indicating that it did not play a central role in course delivery. Having used Moodle for several years, T5 believed that she

had reached a plateau. However, it appeared that she did not intend to explore Moodle much further beyond using it to upload learning material although she was aware that there were various features in it that she could use.

Her use of Moodle to provide students with a resource bank for language learning to develop both reading and writing skills is explored in the following section

6.3.2.3 Using Moodle as a Resource Bank for Language Learning

To realise the intended object T5 used Moodle to provide students with access to a web-based learning resource and created a Forum for discussion. Both resources were provided as a post-lesson activity. The outcome from these two Moodle based activities was not followed up in a face-to-face classroom.

T5 created a link in the Moodle environment to provide her students access to the web-based learning resource. This resource contained an audio enabled vocabulary list and a set of accompanying exercises. Students were able to listen to the pronunciation of each word as a model when they clicked on it while the exercises gave immediate feedback when the students had completed a section. T5 had intended for the students to access this web-based resource to support their comprehension of academic vocabulary for reading and to use it appropriately in their writing. This resource was provided on Moodle as an extension to their classroom learning of a list of academic words.

Although T5 was aware of how to create this link on Moodle, she wanted to learn how to set it to display the exercises as a separate window. She believed that although it might be a trivial matter, she regarded it as important. T5 considered the separate window display as enhancing the look and feel of the online learning environment. It enabled the students to work on the vocabulary exercises in a comfortable environment, as the main Moodle site remained opened in the background for easier access. She remarked,

> *As I said last time, I had use Moodle and they were some tools that I could use and was recently confident of using and that included linking to a file or a website. But as you know I hadn't done that in a new window which seems like a small thing but actually makes quite a difference to the appearance of the site and ease of use. So, I was grateful to learn how to do that. I just hadn't seen that little part of the screen before.* (Teacher Five/Interview Two)

Organising a resource on Moodle to appear as a separate window was not a complicated procedure, as it only involved ticking a box. She was only aware of it during the work-together session with the researcher. It was surprising that T5 had yet to discover this procedure despite claiming that Moodle was easy and convenient for her to use. It indicated her limited knowledge of how to use Moodle. It also suggested that she might have lacked training in the use of Moodle.

For the second Moodle activity, T5 created a Forum discussion in Moodle. It was organised as an extension to a topic about cultural differences and integration, which was covered in a classroom lesson and a related written course assignment. During the classroom familiarisation observation session of that lesson, it was observed that the teacher exposed the students to a theoretical framework involving the topic. She provided them with a text to read in class, which described the framework and proceeded to explain the components of it. They were expected to apply the framework in a written course assignment that involved the perspectives of others.

However, T5 was interested to find out whether the students could apply the framework to their own experiences as international students. With the assistance of the researcher, she created a Forum on Moodle for this purpose. She developed her own set of text-based rubrics for this Forum, which contained a list of three questions about the topic that required the students to post their individual responses in writing. The Forum however, was not compulsory and the students' online responses were not followed up in a classroom based lesson.

T5 observed that the students were enthusiastically posting their ideas to the Moodle Forum and expressed her surprise at that. She had not expected every

student in each group to post responses, as the activity was not compulsory. Based on her reading of the content of their posting, T5 found that students' responses indicated that they were able to apply the framework to their own personal experiences. She explained,

> *it was to try and let them, provoke them to connect the theory they were learning in the classroom with their individual experience, whereas for the assignment they had to link it to another person's experience that they would find through an interview. So, it was to make it personal and to create a sense of community…. They participated enthusiastically and the quality of their contributions was quite impressive, more than I expected. It confirms to me that they can take a theory and apply it to their own lived experience.* (Teacher Five /Interview Two)

T5 regarded the Forum activity a success based on her evaluation of the content of the students' online posting. She did not consider their use of language forms such as grammar and syntax as an important aspect in her evaluation. Her lack of emphasis on students' use of forms was surprising in the context of a language programme, which was aimed at language learning. While she could have addressed the students' use of the language forms by discussing their online contributions in a classroom lesson, this strategy was never implemented. Her sole focus on content without considering the use of the language forms as a basis for evaluating the success of this activity indicated that she might not have considered grammar as an important aspect in language learning. It further reflected her lack of knowledge about language learning.

In summary, T5 used Moodle to link to a resource bank so that students could access web-based material. However, she did not know how to display the material as a separate window indicating that she lacked knowledge of how to use Moodle and needed training. She also organised a Moodle Forum to enable students to share their views about a topic covered in a lesson. She perceived the Forum, which she used for the first time as successful based on her evaluation of the content contributed by the students; she did not focus on their grammatical accuracy in the activity however. This lack of emphasis on language forms indicated her limited knowledge about language learning.

6.3.3 Division of Labour

T5's use of Moodle as a resource bank to assist students' language learning revealed her role in relation to her students and how she connected with her colleagues in the workplace. T5 did not perceive a need to interact with them to provide feedback on their completion of the online web bases resource. However, she did interact with her students during a Forum activity. As for her relationship with her colleagues, T5 her use of Moodle did not lead to any cooperation with them. T5 believed that its use was exclusive to the module.

6.3.3.1 Teacher – Student Interaction

There was a lack of interaction between T5 and her students in the online environment. She did not provide feedback to her students to support their language learning. It was possible that T5 did not see the need to interact to provide feedback to the students as the web-based learning resource provided a pronunciation model for each vocabulary item and immediate feedback for the exercises. Moreover, the resource was intended as an extension to a classroom lesson on academic vocabulary and as such, was not followed up in a face-to-face classroom lesson.

Nevertheless, the students did interact with T5 but it seemed to reflect their need for Moodle to function as a kind of a social networking environment. They had requested T5 post links to language learning sites and photos of their classroom social activities in the Moodle environment. This request seemed to indicate that they considered Moodle as a common social space where they could connect with one another. T5 later revealed that she fulfilled their request and showed the researcher the links and photos on the Moodle site. She seemed encouraged by their request to connect via Moodle as she remarked,

> *I've heard students ask me to, if they've gone to a good site could we have a link on Moodle please, and even photographs of a party, would you put them on Moodle please so that we all can access them. So there's a sense of community there.* (Teacher Five/Interview Two)

The students' request suggested that they wanted to form a community in the Moodle environment. However, it did not seem to reflect the need for a

"community of learners". The students did not appear to view Moodle as a space for them to interact and learn from one another or the teacher to develop their reading and writing skills.

The students considered the use of Moodle as a convenience. The LMS provided them with links to the resource that consisted of the vocabulary items and related exercises that they believed they needed for the module. As T5 had created and provided the resources, the students did not have to spend the time to search for them on the Internet on their own. During the focus group interview with five students from T5's class, one student remarked,

> *Using Moodle, it's like we are, able to, you know access the Internet and this website…. She is already putting some ideas for us just to access and in this way, we students, we don't have a hard time to find those like this website or the stuff from the Internet. It's like it makes our work more easier and it feels like we feel more comfortable using this Moodle.* (Student/Focus Group Interview)

It was likely that because the Moodle site contained the resources they considered to be useful, the students might not have perceived the need to interact with T5 or one another about it. Moreover, T5 did not provide any opportunity for such interaction as the outcome from the students having completed the vocabulary exercise was not followed up in a face-to-face classroom lesson.

However, there were indications of teacher-student interaction in the Moodle Forum activity. T5 interacted with the students to provide them with individual online feedback to their postings. Initially she did not seem to have planned to provide the feedback. The decision to give feedback appeared to have been encouraged by her perception of their enthusiasm and quality in the responses posted online.

T5 disclosed to the researcher that every student posted their views online and described the responses they contributed as reflecting a deep level of thinking. T5 reported not having experienced such reactions in the face-to-face classroom environment. She had not expected her students to participate actively and contribute quality responses to the Moodle Forum. Their active participation and the quality of their online posting appears to have made her realise that Moodle

offers the potential to provide another medium for students to express their ideas although their contributions were not assessed. In sharing her observations about their responses online, T5 stated,

> *I see them expressing themselves in ways that they haven't in the classroom in some cases, which makes me think that each student has their favourite way of communicating and for some students they make a contribution on Moodle which strikes me as quite, much more thoughtful and profound than I might have imagined from that student… they were quite enthusiastic about their discussion contribution.* (Teacher Five/Interview Two)

In fact, her students reported during the focus group interview that they were excited to post their responses online, as the topic was personal to their own experiences as international students living in a foreign language environment. The students perceived the Forum as providing them the opportunity to express their thoughts and share their challenges. One student commented,

> *We were able to express ourselves and at the same time, we're in the middle of a struggle but we're able to identify ourselves, and for us, Asians, because, it's quite really difficult to relate ourselves to something especially if we're new… I had a good opportunity to think about me, where I am and to think about the process I have been through to relate ourselves to express how we feel.* (Student/Focus Group Interview)

It did seem likely that the students' interest in participating in the online Forum was motivated by the topic. The topic concerned an issue related to cultural differences and integration, which were relevant to their own situation and experiences.

Providing students with topics that relate to their personal interest is a good strategy particularly to encourage online participation and create interest. However, T5 could have encouraged the students to interact with one another to enable them to give feedback to each other's experiences as they posted their views about the topic instead of requiring them to provide only individual responses online. This approach could have generated a variety of language expressions online which could provide students with resources about the various language forms. The absence of this strategy suggested that T5 lacked awareness of the need to create conditions that could provide students with sufficient opportunities to produce output and to interact. T5 appears to have limited

understanding of the nature of language learning with respect to these two conditions.

In summary, there was limited teacher-student interaction in terms of feedback with regards to the materials provided on Moodle. The students interacted with the teacher to request for links to online language learning sites suggesting their perspective of Moodle as a common space and for convenience. T5 did not appear to consider the need to provide feedback as a necessity. However, the unexpected outcome of the Moodle Forum activity influenced T5 to interact with her students. Their enthusiastic participation and quality of posting indicated that in contrary to her perception of Moodle; they seemed to regard it as an alternative learning environment to the classroom.

6.3.3.2 Teacher – Teacher Cooperation

T5 was assigned to provide assistance to other teachers to encourage them to use Moodle in their programme. This role provided T5 with the opportunity to cooperate with her colleagues using Moodle in the School. However, despite being given the responsibility to support her colleagues to use Moodle, there was no indication that T5's teaching hours were reduced; she taught 21 hours a week. In addition to teaching the reading and writing module at Level Three and Four which totalled 12 hours a week, she was also teaching on another level in the English language programme. Thus, she found it a challenge to cope with the demands of her teaching load and the expectation to assist her colleagues to use Moodle she remarked,

> *In this School, I'm not the only one using Moodle and probably not the most expert user but I have been given the task of encouraging others. Sometimes I do find this a challenge as I've got work ahead of me.* (Teacher Five/Interview Three)

Furthermore, the assistance T5 could provide was limited and it affected her cooperation with the teachers. T5 did not consider herself an expert Moodle user and this could be due to her not having fully explored the features on Moodle as described in the previous section. The assistance T5 could provide to the other teachers was related to the technical aspects. She provided assistance to the other teachers through occasional conversation with them on the procedures such as

how to upload materials such as photographs and setting its display, as evident in the following quote:

> *I'm aware of other colleagues using Moodle and sometimes we chat about what we're doing. We usually chat about technical things like how do you put photos on there or how do you resize photographs, that kind of thing.* (Teacher Five/Interview Two)

Perhaps the occasional conversation with other teachers was the most practical approach in assisting them to use Moodle. She might not have the time available to provide hands-on assistance due to her teaching load. This hands-on assistance would be a time consuming activity.

Although T5 assisted the other teachers to use Moodle, she did not feel that she was part of a community of instructors because she was also using the LMS. T5 perceived her experience of using Moodle as situated within the context of the reading and writing module she was teaching. She believed that her use of Moodle to provide students with a resource bank for language learning was relevant only for the reading and writing module she was teaching at Level Three and Four.

Her sense of a "disconnection" could perhaps be due to the fact that there was only one class for the module at that level during that teaching block and she was the sole instructor for it. She possibly did not see the need to connect with other teachers to share with them her experience of discovering the use of the Forum or knowing how to organise the web based resource as a separate window, as it was not related to their modules or levels. She explained,

> *It's hard to say whether I've connected any more strongly with my colleagues because the Moodle site that I've got is particularly between me and the students.* (Teacher Five/Interview Two)

Further, it did not appear that T5 was willing to share her Moodle site with other teachers if there had been such an opportunity. When asked about the possibility of sharing one Moodle site with two or three teachers in the event that there were more classes taking the reading and writing module at Level Three and Four, T5 expressed a preference for having only herself success the Moodle site. She believed having sole access to the LMS was necessary to ensure that there was no

interference from other teachers which might have affected the coherence in the resources provided online to develop students' reading and writing skills.

T5's preference seemed to be due to her own observations of what she perceived as tensions when two or three teachers worked together on a Moodle site. While she had not experienced the tensions herself, she perceived that the tensions were due to a lack of coordination among these teachers as they were all uploading their own resources online thus affecting coherence on the site. She rationalised,

> *I quite like it on my own Moodle site that no one else putting stuff on. I've heard of, if two or three people are using the same Moodle site, this is not my experience, it can become a bit of a shemozzle with everyone putting their own resources on the same site and can become less coherent.* (Teacher Five/Interview Three)

However, T5 appeared to be open to the prospect of sharing the Moodle site with T4. During the follow-up interview in the fourth week of the first teaching block (Phase 2), T5 revealed that she had initiated sharing a Moodle site with T4 during this block for both modules.

T5 organised to combine both their modules (reading and writing, and listening and speaking), which were offered at the same level to share one Moodle site. T5 believed that it offered students the convenience to access one instead of two Moodle sites, as was the previous practice. To differentiate the content displayed for each module on Moodle, different coloured fonts were used. T5 believed that this strategy might help students to identify the resources relevant to each module so as to avoid any possible confusion. She commented,

> *I've continued to use Moodle. I'm teaching Reading and Writing. We have combined this time. We took an unusual step of, I asked the Moodle administrator to combine two modules, so, Reading and Writing, Listening and Speaking are all on the same page, all on the same Moodle site. We quite like that. So that means the students only have to go to one site. Anything I put on there. I put in blue font the other teacher puts it in black font so they can easily recognise which pertains to speaking and listening and to reading and writing.* (Teacher Five/Follow-up Interview)

The approach of combining both modules on one Moodle site and using different coloured fonts suggests a rather superficial form of cooperation between T5 and T4. The basis for the combined approach was not motivated by a pedagogical

concern but to enable the students the convenience to access one main Moodle site for the programme. T5 could have worked together with T4 to plan carefully the use of Moodle as a learning resource for the integration of the four language skills to support their language learning. Such cooperation could have been possible if T5 had fully exploited Moodle's potential.

In summary, T5's use of Moodle appeared to have revealed limited cooperation between her and her colleagues at this case study site. Although she was expected to provide assistance to her colleagues in the use of Moodle, such support was constrained by her workload. T5 also did not consider herself an expert Moodle user due to her limited exploration of Moodle's potential. Further, T5 did not demonstrate her willingness to share her Moodle site with other teachers due to her views about the drawbacks of working as a team. However, she appeared to be inclined to share one Moodle site with T4 but such cooperation did not seem to be based on a pedagogical need.

6.3.4 Rules

T5 also experienced various challenges in using Moodle, which were shaped by the institution's rules. As previously stated, the rules posed constraints, which were related to assessment, time, and support for Moodle use. The issues were interconnected and emerged as she used Moodle as a resource bank for language learning. The following sections will examine each of these constraints individually and explore how they influenced or were influenced by each other.

6.3.4.1 Assessment

Students taking this reading and writing module were assessed based on their completion of three assignments, which involved submitting hand-written work in addition to the assessments. Their performance in these assignments determined whether they could complete the course and be awarded a certificate. T5 considered it imperative to ensure that she focussed on classroom activities that supported them in doing the assignments.

As the students were not required to word process their assignments T5 could not require her students to use the computer. Similarly, she could not compel her students to use Moodle, as it was not part of the assessment requirement. T5 thus believed that she could not use Moodle to any great effect in this module as the assessment factor impeded her use of it. She argued,

> *I'm obliged to tell students which activities are crucial for passing or failing the course. For example, there's a student in the class who doesn't have a computer at home. If it were for assessment, I think, I would have to say to her you must find a computer, you must do this, it is essential. So I urge them to do it and I strongly encourage them to do it. But at the end of the day, I had to say actually you fail or succeed on the assignments that you do which are written.* (Teacher Five/Interview Three)

T5's view that assessment posed an obstacle to her use of Moodle suggested her lack of knowledge in using technology to support the students to prepare for the assessment as part of developing their language learning. Although the course outline stipulated the assignments as a form of assessment, it did not prescribe the approaches that teachers needed to use to prepare students for it. T5 could have extended her initial experience of using the Moodle Forum to encourage her students to post and share their ideas from their readings to help them gain more ideas to write assignments. In fact, a similar approach was adopted by T4 who was teaching the same class to support her students to speak during an oral assignment, which was assessed. This Moodle based activity was successful as the students were able to use the ideas from the online forum to speak in the classroom.

6.3.4.2 Time

T5 also cited time as a factor that constrained her use of Moodle. She found that she needed time to understand how to use various features in Moodle. Although she was able to discover how to use a particular feature, such as adding students to the Moodle site course, it involved a trial-and-error approach, which she regarded as time consuming. She believed that the approach took up her time which was not only needed for preparing and developing learning materials but also for classroom teaching and assessment. T5 considered such demands as reducing the time that was available for her to explore the use of Moodle.

