ENGLISH SECOND LANGUAGE LEARNING WITH TECHNOLOGIES:

A CASE STUDY OF A UNIVERSITY IN THE EASTERN CAPE

by

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Submitted in partial fulfilment of the requirements for the degree

DOCTOR TECHNOLOGIAE

Department of Applied Languages

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2017
DECLARATION

“I hereby declare that the thesis submitted for the degree DTech: Language Practice, at Tshwane University of Technology, is my own original work, and that all sources cited or quoted are indicated and acknowledged by means of a comprehensive bibliography. I further declare that this work has not previously been submitted to any other institution of higher education, and I have not allowed, nor will I in future allow anyone to copy it with the intention of passing it off as his own.”

N. Caga

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DEDICATION

This study is dedicated to:

My grandchildren, Khanyisile, Azikiwe, Kungawo, and Alakhe, for bearing with their grandmother during this time.
ACKNOWLEDGEMENTS

I acknowledge the following people, who have made an enormous contribution to the completion of this study:

I would like to thank my supervisor, Professor C.C. Mann, for the consistent assistance that he gave throughout the process of writing this study. It is through his encouragement, and expert advice, that I managed to complete this study. His critical, but constructive, comments throughout the study, were meaningful to me, and for proofreading this document. His support was overwhelming.

I would like to specifically thank the BEd1 English students, and their lecturers, who took part in the study, for sharing with me their understanding of issues of interest in the study. To the Head of School in the School of Further and Continuing Education, I feel very blessed to be allowed to conduct the study in his schools. I give special appreciation to Govan Mbeki Research and Development Centre, for their financial assistance.

Finally, I am very grateful to have the support of my family, who have shown love and support throughout my study.
ABSTRACT

A case study was conducted on English second language (L2) classrooms in a selected university in the Eastern Cape Province primarily to: (1) examine how learning with technologies could support students in improving their English L2 proficiency; (2) examine whether learning with technologies support students’ active learning; and, (3) understand how knowledge about learning English L2 with technologies could contribute to upgrading the pedagogical knowledge base of lecturers, so as to enable students to acquire the knowledge and skills they would need to become more proficient in English L2. The participants were 254 Bachelor of Education first year students, and their four lecturers. Mixed methods was the approach adopted, using student questionnaire and focus group interviews, and lecturer interviews. The findings suggest that technology integration: serves as a motivating factor for the students, i.e., they become more engaged in English L2 activities; expands the classroom into the real world, thereby enhancing students’ knowledge; supports students’ active learning (e.g., listening, communication, reading, and writing skills); and, generates stimulating changes in classroom activities. The challenges reported related to: English L2 lecturers’ negative attitudes toward the use of technologies in the classroom; students’ and lecturers’ lack of knowledge on how to use technologies; lecturers’ lack of knowledge on technology integration during teaching; and, limited access to specialised English L2 software programs, and relevant applications.

Key words: English L2 classroom, learning with technology, synchronous and asynchronous communication
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<td>American Psychological Association</td>
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<td>ASR</td>
<td>Automatic Speech Recognition</td>
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<td>BBC</td>
<td>British Broadcasting Corporation</td>
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<td>CAL</td>
<td>Context-Awareness Learning</td>
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<td>CALL</td>
<td>Computer Assisted Language Learning</td>
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<td>CALP</td>
<td>Cognitive Academic Language Proficiency</td>
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<td>CBL</td>
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<td>CPS</td>
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<td>EIL</td>
<td>English as an International Language</td>
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<td>HOS</td>
<td>Head of School</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IEP</td>
<td>Intensive English Program</td>
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<td>ITS</td>
<td>Information Technology System</td>
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<td>L2</td>
<td>English Second Language</td>
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<td>Lf</td>
<td>Lecturer (female participant)</td>
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<td>LMS</td>
<td>Learning Management System</td>
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<td>MKO</td>
<td>More Knowledgeable Other</td>
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<td>MoE</td>
<td>Ministry of Education</td>
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<td>MP3</td>
<td>Motion Picture Expert Group (Audio layer3)</td>
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<td>MsW</td>
<td>Microsoft Word</td>
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<td>MTN</td>
<td>Mobile Telephone Network (South African Cellar Service Provider)</td>
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<td>NSFAS</td>
<td>National Student Financial Aid Scheme</td>
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<td>PBL</td>
<td>Problem-Based Learning</td>
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<td>PC</td>
<td>Personal Computer</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<td>PDA</td>
<td>Personal Digital Assistant</td>
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<td>Sf</td>
<td>Student (female participant)</td>
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<td>SFCE</td>
<td>School of Further and Continuing Education</td>
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<td>Sm</td>
<td>Student (male participant)</td>
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<td>SMS</td>
<td>Short Message System</td>
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<td>SPSS</td>
<td>Statistical Packages for the Social Sciences</td>
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<td>TLC</td>
<td>Teaching and learning Centre</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>UPM</td>
<td>University Putra Malaysia</td>
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<td>USA</td>
<td>United States of America</td>
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<tr>
<td>WWW</td>
<td>World Wide Web</td>
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<td>ZPD</td>
<td>Zone of Proximal Development</td>
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GLOSSARY OF TERMS

English Second Language (L2) & Educational Technology: Terminology

English L2 Terminology

- **Constructivism**: a learning theory which holds that knowledge is not transmitted unchanged from the teacher to student, but instead that learning is an active process of recreating knowledge”. It proclaims that learners should discover new knowledge themselves.
- **Co-operative Learning**: Students do activities and discussion in class with peers or with a small group. They learn cooperatively and construct the knowledge together.
- **drill-and-practice**: Type of learning that adopts a transmission model. Learning takes place through the transmission of information from the computers to the students.
- **Scaffolding**: The guidance given to the student by the more competent or knowledgeable other is referred to as
- **Linguistic competence**: is concerned with knowledge of the language itself, its form and meaning. This means that it involves knowledge of spelling, pronunciation, vocabulary, word formation, grammatical structure, sentence structure, and linguistic semantics.
- **socio-linguistic competence**: an ability to say the appropriate thing in certain social situations, and that is known as
- **Strategic competence**: a manner to cope in an authentic communicative situation, and a manner to keep the communicative channel open.
- **Student engagement**: Kuh (2003:25), define student engagement as “the time and energy students devote to educationally sound activities inside and outside of the classroom”. Learning with technologies in English L2 might stimulate and maintain students’ engagement and that is very important as the student will be in control of the learning process.
- **Zone of Proximal Development**: an opportunity for learning between what the individual can achieve in isolation, in comparison with what is achievable by the same individual in a collaborative social setting.
Additional Terms used in Technology

- **Asynchronous**: a kind of platform which is used to describe how communication can be transmitted intermittently instead of in a steady stream for example, emails, chat rooms, threaded discussions, and PowerPoint etc.

- **Classroom-based Technologies**: Technologies that can provide learning experiences to users on the move, but the devices themselves are not physically movable. Interactive whiteboard, for example, displays pervasive access to information, and offers learning experiences, but it is the student who is portable, not the delivery technology.

- **Computer Assisted Language Learning (CALL)**: It is an approach to teaching and learning by using computer and computer-based resources for example internet to assist language learning. Beatty (2003) states that the application of CALL might be helpful for learners in improving their listening, speaking, reading, and writing skills, as well as encouraging autonomy in learning, and for teachers in improving their teaching skills since it can be integrated into research and practice.

- **Mobile Technology**: The device that can be classified as both portable and personal, such as, mobile phones, PDAs, tablet PCs, and laptops. These devices are portable, because they are taken from place to place, and hence, they can be available in many different locations.

- **Synchronous**: It is the form of the platform in which people communicate with each other through computer or the Internet, for example, videoconference.

- **Motion Picture Experts Group (MPEG3)**: MP3 is a short abbreviation for an organisation which produced standards for encoding moving pictures and sound in digital form. 3 refers to audio layer.
CHAPTER 1: INTRODUCTION

1.1 Preamble
The aim of this study was to investigate the students’ learning with technologies in English Second Language (L2) classrooms in a selected University in the Eastern Cape Province. The study aimed to assess, and suggest, how learning with technologies could support the students, in order for them to be more efficient in English L2 learning. The study also examined whether learning with technologies could support students’ active learning, and whether there are changes technologies generate in classroom activities. Finally, the study also set out to understand how knowledge about learning English L2 with technologies could contribute to upgrading the pedagogical knowledge base of lecturers, to enable students to acquire the knowledge and skills they need to become more proficient in the English language. Debski (2000) asserts that, even when lecturers do believe that technology has “empowering potential”, they do not always know how to make this happen in the classroom.

1.2 Background and Rationale
Many universities in sub-Saharan Africa (and South Africa), including the University under study, provide access to knowledge to a diversity of students from mainly rural, poor, and disadvantaged communities. Due to these socio-political barriers, many learners receive poor quality education throughout primary and high school. This means that such learners may leave primary, and even high school, without developing a strong command of the English language, and essentially, without reaching a sufficient level of cognitive academic language proficiency (CALP), which is necessary to successfully accomplish cognitively-demanding academic tasks (Brown, 2004). According to Kapp (2004: 260-261), these students are often labelled as ‘at-risk’, or ‘disadvantaged’, as a result of their limited English proficiency. The challenges facing these institutions, among other things, are a large number of first year students who lack general academic skills (Dwayi, 2011).

The transition which the students need to make when studying English L2 in higher education is a matter of great concern in the South African higher education sector. In line with international benchmarks, the use of technology has been identified in many institutions, including the institution under study, as an appropriate tool to support students, and improve the quality of teaching and learning English L2. According to Reeves (1998: 1), learners may
have access to technology in educational settings in two distinct ways: learning from, and learning with, technology. While the former implies relative passivity from the learner, the latter infers active participation (Hill, Wiley, Miller, Nelson, & Han, 2004). On the other hand, learners in a learning-with-technology method, are “no longer solely taking the information, but are also contributing to the knowledge base” (Hill, et al., 2004: 443).

Technologies encompass a wide range of tools that vary a great deal in their capacity, interface, and accessibility. This study will focus mainly on using Computer-Assisted Language Learning (CALL) to enhance English L2 learning. Computers were first used for language learning in the 1950s. In the 1960s, new language programs and computer-based activities were introduced. These early examples of CALL, however, were only available at research facilities of universities - which severely limited their access. Software, such as MacLang, was used, focusing on drill-and-practice exercises. With the continuing development of technology day-by-day, new software, and more sophisticated computers, have increased access, and expanded capabilities (Chapelle, 2001; Beatty, 2003). Pusack and Otto (1990) point out that, as the technology advanced, people began to see more interactive uses of CALL, as well as an increase in the integration of various media into the computer system. They further assert that the interest in using CALL as tools to support language learning is growing, both from the perspective of a language lecturer, and that of a language student in institutions of higher learning.

Researchers, globally, have investigated English L2 learning with technology, focusing on the use of CALL. Intermediate English L2 writing students at the University of Hawai`i use CALL to gain additional writing practice in class. The findings show that written interaction fosters greater student participation, and collaboration. In addition, the students now are able to join e-mail discussion groups in their own fields, and also learn how to conduct research on the Web (Warschauer, 1999). At the University of Illinois at Urbana, Douglas Mills, CALL co-ordinator for the Intensive English Program (IEP), investigated the implementation and integration of technologies in his English Program. The participants comprised of 150 Master’s students, who wanted to improve their skills in listening, speaking, reading, and writing English for academic and professional purposes. The findings revealed that using CALL in English L2 increased students’ self-esteem, vocational preparedness, and language proficiency.
Of the many studies examining first additional language writing using computers, some researchers investigated specific aspects of writing skills, like grammar, and grammatical accuracy, the writing process, and they all found that the use of technologies, more especially computers, improved writing skills (Gonzalez-Bueno & Perez, 2000; Thorson, 2000). In their study (Gonzalez-Bueno & Perez, 2000; Thorson, 2000) also found that synchronous communication, using e-mail, also received positive reactions. The study shows that the use of emails does not only focus on writing skills, but also allows for an increase in meaningful communicative exchanges. In the United States of America (USA), at Iowa University, Mali (2007) conducted research on communication strategy use by learners of IsiZulu in synchronous CALL, and her findings encourage the integration of culture and technology in language classrooms.

According to Pennigton (2004), there are four main categories of applications when learning with computers, using CALL; namely, 1) Learning Management System (LMS), 2) synchronous and all collaboration applications, 3) asynchronous communication applications; and 4) game play, or simulation, software. Pennington (2004) define LMS as the information systems that administer instructor-led, and e-learning, courses. Examples of LMS include applications, like Blackboard, etc. I have observed that the institution under study has begun to expend great effort in trying to install computer laboratories in each department. The Teaching and Learning Centre (TLC) department trains lecturers and students on how to use LMS. I, therefore, developed an interest in finding out whether students were actually learning with technologies in their classrooms to improve their English L2 proficiency.