While it appeared that T5 might have been known about the procedure of adding students to the Moodle site possibly through training, she reported experiencing difficulties implementing and remembering it. She needed to spend time exploring it again. However, when she was shown how to do it during the work-together sessions with the researcher, she realised that the procedure only took 10 seconds. She was even able to assign roles to the students she successfully added to her Moodle site. She explained,

> *I had to play around with the system and this was during working hours. It did take me a long time to understand the system... Some things I would have found out how to do it by trial and error but it took a long time. For example adding participants can take place in 10 seconds when I knew how to do it. I remember in the past that had been a major challenge remembering and finding out how to do that. Now I can remember to add participants and I can assign them a role.* (Teacher Five/Interview Two)

T5's perception of time as posing a constraint to her use of Moodle suggested that she had not been using Moodle on a regular basis, which could have supported her to master its features. It was likely that T5 might have viewed classroom work as more of a priority than using Moodle. T5's view on time constraints appeared to indicate her lack of training and knowledge of Moodle.

6.3.4.3 Support for Moodle Use

T5 also perceived a lack of support for the use of Moodle as a constraint. Her initial training in the use of Moodle occurred when the LMS was first introduced at this institution five years prior to the data collection. This training exposed her to the basic features of the LMS and how to access it. She was also exposed to the procedures involved in organising the layout and enhancing the appearance of Moodle which supported her to present her online content by week or by topic.

While the training also exposed her to other Moodle features, such as the Forum, she did not feel encouraged to explore it. She believed that the training had not developed her knowledge and confidence in using Moodle. She was unable to clearly state whether she had used a Forum or had forgotten how to use it. T5 concluded that as the training was conducted several years prior and only provided a basic introduction; it did not support her to use Moodle. She recalled,

> *I knew that there were forums and discussions sitting there and I hadn't enough confidence or knowledge to actually use them…. Perhaps I've never touched that in training or if I had I've forgotten. I have gone through some training years ago and that was had mainly to do with setting up a site, different settings and so I knew how to set it by week or by topic. So it's fairly preliminary and that's at least five years ago. I started using Moodle after that training, been using it on and off over for a period of five years.* (Teacher Five/Interview Two)

Thus, although T5 received training in the use of Moodle, it had not supported her use of Moodle. It was conducted quite some time ago and this gap appeared to have affected her memory of what she possibly learned. Also, this form of support did not appear to be effective in terms of developing her knowledge and confidence to use Moodle. This lack of support for Moodle use could have been addressed by developing T5's professional learning which is discussed in the following chapter.

To summarise, three main factors impeded T5's use of technology in Case Study Three. These factors relate to issues involving the emphasis on course assessment, the lack of time to explore Moodle, and the lack of support for Moodle use. These constraints as cited by T5 suggested her perception of the issues involved as she used Moodle. For T5, supporting students to do their assignments, which were assessed was more important than focussing on using Moodle in the classroom. Further, as the assignments involved students submitting hand-written work, an emphasis on the use of the computer and thus Moodle was unnecessary. T5 also believed that she had insufficient time to explore the use of Moodle due to her workload. This constraint was more of an indication of her lack of regular use of Moodle and the priority she placed on classroom teaching as opposed to using the LMS. The lack of support for Moodle use reflected the inadequacy of the training provided and its effectiveness in developing the confidence and knowledge in using Moodle.

6.4 Chapter Summary

This chapter reported the findings from Site B which consisted of one tertiary level English language programme delivered as two modules – Listening and Speaking, and Reading and Writing). The findings were presented based on three

main categories in the activity framework – the object of the activity, the division of labour, and the rules.

The findings in Site B revealed two different objects within the one language programme, which was unexpected. In the Listening and Speaking module of the programme, the object was to prepare students to speak in the classroom. In the Reading and Writing module, the object was to provide students with a resource bank for language learning. This unexpected finding challenged the use of the language programme as a boundary for the case study as initially planned. However, having analysed each object it was found to have fulfilled the required criteria to form a boundary for a case study. As such, two case studies emerged from study site B to form Case Study Two and Three for this research.

The teachers who participated in each case study considered technology as consisting of only a computer. The device was considered as having the potential to support teachers to develop resources for classroom presentation and materials for language learning. Thus, the computer was regarded as a device that supported teacher-directed classroom activities. Moodle was considered as a repository for learning materials to enable students' asynchronous access to learning materials and was used as an "add-on" to support a teacher-directed approach. The use of Moodle to realise the intended learning object challenged these teachers' preconceived ideas about technology and Moodle, revealing their lack of a clear and valid conceptualisation of the object.

Each teacher's use of Moodle in the case study to realise the learning object revealed how they shared their interpretation of the object of the activity with their students and their colleagues. The teachers did not consider it necessary to provide feedback to the students' contributions in the Moodle environment. Their view of feedback appears to indicate their lack of awareness of how to use Moodle to scaffold their students' learning. Although each teacher taught on the same level of the language programme but on separate modules, there was a lack of communication among them. They also did not connect with colleagues teaching on the other levels in the programme.

The teachers experienced conflicts and tensions within the existing policies and practices as they worked towards realising the object of the learning activity in each case study. In Case Study Two, four main interconnected issues emerged posing constraints to the teacher's use of Moodle to mediate the object. These issues concerned the emphasis on assessment, the lack of resources for classroom learning activities, the lack of time, and the limited support for Moodle use. In Case Study Three, three main interconnected issues emerged posing constraints to the teacher's use of Moodle to mediate the object. These issues consisted of the emphasis on assessment, the lack of time, and the lack of support for Moodle use. These constraints reflected the teachers' perception of the issues involved.

This chapter had presented the findings from the second and third case studies in Site B. The following chapter discuss of all of the findings from the research.

CHAPTER SEVEN: DISCUSSION

7.0 Overview

This chapter presents the discussion based on three key themes, which have emerged from the findings. These themes are informed by sociocultural theory and are based on an Activity Theory framework. The themes are the teachers' conceptualisation of the object, the mediation of the tool in relation to the object, and the individual teacher in the context of a learning community. Each theme will be discussed in detail in relation to the respective objects identified in each case study.

7.1 Teachers' Conceptualisation of the Object

The findings from each case study indicated that there were variations in the teachers' conceptualisation of the object. The object in the first and second case studies was to prepare students to speak in the classroom, while the object in the third case study was to provide students with a bank of resources for language learning. In the context of the Case Study One, although the three teachers shared a common object, they had different interpretations of how this object could be realised. As for each teacher in the second and third case studies, she lacked a clear understanding of how the object could be realised. Overall, all of the teachers lacked a valid and clear conceptualisation of the object in varying degrees.

7.1.1 Valid Conceptualisation of the Object

All teachers in the three case studies lacked a valid conceptualisation of the object and this limitation could be attributed to three main factors. The first factor relates to the lack of a language syllabus, which could have provided details on how the programme and classroom learning activities could have been organised and implemented. There was no official (institutional) documented support for how to realise the object. The second factor concerns the lack of content knowledge among all teacher participants. They lacked deep understanding of the nature of language learning, a crucial aspect of content knowledge that only language teachers would possess. The third factor is linked to these teachers' limited content knowledge. As content knowledge provides the basis to inform classroom

practices, the lack of this knowledge would have affected these teachers' classroom language pedagogy as they were unable to create conditions that could facilitate the students' classroom language learning. The three factors that contributed to the teachers' lacking a valid conceptualisation of the object are discussed next.

7.1.1.1 Language Syllabus

A language syllabus plays an important role in the design and delivery of language programmes (Graves, 2000; Richards & Rodgers, 2001; Yalden, 1987). It specifies the language forms and determines the structure or order of them in course delivery (Brumfit, 1984; Candlin, 1984; Wilkins, 1981). A syllabus connects the teaching and learning of language to theory, research, and classroom practices (Breen, 1987; Yalden, 1987), and states the aims, content, methodology, and assessments for a language programme (Breen, 2001). As a statement of purpose, it makes explicit what needs to be learned and the sequencing of learning (Hutchinson & Waters, 1987), provides an expected range of learning outcomes (Yalden, 1987), and offers " a framework within which activities can be carried out: a teaching device to facilitate learning" (Nunan, 1988, p. 6). Although there are various other definitions of the term "syllabus" in the literature, the descriptions provided here illustrate its significance as an artefact that provides language teachers with a valid and clearly codified representation of the object of their classroom language teaching and their students' language learning. It prescribes the subject matter (what to teach) and pedagogically appropriate strategies for delivering content (how to teach) (Richards & Rodgers, 2001), as well how the content needs to be organised (Breen & Littlejohn, 2000).

There was no evidence of a syllabus in any of the language programmes; no codified representation of the language learning content and outcomes were available. Thus, there was no basis for the development of classroom language learning materials and activities. Instead, each course in both programmes functioned from a course outline, which described the programme and its objectives, provided the teaching schedule and prerequisites, identified the forms of assessments and assignments, and stated the institutional policy on student

attendance. While such information is necessary, this course outline did not provide teachers with an overall direction for how they needed to plan, which meant that the teachers lacked a valid conceptualisation of the object due to the absence of a syllabus.

A language syllabus should be developed and prepared by a learning institution for language teachers to follow or could be developed by language teachers themselves (Richards & Rodgers, 2001). Language teachers involved in developing a syllabus need to have knowledge of subject content and its organisation, and appropriate pedagogical strategies for delivering that content through classroom language learning activities. To develop a syllabus requires that teachers have pedagogical content knowledge (PCK) (Shulman, 1987).

7.1.1.2. Pedagogical Content Knowledge (PCK)

As described in Chapter Two, Shulman's concept of PCK (1987) intersects between pedagogical and content knowledge. It embodies teachers' blending of both knowledge and pedagogy to reflect their conception of "how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and represented for instruction" (p. 8). PCK characterises how teachers interpret their knowledge of content as they adopt various approaches to represent it and make it accessible to learners through classroom pedagogical practices.

In exploring the concept of PCK in second language pedagogy, this thesis adopted Richards' (1998) six domains of content knowledge. In summary, these domains involve theories of teaching, teaching skills, communication skills, subject matter knowledge, pedagogical reasoning skills and decision making, and contextual knowledge (Richards, 1998). The domains of content knowledge form the basis for second language teacher education and inform the classroom practices that teachers adopt as they transform their understanding of their content knowledge through language pedagogy.

The teachers in all three case studies had limited content knowledge in the area of subject matter knowledge, which forms part of the PCK. This limitation would have affected their classroom pedagogical practices. They lacked deep understanding of the nature of second/foreign language learning which is knowledge derived from the discipline of Applied Linguistics. They had limited awareness about the role of interaction, language input, and feedback, which characterise the nature of language learning and therefore concerns knowledge that only language teachers would possess (Richards, 2008, 2010). In this research, the teachers did not appear to fully appreciate the fundamental differences between written and spoken language. While there is research evidence that writing can lead to improvements in speaking (Gibbons, 2002; Swales & Feak, 2004) the teachers did not make this clear to their students. Students can be supported to speak in the classroom through meaningful writing practices that provide a clear purpose (Gibson, 2002). Exposing students to the notions of audience, purpose, organisation, and style, could also support them to consider how their written output could be developed into oral production in the classroom (Swales & Feak, 2004). The fact that this did not occur reflects a lack of teachers' PCK and in addition, so does the absence of a syllabus that had a clearly stated outcome.

The lack of content knowledge among the teachers in the three case studies about the nature of second/foreign language learning is somewhat surprising. The three teacher participants in Case Study One would have had this knowledge as they were exposed to this content knowledge of Applied Linguistics having taken the CELTA qualification. In addition, T1 had a postgraduate diploma in Second Language Teaching (SLT), which also provided her with exposure to Applied Linguistics. T4 from Case Study Two and T5 from Case Study Three would have had knowledge of Applied Linguistics as well. T4 had a postgraduate diploma in English Language Teaching (ELT), which provided her with exposure to Applied Linguistic content. T5, similar to T1 was also exposed to the content knowledge of Applied Linguistics having pursued a postgraduate diploma in SLT. In addition, T5 had a Masters in Applied Linguistics qualification. It is possible that while these teachers had been exposed to this knowledge, they might not have had the opportunity to apply it as part of their classroom instructional approaches,

which could have enabled them to develop a deep understanding of Applied Linguistics. Two factors constrained this development – their interpretation of the requirements of the programme and their viewpoints about classroom practices.

The teachers' understanding about the nature of language learning could have been constrained by their interpretation of the requirements of the language programme as stipulated in the course outline. In Case Study One, the teachers considered it important to cover the chapters and topics in the prescribed textbook and to support the students to complete the required course assessments as stipulated in the course outline. As for Case Study Two and Three, although there was no specified textbook for this programme, the teachers viewed it as important to cover the themes prescribed and also to support the students to complete the required course assessments as stipulated in the course outline. These teachers' preoccupation with keeping to these requirements suggested that they considered the course outline as a fixed artefact. Teachers who hold this view have the tendency to avoid being responsive to students (Fairbanks et al., 2010). It is possible that the need to adhere to the course requirements could have resulted in these teachers' being unable to apply the knowledge of the Applied Linguistics in their instructional practices, which could have enhanced their understanding of about the nature of language learning.

Furthermore, these teacher participants in all three case studies held certain viewpoints about classroom instructional practices and their role as teachers as well as the focus of learning materials, which could have been constructed based on their interpretation of the requirements of the language programme. These viewpoints could have hindered opportunities to further develop this content knowledge through classroom instructional practices. As evident in the findings across all three case studies, these teachers' adopted a teacher-directed approach in their classroom instructional practices, considered their role as teachers to transmit knowledge to the students and used materials that were mainly content-focussed. These perspectives would not have prompted the teachers to go beyond the requirements of the language programme to consider knowledge about the nature of language learning when organising activities in the language classroom as well as in the online environment. This constraint suggests that these teachers

lacked ‘vision’. Vision involves teachers having self-awareness to commit towards extended outcomes and teachers who have vision tend to do more than what is determined by programme requirement to support their students’ learning (Fairbanks et al., 2010). The lack of vision among these teachers possibly explains their limited understanding about the nature of language learning which could have enabled them to have a valid conceptualisation of the intended learning object in each case study.

7.1.1.3 Language Pedagogy

While content knowledge is important to inform teachers’ classroom language pedagogy, these teachers’ lack of deep understanding of the nature of language learning would have affected their classroom instructional approaches. Findings from each case study revealed an absence of conditions that facilitated language learning. These conditions involve language input, output and interaction, and feedback. As explained in Chapter Two, learners need to be provided with extensive and rich personalised language input. They also require sufficient opportunities to produce output particularly in the context of interaction. Feedback needs to be provided to their comprehension of input and production of output to enable them the opportunities to learn, participate, and develop their language learning in the classroom. Teachers’ PCK provides a basis to inform them on how these conditions can be enabled through classroom activities to ensure learners’ uptake of language learning.

Input functions as a form of stimulus that enhances the process of learning, or as raw data that enables learners to derive meaning from it while at the same time be exposed to language forms that contribute to language learning (Chaudron, 1985; Ellis, 1985, 1990, 1997; Saville-Troike, 1985). Teachers need to create classroom learning conditions that facilitate extensive and rich personalised input to support their students’ language learning to enable them to learn and use the language to socially participate in the language classroom. Input is provided by making it comprehensible with some form of modification (Turnbull & Arnett, 2002) and in substantial amounts (Elley, 2000; Magubhai, 2006) to support students’ language development. Input can be modified through the use of contextual clues and by

the teacher through interaction (Chang & Read, 2006). It needs to be presented as integrated chunks or supplemented with additional stimuli to assist language learning.

The teachers across the three case studies provided language input to the students through the use of the various classroom learning materials that encouraged the integration of skills. Students' uptake of the input was facilitated through teacher-directed classroom activities that required students to complete the stipulated classroom exercises. The focus was mainly on identifying content from the listening and reading stimulus to support students in their classroom speaking and writing activities. However, the teacher-directed activities were limited in helping students comprehend the input that was necessary to realise the object. One could conjecture that if the teachers had provided contextual clues or activities for students to connect content to their own personal experiences, such modification might have supported the students to practice the language forms and prepare for classroom speaking activities as Chang and Read (2006) have discussed.

Providing students with sufficient opportunities to produce output, particularly in the context of interaction is also crucial to prepare students to speak in the classroom and to provide them with resources for language learning. Creating classroom conditions that encourage interaction enables students to discover their potential and limitations in using language (Swain, 2000). Students are provided with opportunities to interact with peers or the teacher to achieve understanding by noticing gaps in their own language (Westbrook, 2011). They are able to adjust their language conversational negotiation of meaning (Westbrook, 2011). Teachers are also able to support their students' language learning by scaffolding their output during the interaction to support their language learning (Walqui, 2006), through the use of, for example, pair or group work (Kim, 2008). The scaffolding support could enable learners to collaborate in solving a language problem and provides them with the opportunity to use language as a tool to mediate their interaction.

While the language learning activities used in the first and second case studies required students to post their responses online to a topic, which required them to

produce output, it did not encourage student interaction as the teachers had hoped. This indicates the teachers' lack of conceptualisation of the object, which affected its realisation. The design of the exercises reflected a need for a one-way response (only) to a prompt and did not require further discussions online. This limitation meant that students were not provided with opportunities to interact through clarifying issues or asking questions. The teachers could have required the students to collaborate in solving a problem to afford them the opportunity to use language to mediate their interaction. Such opportunity could have supported the students' preparation for speaking in the classroom.

Providing feedback to students to enable them opportunities to learn and participate in language learning is important to realise the object of the activity. Feedback assists students to notice their use of language forms and to be aware of gaps in their language. Noticing of language forms can act as a mediator between feedback and learning as it can draw the students' attention to these forms (Mackey, 2006). Feedback can be provided through positive or negative evidence (Long, 1996), by explicit explanation (Carroll & Swain, 1993), or through recasts (Long, 1996, 2007).

To realise the object of the activity, the teachers across the three case studies needed to be aware of the function of feedback. Feedback should not be perceived as teacher intervention. Instead, feedback could have been provided to support students' language development. The appropriate procedures for so doing could have been established from the onset of the learning activity.

In summary, all teachers who participated in this study lacked a valid conceptualisation of the object, which was to prepare the students to speak in the classroom (Case Study One and Two) or to create additional learning resources (Case Study Three). Three main factors contributed to this limited conceptualisation – the absence of a language syllabus in each programme, the teachers' limited content knowledge in the subject matter of Applied Linguistics as evident in their lack of deep understanding about the nature of language learning (even though they all had formal language teaching qualifications), and

further, this limited content knowledge affected classroom language pedagogy in terms of creating conditions that could facilitate language learning.

7.1.2 Clear Conceptualisation of the Object

The teacher participants' limited conceptualisation of the object was also due to their lack of clarity around the object of activity. Although they were aware of the object of activity, their understanding of how it needed to be realised through the use of the learning materials uploaded on the Moodle environment was limited.

The teachers in Case Study One and Two assumed that uploading the text-based speaking exercises online was sufficient to prepare students to speak in the classroom. However, these online materials did not prepare students to speak in the classroom as the teachers had anticipated. Instead the materials provided limited support for students' classroom speaking activities. Similarly, in Case Study Three, the teacher expected that creating a link for students to access a web based vocabulary exercise and a Forum discussion on Moodle could provide them with resources for language learning. There was no evidence however, that this object could be realised. These limitations suggested that while all teachers were aware of the object, they lacked a clear conceptualisation of how the object could be realised. The teachers' lack of a clear conceptualisation of the object in each case study indicated the need to base the design of the learning materials on the principles of task-based language learning.

7.1.2.1 Task-Based Language Learning

Task-based language learning evolved consistent with a view of language learning as a developmental process (Foster, 1999). This perspective, which affected language teaching and learning, resulted in the growth of various task-based approaches (Long & Crookes, 1992; Nunan, 2004; Prabhu 1987). Defining a "task" can be problematic, however, as there is no complete agreement in the research or pedagogical literature on what "task" includes. There are a variety of definitions though, which provide a set of criteria to determine a task (Crookes, 1986; Ellis, 2003). A learning activity is considered a task when it emphasises meaning-focused language use, provides a gap, requires learners to depend on

their own resources to complete it, and presents a clearly defined outcome to ensure that learners use language as a means for achievement (Ellis, 2003). The criteria for a task set it apart from a language exercise although both constitute a learning activity with a similar purpose, that is, language learning (Ellis, 2003). In contrast to a task, a language exercise emphasises form-focused language learning and the need to use correct language as the outcome (Ellis, 2003).

Following these criteria, six dimensions of a task have been identified. These dimensions include the scope, perspective, authenticity, linguistic skill, psychological processes, and outcome of a task (Ellis, 2003). Teachers need to consider these dimensions in relation to the criteria when developing tasks as part of classroom language learning. Designing learning materials that reflect the criteria and dimensions of task-based language learning could have supported the teachers who participated in this study to achieve a clear conceptualisation of the object of activity which is to prepare the students for classroom speaking (Case Study One and Two) or to provide students with resources for language learning (Case Study Three).

7.1.2.2 Designing Learning Materials as Tasks

In terms of scope, the successful completion of a task must involve language and include a focus on meaning (Ellis, 2003). However, when engaging with a task, students do not always focus on meaning as they might switch to focus on the forms required to convey their meaning (Ellis, 2003). Thus, although a task requires learners to focus on conveying the meaning, "it allows for peripheral attention to be paid to deciding what forms to use" (Ellis, 2003, p. 3). This dimension informs one criterial feature of a task as involving a primary focus on meaning to engage learners in the practical use of the language (Ellis, 2003). To address this criterion, a task needs to incorporate a gap to motivate learners to use language to narrow it by selecting the appropriate language forms to complete the task (Ellis, 2003).

The teachers in all three case studies could have designed the materials used online as learning tasks. A task-based design would have enabled them to

consider the dimension of scope when designing the learning materials to ensure the focus on meaning and use of language to realise the object. This design would have supported the students to interact with one another to focus on meaning and in the process possibly encouraged them to determine the appropriate language forms they needed to use. These features were not traceable in the text-based speaking exercises (Case Study One and Two) and web-based vocabulary exercise as well as the set of text-based questions in the Forum (Case Study Three) which were mainly focussed on content. Thus, it could have been possible that the students were not aware of how to use the language to express and share their ideas online. Moreover, they had no opportunities to interact; the teachers did not create such conditions through the design of the online materials.

The students in Case Study One and Two were also expecting that the teachers would respond to their ideas posted online by providing feedback to their use of language forms (particularly grammar). However, the students reported that no feedback was provided. One of the teachers (T2) in Case Study One realised the need to support the students to understand the key terms used in the exercises by focussing on the use of the language forms. As for Case Study Three, although there was a lack of explicit indication by the students for feedback, the teacher nevertheless, provided comments to their online postings. However, this feedback did not involve a focus on language and meaning.

By adopting a task-based design based on the criterion of scope, the teachers in all three case studies might have been motivated to provide feedback. The feedback could have involved drawing students' attention to their use of language and emphasis on meaning which are important in preparing them to speak in the classroom (Case Study One and Two) and in providing the resources to support their language learning (Case Study Three).

Another dimension relates to the perspective of a task. This dimension involves two perspectives – the task designer and the participant (Ellis, 2003). For a task designer, a task is explored through the "task-as-work plan" while from the perspective of a participant, it is viewed as the "task-as-process" (Breen, as cited in Ellis, 2003, p. 5). The differences in perspective could result in a mismatch, as

learners are able to redefine activities based on their own purposes, not those of the task designer (Hosenfeld, 1976). For example, a task that is designed to focus on meaning might result in the learners displaying their mastery of particular language forms instead (Ellis, 2003).

Therefore, adopting the perspective of a task designer is relevant as this perspective supports teachers to determine the extent to which a task bears out the predictions of the designer. This perspective also relates to the criterial feature of a task-as-work plan (Breen, 1989). The task-as-work plan provides learners with a framework for classroom activity in the form of classroom teaching materials. An essential aspect of this workplan is the use of instructions to inform learners about the purpose of each task, the expected outcome, and what they need to do to realise the outcome (Ellis, 2003). Thus, instructions function to structure and sequence interaction as learners work on a task (Lee, 2000). The instructions also offer learners a context, which enables them to function as users of the language (Ellis, 2003).

The teachers in the three case studies could have developed the text-based online materials as learning tasks from the perspective of a designer. This perspective would have enabled them opportunities to determine the extent to which the learning object could be achieved through students' interaction with the task. The purpose, expected outcome, and how to realise this outcome could have been incorporated as part of the instructions in the text-based speaking exercises in Case Study One and Two and in Case Study Three, in the web-based vocabulary exercise and the online Forum. Such information was lacking in the materials used in the Moodle environment. For example, the instructions in each learning material used in all three case studies could have emphasised the need for the students to interact with one another to realise the outcome. The teachers could have demonstrated, discussed, and rehearsed with the students during the face-to-face classroom based lessons to show them how the interaction could have occurred. This approach could have provided the students a clear picture of how to structure and sequence interaction. The instructions are important as they could indicate to the students the purpose and expected outcome of their learning, and provide them with a context to use the English language. Thus, designing the

learning materials as tasks based on the perspective of the task designer might have supported the teachers to realise the intended object in each case study.

The third dimension of a task is the aspect of authenticity (Ellis, 2003). It concerns the extent to which the design of a task reflects authentic situations (Long, 1985) or seeks to achieve interactional authenticity (Skehan, 1996). The authentic situations relate directly to tasks that learners will encounter in everyday situations. Tasks that seek to achieve interactional authenticity consist of activities that learners are highly unlikely to encounter in real-life. Both aspects of authenticity are important as they provide students with a taste of real-life situations or an opportunity to rehearse their language use in a sheltered environment such as the classroom (McGrath, 2002). Thus, the workplan for a task could include either one or both aspects of authenticity to support language learning.

In the context of the Case Study One and Two, the teachers could have designed the learning materials as tasks that incorporated this criterial feature of authenticity. Situations, which are either authentic or seeking to achieve interactional authenticity, should indicate to students the demands and relevance of the task (McGrath, 2002; Tomlinson, 2010). Authenticity could have motivated the students to work on the tasks as they learned English. Incorporating authentic situations in the task design could have encouraged the students to participate in the Moodle Forum to use language to convey meaning, as it offered them a context, which was absent in the text-based speaking exercises uploaded on Moodle.

An element of authenticity however, was traceable in Case Study Three. The set of text-based questions uploaded on the Moodle Forum was related to a topic, which was personal to the students' experiences. However, as those questions only required them to state their experiences, it could not have provoked the students' use of the language in real-life situations. They were not required to interact so as to share with one another about their experiences, which might have generated a variety of language forms that students could use when expressing opinions, describing feelings, or explaining situations. These forms of language

could function as a resource bank to enable the students to draw ideas from it to support their language learning. Thus, T5 in Case Study Three could have designed this online activity as a learning task to enhance the authenticity

Linguistic skills also need to be considered in the design of language learning tasks. Although the various definitions of a task did not explicitly state the skills involved in task performance, a task needs to focus on the development of the skill intended (Ellis, 2003). The workplan for a task should focus on the development of the linguistic skills based on the integrated approach that involves the four skills (listening, speaking, reading, and writing) (Hinkel, 2006). Alternatively, linguistic skill could be enhanced through the task, based on the combination of receptive (listening and reading) as well as productive (speaking and writing) skills (Hinkel, 2006).

To prepare students to speak in the classroom, the teachers in Case Study One and Two could have developed convergent or divergent tasks to develop their linguistic skills. Such task would have required the students to use language to interact with one another to arrive at some sort of agreement or work towards a common goal unlike the use of the text-based speaking exercises that elicited a one-way response. This interaction might have enabled them to notice gaps and draw their attention to particular language forms, which could have supported them when they expressed their opinions and ideas during the oral classroom presentation. The use of such a learning task could possibly have encouraged the development of the linguistic skills – writing and speaking.

Similarly, in Case Study Three, adopting the learning task approach might have provided students with the opportunity to develop their linguistic skills of reading and writing. The teacher could have designed a reading task for the students as a follow up from their completion of the web-based vocabulary resource provided on Moodle. The task could have enabled the students to view how particular academic vocabulary is used in various ways in a reading text or to encourage them to develop skills of inferring or deducing the meaning of words. Such exposure might have supported their use of the academic vocabulary in their writing. Similarly, in the Moodle Forum the students' ideas posted online could

have been used as a resource to write about their own or their friends' personal experiences about the topic. As the ideas posted online consisted mainly of conversational language, the teacher could have used the information to guide the students on how to present their ideas in formal written language. Adopting a learning task could have enabled the teacher in this case study to focus on the development of the linguistic skill as a way to provide students with the resources they could have drawn from to enhance their language learning.

Another dimension that needs to be considered concerns the cognitive processes involved in the learners' performance of a task (Ellis, 2003). When working on a task, learners are also involved in cognitive processes of "selecting, reasoning, classifying, sequencing information, and transforming information from one form of representation to another" (Ellis, 2003, p. 7). Considering this dimension in task design is important as a connection exists between "the level of cognitive processing required and the kind of structuring and restructuring of language that tasks are designed to bring about" (Ellis, 2003, p. 7). Moreover, there is variation in the complexity of tasks based on the cognitive demands placed on learners (Robinson, 2001). Thus, the workplan of a task needs to explicitly consider cognitive demand on the learner when it is being designed. While cognitive processes do not determine the learner's choice of language, they can impose a limit as to the range of language forms learners use for task completion – even if the choice of forms is at the learner's prerogative (Ellis, 2003).

The learning materials used in all three case studies could have been designed as tasks to support the students' cognitive processes. In the context of Case Study One and Two, the learning tasks could have been designed to require the students to interact with one another online to plan their classroom speaking activity by selecting, reasoning, classifying and sequencing information from the reading text they have been exposed to during classroom lessons. The task could have required the students to represent the textual information into the spoken form to prepare for the classroom oral presentation. As for the Case Study Three, a learning task could have been designed to support the students' use of the web-based vocabulary exercises. The task could have required the students to select and classify the academic vocabulary to support them to use the vocabulary in their

essay writing activities. As for the Moodle Forum activity, a task requiring them to select, reason, classify and sequence the information shared online could have been designed to enable them to write about their own or their peers' personal experiences in the form of a journal. The use of learning tasks might thus have involved the students' cognitive processes, which could have supported them to prepare to speak in the classroom (Case Study One and Two) and to provide them with resources to support their language learning (Case Study Three).

The final dimension of a task is the outcome (Ellis, 2003). This dimension informs the criterial feature of a task as having a clearly defined communicative outcome as stipulated in the workplan (Ellis, 2003). In describing this aspect of a task, Ellis (2003) observes that the various definitions of a task concur that the outcome does not solely concern learners' use of the language. The successful completion of a task can be determined in terms of content, which provides a specified objective (Crookes, 1986; Ellis, 2003). Outcome concerns "what the learners arrive at when they have completed the task" (Ellis, 2003, p. 8) and involves non-linguistic aspects. The non-linguistic aspects of an outcome could involve for example completing a table, tracing a route on a map, or listing differences between two pictures. A focus on the outcome of a task presents learners with the opportunity to use language to accomplish it and in the process enhance their own language learning through the linguistic and cognitive processes they experience. Therefore, although it appears to the learners that their performance might be assessed in terms of the outcome of the task that concerns non-linguistic aspects, in reality it could be related to their demonstration of their use of language, which could support their own language learning (Ellis, 2003; Skehan, 1996). A clearly defined outcome for a task could be identified through the workplan, which functions as a goal for the learners' activity (Ellis, 2003). Learners will be using the language to support their learning without realising it, as the focus of a task is a non-linguistic outcome.

Designing the learning materials as tasks might have provided students in all three case studies with a clearly defined communicative outcome to support their language learning. The workplan for the tasks in each case study could have clearly stated through the instructions, the outcome that students were expected to

achieve. This outcome might have drawn the students' attention to the content they needed to include from the classroom learning materials to realise the intended object. Such a focus could have motivated the students in Case Study One and Two to understand the purpose for posting and sharing their ideas in the online forum as a way to prepare them for the classroom oral presentation. As for Case Study Three, the use of learning task which provided a clearly defined communicative outcome could have encouraged the students to be aware of the value in working on the web-based vocabulary exercise and in sharing their experiences in the online forum as providing them with resources to support their language learning. Thus, in completing the learning task, the students in the three case studies might have been encouraged to be less concerned about their use of language forms as they used English to support their learning without realising it.

7.1.2.3. Task-based Language Learning in the Research Literature

The use of the task-based language learning (TBLL) approach has been supported in a number of studies. Several studies investigating TBLL have explored the dimensions and criterial features of tasks and how considering both aspects when designing tasks can support teachers in creating conditions to facilitate classroom language learning. In a review of issues on task-based language learning, Robinson (2011) reported that it promotes negotiation and comprehension of meaning, enables opportunities for teacher feedback, encourages noticing during interaction, and supports reflection and thinking among learners. Albert and Kormos (2011) found that second language learners of English who invented a high number of solutions to complete two narrative oral tasks engaged in more oral communication. Kim (2009) explored the interaction between task and the proficiency of second language learners of English on their initial learning and retention of vocabulary. Based on Kim's research (2009), it was found that tasks that required a higher level of involvement enabled learners to learn words more effectively and to retain greater vocabulary over time (Kim, 2009). Gurzynski-Weiss and Revesz (2012) in their study of teacher feedback during tasks versus non-tasks, focussed and unfocussed tasks, and pre-, during, or post-task stages in classroom foreign language settings found that teachers frequently used implicit-type feedback for both tasks and non-tasks. In terms of teacher feedback to

unfocussed versus focused tasks, feedback was of a higher frequency for the latter "in ways that entailed an opportunity for output modification by the learners" (Gurzynski-Weiss & Revesz, 2012, p. 871). Such feedback was more likely to occur during an overlap between learner error and the linguistic target of the task (Gurzynski-Weiss & Revesz, 2012). With regard to stages in the task, it was observed that the teachers preferred to provide feedback post-task with a high likelihood for implicit error correction (Gurzynski-Weiss & Revesz, 2012).

7.1.3 Summary

Adopting the use of tasks, that considers the various dimensions and related criterial features instead of exercises, had the potential to help teachers in this research clarify their understanding of the object of their classroom activities. A task-based approach could also have assisted teachers to create conditions to facilitate classroom language learning and inform teacher knowledge to develop an appropriate syllabus. Adopting a task-based approach in classroom language learning activities can provide students with opportunities to develop their accuracy and fluency, which is important to support their language development and enable teachers to make informed pedagogical choices (Foster, 2009). Thus, developing tasks instead of exercises in the Moodle (online) environment might have been an effective way to support teachers to realise the object to prepare students for classroom speaking and should be considered when integrating the use of Moodle in an English language classroom.

7.2 Teachers' Conceptualisation of Technology to Mediate the Object

The findings from the three case studies indicated that all the teachers were unable to conceptualise how their use of Moodle could support their students to prepare for the classroom speaking activity (Case Study One and Two) or provide them with resources for language learning (Case Study Three). The teachers expected that by creating activities online, the students' completion of them would enhance their classroom learning. The teachers were not aware of the need to scaffold their students' learning to realise this object. Furthermore, the findings concerning the teachers' perspectives of technology in general, and Moodle in particular,

reflected their limited knowledge of how to use technology to mediate the object. The teachers considered the online and face-to-face teaching environments as interchangeable contexts for classroom language learning. The following sections will discuss the teachers' limited conceptualisation of technology with reference to the need for them to scaffold their students' learning in the online environment and their lack of knowledge in using technology to mediate the object.