1.3 Research Problem and Research Questions
The problem of students’ English language proficiency in most universities worldwide, including the university under study, has been explained in the background. It is also suggested that learning with computers has been identified as the appropriate tool to support students in their learning of the English language. Students at the University under study have access to computers, as explained above, and because of the training they get from the University Teaching and Learning Centre (TLC), they are able to learn from the computers. I had an interest in investigating whether the computers were used to support the transition from passive reception (as in lectures) to active engagement in the construction of knowledge in English L2 classrooms (or not), to assist students to be more proficient in English L2
learning. In view of the problem stated, there should be some form of interventions to address the challenges in this institution.

Below are the research questions (RQs) that emanate from the research problem explained above:

**RQ1:** How can learning with technologies support students to be more competent in English L2?

The answer to this question will be derived from the following enabling questions:

**RQ2:** What types of technologies are students learning with in their English L2 classrooms?

**RQ3:** How is technology integrated in English L2 classrooms?

**RQ4:** How do the integrated technologies support students’ active learning?

**RQ5:** What are the changes that the technologies generate in classroom activities?

**RQ6:** How can learning with technology enable, and sustain, students’ engagement in classroom activities?

1.4 **Objectives of the Study**

Based on the research questions above, the objectives of this study were to:

i) investigate the integration of technology in English L2 classrooms in a selected University in the Eastern Cape;

ii) examine the types of technologies that students are learning with;

iii) investigate how the technologies support students’ active learning; and,

iv) assess whether there are changes that the technologies generate in classroom activities.

The research was carried out on 254 1st Year Bachelor of Education (BEd1) English L2 students, and four of their lecturers, at the selected University in the Eastern Cape Province.

1.5 **Definition of Principal Concepts**

*Computer-Assisted Language Learning (CALL):* An approach to teaching and learning by using computer and computer-based resources - for example, the internet - to assist language learning. Beatty (2003) states that the application of CALL might be helpful for learners in improving their listening, speaking, reading, and writing skills, as well as encouraging autonomy in learning, and for teachers, in improving their teaching skills, since it can be integrated into research and practice.
Student engagement: Kuh (2003: 25) defines student engagement as ‘‘the time and energy students devote to educationally sound activities inside and outside of the classroom’’. Learning with technologies in English L2 classrooms might stimulate and maintain students’ engagement, and that is very important, as the student will be in control of the learning process.

Asynchronous (Communication): Asynchronous is one kind of platform which is used to describe how communication can be transmitted intermittently, instead of in a steady stream; for example, emails, chat rooms, threaded discussions, and PowerPoint, etc.

Synchronous (Communication): It is the form of platform in which people communicate with each other through computer, or the internet; for example, a videoconference.

Co-operative Learning: Students do activities and discussion in class with peers, or with a small group. They learn co-operatively, and construct the knowledge together.

This study will be guided by Constructivism Theory, and Self-Efficacy Theory:

Constructivism

Constructivism is a dominant theory in education derived from learning theories advanced by philosophers, such as Dewey, Piaget, Vygotsky, and Bruner (Koohang, et al., 2009). It is defined as active construction of new knowledge, based on a learner’s prior experience. Constructivism places emphasis on the mental processes involved in establishing meaning, and requires self-regulation, and the building of conceptual structures through reflection, and abstraction (Dick 1991). Constructivists envision knowledge, learning, and instruction through a number of principles, such as: 1) Knowledge is constructed, based on what we already know; 2) Knowledge is shaped by experience (doing); 3) Learning is an active process of constructing, rather than acquiring knowledge, and should be interactive to promote higher level learning; 4) Learning should be made meaningful to students; 5) Learning should be collaborative and co-operative; 6) Instruction is a process of aiding that knowledge construction, rather than communicating knowledge; 7) Students should be given time and opportunity to reflect on, and internalize, experience (Fosnot, 1989; Cholewinski, 2009). These principles are relevant to learning with technology. They can be used to guide the transition from passive reception (as in lectures) to active engagement in the construction
of knowledge. Thus, these constructivist principles should form the foundation of the pedagogical model, to guide the choice of instructional strategies, and development of learning that would support active student engagement.

**Self-efficacy**

*Self-efficacy* is defined as the belief in one’s ability to achieve a goal, or an outcome (Bandura, 1977; 1997). According to Self-efficacy Theory, individuals are likely to engage in activities to the extent that they perceive themselves to be competent at those activities. This implies that lecturers should give the students opportunities to be active, and participative, in classroom activities, in order to be more competent at the activities, and more efficient in English L2 learning. Bandura (1997: 3) further argues that “beliefs in one’s capabilities to organize and execute the courses of action” are key factors of human agency. According to (Onwuegbuzie, Bailey, & Daley, 1999a), one’s beliefs system influences behaviour choice, effort invested, persistence, and task success in the learning process.

### 1.6 Significance of the Study

It was envisaged that the findings of the study might provide, for both the reader and the researcher, a better insight and understanding of the dynamics of quality teaching and learning with technology, as a way of improving students’ English L2 proficiency. The understanding of the use of technologies might improve the way lecturers plan classroom activities, in order to promote student engagement. Integrating technologies in classroom learning might also eliminate inequalities, and the uneven relations that persist between some South African students, and their counterparts elsewhere in the world, regarding the use of technology. In this way, every student may be equipped with better skills and knowledge to go about their daily lives. Therefore, technology integration into English L2 classrooms could result in quality teaching and learning, which could enable every South African, together with the State, to craft their way to a virtuous life and better future.

### 1.7 Division of Thesis into Chapters

Chapter 2 of this thesis reviews the relevant literature on English L2 learning theories, the stages of using technology that correspond to the theories, types of CALL technologies students can learn with, and the types of activities the lecturer could design, using CALL.
Chapter 3 presents, and discusses, the approach and methods adopted to collect the kind of data required for the study (i.e., both quantitative and qualitative), using mixed methods. It also profiles the students and lecturers sampled.

Chapter 4 presents, analyses, and interprets the data collected from the student questionnaire and eight focus group interviews, and the lecturers’ semi-structured interviews.

Chapter 5 discusses the implications of the findings for using technologies in English L2 classrooms under relevant themes, and elaborates on the implications of the findings.

Chapter 6 delivers the conclusions and recommendations that emerged from the study, with suggestions for further research.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews, and discusses, the literature on English L2 acquisition theories, i.e., the theoretical framework that serves as the lens of the study, as well as exploring how students and lecturers in English L2 classrooms infuse technology into classroom practice, in order to enable students to be more proficient in English L2. I explicate the importance of using computer-assisted language learning in English L2 classrooms. This is followed by the types of technological devices and software that students could use when learning English L2. The chapter also describes the use of educational technologies, and the positioning of the study through elaborative relations with other works, both locally and internationally, and the implications of learning English L2 modalities with technologies.

The domination of the English language globally is undeniable. The dominance of English is partly due to the fact that the more people learn and use a language, the more useful it is, and, thus, the more attractive it is for people to learn it (Seidlhofer, Breiteneder, & Pitzl, 2006). Language is a means of communication amongst people around the world. It has, for a long time, been used to communicate the occurrences of what happened in different periods of time, from the past until the present. Nunn and Mete (2011) assert that English is an ‘International Language’. According to McKay (2002), it is not the number of native speakers of English that matters, but the large number of non-native speakers of English who make it ‘a language of wider communication’, thus, an international language.

The majority of learners in South Africa receive their education through the medium of a second language, i.e., English. The English language is a tool for conceptualising content and knowledge, and expressing oneself accordingly in a rational, ‘academic’ style, based on subject-specific conventions, and registers. In every institution of learning, the English language should be developed. This justifies why English is a central aspect in the institutions of learning. There are, therefore, important reasons why it deserves careful study by anyone concerned with education. Loucks-Horsley and Matsumoto (1999), in Mansor, Badarudin, & Che Mat, (2011) assert that, in terms of teaching, teachers can create their own style and methods, when teaching the language. However, an understanding of how English L2 is acquired/learned is very important. It is for this reason that English L2 acquisition/learning theories are discussed below.
Skinner (1957; 1984), the behaviourist, believed that the environment determined the pace at, and the level of capability with, which one learned language. Skinner further describes language learning as an imitation of what one hears. According to Lado (1964, in Lightbown & Spada, 2006), learners receive linguistic input from speakers in their environment, and positive reinforcement for their correct repetitions and imitations. In other words, language learning is a process, and it happens through imitating examples. In other words, language learning should be acknowledged as a process. This theory suggests that the quick acquisition of a second language depends on persistent practice through trial-and-error. In English L2 classrooms, structural patterns are taught through repetitive drills, or presented in the form of a dialogue, based on the principle that language learning is habit-formation. In other words, the learner repeats the sounds and patterns uttered by the teacher, so that these become habits. In this way, the child’s verbal behaviour is conditioned (shaped) until the habits coincide with the teacher models. When learners acquire the language, they need to be motivated, and encouraged. The motivation to learn becomes the satisfying after-effect, or reinforcement. Brown (2004) argues that positive reinforcement, in the form of praise, serves to encourage the learner to keep on trying until they master the language.

Unlike the behaviourists, the nativists view one’s individuality as what determines the pace at which, and the level of capability with which, an individual learns language. They believe that it is the humans’ mind, not the environment, that makes it possible to learn a language. Chomsky (1986) posits that human beings have an innate ability to acquire language, similar to the ability to learn to walk (Lightbown & Spada, 2006). He claims that human beings have a device, known as the ‘Language Acquisition Device’ (LAD). During the language learning process, the LAD chooses the underlying rules and principles of the language relevant for the language in use from the Universal Grammar (UG). The Universal Grammar (UG) is the basis upon which all human languages are structured. Although one has an innate ability to learn language, it needs to be activated through limited language input. As the theory suggests, learning language is natural; it also claims that there is a period during which acquisition may be tenuous - known as “the critical period” (Brown, 2004: 52).

Hymes (1972) developed the Communicative Competence Theory. His work was a reaction to Chomsky’s innateness model. Hymes (1972: 277) argued that “a normal child acquires knowledge of sentences not only as grammatical, but also as appropriate”. For him, the
emphasis in language learning is not only based on the structure and form of the language. In language learning, one has to focus on various aspects, such as the rules of the language, how to comprehend oral or written texts in language modes. In other words, the meaning and use have the same importance as linguistic competence in language acquisition. In the classroom, learners need to concentrate more on interaction, in order to become more fluent, because the quick acquisition of L2 depends on persistent practice. In order for communication to be successful, spoken or written messages must also be appropriate to the social context in which they are produced, balancing accuracy and fluency.

Krashen (1987), in his Monitor Model Theory, states that “learning” is the product of formal instruction, and it comprises a conscious process which results in conscious knowledge about the language; for example, knowledge of grammar rules. In other words, learning refers to what learners do in the learning of the language, including the learning of the rules of that particular language. Schutz (2014:2) argues that “acquisition requires meaningful interactions in the target language - natural communication - in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding”. Brown (2004: 59) claims that the language is “monitored” by formally taught language rules. The “monitors” should be used to correct deviations from “normal” speech, and to give speech a more ‘polished’ appearance. In this theory, language acquisition is promoted by exposure to language which is somewhat more advanced than the language one can understand at that point in time. Krashen (1987) suggested that the best methods when acquiring the second language are, therefore, those that supply “comprehensible input” in low anxiety situations, containing messages that students really want to hear. These methods allow language learners to produce when they are “ready”; they do not force early production. Krashen (1987) believed that extroverted learners are under-users of the monitor, while introverted learners, including those learners with a lack of self-confidence, are over-users of the monitor.

2.2 Theoretical Framework
Constructivism and Self-efficacy are theories that serve as the basis of this study. The present section starts by discussing some of the key concepts of the theories relevant to the present thesis, and then proceeds to show how the chosen key concepts might illuminate, and help to understand, the practice of learning English L2 with technologies in higher institutions, including the institution in question.
The Constructivist Theory will be introduced from its first formulation (Cognitive Theory) to more recent refinements (Interactive Theory), explaining: (a) what constructivist and self-efficacy theories are, according to other scholars; and, (b) the ways in which the two theories purport to facilitate English L2 in learning with technologies (i.e., via negotiation of meaning, modification of the input, and the use of computer-assisted language learning). Research relevant to the present study that has been conducted under the two frameworks is also reviewed.

2.2.1  **Constructivist Theory**

*Constructivist Theory* is derived from an epistemological view that reality is not a fixed construct, but rather an interpretation constructed by individuals through their interactions with one another, and the world around them. According to Koothag (2009), Constructivist Theory is a dominant theory in education derived from Learning Theory advanced by philosophers, such as Piaget, Bruner, and Vygotsky, among others. Piaget (1929) asserted that there are patterns of physical or mental action that underlie specific acts of intelligence. This is a view supported by Dick (1991), who argues that Constructivist Theory places emphasis on the mental processes involved in establishing meaning. In other words, Constructivist Theory is founded on the view that knowledge is constructed by the knower, based on mental activity. This implies that the theory emphasises meaning located in the mind of the learner. This study seeks to investigate whether, through educational technologies, English L2 students could show meaningful learning.