7.2.1 Using Technology to Support Classroom Language Learning

In all three case studies, there was limited evidence from the findings to indicate that all teachers were able to utilise Moodle as a tool to mediate the object of activity and suggests that the teachers had limited awareness of the potential of technology for realising the object of the activity. The teachers lacked understanding on how to integrate technology meaningfully to serve pedagogical goals which suggests a lack of technological pedagogical knowledge (TPK).

7.2.1.1 Supporting Students' Language Learning through Scaffolding

The term "scaffolding" was first used by Wood, Bruner, and Ross (1976) as a metaphor to describe parental influence in young children's language development. The concept of scaffolding is reflected in Vygotsky's (1978) view of learning – the zone of proximal development (ZPD). Although Vygotsky did not specifically use the word "scaffolding", the ZPD concerns individuals helping one another to attain more than what s/he is able to achieve alone by jointly constructing knowledge through social interaction. Such co-operation could be considered a form of scaffolding.

Further, Bruner (1983) conceived scaffolding as involving the use of appropriate social interactional frameworks, which are important for learning to occur. It involves social interaction that provides a framework of support to learners to develop their language learning. For Walqui (2006) scaffolding occurs within the ZPD. It reflects a construction site consisting of a supportive structure and collaborative work. The concept of scaffolding is therefore, relevant to language pedagogy. It recognises that "the primary process by which learning takes place is *interaction* [emphasis added], more specifically, an engagement with other

learners and teachers in joint activities that focus on matters of shared interest and that contain opportunities for learning" (Walqui, 2006, pp. 159-160).

However, in the context of the three case studies, there was no evidence that the teachers were scaffolding their learners to support language learning. The findings indicated that all teachers did not perceive a need to support their students to engage with their peers (or even the teacher) as they completed the exercises in the online forum or were not aware of the value of peer-work. The teachers in Case Studies One and Two, assumed that since the students were exposed to the content during classroom lessons and were given instructions in class on how to contribute their ideas on Moodle, the teachers' involvement to support students to engage and collaborate with one another online was not necessary. Moreover, such involvement was in conflict with these teachers' perception of the notion of student-centred learning. In the context of Case Study Three, the teacher did not consider it important to support such engagement as the web-based learning resource which contained the exercises provided immediate feedback while the discussion forum was a post lesson activity. Furthermore, the outcomes from both online activities were not intended to be further discussed in the face-to-face classroom lesson.

This perception indicated that the teachers were unaware of the value of scaffolding in providing a framework of support to develop students' language learning and that it does not necessarily require teachers to play the sole supporting role. This lack of awareness could also be related to these teachers' lack of deep understanding of the nature of language learning which affected their PCK as discussed in the previous section.

van Lier (2004) proposes six main principles that teachers need to consider when scaffolding students' language learning. These principles involve contextual support, continuity, intersubjectivity, flow, contingency, and handover. These principles are relevant to the context of this research as they highlight the issues the teachers needed to consider when scaffolding their students' learning both in the classroom and online. Each of these principles are explored next to discuss how each one could support the teachers in each case study by informing their

conceptualisation of how Moodle could best mediate to support classroom speaking (Case Studies One and Two) and provide a resource bank to support language learning (Case Study Three).

The teachers in all three case studies could have scaffold the construction of students' language learning by providing them contextual support (van Lier, 2004). The support could have been provided by modifying the input provided and presenting input in substantial amounts to enhance student learning. In each case study, the teachers could have provided some background information about the topic of the reading and/or listening activity and focused on the related key vocabulary or grammar items. Links to the information and vocabulary/grammar tutorial or exercises derived from the World Wide Web could have been created in the Moodle learning environment as a pre-lesson activity to stimulate interest and activate the students' prior knowledge to provide them a context in which to understand the impending classroom lesson. A Forum could have been organised online to encourage students to ask questions or contribute more information on the topic to share with the class.

Another condition that teachers need to consider when scaffolding students' language learning is intersubjectivity (van Lier, 1996). This condition involves teachers scaffolding students' learning to encourage mutual engagement and collaboration as they participate in classroom learning activities (van Lier, 1996). To realise this condition, the teachers could have provided a balance between content and language form in the design of the language learning tasks. These forms of input are necessary to create conditions that facilitate language learning as discussed earlier. Scaffolding students' language learning based on the principle of intersubjectivity could have enabled them to learn and use language to participate socially in the classroom

Technology has the potential to support teachers to scaffold the students' learning based on the idea of intersubjectivity. Scaffolding can be provided through students engaging with learning materials consisting of interactive digital resources. Resources characterised by the use of sound effects, engaging graphics, voice-over audio support, animation and interactivity have the potential

to facilitate comprehensible input and in manageable amounts to enable students to focus on both language form and content to enhance their communicative competence and support improved learning outcomes (Clarke & Bowe, 2007). However, realising technology's potential to scaffold based on this notion of intersubjectivity would have been a challenge for the teachers in each case study due to their limited skill and knowledge in using technology. Professional development opportunities thus need to consider developing the required skills and knowledge among the teachers. Alternatively, the teachers could have also encouraged their students to look for learning materials such as YouTube videos on the Internet to be shared in the online environment. Adopting this strategy however would have required the teachers to be clear on how to realise the intended object through the use of these materials.

Flow is another principle of scaffolding (van Lier, 1996). It involves teachers supporting students to ensure that there is a balance between the learning of language skills and the challenges involved in so doing. Students need to focus on the learning task to enable them to connect with their peers through collaboration (van Lier, 1996). To ensure the balance between the learning of skills and the challenges involved, students need to be provided with sufficient opportunities to produce output, particularly in the context of interaction. Such opportunities are created by organising students to work together either in pairs or small groups to collaborate on learning tasks that provide them the opportunity to interact and practice language in social situations (Kim, 2008; Swain, 2000).

The use of Moodle could have supported teachers to scaffold their students' language learning to ensure flow. The LMS enables teachers to organise their students into small groups to enable them to interact to exchange ideas as they work towards completing a language learning task. While the teachers in each case study were able to organise the students in groups in the online environment, this approach did not encourage the interaction as expected. This drawback could have been avoided if they had designed the online activities as language learning tasks.

Scaffolding students' language learning also concerns the notion of continuity, which involves teachers supporting students' language learning by providing tasks that are repeated with variations and connected to one another. An example of this is project-based work (van Lier, 1996). To scaffold students' learning to ensure continuity, teachers can provide them with learning tasks that were sequenced based around the complexity of input provided to students, the conditions under which the tasks were performed, and the outcome (Ellis, 2003). The sequencing of tasks needs to build upon students' existing knowledge and skills while being sufficiently difficult to allow new learning to occur (Applebee, 1986). Divergent or convergent tasks are suitable, as they require students to work in a goal-oriented context and use language to mediate their interactions, which in turn can enhance language learning (Skehan, 2003).

Technology can support teachers to scaffold students' language learning based on this idea of continuity. To enable such support, the teachers in each case study could have provided students with sequenced language learning tasks that were connected to one another and repeated with variations as part of the object to support their classroom speaking (Case Study One and Two), and could have provided them with a bank of resources to support their language learning (Case Study Three). Instead of using the Forum as a one-way communication, learning tasks that varied according to complexity could have been provided to guide the students toward achieving the object. These tasks could have been either divergent or convergent consisting of two-way exchanges that could have encouraged the students to work on them in their various groups as they would have been required to interact online to collaborate with one another and negotiate meaning to complete the task. The interaction that occurred might have provided the teachers with opportunities to scaffold their interaction by probing them to notice and correct their errors (Lee, 2008; Liang, 2010). The scaffolding could have supported them in preparing for the subsequent classroom speaking activity (Case Study One and Two) and could have provided them with a resource to which they could refer to enhance language learning (Case Study Three).

Contingency is another idea that teachers should consider when scaffolding their students' language learning (van Lier, 1996). This concept involves supporting

students' language learning based on their actions through task procedures and ensuring that their contributions to the task are oriented towards each other (van Lier, 1996). Although teachers design tasks as part of an overall work plan, there is a tendency for students to view these tasks as a process (Breen, 1989). Thus, teachers need to carefully design and develop the tasks based on the dimension of perspective as discussed earlier. The task design and development needs to incorporate explicit information on how students are required to progress and the need to engage in joint construction of learning with their peers and to complete the tasks. In the case of the teachers in the study, making such information explicit could have encouraged the more competent students to scaffold their peers in the event that procedures are not followed.

The teachers in each case study could have scaffolded the students' language learning based on the notion of contingency through the use of technology. As the use of text-based CMC enables students increased processing and planning time due to its enduring nature (Payne & Whitney, 2002; Smith, 2005; Williams, 2005), they have the opportunity to review and compare their output with the feedback provided to improve their final language production (Sauro, 2009). During this process, the more capable peers can be encouraged to support their peers online by pointing out the procedures the latter might have missed.

Procedures on how such feedback is provided need to be established from the outset and incorporated as part of the rubrics in the online tasks. The procedures need to consist of the aim, focus, approach, regularity, and criteria in providing feedback to support students to complete the task to realise the object. Samples of feedback need to be provided and explained to the students during lessons. A link to such samples could have been created for this purpose in the Moodle learning environment. This strategy could have enabled the teachers particularly in Case Study One to establish a routine to provide feedback on a contingency basis. There was no longer a need to regularly comment on every student's posting in the Moodle forum as these teachers had anticipated. Providing feedback in the face-to-face classroom was conceived to be less demanding as it was provided at random.

The support that teachers (the more competent "others") can provide to scaffold students' language learning also includes the idea of handover/ takeover (van Lier, 1996). For this, teachers can support students to develop language skills and confidence so as to enable them to become more autonomous participants in the learning activity (van Lier, 1996). Teachers need to carefully observe students' reactions to feedback as they (students) engage with the task in order to determine when students can assume control of the own learning. Such readiness can be determined as students are made aware of the gaps in language knowledge, and notice their own errors, and correct them as a result of formative feedback. The reaction to the feedback indicates that the students have progressed in terms of language accuracy as well as the overall development of the language skills (Lightbown & Spada, 1990; Mackey, 2006; Spada & Lightbown, 1993). It also reflects that the students have gained confidence in using and practising language forms within their learning environment (Loewen & Philip, 2006). Students' responses to the feedback signal the need for teachers to encourage the students assume increased responsibility for learning activities.

As online text-based feedback is enduring as opposed to classroom-based speech, students are able to review and compare their work with the feedback they have received and (hopefully) notice improvement in their output (Sauro, 2009). In this study, the feedback could have been provided in multiple forms to support the development of their productive skills (writing and speaking). It could have been provided implicitly in the form of recasts, which has the potential to increase their confidence (Loewen & Philip, 2006). Implicit feedback strategies such as clarification requests, echoing, and confirmation checks could also have been used to support students in their meaning making.

There is potential in using text based CMC to provide feedback due to its enduring nature as opposed to oral feedback in the classroom environment, which is transient. The lasting effect of text-based feedback in the online environment might prompt students to provide elaborated online postings which enable the teachers to scaffold their learning to assist them in constructing meaning as well as form (Dekhinet, 2008). Technology thus offered the teachers in this study the

potential to scaffold their students' learning to prepare them for the handover/takeover to realise the intended object.

7.2.1.2 Online and Face-to-Face Teaching are Viewed as Interchangeable Contexts for Learning

All teachers in the three case studies regarded the online and face-to-face classroom environments as interchangeable contexts for learning. They had expected that Moodle could function to replace classroom interaction and as such, uploaded the same learning materials intended for face-to-face classroom learning into the online learning environment. The teachers assumed that students would engage with these materials online, as was the practice in the classroom. This assumption indicated the teachers' lack of awareness that technology could serve as a valuable pedagogical tool. Assuming that teaching in the online environment is the same as teaching in the face-to-face in the classroom is a misconception that needs to be addressed (Blake, 2013; Compton, 2009).

Teaching online requires that teachers adopt roles and responsibilities that are different from traditional classroom teaching approaches (Compton, 2009). In addition to their pedagogical and content knowledge (PCK), teachers need to develop their technological knowledge (TK) and be able to interweave the complex relationships between these domains of knowledge (Mishra & Koehler, 2006).

Developing teachers' TPCK involves a focus on digital literacy. It requires that teachers not only have knowledge about technology and its functions, but also be able to decide what technological devices are appropriate to serve the identified pedagogical goals (Golonka, Bowles, Frank, Richardson, & Freynik, 2014). It also empowers them to consider the learning context when making decisions on how and when technology needs to be used in the classroom which could develop their confidence in using it as part of classroom learning activities (Kessler & Plakans, 2008).

Digital literacy thus involves teachers embracing particular "ways of thinking about and working with technology" (Koehler & Mishra, 2009, p. 64) as a means to accomplish classroom pedagogical goals. Teachers need to realise that technology is not neutral (Steel, 2009), as it offers affordances and poses constraints to the learning environment. A learning management system (LMS) for example, does not offer a single comprehensive technological solution for classroom pedagogy as commonly assumed (Hedberg, 2006; Naidu, 2006; Steel, 2009). Teachers who use an LMS as part of their classroom practices need to know how to use the related applications in order to use it as part of classroom pedagogy (Holt & Challis, 2007; Papastergiou, 2006; Steel, 2009).

Further, the teachers' understanding about the differences between face-to-face and online teaching could have been enhanced through the use of the flipped classroom approach to instruction. Flipped classroom teaching involves expecting students to study course materials before coming to class and then spending classroom time to work on practice assignments or learning activities that provide remedial help or further practice (Alvarez, 2011; Khan, 2012; Moravec, Williams, Aguilar-Roca, & O'Dowd, 2010). The main idea is to flip the common instructional approach – "instruction that used to occur in class is now accessed at home, in advance of class" (Tucker, 2012). Instead of spending class time to read texts or listen to audio, students do these activities at home and come to class to discuss and complete the related exercises (Herreid & Schiller, 2013).

Multimedia technologies such as podcasts and online videos are commonly used to support the flipped classroom approach (Bergmann & Sams, 2012; Smith & McDonald, 2013). These resources are used to "move the classroom lecture to "homework" status and using face-to-face classroom time for interactive learning" (Missildine, Fountain, Summers, & Gosselin, 2013, p. 598). Students view lecture materials online before attending lectures to prepare them "to focus the classroom experience on collaborative application activities" (Smith & McDonald, 2013, p. 486). The flipped classroom allows students to progress on their own, provides teachers with insights into the difficulties students' experience when doing "homework" in class, enables teachers to customise and update the curriculum, uses classroom time more effectively and creatively, enhances students' interest,

engagement, and achievement, supports learning theories, and incorporates flexible and appropriate use of technology (Fulton, 2012; Smith & McDonald, 2013; Strayer, 2012).

The teachers in each case study could have adopted the flipped classroom approach as part of their instruction. The teachers in Case Study One could have required the students to read the materials from the prescribed textbook at home and made use of classroom time to encourage student interaction with the text and with one another as well as with the whole class. This approach would have provided teachers with insights into difficulties students might experience when speaking about the topic and provide the opportunity for teachers to support and scaffold the students' language learning. The classroom-based interaction would have not only supported them to share their ideas in the online Forum but also would have supported them to prepare for the individual oral presentations.

Similarly, the teachers in Case Study Two and Three could have adopted the flipped classroom instructional approach in their classroom practices. The teacher in Case Study Two could have required the students to spend time listening and reading the required course materials at home instead of during classroom lessons. Classroom lesson times could have been organised to provide students with sufficient opportunities to produce output by encouraging the students to interact with one another and as a whole class to support their language learning. As for the teacher in Case Study Three, she could have adopted the flipped classroom instructional approach to require her students to complete the web-based vocabulary exercises and Forum discussion as a pre-lesson activity instead of as post-lesson activities. Time in class could have been dedicated to supporting the students to apply the use of the academic vocabulary in their writing and reading and in discussing the content of the reading material to support them to interact with one another and with the text. The flipped classroom approach could have provided the students with the learning resources to enhance their reading and writing skills.

7.3 The Individual Teacher in the Context of a Learning Community

The findings from this research also concern the individual teacher within the context of a learning community. This community involves teachers' colleagues, programme managers or coordinators, administrators, and also students. The individual teacher's ability to perform is reliant on the members of this community. As individual activity consists of a system of social relations, an activity cannot function in the absence of those social relations (Leont'ev, 1981). The individual teacher needs to relate to the members of the community as knowledge is distributed among them. Further, as was seen in this research, the social interactions that occurred between individual teachers and members of the learning community affected teachers' practices and decisions concerning the use of technology to realise the related object. It affected how individual teachers perceived and responded to innovation, their access to professional learning, opportunities for learning from one another, and their adoption of technology. These four sub-themes are discussed in the following sections.

7.3.1 Responsiveness to Innovation

Despite the rapid growth of technological innovations, teachers' use of technology as part of classroom language learning activities has been described as being uneven (Johnson, Levine, Smith, Smythe, & Stone, 2009). While some teachers do use it, it is often sporadic and on an "ad hoc" basis to support conventional teaching methods (Blin & Munro, 2008, Ertmer & Ottenbreit-Leftwich, 2010). Others do not use technology at all, as they lack knowledge on how to use it (Blake, 2013; Hong 2010), or they do not perceive a value in its use (Ottenbreit-Leftwich, Glazewski, Newby, & Ertmer, 2010; Kreijns, Vermeulen, Kirschner, van Buuren, & van Acker, 2013).

One can argue that that disposition could be a contributing factor that determined teachers' receptiveness to using technology in the language classroom (Smith, Moyer, & Schugar, 2011; Vannatta & Fordham, 2004). The success or failure in the use of technology in the language classroom relates to the teachers' sense of value of it, which could shape this disposition (Smith, Moyer, & Schugar, 2011;

Vannatta & Fordham, 2004). Disposition is often associated with terms such as tendencies, values, habits of mind, attitudes, and behaviours (Ritchhart, 2001) but can also include teachers' "attitudes", "values", or "perceptions" (Hallam, 2009, p. 27). Any of these can affect classroom practices and students' learning outcomes. Teachers who perceived a value in using technology were reported to have a positive attitude towards it and were more likely to explore, and use technology successfully as part of classroom learning activities (Roby, Ashe, Singh, & Clark, 2013; Vannatta & Fordham, 2004). They were also described as being able to provide valuable insight on how technology could be adopted and integrated in classroom teaching and learning (Andoh, 2012).

One factor that can affect teachers' disposition towards technology concerns the time they have to explore and learn how to use it. Often teachers associate technology as enabling them to do what they are already doing, but at a quicker rate (Blin & Munro, 2008; Christensen, Aaron, & Clarke, 2002). However, the reality is that as using technology requires teachers to spend considerable time exploring and planning for its use, many teachers can be discouraged trialling it (Brandau-Brown 2013; Kessler & Plakans, 2008). Nevertheless, teachers who were provided with additional time to explore technology and to discuss its utilisation with colleagues were observed to be more willing to use it in the classroom (Brandau-Brown, 2013; Haydn & Barton, 2008). Teachers were reported to be willing to commit their time amidst busy work schedules to share their experiences using technology when they sensed a value in using it and when provided with the opportunities to work as a team to develop and share learning materials (Brandau-Brown, 2013; Johnson et al, 2010).

The teachers in all three case studies demonstrated a sense of enthusiasm in adopting Moodle at the outset of this research. Their positive attitude towards Moodle was largely due to their perception of its value to save time and support students' language learning. However, their disposition towards Moodle soon declined as it not only made demands on their time and added to their existing workload, but also did not seem to encourage interest among the students. This declining disposition could also be due to their lack of digital literacy as discussed in the previous section.

Thus, a positive disposition that enables teachers to value the use of Moodle and their investment of time to learn about it could have been encouraged among all the teachers in the three case studies. One approach could have involved getting the teachers to participate in the use of Moodle for their own personal and professional purposes. The teachers in each case study could have been encouraged to use the Forum in Moodle to share and exchange their views, challenges, and ideas on issues related to their classroom teaching or their experiences of using the online environment to realise the intended object. The use of the Moodle Forum could also have been advantageous, as it could have provided the teachers with the opportunity to communicate with one another especially if they were unable to meet face-to-face due to different teaching schedules. This opportunity could have enabled them to learn not only about Moodle but also with it, which could have encouraged them to value its use and the time invested to explore its potential. Engaging teachers to learn not only *about* technology but also *with* technology might develop positive dispositions to integrate it as part of classroom learning activities (Smith et al., 2011).

As previously stated, teachers who experience value from using technology generally have a positive disposition towards it. For example, technology can support classroom learning by providing students with wider access to learning materials (Kyei-Blankson, 2009). Using technology also increases teacher awareness of their students' level of academic engagement and improvement (Palmer & Holt, 2009; Wingard, 2004). Teachers' disposition towards the value of using technology to influence learning outcomes requires that teachers have a sense of involvement in their teaching. Although teachers need not be directly involved in designing a language course to feel a sense of ownership of it, a blended learning environment that employs both face-to-face classroom delivery and use of online technology can facilitate a sense of involvement (Nissen & Tea, 2012). The use of a task-based approach can also facilitate a sense of involvement as the methodological or preparative work that tasks offer could provide a link between both online and face-to-face teaching modes (Nissen & Tea, 2012). While teachers might not be able to influence the main learning tasks in a course, they can influence how successful completion of those tasks can be achieved through a blended learning approach (Nissen & Tea, 2012).

All teachers in each case study could also have been encouraged to value the use of Moodle as a means to influence their students' learning outcomes to realise the learning object (to prepare students to speak in the classroom-based speaking and provide them with resources for language learning). They needed to be encouraged to have a sense of involvement in the language programme although they were not directly involved in the course design. In the context of the Case Study One, T1 who coordinated the team teaching Level Five could have taken the initiative to foster a sense of involvement by encouraging a team-based approach to teaching and communication amongst the teachers. Team meetings which were on-going at the site could have further provided a suitable platform to encourage such communication. Instead of emphasising the need for teachers to remind students of their online participation requirements, the team leader could have sought teachers' views on how to enhance Moodle use so as to realise the identified object. This strategy could have presented teachers with opportunities to articulate their views regarding content revision for the speaking exercises. The teachers shared these ideas with the researcher during the individual interviews but not with other teaching team members. Such preference suggests that the teachers might not have felt a sense of involvement in the language programme.

In the context of the second and third case studies, the programme manager should have been more proactive, encouraging a positive disposition among the teachers towards the use of technology by creating a sense of involvement in the language programme. The teachers could have been supported to liaise with one another instead of being left to work separately to focus only on particular language skills (Listening and Speaking, Reading and Writing) as assigned to them within the same intermediate level courses. If these teachers had been encouraged to meet regularly and communicate with one another about their use of Moodle, they could have shared ideas and materials. An emphasis on the usefulness of Moodle as a means of improving students' learning outcomes could thus have been encouraged.

7.3.2 Uptake of Opportunities for Professional Learning

Professional development (PD) for teachers using technology is often provided in the form of short one-off type workshop sessions or the occasional seminar that mostly focus on technical aspects (Granshow, 2010). While such exposure does have the potential to offer some value in terms of exposing teachers to newly acquired technological devices or updated versions of software (Haydn & Barton, 2008), it might not prepare them to effectively integrate technology as part of classroom learning activities (Garrett, 2009; Singh et al., 2012).

In all three case studies, the teachers were provided with PD opportunities to support their use of Moodle. However, in Case Study One, although PD in the form of Moodle training workshops was organised, the teachers were unable to participate due to schedule clashes. The workshops regularly ran when these teachers were teaching in their classrooms and as such, they were unable to find the time to attend the PD.

As for Case Study Two, while a Moodle training workshop was provided, the teacher did not consider it relevant in supporting her to use the technology as part of classroom teaching. Similarly, the teacher in Case Study Three who attended the Moodle training organised by the institution did not consider the opportunity as supporting her to use the technology. In both cases, the teachers did not consider the Moodle training as being of value for their classroom language pedagogy.

7.3.2.1 Professional Learning

For PD to be effective, teachers need to be engaged in professional learning, which could consist of formally planned (for example, workshops) and naturally occurring (for example, discussion group) activities (Mitchell, 2013; Singh et al., 2012). Professional learning involves activities that can enable teachers to learn as well as learn *how to learn*, to affect their thinking, knowledge, and skills to change their instructional practices to benefit students' learning (Avalos, 2011; Singh et al, 2012). In the context of supporting teachers' use of technology as part

of classroom learning, professional learning activities need to enable teachers to learn *with* the technology rather than *about* the technology (Beglau, et al., 2011).

PD in the form of technology training workshops, which are resource intensive can encourage uptake of opportunities for professional learning to ensure sustainability if it is customised to the needs of the teachers (Kelly et al., 2011; Singh et al., 2012; Wilson, 2012). Workshops that involved teachers self-enrolling online, participating as a discipline-based community and in small capped groups and having hands-on experience with technology, create opportunities for collaborative and cooperative engagement, which are essential factors for sustained PD (Singh et al., 2012). Effective professional development activities consist of hands-on skill sessions that can help teachers overcome problems with using technology, project work that can encourage collaboration among teachers, and department-based training that can enable peer support and create communities of practice (Wilson, 2012). Teachers who are keen to use technology but who consider themselves as lacking in the technical aspects are more likely to respond to such customised learning opportunities (McNeil, Arthur, Breyer, Huber, & Parker, 2012).

In the context of the three case studies, existing PD activities provided at each study site could have been customised for the teachers to encourage professional learning, but were not. Customised training might have appealed to the teachers who were already interested in using Moodle, as was evident in their voluntary participation in this study, but who mostly lacked technical skills. In Case Study One, the teachers could have requested Moodle hands-on training workshops to be provided at times that did not clash with their teaching schedules. During these workshops sessions, the teachers as a collective group teaching could then have collaborated and cooperated as a team to plan and design the use of Moodle for classroom instructional activities to realise the intended object. The collaboration and cooperation might have provided them with opportunities to negotiate and clarify their shared roles as a team teaching Level Five English. The teachers could have organised their learning with the technology as part of a project with the aim to develop strategies and materials to prepare students for classroom speaking. As two teachers (T1 and T3) were employed on a continuing contract

while one (T2) was on a fixed term, the project could have been considered as part of the employment requirement for classroom planning. The personnel providing the Moodle training could have given advice on the technical aspects of Moodle to these teachers during the training. Such training would have been valuable for the development of both PCK and TPK.

As for Case Study Two and Three, customised support for teachers to use Moodle in their classroom face-to-face teaching was available at the study site. This hands-on training was personalised, as it was designed to support teachers to use Moodle based on their level of familiarity and ability. Moodle training personnel provided this personalised support by discussing with teachers how they could use the technology in their classroom face-to-face teaching. Each teacher could have requested this support as a team teaching the language skills at Level Three and Four of the English language programme. It could then have provided a platform for both teachers to collaborate and cooperate regularly to learn the use of Moodle as part of their classroom activities while receiving support from the Moodle training personnel. This opportunity could also have enabled both teachers to discuss how their individual use of Moodle could complement each other's module to realise their respective object. The learning with the technology could have also been organised as part of a project that aimed at preparing the students to speak in the classroom (Case Study Two) and providing students with language learning resources (Case Study Three). This project could have been considered as part of the employment requirement for classroom planning and preparation as stipulated for teachers employed on a continuing contract (T5) as well as on a fixed-term (T4) basis. Again, such PD would have been a valuable means for developing teachers' PCK and TPK.

7.3.2.2 Pedagogical Leadership

The uptake of opportunities for professional learning should have been supported through pedagogical leadership. However, at both study sites pedagogical leadership was absent. There were trained teachers who had the potential to provide such leadership, but this was not part of the organisational structure at either institution. At both study sites, pedagogical leadership expertise and

experience were not utilised. Pedagogical leadership could have supported the uptake of opportunities for professional learning through an apprenticeship approach, as will be discussed later in this section. The team leaders that were appointed in the two language programmes only focussed on administrative tasks. These team leaders could have provided pedagogical leadership, but they did not consider it as part of their role. It is worth noting that all teachers need pedagogical development (an important aspect of PD) to feel valued as teachers.

The uptake of opportunities for professional learning could have been enhanced through an apprenticeship approach. This approach involves teachers participating and collaborating with more experienced others who provide guidance through coaching or mentoring, and demonstrating to support the former towards mastery (Dennen & Burner, 2008; Lave & Wenger, 1991). This approach allows teachers to "see the subtle, tacit elements of expert practice that may not otherwise be explicated in a lecture or knowledge-dissemination format" (Dennen & Burner, 2008, p. 427).

Coaching or mentoring is considered an effective way to support teachers to use technology in the classroom (Beglau, et al, 2011). Mentoring-facilitated situated-learning can support teachers in their decisions to integrate technology (Ertmer & Ottenbreit-Leftwich, 2010; Inan & Lowther, 2010; Kopcha, 2012) and can encourage a change in attitude towards the use of technology for classroom learning (Hixon & Buckenmeyer, 2009; Wells, 2007). In fact, mentored teachers were found to have used technology for classroom pedagogy more often than teachers who were not mentored (Kopcha, 2012).

While mentors are often sourced externally (Kopcha, 2010, 2012; Mouza, 2011; Wilson, 2012), they can also be identified internally from among teachers. Department or School-based technology workshops that were customised to the needs of teachers were reported to be highly likely to reveal teachers who could provide leadership and guidance as mentors to their peers within a specific team (Singh et al., 2012). These peer mentors can be encouraged to support their colleagues through collaborative and cooperative engagement, which is necessary to promote learning and development through the use of technology.

Peer mentoring can be effective when the support focusses on the needs of the teacher (Beglau et al., 2011). Teachers who assume peer mentor roles are more likely to understand the needs of their colleagues. Current training approaches were too top-down. Training could have been facilitated and organised by the teachers themselves if there had been effective pedagogical leadership. Peer mentors are familiar with the culture of the institution and the realities of the classroom and have experienced the challenges and issues surrounding the use of technology (Singh et al., 2012). Peer mentoring provides teachers with the opportunity to collaborate regularly with colleagues they can trust to share their ideas and resolve issues that they face (Beglau et al., 2011). Teachers are also provided with 'just in time' support in their use of technology through peer mentors (Wilson, 2012).

Customised PD training workshops as described earlier could have supported the teachers in each case study to mentor one another as well as other colleagues using Moodle. As these mentors were from among the teachers at each case study, a sense of trust could have been established and immediate support could have been provided to colleagues due to the proximity. In Case Study One, the teachers could have supported one another on a regular basis based on the negotiated and clarified shared roles having experienced learning with the technology to realise the object. As peer mentors, they could have avoided the misunderstandings and confusion due to the lack of communication that occurred and could have been able to rely on one another for support as they used Moodle to realise the object.

As for the teacher in Case Study Two, the experience of learning with Moodle to realise the object during the customised PD training workshops could have potentially supported her to take on the role of a peer mentor to the new-hires as well as other colleagues who might seek her help. As she had that learning experience, the support she could have provided could have extended beyond helping them in areas she was familiar with through anecdotal accounts and observations, which formed her perspectives of Moodle as reported in the findings. In the context of Case Study Three, the customised training could have developed confidence in the teacher who was also assigned to assist staff with their use of Moodle. It could have allowed her to explore fully the various features

on Moodle and how the features could have been used to realise the object, to effectively assist her colleagues to use Moodle as expected. She might also have made good use of the time available to support her colleagues.

While professional learning opportunities generally tend to be provided for staff employed on a continuing or fixed term basis, they also need to include teachers employed on a casual basis. At each study site a number of teachers were employed on casual contracts although none had participated in the study. These teachers were paid to teach on an hourly basis and this payment also included lesson preparation time. Employing teachers on a casual rather than on a continuing basis seems to be common practice in many tertiary institutions (Cahir, McNeill, Bosanquet, & Jacenyik-Trawöger, 2014; Hodge, 2012; Jenkins, 2013) given the uncertainty, workload increase, and comparatively low remuneration underscoring academic jobs (Bexley, James, &Arkoudis, 2011; Klopper & Power, 2014).

Encouraging casual teachers' uptake of professional learning is challenging due to a number of inevitable factors. The temporary nature of casual employment creates a sense of insecurity that can affect casual teachers' willingness and commitment to fully engage in PD activities (Bexley et al., 2011; Cahir et al., 2014; Gottschalk & McEachern, 2010). Their participation in customised training workshops is also less likely to be financially considered as remuneration only involved teaching hours with other responsibilities being factored into this hourly rate (Cahir et al., 2014; Durur & Gilmore, 2012). Thus, their involvement appears largely on the basis of goodwill (Cahir et al., 2014). As casual teachers are also likely to be committed to other paid employment, they often lack the time to participate in PD activities that are available to them (Klopper & Power, 2014). In the present study, these constraints had affected the efforts of the tertiary institution to develop the capability of overall teaching staff to use Moodle as a large number of them were employed on casual contracts (Hodge, 2012; Jenkins, 2013).

Nevertheless, despite the constraints involving casual employment, casual teachers were reported to be receptive towards efforts to develop their capabilities

to use technology (Cahir et al., 2014; Koppler & Power, 2014). They considered technology as an important medium that could enable them to collaborate and receive sustained support from colleagues, and as such found it a necessity to develop their technological skills to network with colleagues as well as with students (Klopper & Power, 2014). Moodle offers this potential due to its asynchronous nature. Customised, guided, and progressive Moodle training sessions were regarded by the participants in Cahir's (2014) study as valuable as this professional learning opportunity developed their confidence and skills, and enhanced their understanding of how the LMS could be used as part of classroom instruction. This form of professional learning with Moodle was considered flexible by the participants and they regarded this flexibility as supporting their progressive integration of the LMS in their courses (Cahir, 2014). Thus, casual teachers' uptake of opportunities for professional learning in these studies was encouraged through customised PD activities that focussed on supporting their professional and personal use of technology.

At each case study, the customised Moodle training workshops as proposed earlier could have also been focussed on the needs and circumstances of the casual teachers to encourage their uptake of professional learning. The training could have been aimed at developing their technological skills to use Moodle as a platform to network asynchronously with colleagues as well as with students. As the casual teachers were often only available at the study site during their paid teaching hours, using Moodle could have supported them to connect with their colleagues to collaborate and receive sustained support when they were not available on-site. The casual teachers could have also been able to connect with their students to provide the required learning support across space and time. Thus, professional learning opportunities that focussed on fulfilling professional and personal needs to use Moodle could have been able to support the casual teachers to integrate the technology in their classroom. This focus could have also been able to entice them to participate in PD activities on the basis of goodwill together with other teachers teaching the same level in the English language programme. Providing casual teachers with monetary incentives to encourage them could have also been considered but this approach has financial implications.

Professional learning thus involves teachers being part of a community of learning. This community provides for "an active, connected approach with the potential to enhance and expand professional growth opportunities" (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012, p. 102). Professional learning activities that are effective are continuous, intensive, classroom focussed, and occurs at the teachers' workplace, and should be organised during working hours instead of at the end of the day as teachers are more energetic and can work during the day (Beglau et al., 2011; Jones, Stall, & Yarbrough, 2013). It involves teachers collaborating regularly with colleagues they can trust to share their ideas and resolve issues that they face (Beglau et al., 2011; Rismark & Sølvberg, 2011). This process of learning requires the "cognitive and emotional involvement of teachers individually and collectively" (Avalos, 2011, p. 10), to enable them to share, collaborate, reflect, experiment, and discuss their professional practice (Flint, Kurumada, Fisher & Zisook, 2010; Flint, Zisook, & Fisher, 2011). The formation of professional learning communities in educational institutions is thus, an effective form of PD for educators (Jones et al., 2013).