Vygotsky (1985) asserts that this process facilitates learners’ cognitive development. In other words, educational technologies are more than hardware; they also consist of designs and environments that engage students’ cognitive learning strategies, and critical thinking skills. Junco, Heibergt and Loken (2011) argue that this can be achieved, if lecturers integrate technology, and acknowledge it as conceptually and intellectually engaging. As this study is based on this theory, it reflects the current application of asynchronous approaches to learning, and learners’ progress in learning, as they use devices as part of course activities. Students need to make use of collaborative learning, as it fosters understanding. According to Krashen (2009), interaction is crucial for language learning in writing and thinking. Constructivist Theory entails three concepts; namely, *constructivism*, *constructionism*, and *social constructivism*. The three concepts within the Constructivist Theory are reviewed below:
2.2.1.1 Constructivism

In explaining Constructivism, Alesandrini and Larson (2002: 87) argue that “it “is when learners construct mental models to understand the world around them”. Constructivism proclaims that learners should discover new knowledge themselves. In other words, constructivism posits that learners are considered to be active organisms seeking meaning. Learners construct their own meaning of knowledge. Therefore, lecturers act as facilitators, who stimulate the students to produce meaningful discussions for academic purposes.

Based on Piaget’s beliefs that people grow through play, and construct activity, Bruner (1966) theorised that learning is an active process in which learners construct new ideas, or concepts, based on both their current and past knowledge. Wood, Kemp, Waldron, and Hart (2014) concurs that Constructivist Theory assumes that learners construct knowledge, as they try to bring meaning to their experiences. This is relevant to the study, as students will interact with technological devices when learning English L2 in their lectures. For example, students’ experiences on their use of cellular phones and social networks should equip them with the necessary skills to deal with challenges, thereby instilling self-confidence in learning with technologies in their English L2 classrooms.

Negotiation of meaning enhances English L2 learning by increasing input and output comprehensibility through language modifications, such as simplifications, elaborations, confirmation and comprehension checks, clarification requests, and recasts. In English L2 classrooms, students are expected to be manipulative, to work on tasks using their devices, either laptops, or mobile phones.

Constructivism affords the learner the opportunity to construct their own versions of knowledge. Hence, students should be encouraged to discover the best ways to learn English L2 with technologies for themselves. CALL can be used by a student to construct information on their own. According to Helm and Guth (2010: 99), platforms, such as Wikis, offer an environment for creation, as it is the learners themselves, who create, develop, and negotiate content. This theory suggests that quick learning of English L2 depends on persistent practice.

According to Bruner (1966), work involves the use of a scaffolding approach, with regard to the introduction of new concepts. Lecturers should be skilful, when providing scaffolding, or
guidance, to the students, until a skill, or concept, is mastered. Learning occurs through two processes; namely, *assimilation*, and *accommodation*. *Assimilation* occurs when new information is presented. The learner simplifies the information to fit into the pre-existing schema. In the words of Bakhtin (1981: 341), this implies that people come to new understandings in their “process of selectively assimilating the words of others”. *Accommodation* occurs when the learner shifts their view of how the world works, by creating new modified schema (Bakhtin, 1981: 341)). In other words, learners must make connections between old and new information.

Learning with technological devices, such as a computer, develops the student’s logical thinking in such a way that it compels the student to give instructions to their computer in a logical manner, so that the computer can perform the required task. Technology in language learning is intended to enhance learners’ interaction and engagement (Yang, 2011), and computer-assisted methods could facilitate language learning by giving purposeful interaction and constructive feedback (Borau, *et al.*, 2009; Dunlap & Lowenthal, 2009; Murphy, 2007; Yang, 2011). Students need to manipulate their environment, in order to understand the concepts they are exploring. Wood, Kemp, Waldron, and Hart (2014) argue that, when working on written text with computer-assisted language learning, students should be able to encode their messages in such a way that their audience can decode them, and make meaning of them successfully. When it comes to spoken encoding and decoding, using computer-assisted language learning, it is imperative that teachers help learners to encode their messages in such a way that their speech perception and intelligibility is investigated and practised (Ghitza, 2012). This practice might make it easy for the listener to decode, and understand, what the speaker says. However, Scrivener (2011) asserts that, when it comes to decoding sounds into meaning, context is a very important factor for learners.

Wood, Bruner, and Ross (1976) explain *Context-Awareness Learning* (CAL) as the gathering of information from the environment to provide a measure of what is currently going on around the user, and the device. Learning with technology that is well-suited to context-aware applications draws on contexts to enhance the learning activity. Context-aware devices support learners by allowing them to maintain their attention on the world for support. This kind of appropriate support can be seen as a form of scaffolding (Wood, *et al.*, 1976). Kress (2003) introduced the study of how meaning is encoded and interpreted within specific social contexts. His work is potentially of particular relevance within the field of computer-assisted
language learning, as the tools for encoding meaning (keyboards, smartphones, voice inputs, etc.) are continuously driving new forms of symbolic representation, as evidenced through the now widespread use of emoticons.

2.2.1.2 Constructionism

Constructionism means that learning is particularly effective when constructing something for others to experience. Kessler (2009) asserts that students become resources for each other in their response work. Vygotsky (1978) formulated this theory, based on the concept of Collaborative Learning. The focus of this theory is identifying the value of learning from another more capable peer, whom he termed the ‘More Knowledgeable Other’ (MKO). In the English L2 classroom, which is the focus of this study, students can both monitor, and be models for, other students. Observing peer work with technologies is termed modelling. Modelling occurs when a person observes, and imitates, another, who has an influential effect on the imitator (Chiou & Yang, 2006; Pedersen & Liu, 2003). For example, through tweets, a student can see all the comments, they can compare their own idea formation with that of their peers, examine the use of syntactic structure, and select vocabulary (Borau, et al., 2009).

It is believed that this modelling process works more efficiently with aided stimulation. With external assistance from peers with stronger ability, modelling could stimulate potential language performance that would be difficult for an individual learner to produce on their own (Drager, Postal, & Carrolus, 2006). Lee (2007) concurs that, in the process of language learning, social learning facilitates expected behaviour by taking in modelling stimuli that enhance the quality of reproduction in the target language. The modelling of one’s behaviour during the learning with technologies is relevant to the study as students who are technology-illiterate, should observe the use of technological devices from others, or their lecturers.

Vygotsky (1978) described how learning reinforces, and stimulates, learners’ cognitive processes. He calls this learning potential the Zone of Proximal Development (ZPD). The ZPD is described as the opportunity for learning between what the individual can achieve in isolation, in comparison with what is achievable by the same individual in a collaborative social setting, whereby scaffolding takes place as a result of interacting with cognitively more able peer(s) (Hubbard, 2004). The guidance given to the student by the more competent, or knowledgeable, other is referred to as scaffolding. Vygotsky’s ZPD implies a shift from a teacher-centred approach to an activity-based, learner-centred approach to teaching and
learning, including the conceptual acquisition of existing knowledge. This will suggest a paradigm shift from traditional methods employed in tertiary institutions of relying on one dominant teaching method, which is the lecture method.

The student’s cognitive development in constructionism depends on their motivation to construct new knowledge through hands-on learning activities. Attention, in regard to English L2 learning with technologies, can be perceived from the aspect of the environment that provides an opportunity for students to observe the MKO, and be stimulated by what they are able to do, and how they use the available technologies. Lantolf (2000) asserts that the sociocultural environment presents the learner with a variety of tasks and demands, and engages the learner in his world through the tools. They are used as aids in solving problems that cannot be solved in the same way in their absence. The learners with a better understanding of the concept (the more knowledgeable others) may assist others to master difficult concepts. This also promotes the development of what Bandura (1977), in his Social Learning Theory, refers to as self-efficacy, even among the English L2 students. Equipped with such skills, lecturers in English L2 classrooms are most likely to develop confidence to assist students learning with technologies.

2.2.1.3 Social constructivism

Several educationists and researchers view the Social Constructivist Learning Theory propounded by the Russian educational psychologist, Lev Vygotsky, as central to promoting student interaction with others during the learning process. This theory rests on the premise that an individual learner must be studied within a particular social and cultural context. Hence, from the second language learning perspective, social constructivists believe that efficient language learning needs to be grounded in the actual use of the language, and mediated through meaningful and authentic interactions with others in a social context (Lantolf, 2000; Vygotsky, 1978). Social interaction promotes collaborative learning among students for more meaningful learning (Shaw, 2006). Vygotsky (1978) claimed that the secret of effective learning lies in the nature of the social interaction between two or more people with different levels of skills and knowledge. This type of constructing is based on Piaget’s and Bruner’s views on learning. Lave and Wenger (1991) assert that learning is not merely the acquisition of knowledge by individuals, but, instead, a process of social participation. This involves helping the learner to move into, and through, the next layer of knowledge, or understanding. Wang (2006) is of the opinion that, while Vygotsky’s research was derived
from working with, and observing, children, his ideas remain valid, even in adult learning, such as in higher education contexts.

Lantolf and Johnson (2007), and Kern (2006), argue that, in language learning, this perspective is connected to language use, developed through participation in social interactions with others. From this point of view, individuals are active agents, with the capacity to transform knowledge, as they actively participate in social practices (Lantolf & Thorne, 2006: 162). Lantolf (2000) argues that the importance of what the learner brings to the learning situation as an active meaning maker and problem solver. It also acknowledges the dynamic nature of the interplay between teachers, learners and tasks. Students are, therefore, expected to participate within a ‘community of practice’. For example, students can take part in joint activities for English L2 learning by means of writing. Students, for instance, may involve different levels of sharing text, both co-operating. Each student works autonomously in the presence of others, as well as collaborating. Cope and Kalantzis (2000), Dillenbourg (1999), Donato (2004), and Dooly (2008), believe that the individuals’ joint reasoning and peer-reviewing on the idea results in new insights that would be impossible to gain by the participant on their own.

For example, in English L2 learning, students are to be engaged in dialogues, or discussions, with others, using computers. Lantolf and Thorne (2007) assert that, being engaged in dialogue is not only restricted to speech interactions, but to any verbal communication, also written communication. In such activities, a student often needs to understand a situation from the perspectives of others, i.e., to see the situation the way the others perceive it. The student develops meaning through generating new ideas, in responding to contributions by others. Tomasello, et al. (1993) support this view, by noting that learning environments designed for peer collaborators to interact are, generally, based on the premises that each collaborator tries to understand the other. According to Baecher (2012), teachers need to guide learners in making meaning from both symbols and sounds. This study intends to explore the “new types of meaning-making practices that can now be afforded through digital devices” (Auld, in Snyder & Henderson, 2012: 282).

2.2.2 Principles of Constructivist Theory
According to Fosnot (1989), and Cholewinski (2009), constructivists envision knowledge, learning, and instruction through the five principles discussed below:
1. The instruction is a process of aiding knowledge construction, rather than communicating knowledge (Fosnot, 1989; Cholewinski, 2009). In other words, in the constructivist’s view, the role of the lecturer changes from that of information-giver to that of facilitator of learning. In language learning, based on this theory, teachers help the student to build their own understanding, rather than lecturing answers; the lecturer asks questions, rather than giving students facts; the teacher engages with the students in conversation, allowing them to arrive at their own conclusions.

2. Constructivism is an active construction of new knowledge, based on a learner’s prior experience (Fosnot, 1989; Cholewinski, 2009). They further argue that, by reflecting on our own experiences, we construct our own understanding of the world we live in. That implies that knowledge is constructed, based on what learners already know, and knowledge is shaped by experiences, or doing. When the student constructs, the customs, religious bodies, language, biology, and indigenous tools of knowledge are taken into account.

3. Learning is enhanced by social interaction (Fosnot, 1989; Cholewinski, 2009). They assert that, in teaching, based on this theory, the lecturer does not see the student as an empty vessel; rather, they see the learner as one with knowledge gained from their social interactions. The social world of a learner is important in the learning process, as it influences the acquisition of new information. That social world includes the people who directly affect the learner, including teachers, parents, friends, administrators, and participants in all forms of activity. At this stage, computer-assisted language learning is integrative; this emphasises collaborative and co-operative learning. Collaborative activities promote learning through social interactions. However, Twitter has a unique function, compared with instant messaging applications. It has the capability to broadcast to mass receivers, instead of sending messages to an individual on instant messaging applications (Galagen, 2009). The purpose of applying Twitter is to increase opportunities for interaction (Dunlap & Lowenthal, 2009).

4. In an asynchronous learning environment, language learners are often required to actively give meaningful, and topic-related, feedback in the online conversation. Therefore, interaction is based on student-to-student, and student-to-teacher, communication. Learners are encouraged to explore, and learn through, positive collaboration in a social interaction, scaffolding framework (Lubliner, et al., 2008). The concept of social scaffolding relies heavily on Vygotsky’s (1978) ZPD Theory, in which stronger learners inspire weaker
learners in a collaborative platform, such as a blog. The scaffolding framework stimulates learners’ cognitive development through collaborative work among learners, and this process enhances individuals’ original abilities.