Organisational support is therefore, important for professional learning communities to engage collaboratively and cooperatively as a discipline-based group at the workplace (Jones, et al., 2013; Rismark, & Sølvberg, 2011; Singh et al., 2012). The management of educational institutions plays an important role in providing the required institutional leadership to support professional learning communities and sustain a professional learning culture at the workplace (Jones, et al., 2013). The support provided could involve facilitating teachers to align professional learning activities with the institution's strategic goals for learning and teaching, the policy on the use of technology, and the available infrastructure (Singh et al., 2012). Professional learning communities that receive organisational support in terms of positive leadership, strategic direction, and advancements in the use of technology as a main activity within a university are reported to be able to more effectively integrate technology in their instructional practices (Beglau, et al., 2011; Singh et al., 2012).

The teachers in each case study could have been provided with the organisational support to function effectively as a professional community of learning. The

management of each language programme through the programme administrator at each study site should have supported the teachers to organise PD activities. Such support could have been provided by the administrators in terms of liaising with the Moodle trainers to provide the customised training workshops at times that were convenient to their teaching schedule as described earlier. The administrators could have also provided support to the teachers in terms of planning follow-up professional learning activities. Another form of support could have included scheduling times during working days to allow the teachers to meet, plan, and discuss as a team their approaches and experiences in using Moodle in their language classroom. The current practice at each study site that blocked off one afternoon a week (Wednesday for Case Study One and Mondays for Case Study Two and Three) could have provided teachers with the opportunity to meet together as a team. However, this time might not have been sufficient as it was often used for staff meetings as well. While an additional afternoon or morning could have been blocked off, it could have had implications on the scheduling of the programme. Alternatively, the teachers could have been scheduled to meet as a team in between the teaching blocks.

7.4. The Balance of Factors

Three key underlying factors - PCK, TPK, and Pedagogical Leadership, contributed to the key themes in this study. While the PCK is important for teachers to develop learning materials, support language learning, and apply pedagogically appropriate strategies for delivering content, TPK is essential for teachers to integrate technology effectively as part of classroom language pedagogy. The lack of the depth in these teachers' PCK and TPK had affected their ability to adapt face-to-face classroom teaching practices to the online learning environment. While these teachers could have been supported to develop both their PCK and TPK as part of PD, the lack of pedagogical leadership at both institutions impeded this development. Thus, these three key underlying factors were inextricably intertwined and no single factor, but all factors together, contributed to the lack of meaningful integration of technology within each language programme.

7.5 Chapter Summary

This chapter discussed three key themes derived from the findings of this study. These three themes consisted of the teachers' conceptualisation of the object, the teachers' conceptualisation of technology to mediate the object, and the individual teacher in the context of a learning community. Key to the discussion of each theme was the object of using Moodle in the tertiary level English language programme. Two main learning objects were identified. In the context of Case Study One and Two the object was to prepare students to speak in the classroom, and in Case Study Three, it was to provide students with resources for language learning. While the teachers in each case study were conscious of the object, they had different interpretations of it that affected how each object was realised. Each theme revealed issues that afford and constrain the integration of technology in each tertiary level English language programme.

In all three case studies, the teachers lacked valid conceptualisation of the object which was mainly due to the absence of a language syllabus and lack of content knowledge which affected classroom pedagogical practices. They also lacked clarity around the object of activity and this limitation pointed to the need to develop learning materials based on the principles of task-based language learning. The lack of a valid and clear conceptualisation of the object indicated limited PCK among these teachers.

Further, the teachers in all case studies lacked the conceptualisation of how their use of Moodle could have supported their students to realise the intended object in each case study. This indicated a lack of TPK. They lacked awareness on how their use of Moodle could have supported them to scaffold their students' language learning. This limitation was also due to the teachers' lack of content knowledge as explored in the previous theme. Also, the teachers assumed that teaching online was the same as teaching face-to-face and this assumption pointed to the teachers' need for digital literacy and an awareness of adopting the flipped classroom instructional approach.

The final theme concerned the teacher in the context of the learning community. Two sub-themes were explored in this section. The first sub-theme concerned teacher responsiveness to innovation which was mainly due to their disposition. It could have been supported by engaging them in the use of Moodle for professional and personal purposes. Positive disposition among teachers could also have been encouraged by creating in them a sense of involvement in programme design and delivery.

The second sub-theme discussed the need to encourage the uptake of opportunities for professional learning among the teachers. Professional learning needs to involve customised PD activities. Pedagogical leadership is essential in ensuring the uptake of professional learning opportunities as it facilitates the use of an apprenticeship approach and mentoring, which would have been of value to teachers who were employed on various contracts (continuing, fixed, or casual) at these institutions. The teachers needed to be a part of a community of learning and receive the required organisational support.

CHAPTER EIGHT: IMPLICATIONS AND CONCLUSION

8.0 Overview

This final chapter summarises the main findings from the three case studies investigated in the research and presents implications based on the principles of sociocultural theory and Activity Theory as applied to teacher learning, as well as the concept of normalisation, which was adopted as the research perspective. Three important factors were identified which need to be considered to achieve the state of technology normalisation. These factors include teacher development, language syllabus, and the learning community. This chapter ends by describing the limitations of the research, and includes suggestions for future exploration, and concluding remarks.

8.1. Summary of Findings

The findings reported according to each case study were presented based on three categories in the Activity framework. These categories concerned the object of the activity, division of labour, and the rules within each activity system.

Three objects were identified at each language programme in Site A and Site B. At Site A, the object of activity in the one English language programme was to prepare students to speak in the classroom. At Site B, which included one English language programme delivered as two modules, two objects were identified. The first object in the Listening and Speaking module involved preparing students to speak in the classroom, while the second object in the Reading and Writing module concerned providing students with a resource bank for language learning.

The finding of two objects in one English language programme at Site B was unexpected as it challenged the use of the language programme to establish the boundary for a case study as initially planned. As such, instead of using the language programme to establish a case study, each object functioned as a boundary for a separate case study. This finding is significant as it has implications for the setting boundaries for case study design in Activity Theory-

informed studies and will be addressed further in the implications section in this chapter.

Identifying the object of the learning activity in each case study determined the teachers' purpose for the use of Moodle. In the Case Study One, while all teachers were aware of the stated object, they had different interpretations on how it could be realised. Each teacher in the Case Study Two and Three was also aware of their respective object, but they lacked understanding of how it could be realised. These findings have implications for the role of the object in terms of it guiding what these teachers did in each case study and reflected a lack of a clear, and valid conceptualisation of the object.

A focus on the object of the learning activity revealed the teachers' conceptions of technology and Moodle, and how they used the LMS to realise the object. Across the three case studies, all teachers considered technology to include only the computer. This finding was surprising as technology is much more than just a computer. Moodle was regarded as a repository for learning materials as it supported asynchronous access. The teachers' use of Moodle reflected their view of it as being able to replace classroom learning, and the understanding of classroom learning as involving the transmission of knowledge. This indicates that teachers assumed that the face-to-face and online contexts were interchangeable as teaching environments. The teachers' restricted view of technology, as well as their perspective on, and use of, Moodle indicated their lack knowledge of technology, and of how Moodle could be used to serve classroom pedagogical needs. It reflected a need for digital literacy amongst the teaching staff.

As for the division of labour, this category described how the teachers at each case study related to the members of the community consisting of their students and colleagues within the activity system. The teachers' interaction with their students reflected their conceptions of the related object and indicated that they had limited pedagogical knowledge. The teachers in all case studies did not consider it necessary to provide feedback to their students' online postings. Feedback conflicted with the teachers' notions of student centred and independent

learning. Although feedback was provided by one teacher in the Case Study One and one teacher in Case Study Three, it was not pedagogically motivated. The teachers' views of feedback suggested a lack of pedagogical and technological knowledge. They were unaware of how Moodle could be used to scaffold students' language learning.

In terms of their relationship with their colleagues, there was, in the Case Study One, a lack of communication among the teachers about their respective roles in realising the object. The roles were assumed rather than negotiated. There was no evidence that each teacher in the second and third case studies connected with one another despite teaching on the same level of the same language programme. Each object was considered as relevant only to their respective modules although it was part of the main aim of Levels Three and Four of the language programme as well as other levels. The lack of cooperation between the teachers (purportedly) working as a team in the Case Study One and with one another, as well as with other colleagues as in Case Study One and Two, indicated a need to promote efforts to encourage learning from each other at the workplace.

In all three case studies, the teachers struggled with three main issues which were assessment policies and practices, time required in learning how to use Moodle, and lack of training in the use of Moodle. The issue of time however, was closely related to the lack of training. As the teachers had had little or no training in the use of Moodle, learning how to use it for teaching purposes was understandably time-consuming. Although Moodle training was provided at each study site, the teachers in the Case Study One were unable to attend due to schedule clashes. The teachers in Case Study Two and Three did not consider it relevant to support their use of Moodle for classroom teaching purposes. The tensions these teachers experienced from these two related issues suggested their lack of willingness to engage in innovation and the need for professional development activities to be more relevant, personal, and involving.

As for issues unique to each case study, these consisted of tensions with the design of the speaking materials among the teachers in Case Study One and the struggle with the limited resources available in the Case Study Two. These

tensions revealed a need to design materials as tasks. The teachers in Case Study One also struggled with their notion of a lack of access to technological infrastructure. The tensions arising from their struggles indicated that they lacked understanding of flexible access to technology.

These findings were further interpreted and discussed based on three main themes reflecting sociocultural theory as applied to teacher learning and framed within Activity Theory. The key themes consisted of the teachers' conceptualisation of the object, the mediation of the tool in relation to the object, and the individual teacher in the context of a learning community.

In summary, the teachers lacked a valid and clear conceptualisation of the object. The lack of a valid conceptualisation of the object appeared to be related to the absence of a language syllabus in each programme, the teachers' lack of pedagogical and content knowledge, and their limited awareness about conditions that could facilitate language learning. The lack of clarity around the object of the activity pointed to a need to design learning materials based on task-based language learning principles. The mediation of the tool in relation to the object concerned how the teachers conceptualised the use of Moodle to realise the object. The teachers' view of Moodle as a mere repository reflected their limited conceptualisation of how it could function and the variety of ways in which it could be used. In short, the teachers lacked awareness of Moodle's potential as a technological tool to scaffold students' learning and they regarded teaching in Moodle and face-to-face in the classroom as interchangeable environments. These social relations shape and were shaped by how the teachers responded to innovation, appreciated opportunities for professional learning, learned from each other in the workplace, and perceived the issue of flexible access to technology.

8.3 Implications

The findings from across the three case studies, which were interpreted and discussed based on the three main themes, had three important implications. One concerns the significance of using sociocultural theory as a conceptual framework to explore teachers' thinking as they integrate technology in their instructional

practices. Another implication involves the significance of using an Activity Theory framework as a lens to interpret the teachers' activities, which involved the use of Moodle. The framework reflected a developmental process interlinking both the level of the individual teacher and the community within the activity system. The third implication relates to the concept of normalisation, which was adopted as the research perspective.

8.3.1 Sociocultural Theory as Applied to Teacher Learning

Applying sociocultural theory of learning as a conceptual framework is apposite for this research. It views learning as involving social interaction and collaboration, and acknowledges mental processing as situated within the cultural, historical, social, and institutional contexts of a broader community. A sociocultural perspective of learning allowed the researcher to explore the teachers as having no (or limited) prior experience of using Moodle as part of classroom pedagogy. It also provided the researcher with the opportunity to explore teachers' conceptions about technology to determine the sociocultural aspects in their environment that had shaped their use of Moodle. Using a sociocultural theory of learning as a conceptual framework in this study has implications for teacher practices, professional learning, and development. The implications are discussed based on the four principles particularly relevant to this research and the teacher: learning as mediated; learning as situated activity; learning as goal-directed; and learning as participation in a community.

8.3.1.1 Learning as Mediated

The fundamental concept of sociocultural theory is that the "human mind is *mediated*" (Lantolf, 2000, p.1, italics in original). In realising classroom pedagogical goals, teachers' use of technology as a cultural material tool and their conceptions of language teaching as a conceptual tool mediate the classroom learning activities. Across the three case studies, each teacher held a limited view of technology as involving only the computer. Moodle was regarded as a repository for learning materials that enabled asynchronous access to support language learning. The restricted view of technology and the limited

understanding of the role of Moodle reflected these teachers' underlying philosophy about teaching as involving the transmission of knowledge.

Exploring teachers' learning process has implications for language programmes incorporating the use of technology. Aspects that are shaped and that shape teachers' conceptions and use of technology for classroom teaching need to be considered to ensure that purposeful integration is determined by pedagogical concerns. The design of learning materials should reflect teachers' knowledge and understanding of task-based language learning principles to indicate depths of pedagogical knowledge

8.3.1.2 Learning as Situated Activity

One principle of sociocultural theory concerns teacher learning as situated activity, which entails an emphasis on the role of the context in which learning occurs. In the context of this study, the teachers' conceptions about their own teaching and how technology could be used to realise the object of the classroom learning activities, were co-constructed within their social and cultural settings. These settings represent systems of meaning or culture that are shared among those who are part of the environment (Barab & Duffy, 2000; Lave & Wenger, 1991; Wertsch, 1991b). Knowledge and learning are embedded within the activity, context, and culture in which they are used, and meaning is part of the context in which it originates (Barab & Duffy, 2000; Greeno, 1997; Lave & Wenger, 1991).

Thus, considering the context in researching technology integration in language programmes is vital. Contextual knowledge can illuminate how teachers learn as they relate and interact with their environment and can reveal the meanings they attach to their practices (van Lier, 2005). These meanings can be addressed in the design of professional development activities.

8.3.1.3 Learning as Goal-Directed

Goals are an important part of activities as they provide the impetus that can promote teachers' learning and development. Human behaviour is "a string of

goal-directed acts of rational actors" (Engeström & Miettinen, 1999, p. 1) and as such can be shaped and directed by goals. Goals also function as social and cultural forms of mediation, which are crucial in human activity (Lantolf, 2000; Leontiev, 1978; Vygotsky, 1978) as they enable individuals to work towards achieving them through the process of meaningful and productive social interaction (Barab & Duffy, 2000; Smith, Teemant, & Pinnegar, 2004; Wertsch, 1998).

However, the learning goals in this research were nowhere defined because there was no syllabus. This drawback presents an argument for the need for PCK. Identifying the teachers' goal for using technology in each case study as represented by the object of the learning activity, provided insights into how their conceptions of it were shaped by their classroom behavioural practices. This principle of learning as goal-directed has implications for practice. Setting a goal is important for teachers in their integration of technology in language programmes. The teachers lacked comprehensive, meaningful Moodle training, which contributed to their weakness in TPK. A goal provides an impetus for learning and development as teachers are provided with a purpose to work towards as they use Moodle in the classroom. Examining teachers' goals, their actions, and reactions to using technology to realise the object is important to enable understanding of how to enhance practice.

8.3.1.4 Learning as Participation in a Community

Learning also occurs through teachers participating in the practices of a community (Barab & Duffy, 2000; Sfard, 1998). It involves apprenticeship learning where they learn by working under those who are skilled in a particular crafts or trades to achieve mastery and produce examples of mature practice (Lave & Wenger, 1991), and to think, perceive, and behave like an expert (Nuthall, 1997). However, the absence of a community of teachers engaged in technology integration across the three case studies constrained the teacher participants' process of learning and development. This constraint nevertheless, revealed the conflicts the teachers experienced which enabled the researcher to explore how they socially interacted with one another and with others, as well as their reactions to the issues within their environment to construct meaning in their use of Moodle

to realise the object. These interactions and reactions reflected the teachers' conceptions about the value they attached to innovation, professional learning, learning from one another, and access to technology. Their conceptions provided valuable insights into the importance of providing professional development based on the apprenticeship approach of mentorship to enhance teachers' learning and development process. Thus, this principle of learning as participation in a community has implications for the design and delivery of professional development for teachers.

8.3.2 Activity Theory

The findings from this study also have implications for the use of Activity Theory. As an interpretive framework, it served as a suitable lens to observe, explore, and understand how the teachers' conception of the object shaped and was shaped by their use of Moodle in each case study. The insights enabled the researcher to interpret human activities as a developmental process interlinking both the level of the individual teachers and the community within the activity system. Through the use of this framework, this research was able to describe, clarify, and analyse the teachers' conceptions and behaviour against a backdrop of patterns and relationships within the context identified (Lantolf & Appel, 1994; Nardi, 1996b). It provided insights into observing, "the actual processes by which activities shape and are shaped by their context" (Lim & Hang, 2003, p. 51).

8.3.2.1 Activity as the Prime Unit of Analysis

The teachers' actions when using technology made sense only when "interpreted against the background of entire activity systems" (Engeström, 2001, p. 136). Each activity system was collective, artifact-mediated and object-oriented, and could be seen as a network of relationships (Engeström, 2001).The unique activity systems functioned as specific focuses for this research. Using an Activity Theory framework helped the researcher to unravel the complexity in each educational context as an activity system.

In each case study, the classroom learning activities were the main focus of the research. The teachers' actions during classroom activities were only understood

as part of a wider collective activity, which was related to their conceptions of the potential and role of technology, interaction with their students, cooperation with their colleagues, and engagement with existing policies and practices. The teachers' conceptions, interactions, and their co-operation and engagement (or lack of it) collectively shaped and were shaped by their actions in using Moodle to realise the object of the learning activity. Exploring this network of relationships provided insights into the internal dynamics of each activity system. It enabled an understanding of the teachers' relationship with the community in terms of the nature of the explicit and implicit rules that governed these relations, the tool that was shared, and the roles adopted within the system. The teachers' thinking and learning as they interacted with these factors in their instructional environments were also revealed.