5. Learning develops through real involvement in given tasks (Fosnot, 1989; Cholewinski, 2009). Computer-assisted language learning offers quite a few benefits to the learner, such as interactive activities, and multimedia applications, which are engaging (Genc, 2012).

2.2.3 Constructivist Theory and Technology

In the 1980s, the personal home computer was invented. It was a tool for the active manipulation of the information required. The learners used to become engaged in the learning process through instructing the computer on how to perform tasks, and solve problems. This was accomplished through a specially-designed computer programming language, called ‘Logo’ (Colella, Borovoy, & Resnick, 1998). Colella, et al. (1998) assert that the most compelling examples of the implementation of constructivist principles with technologies during this era used to come from a brand of learning experience, termed ‘participatory simulations’. Each student used to carry a networked device, which allowed them to become part of the dynamic system they were learning about; for example, the “Virus Game” (Collella, 2000).

When learning with technologies, there are three strands that are relevant to the use of the devices, and they are called Problem-Based Learning (PBL), Case-Based Learning (CBL), and Context-Aware Learning (CAL) (Koschmann, et al., 1996). O’Malley, Vavoula, & Glew, 2003: 132) explain the PBL as learning, whereby the problem is used as a basis for “learning by analogy and abstraction via reflection”. According to Koschmann, et al. (1996), PBL aims to develop students’ critical thinking skills by giving them an ill-defined problem that is reflective of what they would encounter as practising professionals. Throughout the process of exploring a problem, students are encouraged to identify the areas of knowledge they will require to understand the problem. Then, the students collect the learning issues, along with data, hypotheses, and plans for future enquiry, in a manner which can be facilitated by shared information resources; for example, the whiteboard.

Kolodner and Guzdial (2000) explain CBL as similar to PBL, but relies on more well-defined problems that may (or may not) be representative of what students might encounter in the real
world. CBL can be used in small or large classes. It can be used as a catalyst for class discussions in English L2 classrooms.

2.2.4 **Self-efficacy**

Self-efficacy is defined as the belief in one’s ability to achieve a goal or an outcome (Bandura, 1977; 1997). It is a form of Social Learning which takes various forms, based on various processes. Bandura’s Self-efficacy Theory provides a useful framework for language learning in which modelling, goal setting, and attribution feedback develop language learners’ cognition and behaviour in the learning process (Hodges, 2008; Zare & Mobarakhe, 2011). Modelling and observing others’ behaviour is a key in Social Learning Theory. This cognitive theory indicates that exposure to the second language is not enough in the observational process. The exposure has to be relevant and direct to observers’ attention in complex second language stimuli, which are educational technologies, in this case. The platform of an online learning community might be able to provide learners with hands-on experiences that could reinforce their attention in the use of English L2 (Grosseck & Holotescu, 2008).

Teaching self-efficacy is seen as one of the major factors which are important for the successful integration of technology in English L2 learning. According to Bandura, self-efficacy is a belief that a person can be good at virtually all things (Chen, Gully, & Eden, 2001). This view is supported by Lancaster and Bain (2007), who found that pre-service teacher measures of self-efficacy correlated strongly with their level of participation in second language learning. It is also believed that such a belief in oneself results in the development of feelings of proficiency in learning a second language. The present study will attempt to ascertain the extent to which educational technologies are integrated in teaching and learning of English L2.

Bandura (1997: 3) further argues that “beliefs in one’s capabilities to organize and execute the courses of action” are key factors of human agency. According to Onwuegbuzie, Bailey, & Daley (1999a), one’s beliefs system influences behaviour choice, effort invested, persistence, and task success in the English L2 learning process. Bandura’s Theory of Self-efficacy recognises that people should act, if they are of the opinion that their actions will produce the desired results (Bandura, 1997).
According to Self-efficacy Theory, individuals are likely to engage in activities to the extent that they perceive themselves to be competent at those activities. This implies that lecturers should give the students opportunities to be active, and participative, in classroom activities, in order to be more competent at the activities, and more efficient in English L2. With technologies playing an ever-important role in language learning, collaborative aspects are enhanced, wherein activities of web-learners are engaged on platforms with language learning purposes. Exploring such platforms is something that is related to the field of CALL, which will be discussed in the following section.

Gaudet (2005) asserts that learning with technology has to be planned in advance, in order to facilitate learning efficacy through well-organised learning content. In English L2 learning, that implies stimulating and motivating students to engage in activities. Students in English L2 classrooms complete tasks given by their lecturers willingly, if they have self-efficacy.

The American Psychological Association asserts that, when learners are exposed to learning tasks, using technologies, positive attitudes can be triggered toward language learning. Their statement is supported by Norlida and Supyan’s (2002) findings, which revealed that there are positive changes in the students’ motivation, anxiety levels, and confidence, when they are exposed to learning with technologies. In social group discussions, an asynchronous discussion platform has the capacity to facilitate learners’ efficacy in language learning, while also promoting social interaction that results in higher language achievement, and problem-solving capabilities (Borau, et al., 2009; Lu & Yeh, 2008). Therefore, it is possible to implement the web-based asynchronous approach to language learning methodology as an assistant tool for creating extensive interaction, which is normally restricted to traditional class structures. Learning with computer assists in developing student’s English language competency. When using computer-assisted language learning, it becomes easy for the lecturer to provide opportunities for students to work in their areas of strength, and improve in their weak areas, so that the students, eventually, become more competent in English. Developing students’ strategic competence is very important in English L2 learning. Hedge (2011: 52) defines strategic competence as a manner to cope in an authentic communicative situation, and a manner to keep the communicative channel open. For students to be communicatively-competent, they need to be linguistically-competent, first.
Many educators have asserted that information technology could be a tool to reinforce linguistic competence in global communication without geographic restrictions, and to enhance individual social engagement (Cummins, 2000). Furthermore, there are certain benefits to social interaction in the target language (Lu & Yeh, 2008). For instance, learners could be stimulated by having interactive conversations with their peers (Borau, et al., 2009). According to Boyd and Maloof (2000, in Brandl, 2008: 278), linguistic competence is an integral part of communicative competence. Linguistic competence is concerned with knowledge of the language itself, its form and meaning. This means that it involves knowledge of spelling, pronunciation, vocabulary, word formation, grammatical structure, sentence structure, and linguistic semantics.

Learners should also have an understanding of the principles by which phrases and words of a language are combined to make sentences (Winkler, 2007: 105). By contrast, Boyd and Maloof (2000, in Brandl, 2008: 278) argue that it is generally accepted that proficiency in another language includes much more than the knowledge of grammar and vocabulary, or linguistic competence. They further state that it includes the ability to say the appropriate thing in certain social situations, i.e., sociolinguistic competence. It also includes the ability to start, enter, contribute to, and end, a conversation, and the ability to do this in a consistent and coherent manner, i.e., discourse competence. When all these competencies are achieved, the student will have the ability to communicate effectively, and repair problems caused by communication breakdowns.

The study conducted on teaching efficacy, whereby student-teachers were asked to undertake self-reflection on their ability to integrate Information and Communication Technology (ICT) into teaching at the Faculty of Educational Studies at the University Putra Malaysia, showed that student-teachers were quite confident in their ability to integrate ICT into their teaching. Secondly, male students were more confident than female students. The study recommended that much more effort be invested in teacher training (Bahrani & Smith, 2012).

2.3 Educational Technology and Second Language Learning

Modes of learning have changed dramatically over the past two decades. The sources of information, the ways students exchange and interact with information, and how information informs and shapes them. Cook (2000) argues that successful teaching depends upon good learning. He further argues that there is no point in providing entertaining, lively, well-
structured language lessons, if learners do not learn. This implies that the proof of the teaching is in the learning. There is a growing body of literature which argues that technology enhances teaching and learning processes. English teachers all over the world are trying to involve technologies in their teaching, in order to make students’ learning more effective (Yang, 2011; Young, 2003). This is because ICT has been found to have the potentials of building intrinsic (and extrinsic) motivation, and fostering interactivity (Warschauer, 2000; Oakley, & Jay, 2008).

Educational technologies encompass a wide range of tools that vary a great deal in their capacity, interface, and accessibility. This study focuses mainly on learning language with computers. Warschauer (1998) asserts that integrative computer-assisted language learning seeks both to integrate the various skills of language learning (listening, speaking, writing, and reading) and technology more fully into language teaching. Beatty (2003) supports Warschauer, when he says that the application of computer-assisted language learning might be helpful to students in improving their listening, speaking, reading, and writing skills, as well as encouraging autonomy in learning, and, for lecturers, in improving their teaching skills, since it can be integrated into research and practice.

In this study, I explored students’ learning with static technologies, mobile technologies, and software. Static technologies are classroom-based devices, such as desktop computers, and whiteboards, while mobile technologies are personal devices, such as laptops, smart phones, iPads, and tablets. To most lecturers, a computer means a Personal Computer (PC), a laptop, or, in some instances, a Personal Digital Assistant (PDA). Cell phones are one of the mobile technologies that fit in one’s pocket, always with us, and nearly always on. Most of the students in large lecture halls in today’s universities are constantly wired and connected to the media, and the internet, through cell phones, MP3 players, and laptops. Lecturers should consider the capabilities that these devices possess, and see how they empower students. It is not surprising, therefore, that many of these students are distracted during class (Rice, & Bunz, 2006). However, while the use of these technological devices by the students may be the cause of much of the distraction in the classroom, it might present pedagogic opportunities to enhance the learning of English L2.

Technological devices are used with software. The selection of software depends on several reasons, such as pedagogical purposes, and personal preferences. The pedagogical purposes
are based on learning goals; for example, the use of the internet for reading texts. Gray (2008) cautions that technology should always be used to increase the quality of learning, as a tool to achieve pedagogical goals, and not as a means to an end. Hence, Ng, Cheung, and Hew (2010) echo the sentiment that technology should have a purpose, and not be used as a babysitting tool.

2.4 Computer-Assisted Language Learning (CALL)

In this section, the term, computer-assisted language learning, is defined, and explained, from its first production, and the relevance of its use in English L2 learning. Advances in technology brought about the recent definition of the term, CALL, based on its flexible use.

2.4.1 What is Computer-Assisted Language Learning?

According to Vrasidas, Georgious, and Papanastasious (2007), CALL is a computer program developed specifically for educational purposes, to help both teachers and students in English language education. The research field of language learning and technology, commonly known as CALL, covers research of every way of using computers for language learning purposes, from devices used in language learning, software explicitly designed for language learning, to web-based environments, social networks, etc. Keobke (1998: 46) explains that “any activity in which a learner uses a computer and improves his/her language should be regarded as CALL”. This explanation is relevant to this study, and is illustrated throughout, with the use of different technologies with different software to enhance English L2.

Recent advances in technology also brought about much more choice and flexibility in English L2 classrooms. Egbert (2005: 4) defines CALL as “learners learning language in any context with, through, and around computer technologies”. CALL software is now perceived as more of a language teaching and learning tool. In a learning context, classroom response systems, like Classtalk (Dufresne, et al., 1996) and Qwizdom (2003), content delivery by text messages to mobile phones (BBC Bitesize, 2003; 2004; Thornton & Houser, 2004) are good examples.

Levy (1997: 1) defines CALL as “the search for and study of applications of the computer in language teaching and learning”. This definition fits well with the first form of computer-assisted language learning. It was based on theories that featured repetitive language drills. The teaching method used by teachers was known as drill-and-practice. This type of learning adopts a transmission model, i.e., learning which takes place through the transmission of
information from computers to students. Computers were used to present content, gather responses, and provide appropriate feedback to students. During learning activities in the classroom, the student worked alone with a personal computer.

2.4.2  Computer-Assisted Language Learning: Background

Computer-assisted language learning is an autonomous field of study that was first introduced in the mid-60s known as behaviouristic CALL. The term, behaviouristic CALL, began in the mid-1960s, with the use of large mainframe computers for drill work and repetition in language teaching.

The CALL software, such as Focus on Grammar, and completes on-screen activities and tests (Levy, 1998: 86). Its benefit to students was that each student could, to some extent, work at their own pace. The student could focus on their own troublesome language forms, get plenty of practice, and be rewarded by instant feedback. Chappelle (2003: 41) asserts that, when designing a task for learners, using CALL software, it should be directed to a particular linguistic form within the input. The disadvantage was that the computer-assisted language learning software packages were concerned with modifying the use of incorrect forms, rather than with communication and language use. According to Freeman and Freeman (1998: 133), the computer was controlling, and offered the students few chances “to invent or construct meaning”.

As technology expanded, and personal computers became the norm, computer-assisted language learning entered a communicative phase. Hymes (1966, in Canale & Swain, 1980) felt that it insufficiently dealt with the social and strategic competence required of language users. According to Hymes (1966), communicative competence combines knowledge about the various linguistic features of a language with knowledge of the socially and pragmatically appropriate contexts for their use. Larsen-Freeman (2000: 121) notes that communicate approaches foreground the need for communicative competence, and, at the same time, recognise the fundamental relationship between language and communication. This led to the development of first CALL software, with the aim of increasing the potential for learner autonomy. In 1980, Warschauer developed CALL language learning that was in line with communicative approaches to language learning and teaching, and its main focus was on the autonomy of the individual learner. Hodges (2008: 3) defines autonomy as “the ability to take charge of one’s own learning”.

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The latest phase of CALL is called ‘the integrative phase’, focusing mainly on the development of the internet as a means of communication. During this phase, emphasis was placed on the multi-modal integration of text, sound, and images that has become commonplace online. In terms of language teaching and learning pedagogy, integrative CALL was grounded more in social constructivist theories of education, as explained in the theoretical framework earlier. The importance of using CALL in English L2 learning is discussed below.

2.4.3 The Importance of Using Computer-Assisted Language Learning

According to Vrasidas, et al. (2007), computer-assisted language learning is a computer program developed specifically for educational purposes, to help both lecturers and students in English language education. A technological system, such as CALL, could assist in the learning and teaching of English L2, and in attaining competency in English communication. The advantages of using CALL resources are “accessibility, renewability, adaptability, and interactivity” (Kong, 2009: 31). CALL empowers individual learning, by allowing students to focus on the areas of a subject that they find most interesting, or relevant (Pennington, 2004). Owing to increased accessibility, the promotion of self-learning, and individual empowerment, in the learning process, students are motivated to make more extensive use of the resources available.

Vurdien (2013) argues that the introduction of CALL into English language learning (with the support of appropriate training to ensure that teachers are up-to-date with technology) has a strong and positive impact on teaching and learning. Kawahara and Minematsu (2012) concur that the full introduction of CALL provides an enjoyable learning environment, in which students can practise interactively, using multi-media content, with, or without, teacher supervision.

Eskrootchi and Oskrochi (2010) noted that incorporating computers in the classroom significantly improved engagement, social interaction, and contact with real-life resources, and allowed peers to learn from one another, and aid weaker learners through constructive, scaffolded, and collaborative learning. CALL offers four conditions, in which optimum language learning can take place: opportunities for learners to interact, and negotiate meaning, with an authentic audience; involvement of learners in authentic tasks, which promote exposure to, and production of, varied and creative language; opportunities for
learners to formulate ideas and thoughts, where intentional cognition is promoted; and, an atmosphere with ideal stress/anxiety levels in a learner-centred classroom (Gunn & Brussino, 1997).

By using CALL to develop students’ English L2 proficiency, lecturers create collaborative, communicative, co-operative, and participative, classrooms, as discussed below:

2.4.3.1 Collaborative and communicative learning

Computer-assisted language learning fosters learning settings where language and cultural learning and teaching are becoming learner-centred. Students work together in pairs, or in groups. The content is becoming more customised by the learner’s use, as the learner is learning not only a second language, but also technological literacy. In this situation, the responsibility for learning is shifted to the student, and the teacher facilitates the learning by acting as a facilitator, resource guide, and companion in student learning. The classroom atmosphere increases students’ independence through collaborative and accommodative learning. It is believed that the student-centered approach results in a more communicative classroom.

According to Winkler (2007: 59), a more communicative classroom means that learners are engaged in more task-based activities, rather than rote-memorisation. He adds that teaching, using these communicative activities, may also help learners focus on the particular grammar form being targeted by the activity, perhaps, combining the best of grammar-centered classrooms with more communicative ones. CALL inspires discussion, idea synthesis, and new knowledge construction, which are hard to produce in a classroom environment (Lu & Yeh, 2008). Web-based writing, including blog writing, or discussion board commenting, offers a stimulating and enjoyable method of communicative practice. Collaborative work and interactive message-based conversations can motivate students in their language learning process (Al-Jarf, 2004). In the scenario of applying Twitter in class, the teacher is able to monitor, and give proper feedback on, tweets for enhancing the communicative function of a learning community (Borau, et al., 2009; Dunlap & Lowenthal, 2009; Grosseck & Holotescu, 2008; Junco, et al., 2011; Stevens, 2008). Thus, Twitter has the potential to provide students with the stimulation for communicative competence in the target language (Borau, et al., 2009).
Since communication plays a vital role in web-based language learning, Cummins (2000) suggested that instruction should focus on the meaning of the language, instead of the form of the language. Learners must make use of their communicative skills to produce new knowledge, and constructive content. Cummins further explained that students must develop, not only the grammatical structure, but also the semantic level of meaning in which words can convey ideas, or convince interlocutors during the communication process. Yang (2011) argues that successful online learning involves two-way communication from both the lecturer and the student. For example, the posted information on tweets can be promoted and clarified for better communication in which learners can easily grasp the concepts. Therefore, it is important that the use of Twitter for education be facilitated by organised online learning content, with structured guidelines that lead students to participate in the discussion forum (Junco, et al., 2011).

2.4.3.2 Co-operative learning

Learning with technologies facilitates an atmosphere of co-operation, rather than competition, in the classroom (Silva, 1997). According to Johnson, et al. (2002), co-operative learning is the key to helping students with successful discussions, and group work. Under such conditions, students experience a change from an individual task structure with frequent whole class instruction to a task structure in which they interact in small groups. Engaging in co-operative and collaborative settings is expected to build coherence, since the result of co-operative and collaborative work is “simultaneously the emergence of new knowledge and growth for the group” (Donato, 2004: 287).

In the computer-assisted approach, students are asked to engage in co-operative activities, in which learners have to work together on common objectives for a group benefit (Tsai, et al., 2008). Social interaction maximises the effect of co-operative learning. The process of co-operative learning needs to follow a well-planned structure, so that learners can work on mutual objectives with their peers (Tsai, et al., 2008). In the social context, interaction facilitates communication through planned, ordered, and cognitive learning instructional design (Eskrootchi & Oskrochi, 2010). Furthermore, an interactive learning process creates an authentic learning environment where language learners can apply, and synthesise, knowledge. This approach facilitates the development of problem-solving skills in real-life situations (Eskrootchi & Oskrochi, 2010)
2.4.3.3  **Participatory learning**

Participatory learning includes the many ways that students use new technologies to share ideas, comment on one another’s projects, and plan, design, implement, advance, or simply discuss their practices, goals, and ideas together. Perdesent and Lui (2003: 17-36) point out that students learn best when they are fully engaged in the learning process. Ally (2004) asserts that the implementation of technology integration in teaching and learning process aims to stimulate and maintain students’ engagement, and that it is very important, as the student is significantly in control of the learning process. Therefore, engagement is an important factor in successful integration of technology in English L2 classrooms.

Winkler (2007) suggests that learners be engaged in tasks that come as close as possible to mirroring tasks that they might do with a second language in a natural setting. Working with technologies benefits students, because they become active learners, capable of creating their own ideas that they can later use to make sense of their own learning, and begin to master the subject content (Ruschoff & Ritter, 2001). For example, when *Twitter* is used in an academic setting, users are told to participate in the activities, such as answering questions, sharing thoughts, and commenting on others’ posts. It can also be utilised in project collaboration, and to promote literacy skills (Grosseck & Holotescu, 2008).

2.4.3.4  **The learner-centred classroom**

Young (2010) indicates that technology has shifted the instruction approach from teacher-centred to learner-centred, so that teachers become facilitators, rather than authoritarians, in the learning process. CALL has been used for sparking discussion and interaction among learners in a class, because it creates a strong communicative circle in which learners are motivated to participate in arranged debates with one another, and with their instructors (Grosseck & Holotescu, 2008). Dunlap and Lowenthal (2009) noted that, likewise, the educational value of CALL contributes to collaborative learning that increases interaction among learners (Junco, *et al.*, 2011). For example, *Twitter* provides a micro-blogging space for those who are afraid of public speaking to voice their thoughts concisely through tweets (Bart, 2009).

CALL enhances students’ learning experiences, by facilitating the convergence of solutions to problems, and allowing learners to simultaneously view many others’ opinions (Junco, *et al.*, 2011). From a learning perspective, CALL also enhances the engagement of learners
through reinforcing their thinking skills, by condensing their writing on tweets, given the character limits (Borau, et al., 2009; Junco, et al., 2011). Tweets could also be a platform for students to collect ideas from their peers to solve problems related to their course tasks (Dunlap & Lowenthal, 2009). The interactive element provides students with some control over their learning. Interactive elements are being developed in an on-going manner. For example, it is now possible to use mobile phone cameras to capture images which can then be used to generate animations, and, thus, tell digital stories (Hoban, 2009).

2.5 Classification of Technologies (and their Roles in English L2 Learning)

In this section, I discuss the classification of technological devices students could learn with in English L2 classrooms, and their roles, as suggested by other scholars. The choice of tool in a digital environment is one such thing that affects the outcome of the collaborative situation (Dippold, 2009). In this study, the technological devices are divided into two categories; namely, mobile technologies, and classroom-based technologies.

2.5.1 Mobile Technologies

There are many different kinds of technologies that can be classed as ‘mobile’. Mobile, to most people, means portable, and ‘movable’. It also seems to imply a personal - as opposed to shared - context of use. The terms, mobile, and ‘personal’ are often used interchangeably, but a device might be one without, necessarily, being the other. In this thesis, mobile/smart/ cellular phones, tablet/iPad, laptops, and, clickers, will be discussed in detail. The kind of device that can be classified as both portable and personal is what people most commonly think of in relation to mobile technologies, such as, mobile phones, PDAs, tablet PCs, and laptops. These devices are portable, because they are taken from place to place, and, hence, can be available in many different locations. Some other technologies, less portable than mobile phones and PDAs, can still offer personal interactions with learning experiences. It also includes hand-held video game consoles, with Rosas, et al. (2003), and Lee, et al., (2004), reporting on early evaluations of their educational use. These devices are perceived as being personal, since they normally support a single user. Their function is dual, i.e., they are used for communication, and for information-sharing. While the devices themselves are personal, the information within them can be shared easily.

Klopfer, et al., (2002) identify five properties of mobile devices (PDAs, in this case) that produce unique educational affordances as follows:
i) Portability – the small size and weight of mobile devices means they can be taken to different sites, or moved around within a site;

ii) Social interactivity – data exchange and collaboration with other learners can happen face-to-face. Nyiri (2002), with reference to Dewey’s emphasis on the need to facilitate face-to-face interactions, posits a new philosophy of mobile learning that points to mobile technologies as facilitators for the innate anthropological need to communicate;

iii) Context sensitivity – mobile devices can both gather, and respond to, real or simulated data unique to the current location, environment, and time;

iv) Connectivity – a shared network could be created, by connecting mobile devices to data collection devices, other devices, or to a common network; and,

v) Individuality – scaffolding for difficult activities could be customised for individual learners.

2.5.1.1 Mobile phone (cellular or smart phone)
The use of mobile phones, and other portable devices, is beginning to have an impact on how learning takes place in many disciplines and contexts, including language learning (Kukulska-Hulme, 2009: 21). Irrespective of whether teachers decide to adopt new technologies in formal education, learners are found to be already using them to support aspects of their learning. Within the classroom, it has been shown that mobile devices, with appropriate software, can be highly effective in supporting small group collaborative learning, improving on what was possible to achieve without these tools (Zurita & Nussbaum, 2004; Valdivia & Nussbaum, 2007). In mobile phones, students can access versions of the same kinds of tools and teaching programs available on personal computers. Cell and smart phones are mobile phones. Mobile language learning systems for mobile phones were implemented and tested in 2003 (Thornton & Houser, 2004). Companies, such as “Ectaco”, provide language games via mobile phone ‘flash cards’, as well as dictionary and phrase book software, to aid in foreign language learning.

A cellular phone performs many of the functions of a computer, typically having a touch screen interface, internet access, and an operating system capable of running downloaded applications. It can be used in a multitude of ways in English L2 learning. In class, cell phones with cameras provide possible tools for scientific data collection, documentation, and visual journalism, allowing students to gather evidence, and collect information. Having a browser in the cell phone puts a dictionary, thesaurus, and encyclopaedia into the hands of
every student. It gives them instant access to Google, and other text search engines, turning their cell phones into research tools.

Students can take quizzes from the mobile phone that may have been created earlier by their lecturer. In this way, lecturers can gain valuable real-time insights into the knowledge of their students, and the effectiveness of their teaching. With the endless amount of news-gathering mobile applications, lecturers can bring news and current affairs that are language-related for class discussion in an instant. Students can even read books from their phones, instead of lecturers photocopying large amounts of paper, and handing them out. Applications, like Kindle, allow them to easily perform this function. Students can record the lecture, and refer to them later on; this can save time, instead of writing. Classroom blogs can also be created on mobile phones for discussion, and that could develop students’ writing skills. Information can be stored on smart phones, and students can connect it directly to a projector for presentations, instead of having to carry around external hard drives, and USB sticks. Although the majority of applications that serve as a digital whiteboard are optimised for tablets, there are also some that can be used directly from smart phones, and the student could project everything they created. Mobile phones can also support language learning through activities that utilise text messaging, and sharing and taking pictures. It can be used in a multitude of ways in English L2 learning.