Using Activity Theory as an interpretive framework provided insights into how the activity at the individual level operated, and how it related to the wider community and vice versa to transform the object. The object, which provided a purpose to direct the activity, was key to understanding these insights as it provided rich, detailed, and holistic descriptions of the unique characteristics of the different activity systems.

8.3.2.2 Activity as Providing Multiple Points of View

An activity system always includes a community of multiple points of view, traditions, and interests (Engeström, 2001). Using the Activity Theory framework enabled the researcher to consider the fluid and flexible conceptions of both the individual teachers as well as the community to explicate multiple perspectives in relation to the use of Moodle. The ability to represent the multiple voices of the participants within the activity system was particularly pertinent to capture the interplay between the teachers as facilitators and developers of classroom language instruction, and the community, which provided support for the instructional activities.

In each case study, how Moodle could be used to realise the object was shaped by the teachers' interactions with their students, cooperation with colleagues, and response to the rules in the system. The teachers did not consider Moodle as a tool

to scaffold their students' language learning although the students expected some form of language support from the teachers. The use of Moodle also revealed a lack of cooperation among the teachers working as a team in the Case Study One and indicated that their roles were often assumed rather than negotiated. Similarly, the use of Moodle in Case Study Two and Three revealed a lack of cooperation between the teachers despite them teaching on the same level of the same language programme. Their use of Moodle also did not encourage a connection with colleagues working on other levels in the programme. The use of Moodle also revealed conflicts with existing practices and policies, which were considered a hindrance rather than a support to realise the object.

The multiple points of view, traditions, and interests pointed to the lack of a clear and valid conceptualisation of the object and limited knowledge about the role of Moodle in realising the object. Providing multiple points of view, traditions, and interests are important in research so as to reflect the realities in an educational environment that need to be considered when integrating technology.

8.3.2.3 Activity as Reflecting Historicity

Activity systems take shape and experience transformation over long periods of time (Engeström, 2001). At each case study such developments were aptly captured using an Activity Theory framework as it addressed the relationship between the individual in relation to the larger collective activity system. Analysing the "inter-relationships between the local phenomena and the wider socio-cultural context" (Somekh, 2007, p. 8) enabled understanding of the problems and the potential for development against their own history (Engeström, 1999). Using an Activity Theory framework enabled the researcher to capture the teachers' different interpretations of the object and their varying practices with technology by examining the historical developments, which had led to such differences (Engeström, 1999).

At each case study, the teachers' use of Moodle in each case study shaped and was shaped by the object of the learning activity. The duration of the research (12 weeks in Study Site A and 18 weeks in Study Site B) afforded insights into how the teachers' attempted to realise the object of the classroom learning activity

through the use of Moodle and their interactions with sociocultural factors in the educational environment. There was a lack of a clear and valid conceptualisation of the object, which was due to the absence of a language syllabus for each programme, and the need to adopt a task-based approach in materials design. The teachers' lack of pedagogical and technological knowledge emerged as factors that impeded the continued use of Moodle in each language programme in the following teaching block.

Adopting an Activity Theory framework enabled insights into the problems that were common as well as unique to each case study. It enabled an understanding of the issues the teachers were experiencing so that measures for potential professional development in the context of each language programme could be recommended. Using an Activity Theory framework was relevant as it was able to capture the processes involved that shaped and transformed practices in an activity system over time. It is useful for studies aimed at investigating historical factors that contribute to developments in the use of technology in educational institutions.

8.3.2.4 Activity as Focussing on Contradictions

Applying the concept of Activity Theory to frame the teachers' practices in using technology at each case study captured the contradictions that occurred in the activity systems. Contradictions can play an important role as sources of change and development (Engeström, 2001) and are the result of the interactions between the components in the activity system. They are manifested in the form of conflicts, problems, tensions, or break downs within that system (Kaptelinin & Nardi, 2006; Kuuti, 1996).

Contradictions occurred between the teachers and their expectations of the technology to realise the object, their assumptions about shared roles with colleagues and responses to their students, and their interpretations of the explicit and implicit rules within the activity system. These contradictions revealed the conflicts, problems, tensions, and break-downs as being interconnected and being related to the components within an activity system. The contradictions that occurred in Case Study One resulted from the teachers considering Moodle as a

repository for classroom learning materials. They discontinued the use of Moodle in the following teaching block. As for Case Studies Two and Three, the teachers continued to use Moodle by sharing a common site instead of using separate sites, as had been their practice. However, this continued use did not suggest that the two teachers worked as a team despite teaching the same level in the same language programme. Nevertheless, the contradictions that occurred within each activity system informed this study about the factors that needed to be considered when integrating technology in the immediate language programme as well as in similar contexts.

8.3.2.5 Activity as Framing Expansive Transformations

Applying the notion of activity as a framework enabled this study to consider the expansive transformations in an activity system (Engeström, 2001). Each activity system explored in this study took time to shape and develop and involved long cycles of qualitative transformation. These developments were due to the fact that learning is not a stable process and that knowledge is not static and defined. The teachers in each case study were continuously acquiring new knowledge. By using Activity Theory as a framework in this study, the changes and developments that took time to materialise in each case study, as well as the acquisition of new and sometimes unstable knowledge, were able to be observed, analysed, tracked, and interpreted.

As using Moodle as part of classroom learning activities was a new experience for all teachers, they were continuously learning and managing new knowledge that was frequently changing. The teachers' expectations of Moodle as enabling asynchronous access to classroom learning materials to develop their students' independent learning were challenged. Using Moodle also challenged their assumptions about shared roles and responsibilities, and the teachers had to develop strategies to encourage their students' online participation. They also realised that instead of Moodle saving classroom time, using it imposed demands on their time and challenged their assessment practices, as well as the design of learning materials. The learning process involved cycles of qualitative transformation and affected how they conceptualised the object. The transformations that occurred reflected the teachers' limited conceptualisation of

the object, understanding of the role of technology to mediate the object, and awareness of their position within the context of a learning community.

Using Activity Theory to frame the transformations that occurred in each activity system enabled the researcher to observe, analyse, track, and interpret the teachers' learning process and acquisition of new knowledge. The framework provided insights into what, why, and how teachers learned at the levels of activity, action, and operation, and from these enquiries, determined whether they decided to continue or discontinue Moodle use. The outcome from these enquiries is valuable in informing policies and practices, not only in the immediate context of each activity system investigated in this study, but in other similar settings that plan to integrate technology in their language programmes.

8.3.3 Normalisation

The findings in this research and their interpretations have implications for practice in terms of enhancing approaches to integrate technology in English language programmes. These implications can be understood based on the concept of normalisation, which was adopted as the research perspective in this study. Normalisation concerns "the stage when technology becomes invisible embedded in everyday practice and hence 'normalised'" (Bax, 2003, p. 23). A state of normalisation is achieved when teachers and students use technology as a learning resource on a daily basis as an integral part of every lesson (Bax, 2003).

Applying the concept of normalisation as the research perspective provided a starting point for this study. It involved teachers using their preferred technology (Moodle) on a regular basis to realise an identified learning object in each case study. The approach enabled the researcher to use Activity Theory as a lens to frame the teachers' actions in using Moodle to realise the object against the complexities in their educational environments. The framework revealed the teachers' thinking and how it shaped and was shaped by their interactions with the human and cultural aspects in the environment, which determined their actions in using technology in each case study. Three interconnected factors emerged as aspects to be considered to enhance the integration of technology in tertiary-level

English language programmes in order to achieve a state of normalisation. These factors are teacher professional development, language syllabus, and the learning community. The factors need to be aligned accordingly to support the normalisation of technology as each is related and interconnected with one another.

8.3.3.1 Teacher Professional Development

Teachers play a vital role in supporting students' classroom language learning. Providing instructional support and guidance requires that teachers possess pedagogical content knowledge (PCK), which needs to be developed through second language teacher education (Richards, 1998). PCK is crucial in supporting teachers to create conditions that can facilitate classroom language learning. These conditions are created through instructional practices that provide learners with extensive and richly personalised language input, sufficient opportunities to produce output particularly in the context of interaction, and feedback on the learner's comprehension of input and production of output to enable them the opportunities to learn and participate in language learning.

The teachers in all three case studies however lacked content knowledge in the area of subject matter knowledge, which forms part of the PCK. Subject matter knowledge concerns knowledge that only language teachers would possess. They lacked deep understanding of the nature of second/foreign language learning which is knowledge derived from the discipline of Applied Linguistics. This limitation affected their awareness of the need to create conditions that can provide learners with extensive and rich personalised language input, sufficient opportunities to produce output (particularly through interaction), and feedback on the learner's comprehension. This shortcoming affected their classroom instructional approaches.

Supporting the professional development of teachers' PCK is crucial as provides them with the foundation to plan for integrating technology. The teachers' pedagogical purposes should have informed their choice and use of technology as an integral part of classroom learning activities. However, they lacked

understanding of the subject matter that could inform their classroom pedagogical practices. Thus, their approaches in using Moodle were not based on a pedagogical basis. Instead, the LMS remained central and this affected the realisation of the object in each case study.

8.3.3.2 Language Syllabus

The language syllabus is another factor that needs to be considered to enhance the integration of technology in tertiary-level English language programmes to achieve normalisation. The absence of a syllabus in each English language programme affected the teachers' valid conceptualisation of the learning object. Although there was a course outline for each programme, this document did not indicate how language learning activities could be designed, planned, and delivered. Instead, it described the programme, objectives, teaching schedule, and prescribed textbook, which determined how the course was administratively organised and delivered. Although such information was important, it lacked direction on the pedagogical focus of the course, which a syllabus is able to provide.

8.3.3.3 The Learning Community

The community in each educational context emerged as a factor that played an important role in supporting the teachers' integration of technology to achieve normalisation. This community consisted of fellow teachers, the programme manager, the management, and the students at each study site. Each individual teacher's activity involving the use of technology as part of classroom practices was dependent on members of this community. As an activity system consists of interconnected social relations, it cannot function devoid of social relationships (Leont'ev, 1981). As indicated by the findings of this study, the teachers' actions and decisions when using Moodle were affected by the social interactions that occurred between them and members of the community. These social interactions shaped and were shaped by the ways in which the teachers at each case study reacted to innovation, accessed opportunities for professional learning, learned from one another, and used Moodle.

Enhancing the integration of technology in the three case studies required that the teachers be supported to learn and explore the use of technology as one of the classroom learning resources to serve pedagogical goals. Such support involves addressing their disposition towards the value of using Moodle as an integral part of classroom learning. It would benefit the teachers to be encouraged to communicate with one another about their experiences with Moodle to share their views on how their use of it challenged their practices and conflicted with their understanding of existing policies. The leader of the team of teachers in Case Study One and the programme manager in Case Study Two and Three could have facilitated such communication through casual conversations or during scheduled teacher meetings. Encouraging these teachers to communicate to share their views and experiences would provide them with the opportunity to learn from one another to enhance their current practices. It would also potentially create in the teachers a sense of involvement in the programme and encourage them to invest their time in trialling Moodle, which would develop their knowledge and skills in using it.

Conventional Professional Learning and Development (PLD) activities in the form of one-off workshops and the occasional seminars designed to expose teachers to technology are inadequate. Teachers need to be supported to be able to connect the knowledge obtained from PLD with their classroom pedagogical practices through professional learning activities that encourage them to learn, learn how to learn, and transform their professional practice (Avalos, 2011). Support for professional development and learning should be provided based on the apprenticeship approach of mentoring to enable teachers to learn through a hands-on approach from colleagues with appropriate experience and expertise. This approach to learning would provide the teachers with the time to learn, apply, and discuss what they have learnt to their context and situation and encourage flexibility in their use of technology. Teachers who have experience and expertise in integrating technology need to be recognised for their value to the educational environment and be supported in mentoring colleagues who are learning to use technology.

8.4 Limitations of this Study

This study has limitations in terms of its extrapolation. As this research concerns only three case studies, it is naturally small in scale. The main participants were three teachers in Case Study One and one teacher each in Case Study Two and Three. These teachers were also not necessarily representative of teachers employed to teach tertiary level English language programmes in terms of age, teaching qualifications, experience, and types of employment.

Further, this study investigated the use of technology involving only the use of a learning management system (Moodle) and solely at the intermediate level of each English language programme. Data collection involving classroom observations was restricted mainly to two lessons per teacher at each case study as access depended on the teachers' willingness to provide the researcher with access. Data from the work-together sessions with individual teachers were also dependent on each teacher finding the time for each session within their classroom schedule. This in turn affected their willingness to work with the researcher to organise learning materials on Moodle. Therefore, although a detailed description has been provided of each case study with the related findings, it remains restricted but nonetheless informative in terms of providing insights that remain to be confirmed and validated in similar as well as other contexts that use technology in tertiary level English language programmes.

It was also assumed at the beginning of this study that the teachers had a deep level of PCK, as they had been trained as language teachers. However, this assumption was unfounded. It presents one limitation – it is not possible to determine how much of the problem about technology integration was attributable to the lack of PCK and TPK, as has been highlighted in this thesis.

Another limitation concerned the non-interventionist approach adopted by the researcher. It was designed to avoid any interruptions to each teacher's daily practices within each instructional context so as to conduct investigations in a real life setting. Moreover, as an international doctoral student, the researcher was neither familiar nor had any prior knowledge of how each tertiary level language programme was organised and delivered in the context of New Zealand. This lack

of familiarity could have contributed to the researcher possibly accepting responses during interviews at face value thus affecting the reporting and interpretation of the data. Nevertheless, this limitation was reduced by adhering to the criteria of trustworthiness as described in the methodology chapter.

Triangulation of data sources, member checks, and prolonged engagements at each study site were conducted to ensure credibility of the data. Peer review and an audit trail were also conducted to ensure confirmability and dependability of the findings. Adhering to these criteria of trustworthiness by adopting these strategies was important to ensure that as a far as possible the neutrality of the research is maintained.

The non-interventionist approach also contributed to the researcher adopting the case study design as opposed to action research, which could be one limitation of this study. However, action research was not practical for this study for several reasons. First, it was never the intention of this study for the researcher to direct teachers to plan and design learning materials or language lessons in the online environment. Such involvement would have interfered with teachers' on-going practices. Second, this study was exploratory, aiming to examine the sociocultural factors in the educational environment that emerged to mediate the use of Moodle in each language programme rather than the end product of an intervention. Identifying those factors was crucial to recommend localised changes in practices and policy which would also inform other similar contexts elsewhere. Third, expecting the teachers to participate in action research was not a possibility. The teachers could hardly find the time to attend the series of interviews and the work-together sessions with the researcher because of their heavy teaching schedules to commit to changes in existing practices. As such the case study design was deemed suitable as it provided each teacher with the opportunity to articulate their conceptions and to share their experiences, which generated much of the data for each case study.

8.5 Implications for Future Research

This research could be replicated by focussing on the same issues in wider, more diverse contexts of tertiary level English language programmes. For example, at the same case study sites as were used in this study, researchers could explore the integration of technology at other levels (beginners, elementary, pre-intermediate, upper intermediate, and advanced) in the English language programmes investigated in this study. This would provide a more comprehensive picture of the sociocultural factors that mediate the integration of technology at each site. This research could also be replicated at other tertiary institutions offering English language programmes to international students in New Zealand. Outcomes from such extensive research would not only provide a fuller picture of factors that shape technology integration, but could also inform policy and practices related to encouraging the integration of technology in English language programmes in New Zealand and possibly elsewhere. Findings from the research conducted in these contexts could contribute towards refining and further developing the interconnected factors that need to be considered to enhance technology integration in tertiary level English language programmes with the aim of achieving normalisation.

Given that the study was unable to determine whether it was PCK or TPK that limited technology integration into language teaching, future research needs to account for teachers' knowledge methodologically. Baseline measures for PCK need to be obtained as an important aspect of the research method, as PCK underpins effective use of technology. While it might be difficult to determine PCK, obtaining such a measure could enable researchers to more accurately determine where gaps exist and attribute them to PCK, TPK, or other possible factors not identified in this study.

8.6 Concluding Remarks

This qualitative research investigated the integration of technology in two tertiary level English language programmes in the context of New Zealand. It explored the use of Moodle in three case studies involving teachers as the main participants, their students, and key informants. The research adopted the concept

of normalisation as its research perspective, investigated teacher learning and development based on a sociocultural approach, and used Activity Theory as a lens to frame and interpret the teachers' activities. The conflicts and tensions that emerged from these interactions revealed factors that could potentially promote or constrain the use of technology in each case study. These factors concern the development of the teacher, the importance of a language syllabus, and the role of the teacher in the learning community. The factors are important in informing practices and policy to enhance the use of technology in the immediate contexts as well as in other similar educational settings. All of these factors, which relate to and interconnect with one another within the educational environment, need to be considered to support teachers' regular use of technology towards the state of normalisation. Technology integration in any educational context is therefore, not dependent on the potential of a piece of technology alone or any other sole factor such as the teacher, but "a host of social and cultural elements operating together in complex ways" (Bax, 2011, p. 13).

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APPENDICES

APPENDIX A

RESEARCH INFORMATION - TEACHER PARTICIPANTS AND PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Please read through this information sheet carefully – if you have any questions, I will be most happy to answer these either through email and/or at a face-to-face meeting before you complete the attached participant informed consent form. The data collection will only commence upon receipt of the signed participant informed consent form.

The study aims to investigate the use of Moodle in the classroom in tertiary level English language programmes and identify challenges in its use. Findings from this study will used to inform and enhance programme delivery and pedagogical practice in tertiary level English language courses. Semi-structured face-to-face interviews, work-together sessions and classroom observations will be carried out to collect data. The data collection period will not exceed one teaching semester.