2.5.1.2 Tablet/iPod PC or PDA

A tablet personal computer is a portable personal computer with a touch-screen. A personal digital assistant is a hand-held mobile computing device that combines many features now common to other mobile devices: a calendar; contacts list; word processing; and, OS applications, such as Excel, PowerPoint, and Adobe Reader. The benefit of using the tablet, or iPod Touch, in higher institutions is that students have the Wi-Fi and networks on manufacturing specifications.

An iPod is a portable media player produced by Apple, Inc. It can also serve as external data storage device with a wide range of memory capacities. iPods can be used to play downloaded television shows and movies, and have a small screen for viewing these media. Podcasts, or audio and video digital-media files, can also be downloaded for use with the iPod, or other digital media player. It serves as a portable hard drive for data upload and download. It also enables rich input through language-learning podcasts and broadcasts of
authentic speech. It enables students to record speech samples, or homework activities, digitally, and upload these for teacher or peer review (Ewa, et al., 2014: 75).

Gumbo and Mawire (2013) confirms that using software applications does not only encourage greater interaction among students, but also enhances creativity, and critical thinking. He adds that using digital texts and readings leads to substantial cost savings for students. Literature was also reviewed on the use of SMSs in the English L2 classroom, whereby students were sent frequent vocabulary messages, which also act as reminders to revise. The video was circulated via SMS to demonstrate the literal meaning, and special use, of English idioms. Students found the video quality poor, but the experience of using the videos, engaging. Classroom response systems, such as Classtalk, can be installed on mobile devices.

2.5.1.3 Laptops
Laptops are mobile computers. Boston and Toni (2014) assert that a computer has the ability to store, retrieve, and process data. It is used to type documents, send emails, play games, and browse the web; it can also be used to edit or create spreadsheets, presentations, and even videos. Gregory and Parry (2006) argue that it is quite interesting for students to be given an opportunity to learn through an alternative source of information that differs from books and notes. That is the reason why this study suggests the use of technologies in English L2 learning. The student likes to learn, not conscious that they are learning; for example, learning through playing games. Using laptops to support learning among students is a teaching strategy that continues to gain popularity today. Trends in computer have altered the educational landscape, and caused changes in the way courses are developed, and delivered (Hicks, Reid, & George, 2001). When used appropriately, the computer helps enhance various aspects of English language learning. For example, the student might write an abstract in a word processor, edit any portion of the abstract, spell check the abstract, print multiple copies of that abstract, or circulate it to the lecturer and other students in class instantly.

2.5.1.4 Clickers
A clicker is an interactive technology that enables lecturers to pose questions to students, and immediately collect, and view, the responses of the entire class. This implies that clickers can be used to elicit student participation, and engagement, to prompt deeper thinking about a
particular question, or problem. Clickers can be used in English L2 classrooms to monitor students’ understanding of course content in real time, in order to identify, and address, areas of confusion, and adjust the pace of the course appropriately. Through the instant feedback that it provides on the students’ comprehension, it helps them to monitor their own understanding. This results in sparking discussion among students, as they compare, justify, and (perhaps) modify their answers. The lecturer, through the use of a clicker, can efficiently deliver, and grade, in-class quizzes, hold students accountable for readings, and lecture material, and assess basic factual knowledge.

2.5.2 Classroom-Based Technologies
There are technologies that can provide learning experiences to users-on-the-move, but the devices themselves are not physically movable. Interactive whiteboard, for example, displays pervasive access to information, and offers learning experiences, but it is the student who is portable, not the delivery technology. Another example are video-conferencing facilities. Such devices are typically seen as less personal, and are likely to be shared between multiple users. Their larger size means they are also better-suited to multiple-user interactions. For shareable interactions, the devices themselves must become larger, and hence, less portable. The projector is classified under classroom-based devices, as it can be mounted on the ceiling for safety purposes, and for good projection. The whiteboard and projector are discussed below:

2.5.2.1 The data projector
Wulsin (2013) defines a projector as a device that is used to project rays of light, especially an apparatus with a system of lenses for projecting slides, or films, onto a screen. Students enjoy seeing, hearing, and interacting with technology, rather than listening to a lecture. According to Laid and Winton (2011), instead of a teacher just talking at the front of the classroom, or writing words on the board, the projector allows the presentation of text, audio, graphics, or video, and that is entertaining to students, and improves the likelihood they will comprehend the lecture. In the English L2 classroom, the projector could assist lecturers and students, who find it difficult to comprehend the complex English used by Shakespeare in Literature lectures. The creative lecturer, or the student, could use a data projector to display a clip that could lead to class discussion. The lecturer, or student, could stop the clip at any scene, to highlight a point, or replay the clip for a specific in-class exercise.
2.5.2.2 The interactive white board (IWB)/smart board

Recently, the Smart Board became available in universities, to help students in educational activities. The major outcome of using the Smart Board has been to enhance students’ confidence in education. According to Moss, Levaic, Cardini, and Casle (2007), the interactive whiteboard is an instructional device that allows for anything on a computer to be shown onto a board, using a digital projector. Glover and Miller (2001) explain the whiteboard as a powerful tool in the classroom, adding interaction between the teacher and learner, and also allowing collaborative learning between teacher and learner. It allows for group interaction, as well as whole class interaction during discussion sessions.

Smart Board plays an important role in making classroom teaching more effective, productive, and creative (Elazziz, 2008). Lecturers can use various functions of the Smart Board to meet different needs of students in a fast, flexible, and easy manner (Levy, 2010). According to Erduran (2009), the most important use, or function, of a Smart Board might be the opportunity to notice a mistake, and go back to fix it. Bell (1999) asserts that the key function of a Smart Board is to motivate students to learn through the effective use of the visual, auditory, and tactile characteristics of the device which prompt students to learn. Bell further states that the other strength of the Smart Board is its promotion of class interaction, especially between teacher and learner (Beeland, 2002, in Chen, 2011).

One of the advantages in using the device is that it has the facility to flip back and forth between pages on the screen - which is a useful technique in supporting a range of needs in class spontaneously. Beatty (2003: 3) states that “students are motivated in lesson with interactive whiteboard because of the high level of interaction”, i.e., students enjoy interacting physically with the board, manipulating texts, and images. When the device is used in the classroom, students can visualise a diagram on the screen, and, at the same time, are able to interact both with the lecturer and the lecture itself. In this context, visualisation provides a platform for a dynamic and interactive learning process. Smart Board allows for direct input, either by writing on the screen, or via a digital medium directly to the board through a Wi-Fi connection, which would then allow students to give inputs at their leisure.

An interactive display that comprises three pieces of equipment: a computer, a projector, and a display panel, which is a large freestanding, or wall-mounted, touch-sensitive screen. The projector displays the image of the computer screen on the screen, which is easily viewable by all students in the classroom, promotes interactive activities, and engages students and
teachers in collaborative work. It enhances motivation, improves attitudes toward learning, and incorporates authentic content available on the internet into classroom lessons (Ewa, et al., 2014: 72). In addition, instructors teaching languages with non-Latin scripts reported that the IWB was an effective tool to teach the four skills, increase the time on tasks, and encourage active learning. Both teachers and students were overwhelmingly positive about the IWB, and believed that it enhanced learning and teaching. Language teachers felt that the use of the interactive whiteboard had a positive, and, sometimes, dramatic effect on their teaching, and changed their roles in the classroom (Gray, Hagger-Vaughan, Pilkington, & Tomkins, 2005), that the IWB brought a ‘wow’ factor to the classroom and that it increased students’ enthusiasm, interest, and engagement in the learning process (Tozcu, 2008), and attracted attention (Schmid, 2007).

2.5.2.3 The Computer (Desktop)

Technology, such as computers, has been used for language teaching since the 1960s. According to Cuban (2010: 156), a computer is an electric device for storing and processing data typically in binary form, according to instructions given to it in a variable program. One area that has received much attention, regarding the use of computers and technology, is education. Several innovations and new technological tools have been applied, so as to improve educational outcomes. The search for the best technologies for these purposes is ongoing, aiming for continuous improvement (Gilakjani & Leong, 2012). Computers can enable students to use different programs to learn English L2, either individually, or in groups. Eskrootchi and Oskrochi (2010) note that incorporating computers in the classroom significantly improved engagement, social interaction, and contact with real-life resources, and allowed peers to learn from one another, and aid weaker learners through constructive, scaffolded, and collaborative learning.

A computer helps students focus on the project at hand, and can be a vital tool for maintaining a student’s interest in the topic learned. For example, the lecturer could introduce the English language lecture with a captivating picture, or diagram, thereby setting the scene for the session, and helping the class to focus on the purpose of the lecture. A picture is worth a thousand words to illustrate important points, or difficult concepts, by means of interesting images (Danielson & David, 2012).
Cole (2006) states that a computer functions according to a sequence of operations, procedures, instructions, and programs to produce a result in the form of information of signals. Cole further explains that a computer simplifies the process of teaching and learning in a way that more information is accessible to learners, and also teachers, so that learning could be more interesting, as learners will view live videos, images, and animation of practical physical objects, or motions, based on the lecture in class. The lecturer can use a computer in direct ways to present lessons. Its screen is small; so, a lecturer has to connect a projector to it, so that all the students will be able to see the bigger picture. With the aid of special programs, or software, lecturers could create fun, easy, and educational, ways to teach, integrating the topic with practical examples. The lecture may include texts, descriptions, or definitions, pictures, flow diagrams, sounds, and even video clips. Many students need additional support with pronunciation, and defining common vocabulary that may be new to them. Other students might have difficulties in reading, and reviewing, complex texts.

When learning with a computer, mistakes are noted, and immediate feedback is given to the student, but the student could compete with themselves. With repetition, students can practise certain skills on their own, and do revision. Lecturers could give individual attention to slow students, as they can keep on trying until the content is mastered without others knowing. The computer does not become tired, or angry. Depending on the program, or task, given, the computer can provide information, ask questions, and analyse answers, as well as give an indication of the progress of the student. It can supply feedback, and is objective in its comments. This yields a high rate of reinforcement. Students can use laptops in small groups to take down notes, as they discuss and use it as well, when presenting to a plenary.

The computer develops student’s problem-solving skills. Students gain insights into different problem situations, and the influence that various dependent variables could have on them. They manipulate data, the computer processes it, and gives comments. These activities promote cognitive thought, provide practice in decision-making, and broaden analytical abilities. Authentic simulations through interactive videos provide experiences close to reality, and real problems that have to be solved. Theory and practice come together. It is impossible for a group of students to see what the lecturer displays on the laptop screen. The lecturer will need a projection device, such as a data projector, or an interactive whiteboard, in order for the computer to operate effectively (Hedge, 2011).
2.6 Computer Software and L2 Learning

2.6.1 Electronic Dictionary

Electronic Dictionary is a dictionary in electronic form, either hand-held, or online. The study conducted by Ewa, et al. (2014: 72), and Golonka, et al. (1993), reveal that learners using electronic dictionaries understood the meanings of words significantly more than users of paper dictionaries. This study also revealed that the use of electronic dictionaries by beginning language students helped to close the gap between ‘stronger’ and ‘weaker’ learners. This latter finding was corroborated by Knight (1994), who found that weaker learners benefited more, in terms of comprehension and vocabulary learning, than did stronger learners, although her study only investigated electronic dictionary use by learners with different aptitudes, and did not contrast this with paper dictionary use.

2.6.2 Automatic Speech Recognition and Pronunciation Program

Automatic Speech Recognition (ASR) is a technology that allows a computer to identify the words a person speaks into a microphone. ASR is often a component of speech pronunciation software, and as such, identifies particular parameters of the learner’s output, such as prosody, or specific sounds. According to Ewa, et al. (2014: 73), ASR compares students’ pronunciation acoustically with a target pronunciation, and provides feedback. It provides students with an opportunity to work on speaking ability individually, at a self-selected pace.

2.6.3 Electronic Gloss or Annotation

Electronic gloss or annotation is a method of reference, usually in form of a hyperlink, that allows learners to access glosses (word- or sentence-level, context-specific translations), or annotations (explanatory or background information), while reading an electronic text. Ewa, et al. (2014: 73) assert that it provides for efficient look-up of unknown words, and multimedia capability. According to them, it also facilitates reading comprehension, and incidental and intentional vocabulary learning. A combination of text picture glosses seems to be more effective than text-only glosses (Chun & Plass, 1996; Kost, Foss, & Lenzini, 1999). Yoshii and Flaitz, (2002) found that text per video annotations were more effective than text per picture annotations.

2.6.4 Grammar Checker

Grammar checker is a program designed to evaluate a written text’s well-formedness, in terms of grammaticality. Such programs are often packaged, along with spell-checkers,
within word processing programs. Grammar checker identifies low level morphosyntactic errors (Burston, 2001; Jacobs & Rogers, 1999). It provides students with immediate input and feedback. The literature on electronic grammar checkers suggests that language learners need training, in order to use this technology effectively. Burston (2001) pointed out one particularly helpful strategy: when the grammar checker remarks that it cannot parse a full sentence, the learner must manually highlight the sentence’s fragments, and run the checker over each one individually. Learners, who had been trained in the use of the technology, including this manual parsing strategy, outperformed a group, who used no grammar checkers across three writing assignments, when compared on morpho-syntactic accuracy. In this study, students had an opportunity to explain their use of grammar checker in their English L2 classrooms.

2.7 Network-Based Social Computing Technologies: Social Networking

Social networking, of which Facebook, Twitter, email, Skype, and MySpace are the best-known examples, enables peer-to-peer communication, and collaboration. Technological devices, such as cell phones, and computers, support networking among users, as well as the ability to communicate with others with similar interests.

According to Ewa, et al. (2014: 75), social networks allow for synchronous and asynchronous communication. The use of asynchronous and synchronous media of communication, as venues for learning, has become more prevalent in today’s society, and also more important for educational purposes. Many platforms on the internet offer such opportunities in form of discussion boards, blogs, or even video/audio conferences (Saeed, Yang, & Sinnappan, 2009). These technologies are certainly making an impact on current teaching and learning methods. Interactive technology provides the necessary stimuli for changing learners’ behaviour through its interactive asynchronous or synchronous platform.

Twitter contains the functions of an asynchronous communication platform, and its quick and concise ways to respond also provide users an opportunity to engage in co-operative activities, and to improve their communicative skills (Borau, et al., 2009; Junco, et al., 2011). Lu (2008) indicated that co-operative learning should contain a social constructivism aspect that actively engages students in group discussion, or brainstorming exercises. Co-operative learning accounts for the crucial elements of producing knowledge synthesis, and critical thinking ability. This learning process stimulates learners to apply their newly learned
knowledge to the intended situation, and learners modify their existing knowledge, in order to produce the desired result through collaborative work. Synchronous and asynchronous types of communication are discussed below.

2.7.1 Synchronous Communication

*Synchronous communication* is communication through web tools, which Godwin-Jones (2003) referred to as first-generation web tools. Chat is a form of synchronous computer-mediated communication, which is either text-based, or includes audio. Tudini (2003) asserts that it records logs of interactions, which can be printed for review, and used as an assessment tool. It enables communication and collaboration among students (Tudini, 2003: 74). Because of its written format, text-based Chat may promote “noticing” - an important theoretical construct in second language learning research that is thought to be necessary for successful learner intake in the L2 (Chen, 2008; Kitade, 2000; Shekary & Tahririan, 2006). Written Chat may also increase students’ focus on form, and increase the salience of student errors, and interlocutor feedback (Lai & Zhao, 2006; Lee, 2007; Shekary & Tahririan, 2006).

2.7.2 Asynchronous Communication

The introduction of the asynchronous use of technological platforms is the result of the move from students being more passive recipients of knowledge into participating in knowledge. This is taking the step from first-generation web tools discussed above into second-generation web tools, such as Web 2.0 tools, i.e., blogs, Wikis, and Tweeter (Godwin-Jones, 2003). According to Murphy (2007), the asynchronous environment allows the teacher to provide feedback with guidelines, explicit explanations, and comments about learners’ performances in English L2 classrooms. Students gain information about their writing, and that assists them to reflect on the feedback.

One of the characteristics of adapting an asynchronous platform for learning is the feedback that inspires learners to modify their comments in the online learning community, and stimulates social interaction through meaningful enquiries (Murphy, 2007). The feedback in an asynchronous environment allows instructor and learner to elaborate upon the entries in further constructive detail on message boards. The asynchronous feedback platform provides teacher and student a learning community with a strong sense of engagement (Yang, 2011). Murphy stated that learning outcomes are effective when learners from low to intermediate levels work collaboratively with other students, and receive feedback from their instructor.
Furthermore, outcomes in computer-assisted approaches to learning are effective, because learners are able to engage in meaningful drills for authentic collaboration purposes, or be guided in the expected direction by receiving elaborative feedback in the learning process. Interactive feedback for learning increases engagement, because it provides explanations, hints to the answers, and suggestions by which learners with higher motivation are inspired (Junco, Heibergert, & Loken, 2011).

Asynchronous learning environments provide learners with both a longer period of time to respond with their comments and thoughts in the learning community, and the use of a simultaneous chat function to deliver their ideas throughout the community. Twitter, as an asynchronous community, could facilitate learning via the web, and allow users to interact with each other by asking questions, sharing information, and posting personal updates (Dunlap & Lowenthal, 2009; Grosseck & Holotescu, 2008; Stevens, 2008). It also serves a multifunctional purpose through users’ online discussion and micro-blogging abilities, which capture both instructors’ and learners’ interests (Moras , 2011)

2.7.2.1 Web 2.0 tools

In the context of English L2 learning with computers, Web 2.0 technologies have the potential to foster engagement and autonomy for learners (Colella et al., 1998). As Conole, et al. (2008:10) have observed, there seems to be a tantalising alignment between the affordances of digitally-networked media (the focus on the user-generated content, the emphasis on communication, and collective collaboration), and the fundamentals of what is perceived to be good pedagogy (socio-constructivist approaches, personalised and experiential learning).

Web 2.0 technologies have become a powerful impetus for online participation and interactivity (Crook, 2008). The defining characteristics of Web 2.0 tools are participation, connectivity, and sharing (Alexander, 2006; McLoughlin & Lee, 2007). These characteristics are deemed to be a good match with personalised and collaborative forms of learning. The increased use of the web in today’s technology-enhanced environment quite, consequently, has entailed changed conditions for learning (e.g., Beetham & Sharpe, 2007; Bonderup-Dohn, 2009; Conole, 2008, 2007).

Web 2.0 technologies, such as blogs, Wikis, and Tweeter, can be appropriated to a wide variety of pedagogical needs (Brownstein & Klein, 2006; Ma & Yuen, 2008). The
asynchronous social networking platforms, such as blogs and Wikis, have developed to become two of the most commonly used web-based writing platforms, also within learning, with numbers of web pages, and participant contributions growing exponentially (Kersssler, 2009, 2010). The blogs and Wikis are the two platforms that are built on different principles; the blog opening for users to insert new postings, and the Wiki, allowing users to alter the same content created by anyone. Thus, the common denominator is that they are asynchronous online tools that allow for endless extensions, holding an infinite number of postings by their users. Also, in language learning, these two particular platforms have been highlighted specifically by offering “collaborative opportunities” (Godwin-Jones, 2003: 12).

2.7.2.2 Blog

Blogging started in the late 1990s, and the term, blog (originally web log), was created by Jorn Barger in 1997 (Blood, 2000). At its most basic, a blog is a web page, an online journal in the diary format, i.e., a chronological order of content postings (Campbell, 2003). A blog is a web application that displays entries authored by the blog owner, with time and date stamps, and is visible to other web users (Ewa, et al., 2014: 76). It enables feedback in form of comments on blog posts. The usage of blogs in second language learning has increased, the focus has shifted into more self-reflective, collaborative areas, as well as a tool for feedback (Dippold, 2009). Godwin-Jones (2006: 10) concurs that blogs, by their nature, and page structure, encourage feedback.

Thorne, Webber, and Bensinger (2005, in Thorne & Payne, 2005) reported changes in students’ second language writing, as a result of blog use. The changes included the use of new phrases, improvements in spelling, and the use of accent marks, and an increase in the use of conjunctions. Armstrong and Retterer (2008) reported other noted changes in English L2 writing, such as improved accuracy of verbal morphology, and more extensive production. Podcasting and mobile blogging are technologies that are not difficult to understand, and are beginning to make a mark on language learning.

2.7.2.3 Wiki

Apart from the blog, another common online writing technology is the Wiki. The concept of wiki was introduced in 1995 by Ward Cunningham (Leuf & Cunningham, 2001). The term, wiki, stems from Hawaiian ‘quick’. Originally, it was a system to update and add new information through a web browser, introduced as “the simplest online database that could
possibly work” (Leuf & Cunningham, 2001: 4). What distinguishes a wiki from other social writing tools is that it allows more than one person to contribute to the authoring and publishing of the same content. A Wiki is a website that allows multiple users to post or edit information. Wikis, with their shared authorship, and open editing mechanism, have a pedagogical role in supporting collaborative learning (Larusson & Alterman, 2009). It helps students and teachers to find information easily through organisation by topic.

According to Lee (2010), there are case studies that have provided evidence that English L2 learners, using wikis collectively, address English L2 errors, and offer solutions. It is also reported that wikis enable students to write for a wider audience than just their lecturers. It made students more interested in what they produced, the process of editing and revising particularly helped them write better in-class individual compositions at the end of the course (Lee, 2010). English L2 wiki writing may be particularly beneficial for collaborative second language to first language translation work, with learners showing progress in their ability to differentiate writing styles (Miyazoye & Anderson, 2010). The research conducted concluded that lecturers must be actively involved in student contributions to the Wiki, to ensure collaboration between students is successful (Lund & Smørdal, 2006).

2.7.2.4 Twitter

Twitter is a micro-blogging service that connects people to one another, or groups. It allows the quick exchange of information to different social groups. According to Grosseck & Holotescu (2008), Twitter posts, known as tweets, are limited to 140 characters, including spaces and punctuation, which concentrates the language accuracy and communicative precision. Nevertheless, Twitter is a unique social networking site. According to Judd, Kennedy, & Cropper (2010), it offers a multifunctional and multicultural platform that opens up possibilities for co-operative learning. Borau, et al. (2009), and Dunlap and Lowenthal (2009), assert that twitter-assisted learning - the method of engaging in social interaction, discussion, and collaborative learning, is based on an asynchronous form of written communication.

Twitter also offers a platform for quick communication that could play a role as a catalyst for language learning by means of improving target language communicative ability (Borau, et al., 2009). This platform is suitable for the study, as students in English L2 classrooms could communicate with each other, or with their lecturer, when working on a given task. It will
enable lecturers to track each student’s writing progress, and ideas. Posting comments offers students a chance to practise, using the language for situational communication, while also giving lecturers a chance to observe the actual performance of students’ comprehension in their target language (Borau, et al., 2009). When Twitter is utilised for class discussion, it facilitates students’ skills of summarisation by consolidating their thoughts with concise and precise syntactic structures and vocabulary in their tweets (Bart, 2009). Moreover, Twitter can be used for promoting and disseminating opinions, articles, and quotes (Grosseck & Holotescu, 2008).

The environment of Twitter could stimulate users to utilise reading and writing, in order to engage in social interaction, and support communicative competence, in English learning (Borau, et al., 2009). Most students tend to refrain from expressing their thoughts in public, and from criticising, and revealing opinions, in front of teachers. Furthermore, the traditional teacher’s role in the classroom is as a figure of authority, and this causes most students to feel intimidated, and to keep quiet. In such a stratified environment, most students are afraid of being embarrassed. Twitter provides a platform for those who are too shy to express themselves (Bart, 2009).

2.7.2.5 Internet forum or Message board

Internet forum or Message board is an asynchronous system, whereby messages are sent to multiple recipients. Messages are threaded according to topic, and a notification is often sent to a user’s e-mail address, when an update is posted. The discussions are organised via topic thread. The device enables online information exchange without constraints of time. The message boards afford opportunities to provide feedback on learner output. In a qualitative study, students reported that they valued the feedback they received from their native speaker partner on language form. However, this feedback was only provided in the e-tutoring sessions, when it was explicitly required, and not during project collaboration (Warschauer & Healey, 1998).

Morrison (in Davin & Van Staden, 2005: 22) asserts that children do not learn in the same way, and are not always interested in learning the same things as everyone else. This requires that there be a deliberate and concerted effort to identify students’ learning styles, in order to cater for them, when selecting teaching styles for their lessons. Lecturers should select teaching styles that cater for the needs of all learners. Lecturers should also select
technologies that cater for all the students’ learning styles. Different learning styles are discussed below.

2.8 Learning Styles and L2 Learning

Ellis (2010: 499) defines learning style as the characteristic ways in which individuals orientate to problem-solving. Everyone has a mix of learning styles. Gardner (1983) sees learning styles as a combination of: Firstly, how we perceive information most easily, and whether a person is mainly a visual, auditory, kinesthetic, or tactile learner. This means whether a person learns best by seeing, hearing, moving, or touching. Secondly, how persons organise and process information, whether predominantly left-brained, analytical, or global. Thirdly, the conditions that are necessary to help persons take in, and store, the information they are learning - whether emotional, social, physical, or environmental. Lastly, how persons take information.

2.8.1 Learning Styles and Technology

Every student is unique, meaning that students are different from one another, i.e., the way they learn, their understanding, including their learning pace. For example, when they are given a device to use, others will take little time to understand the operations of the device, and others may take a little longer. These differences must be kept in mind by their lecturers. The lecturer applying a participative teaching approach will be aware that direct observation through the senses improves a student’s perception, and the mastering of content.

By using teaching media in lectures, the lecturer places the students in a better position to use all their senses during learning, and in so doing, lecturers create an opportunity for students to become actively involved in the lecture. For example, students, who have a more linguistic-based intelligence, could learn from reading online resources, and logical-learners could work through interactive online puzzles, and quizzes. Spatial and audio learners might get the most from the multimedia aspects of online technology, which can combine text with sound, images, animation, etc. Interpersonal and intrapersonal learners might benefit more from communicative interaction with their peers in online fora and chat rooms.