The first interview will be conducted at the beginning of this study. This will be followed by preliminary non-participant classroom observations to enable the researcher to gain familiarity with the classroom context and setting. Each course instructor will work together with the researcher to co-create learning activities in a Moodle environment. This will be followed by a second interview. Next, a final round of non-participant classroom observations will be carried out to observe planned outcome of the Moodle-based activity in the lessons. A final interview will then be carried out.

All interviews and work-together sessions will be audio recorded and complemented by written notes. Notes taken at the work together sessions will be shared with the course instructor concerned to ensure a fair summary of what transpired. Each interview will consist of 10 questions and will take up to an hour to conduct. A copy of the interview questions will be made available to each course instructor before each interview session. Field notes will be taken during all non-participant classroom observations. The number and frequency of classroom observations will be negotiated with instructors.

After this data collection period, there will be a follow up interview possibly in the following teaching semester. The researcher will meet individual course instructors to discuss their progress in integrating Moodle in their classrooms. This open ended discussion will be audio recorded and complemented by written notes.

Information about all participants will be kept confidential. All identification will be removed from completed interviews, records of work-together sessions and descriptions of classroom observed; they will be coded; and no-one other than the researcher will have the knowledge of the source of the data. All data collected will be reported in such a manner that no individual course instructor can be identified. Findings from this study will contribute to a PhD dissertation which will also be made publicly available on the internet. Following this, aspects of the findings might be discussed at domestic or international conferences or published in peer-reviewed journals.

Participation in this study is completely voluntary. Course instructors may withdraw from the study without having to provide any reason, until analysis has commenced on their data. All data obtained in this study will be documented in electronic form and these coded files will be kept on a backup CD until the end of 2015, at which point the CD will be destroyed.

This study has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences. Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email fass-ethics@waikato.ac.nz, postal address, Faculty of Arts and Social Sciences, University of Waikato, Private Bag 3105, Hamilton 3240.

If you would like to participate in the study, please read and sign the attached participant informed consent form and return it directly to the researcher. If you have further queries you may also email jr75@students.waikato.ac.nz

Thank you very much for your support.

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TEACHER PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Researcher: Joseph Ramanair

Participant Consent

- I have been given and have read an explanation of this doctoral study.
- I have been given an opportunity to ask questions and have these answered.
- I understand that my participation in this study is completely voluntary.
- I understand that I may withdraw from the study without having to provide any reason, until analysis has commenced on the data.
- I understand that I will work with the researcher to co-create a learning activity in a Moodle environment
- I understand that the researcher will personally conduct all interviews
- I understand that the researcher will personally conduct the non-participant classroom observations.
- I understand that all interviews and work together session(s) will be audio recorded and written notes will also be taken.
- I understand that only the researcher will have access to any data collected from me in this study
- I understand that all data collected during this study will be reported in such a manner that no individual can be identified.
- I understand that findings from this study will contribute to a PhD dissertation which will also be made publicly available on the internet
- I understand that by signing this form, I am indicating my agreement to voluntarily participate in this study.

Signature of Participant: ……

Participant's name: _____

Date: _____

Signature of Researcher: ……

Date: _____

APPENDIX B

RESEARCH INFORMATION -KEY INFORMANTS AND PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Please read through this information sheet carefully – if you have any questions, I will be most happy to answer these either through email and/or at a face-to-face meeting before you complete the informed consent form overleaf. The key informant interview will only commence upon receipt of this signed participant informed consent form.

The study aims to investigate the use of Moodle in tertiary level English language programmes and identify challenges in its use. Data for this case based study will be obtained through a number of different approaches, one of which is an interview with key informants. You have been identified as someone who would be able to provide valuable insights, in-depth knowledge and understanding which are crucial to this study.

Your participation in this study is voluntary. You will be asked to contribute your thoughts and opinions through a face-to-face interview. This interview will only be conducted once and will consist of about 10 questions. A copy of the interview questions will be made available to you before the interview session. The interview will take up to an hour and will be audio recorded and complemented by field notes.

Information about all participants will be kept confidential. All identification will be removed from completed interviews and will be coded. No-one other than the researcher will have the knowledge of the source of the data. All data collected will be reported in such a manner that no individual key informant can be identified. Findings from this study will contribute to a PhD dissertation which will also be made publicly available on the internet. Following this, aspects of the findings might be discussed at domestic or international conferences or published in peer-reviewed journals.

Your participation in this interview is completely voluntary and you may withdraw from the study without providing any reason, until analysis has commenced on the data. All data obtained in this study will be documented in electronic form and these coded files will be kept on a backup CD until the end of 2015, at which point the CD will be destroyed.

This study has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences. Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email fass-ethics@waikato.ac.nz, postal address, Faculty of Arts and Social Sciences, University of Waikato, Private Bag 3105, Hamilton 3240.

If you would like to participate in the study, please read and sign the attached participant informed consent form and return it directly to the researcher. If you have further queries you may also email jr75@students.waikato.ac.nz

Thank you very much for your support.

Joseph Ramanair
Waikato Pathways College,
Student Learning,
The University of Waikato,
Private Bag 3105, Hamilton 3240
New Zealand.
jr75@students.waikato.ac.nz

KEY INFORMANT PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Researcher: Joseph Ramanair

Participant Consent

- I have been given and have read an explanation of this doctoral study.
- I have been given an opportunity to ask questions and have had these answered.
- I understand that my participation in this study is completely voluntary.
- I understand that the researcher will personally interview me.
- I understand that the interview will be audio recorded and complemented by field notes.
- I understand that only the researcher will have access to the data collected
- obtained from me
- I understand that my identity will not be revealed
- I understand that findings from this study will contribute to a PhD dissertation which will also be made publicly available on the internet
- I understand that I may withdraw from the study without having to provide any reason, until analysis has commenced on the data.
- I understand that by signing this form, I am indicating my agreement to be interviewed as a key informant in this doctoral study.

Signature of Participant: ……

Participant's name: _____

Date: _____

Researcher: ……

Date: _____

APPENDIX C

RESEARCH INFORMATION - STUDENT PARTICIPANTS AND PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Please read through this information sheet carefully – if you have any questions, I will be most happy to answer these either through email and/or at a face-to-face meeting.

You are invited to participate in a group interview as part of a PhD study to share your experiences of using Moodle in your English language class.

Your participation in this group interview is purely voluntary. The interview session will only involve you and your classmates and will be audio-recorded. It will take about 20 - 30 minutes of your time. The questions for this interview will be provided to you before the interview.

Your responses at the interview will be kept confidential. All information is for the purpose of this study. The feedback obtained from you at this discussion will be reported in such a manner that you cannot be individually identified.

If you would like to participate in the study, please read and sign the attached participant informed consent form and return it directly to me. If you have further queries please email jr75@students.waikato.ac.nz.

Thank you very much for your support.

Joseph Ramanair
Researcher
Student Learning,
Waikato Pathways College
The University of Waikato,
Private Bag 3105, Hamilton 3240,
New Zealand
(jr75@students.waikato.ac.nz)

STUDENT PARTICIPANT INFORMED CONSENT FORM

Title of Research: Integrating technology in tertiary level English language programmes: Case studies of Moodle learning environments

Researcher: Joseph Ramanair

Participant Consent

- I have been given and have read an explanation of the focus group discussion
- I have been given an opportunity to ask questions and have had them answered.
- I understand that my participation in this study is completely voluntary.
- I understand that my identity will not be revealed
- I understand that by signing this form, I am indicating my agreement to voluntarily participate in the group interview.

Signature of Student : ……

Student's name: _____

Date: _____

Researcher: ……

Date: _____

APPENDIX D

TEACHER PARTICIPANT INTERVIEW I

GUIDED TOPICS FOR INTERVIEW

Respondent background

1. Please describe yourself in terms of:
   a. educational background
   b. teacher training background
   c. teaching experience

2. Why did you volunteer to participate in this study?

3. How have you used technology for:
   a. general purposes? Please describe this experience
   b. pedagogical purposes? Please describe this experience.
   c. if you have not, would you like such exposure? Why?

Integrating technology in pedagogical practices

4. Do you think technology has a place in your teaching? How? Why?

5. Are you familiar with integrating technology in your teaching?

6. Have you integrated technology in your teaching?

Integrating the computer via the Moodle environment

7. Are you familiar with Moodle? Please describe this.

8. Have you had any professional development related to Moodle? Please describe this

9. Has the exposure to Moodle provided you with any ideas on using Moodle in your teaching?

10. Do you have any further comments?

APPENDIX E

TEACHER PARTICIPANT INTERVIEW II

GUIDED TOPICS FOR INTERVIEW

Reflections on working with particular tool(s) in the Moodle environment

1. Please describe the experience of working with the particular tool(s) in the Moodle environment.

2. Did you face any challenges when using the particular tool(s) in the Moodle environment?

3. Comment on the work-together sessions that you have experienced.

4. Are you aware that online support for using the particular tool(s) in the Moodle environment is available?

5. Are they any specific improvements that could be made to the support provided in the work-together sessions and/or online?

Impact of the Integration of Moodle

6. Have you received any feedback from your students in the process of using the particular tool(s) in the Moodle environment? Please describe this.

7. Do you think that the interactions taking place when using the particular tool(s) in the Moodle environment, created a sense of a community of learning? How? Why?

8. Has your experience in using the particular tool(s) in the Moodle environment created a sense of a community of learning? How? Why?

9. Has the use of the particular tool(s) in the Moodle environment provided you any insight into alternative ways of course delivery?

10. Would you in future design your teaching differently so as to maximise the use of the particular tool(s) in the Moodle environment? How? Why?

APPENDIX F

TEACHER PARTICIPANT INTERVIEW III

GUIDED TOPICS FOR INTERVIEW

Reflections on initial set up and training

1. Describe your experience having worked with the particular tools(s) in the Moodle environment.

2. Was the range of support provided to you sufficient to integrate the particular tool(s) in the Moodle environment?

3. Comment on the speaking exercises that were selected which were delivered using the particular tool(s) in the Moodle environment.

Student response to the Moodle environment

4. Based on the feedback received from your students, what do you think was their overall response to using the particular tool(s) in the Moodle environment?

5. What technical problems (if any) did the students report about using the particular tool(s) in the Moodle environment?

Overall thoughts on integrating Moodle in pedagogical practices

6. Which aspect(s) of the particular tool(s) selected in the Moodle environment do you feel worked well / did not work as you anticipated?

7. Were there any other tool(s) apart from the particular one(s) selected (which you may have come across) would you like to explore in the future?

8. What resource issues do you anticipate might be problematic with Moodle roll-out within your programme?

9. What suggestions do you have for improvements/changes to the particular tool(s) you have worked with in the Moodle environment?

10. Would you encourage your colleagues to use the particular tool(s) you have worked with in the Moodle environment?

APPENDIX G

TEACHER PARTICIPANT FOLLOW UP INTERVIEW

GUIDED TOPICS FOR INTERVIEW

1. Please describe the developments with using Moodle this semester.

2. If you have continued using Moodle in this semester,
    a. how are you using it?
    b. has there been any change(s) in the approach taken in using Moodle?

3. If you have not continued using Moodle,
    a. what issues are you facing?
    b. how can these issues be addressed?

4. Were there any additional issues in using Moodle this semester?

5. Do you have any other comments?

APPENDIX H

KEY INFORMANT INTERVIEW

GUIDED TOPICS FOR INTERVIEW

1. Please describe your current position.

2. What is your view on using technology in teaching and learning?

3. What is your view on the practices of technology integration particularly Moodle, in the English Language Programme/institution?

4. Are there any systems that are available to enable instructors to integrate the technology in the programme /institution?

    a. If Yes, what form(s) of support are available to encourage the integration of technology (Moodle) among instructors teaching the programme?

    b. If No, what form(s) of support do you think should be made available to encourage the integration of technology (Moodle) among instructors teaching the programme?

5. Would such support be sufficient for the needs of the course instructors?

6. What is the response(s) of the instructors towards the existing efforts in providing support to encourage the integration of technology (Moodle)?

7. What challenges need to be addressed in efforts to integrate technology (Moodle) within the programme(s) at this institution?

8. Are there any further plans in store to enhance the current levels of practices in integrating technology (Moodle) in the programme at this institution?

9. Do you have any further comments?

APPENDIX I

STUDENT PARTICIPANT FOCUS GROUP INTERVIEW

GUIDED TOPICS FOR INTERVIEW

1. Please describe the online learning experience you encountered through the Moodle learning environment.

2. Was there any particular aspect(s) you liked about this experience?

3. Was there any particular aspect(s) you disliked about this experience?

4. Do you think that such online learning experience contributes positively to your learning of English?

5. Do you think that such online learning experience contributes negatively to your learning of English?

6. Would you like to see any change(s) in your online learning experience?

7. Would you like to continue using computers in your English class?

8. Do you have any further comments?

APPENDIX J

NON-PARTICIPANT CLASSROOM OBSERVATION TEMPLATE

Time-based open-ended observation grid

Observation No: ☐ Teacher No: ☐ Case Study no: ☐

Date:	Time in:	Time out:	Venue:	Topic:

Time	Observation Notes	Comments

General Remarks & Comments

APPENDIX K

GUIDING CRITERIA FOR CATEGORIES

The data categorised in this section represents the unit of analysis in this study. This unit of analysis concerns the classroom activity and focusses on the object of the activity. The components of the activity system and their mediating relationships are addressed. They include the Object of the activity, and the interactions involving the Subject-Tool-Object, and the Subject-Rules-Community, and the Community-Division of Labour-Object.

The Object of the Activity

This category recognises that all activity is object-oriented as it involves the way in which something is done which is directed towards an object (Kaptelinin & Nardi, 2006). Object orientedness is a principle which states that "every activity is directed toward something that objectively exists in the world, that is, an object" (Kaptelinin, Nardi, & Macaulay, 1999, p. 28). Object can be understood as "*objectives* that give meaning to what people do"(Kaptelinin & Nardi, 2006, italics in the original, p. 66), and represents the raw material or problem space at which the activity is directed at to transform it into an outcome through the use of the cultural tools (Engeström, 1993).

Two examples from the data are given below to show the purpose of the teachers in using technology in the classroom activity. In the excerpt below, the teacher describes the collective rationale for using technology which is to provide the students with a different medium for learning particularly in supporting their language production.

> *as a team we had sort of talked about the fact that this could be useful for our students, just a different way of learning, learning through a different medium. We just thought, yeah, this would help them in their, particularly for their speaking, preparation for speaking* (Case Study One/Teacher One/Interview One)

In the excerpt below, while the teacher considers the use of technology as essential, the purpose is to support classroom instructional practices and not as the main feature in instructional practices.

> *I think it's becoming essential to me to use technology. So, when I look at a classroom now, I tend to see whether it has a data projector and a computer. I don't think the computer needs to have a dominant place in the classroom but as augmenting the teaching. So for example I use the power point everyday not as the main focus of attention for a lesson but at some point, I'm almost always using the power point to illustrate a particular language point in the student interaction*. (Case Study Two/Teacher Two/Interview One)

Subject-Tool-Object

This category of relationship focuses on the physical tool (for example, computers, worksheets, books, and pens) and conceptual tools (for example language and instructional strategies) which are used by the subject (teacher or student) to direct the activity towards the object.

Data example of physical tool:

> *So I need to spend more time here, and find a computer and find an empty lab to work which is hard to get when you finish at three o'clock and all the computers are full and everyone is sitting.* (Case Study One/Student One/ Interview Group One)

Data example of a conceptual tool:

> *I wanted something more, some sort of opinion within the class activity where they had to produce some sort of logical progression, with the basic question, their answers to it, the other group's answers to it, the next group's answers to it so they could see an on-going value.* (Case Study Two/Teacher Two/Interview Two)

Community-Division of Labour-Object

The data placed within this category of relationship concerns how the classroom activity is organised, shared, or distributed among the participants to address the object. This community mainly refers to the teachers and the students who are involved in the activity.

The quote below shows how the teacher relates to her colleagues in using Moodle at the case study site. Although Moodle is widely used at the institution by most teachers in the English language programme, it does not mean that they are connected with one another in their use of the LMS.

> *It's hard to say whether I've connected any more strongly with my colleagues because the Moodle site that I've got is particularly between me and the students.* (Case Study Three/Teacher Five/Interview Two)

Another example of data grouped under this category of relationship shows how the teacher perceives her role as non-participatory in the students' online interactions. However, the students had expected the teacher to participate by providing comments to their work.

> *So, at the start we thought that it would be more hands-off, more student-student interaction and I think it was but not in a way we expected….Yeah, for me I felt like that was an opportunity for them to contact more with each other but I think for some of them, that was not what they wanted. They wanted more comment on what they'd said or perhaps more correction of their work. So they had different requirements and different wants from the system….* (Case Study One/Teacher Two/Interview Two)

Subject-Rules-Community

The data grouped under this category refer to the explicit and implicit rules that govern the relationships between the participants within their roles as they interact with each other. These rules provide information on the accurate procedures and suitable interactions when interacting among members of the community.

> *I think the way we set our exercises, if we had simpler questions that were more provoking discussion rather than something that wanted them to elaborate on some long topic, they'd be more likely to contribute. But, that would lose some of the benefit that we actually intended it for in the first place, to get them practising that speaking topic.* (Case Study One/Teacher Two/Interview Two)

> *I'm obliged to tell students which activities are crucial for passing or failing the course. For example, there's a student in the class who doesn't have a computer at home. If it were for assessment, I think, I would have to say to her you must find a computer, you must do this, it is essential. So I urge them to do it and I strongly encourage them to do it. But at the end of the day, I had to say actually you fail or succeed on the assignments that you do which are written.* (Case Study Three/Teacher Five/Interview Three)