Technology that can help the kinesthetic students in learning is technology that allows them to manipulate tools in the classroom. For example, teachers can allow their students to use I-Mate PDA phones, iPods, laptops, electronic boards, electronic pens, and electronic
dictionaries. According to Hoopingarner (2009), electronic dictionaries can help kinesthetic students by touching buttons.

The PDA can support kinesthetic learners by providing them a touchable screen, and some PDA devices have a keyboard. A new emerging technology is the virtual key which can be provided by a little piece that will throw infrared on a hard surface, showing a virtual keyboard that can be used as an input device (Moras, 2011). In addition, some of the PDA devices have voice recognition. The voice recognition will help auditory learners record their voices, or their lectures, so that they can play the recordings later at their own convenience. Students can search the information, by using voice recognition (Moras, 2011). Moreover, visual learners can use the PDA to draw pictures, or download pictures from the internet. It is a good idea for the English teacher to give their visual learners a game, like Word Puzzles. This game teaches students spelling in a way that is fun (Tozcı, 2008).

The Smart Board could help auditory learners to learn a word’s spelling by adding the word’s pronunciation in the lesson. By listening to the words, the students should write what they hear on the Smart Board. Visual learners could learn better with Smart Board, by using the electronic pens to draw or put some lines, shapes, and pictures. The lecturer could use the whiteboard to help students who learn best when they are hands-on. The lecturer could do this by allowing the students to touch and move things around the whiteboard. They could also highlight words, or sentences, they do not understand, so that the lecturer can explain further, in order for them to get a better understanding. Through the use of the whiteboard, visual learners could benefit from a clear view of what is being talked about. Auditory learners also benefit from the use of whiteboard in class, as they become involved in discussions about what is on the screen.

From an educational technology perspective, Young (2010) noted that there is another advantage in adopting Twitter for educational purposes, which is that introverted students may feel more comfortable producing and contributing their efforts without the fear of ridicule.

2.9 Computer-Assisted Language Learning (CALL) and Language Skills

In general, teaching practice has been changed by the integration of technology in the classroom. Technology will keep changing second language teaching, as new technologies are being introduced faster than ever (Hoopingarner, 2009). Computer-assisted language
learning technology, and its uses, are broad in second language teaching; some technologies can be used with more than one language skill (Stockwell, 2007).

2.9.1 Listening
Second language listening can be enhanced by new CALL technology, as the framework used could get second language learners an advanced level (Mayor, 2009). The latest technology has given computer-assisted language learning broader access to a wide range of not only audio, but video, as well. The accessibility to these computer programs provides so much flexibility for the student, as they can replay, stop, and slow down the audio/video, as they learn intonations and sounds of English L2 (Levy, 2009). Second language learners expand their exposure to native speakers of the L2 by using computer-assisted language learning; particularly, the internet (Hoopingarner, 2009).

Research conducted by Sato found that listening to CALL audio software enabled faster vocabulary recall by English L2 students (Sato, Matsunuma, & Suzuki, 2013). On the other hand, Verdugo and Belmonte (2007) reported that, by using target language digital stories, students were able to improve their English L2 listening comprehension skills at the level studied (Verdugo & Belmonte, 2007). Technologies allow teachers to add captions to real live videos. When second language students listened to a video twice, the first time, using second language captions, and the second time, without captions, the students’ anxiety was minimised. The use of captions helped the students to have a better understanding, reinforced previous knowledge, and improved the listener’s attention (Winke, Gass & Sydorenko, 2010). Videos with captions have been shown to be a helping tool for L2 listening and understanding. Video captioning is also an important strategy to reach L2 students with different learning styles (Grgurovic & Hegelheimer, 2007).

2.9.2 Speaking
Yang (2011) argues that communication between students and teachers is difficult, and participation in course activities is inefficient. Students have few opportunities to work with their peers collaboratively in problem-solving tasks. However, the web-asynchronous approach has begun to change the traditional teacher-centred pedagogy (Yang, 2011), and has great potential to facilitate language learning (Borau, et al., 2009). Chen (2011) asserts that the use of technologies in the classroom creates a more positive learning environment in which learners are more eager to practise their oral skills. Thorne (2003: 40) concurs that
“digital communication technologies have made possible substantive aesthetic shifts in human communicative practices”. Among the language skills, speaking is the one that has been having the most computer-assisted language learning technology usage, with several voice applications, which include, not only audio, but also video (recorded, or live).

Computers offer students the chance to take part in dialogues, and record their own voices. Thus, they have the chance to compare what they recorded with the originals. Pennington (2004) argues that listening software programs provide voice tracks that allow students to hear the speaker. In addition, such programs allow students to hear the parts that they do not understand over-and-over again. While listening, students also have the opportunity to develop their pronunciation - which plays a significant role in enhancing speaking skills.

Littlewood (2004) argues that the task-based language learning software program focuses more on the meaning than the structure of English L2. McNutt and Lazarevic (2012) assert that the I movies software gives students the chance to video-record themselves role-playing, so they can practise English L2 pronunciation. Studies conducted by Kirkgoz (2011) and Hoopingarner (2009), using the “Task-Based Speaking Course” to enhance the speaking skills of English L2 learners, whereby students recorded themselves speaking English L2, listened and made corrections to improve their pronunciation, where it was needed, reveals that students’ pronunciation improved.

Kim’s (2012) research reveals that the use of “Technology-Enhanced Accent Modification” software helped students to improve their English language pronunciation through the use of visual feedback. Lord’s (2008) study shows that English L2 students have the potential to improve their English L2 speaking pronunciation through the use of podcasting technology. Derwing, Munro, and Carbonaro (2000) concur that technology could also be used to highlight fossilised errors in learner pronunciation.

It is also important that students acquire awareness of the phonetic aspects of the second language. According to Bahrani’s (2012) study, exposing English L2 students to audio-visual technology could improve their speaking skill. Computer-assisted language learning usage, together with peer interaction, help to improve students’ speaking skills (AbuSeileek, 2007).
2.9.3 Reading

According to Levy’s (2009) research, technology provides the reader with assistance to better understand English L2 texts when reading, by providing more material on the activity, or exemplifying information, to ensure the reader’s learning. Plenty of reading material in the target language can be found on the internet, and those readings can be enhanced by the computer technology, due to vocabulary building, text reading and comprehension. While reading, students could use the computer to look up concepts, and other information, which could help to strengthen the learning activity (Hoopingarner, 2009). The study conducted by Chun (2001) concluded that helping tools, such as internet glosses, on-line bilingual dictionary, hyperlinked words, and audio narration, were very helpful to reading and understanding; some were used more than others, but it was very important to have several alternatives, in order to reach more than one learning style learners.

Jones and Fortescue (1987) argue that computers may be useful in developing reading skills for language learners in three ways: 1) **Incidental reading**, whereby learners read the texts for the purpose of completing the activity successfully; 2) **Reading comprehension**, whereby computer-assisted language learning software programs provide traditional questions that learners answer, and have an immediate response for reading comprehension, as well as grammar and vocabulary development; and, 3) **Text manipulation**, whereby software programs offer various types of continuous texts that learners could study, both in terms of content and structure. Moreover, Jones, et al. (1987) state that developing reading skills includes deducing the meanings of unknown words from context, and training students to read efficiently. There are software programs that offer various kinds of exercises, such as matching words with their meanings, or displaying a short text. According to Jones, et al. (1987: 33), when matching words with meanings, a random word is highlighted, and the learner has to select the part of speech from a list of choices. Healey (1999) also states that computers may be beneficial in developing reading skills, such as skimming, scanning, recognising details, main ideas, and topic sentences, predicting what will come next, and reading quickly, by offering authentic and communicative tasks with pictures, sound effects, listening options and animations that motivate students in reading.

2.9.4 Writing

Technology provides students with automatic detection of grammatical errors, such as spell-check, among other auto corrections, when writing in English L2. Word processing software
prompts students to make corrections, when they are writing. The use of this technology promotes collaborative writing, when writing is done through e-mails, logs, or other formats, whereby other students can review one another’s writing, and give feedback (Levy, 2009). Writing technology supplies English L2 teachers with engaging opportunities to allow students to collaborate on English L2 writing at a level never used before (Hoopingarner, 2009).

Zha, et al.’s (2006) study concluded that peer interaction promoted English L2 production, and stimulated correction-making by English L2 learners, in order to use English L2 properly, when second language learners used computer-mediated-communication to post writing, using the target language (Zha et al., 2006). Using English L2 to write blogs presents learners with an interactive format that promotes the English L2 learners’ motivation, and the blogging is complemented with peers’ feedback (Vurdien, 2013). New technologies, such as Wikis, or Blogs, offer new tools that could support L2 teaching, especially L2 writing (Warschauer & Liaw, 2010).

Software programs might also be helpful to students in improving their writing skills. For instance, word processing programs are useful, and time-saving, since the students can add a paragraph, or check grammar mistakes easily, while writing their assignments. In addition, word processing offers users various types of options that enable them to add schemas and tables, and save the changes in a text. Students also have the chance to make revisions of their writing. Moreover, word processing programs allow students to better organise their assignments, by providing the opportunity for checking the spelling, punctuation, and sentence structure (Dunkel, 1991; Neu & Scarcella, 1991). Computer programs could also develop listening and speaking skills.

Writing software programs enables students to practise editing a piece of writing by deleting, moving, and inserting text. They have the opportunity to check the structure of their writings, since the computer programs show whether they have written a word incorrectly (or not). Furthermore, it has been suggested that students using computers are more willing to try out new forms of language on their own. For instance, in writing courses, students have to deal with many skills at once, such as organising their ideas, selecting the right words, spelling and arranging them in grammatical and correctly punctuated statements.
A web-writing approach offers students a communicative platform in which to communicate, and express their opinions, and creates opportunities for sufficient input by which all class members could read materials on the World Wide Web (WWW), and communicate in a concise written form (Cole, 2006). The computer programs provide students with many opportunities to practise organising their assignments, and to learn the correct forms; so, students become more confident in engaging in the complexities of writing (Pennington, 2004). In a research study conducted by Lin (2010), he concluded that video-based computer-assisted language learning had a positive impact on learning English L2 verbs, nouns, and adjectives among students with diverse levels of proficiency. Sites, such as Facebook, and Wikipedia, provide teachers with material to expose language learners to realistic information.

2.10 Learning English Grammar with Computer-Assisted Language Learning

The most valuable applications in computer-assisted language learning for the learning of grammar are sentence-based oriented tasks that teachers devised using computer-assisted language learning software, or authoring software (Chan, 2002). There are also activities that involve conscious reflection on not only form, but meaning and usage (Hubbard, 2004). Criticisms on these activities are that they tend to be rudimentary, in terms of analysis of learner errors, and in the feedback provided (Heift & Schulze, 2007). The learner corpus is important - an electronic collection of texts produced by learners, in which identified errors are tagged, and categorised into groups. The learner is then referred to the learner corpus in which similar errors may be reviewed in various contexts (Granger, Kraif, Ponton, Antoniadis & Zampa, 2007).

Studies in student collaborative, web-based text production had a focus on investigating student attention to linguistic items, such as form and grammar, as one of the areas of focus (Kessler, 2009). However, the findings showed that the students were in favour of focusing on what they wrote, rather than on how they wrote.

2.11 Computer-Assisted Language Learning and Classroom Activities/Tasks

According to Genc (2012: 10), a task is “a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form”. For the purposes of this study, a classroom task is an activity that needs language use in carrying out oral or written work.
There are various types of tasks. Examples are information gap tasks, in which two people share information to complete a task; problem-solving tasks, such as jigsaw tasks; decision-making tasks, and free discussion tasks. This study focuses on all uses of free discussion tasks, as they provide an ideal relaxed environment, wherein learners chat as they would in everyday classroom situations.

CALL offers quite a few benefits to the learner, such as interactive activities, and multimedia applications, which are engaging (Genc, 2012). Learning with technologies can enhance teaching and learning of English L2 in higher education institutions, because it creates a conducive and reviving classroom atmosphere that could be useful to students. Students can easily access materials, learning experiences and activities – which culminate in a culture of interacting with their classmates, and lecturers.

As technologies are adapted for English L2 pedagogy, teachers may alter their teaching strategies, or adjust their teaching activities, to most effectively utilise available resources (Ewa, et al., 2014: 70).

CALL provides a number of advantages to students, including: interactivity, privacy, pacing, independent practice, patience, automatic feedback, and ability to edit work. As a result of these features, students, who use computer-assisted language learning, may become more autonomous learners, be more motivated, and have a desire to try out new forms of language. Moreover, since software programs can interact with students, and provide them with visual and animated programs, software programs can make exercises and drills more interesting and effective than tutoring, or conventional practice drills. In addition, these drill programs provide a wide selection of multiple-choice questions, and encourage students by giving instant answers by featuring user friendly screen displays, such as showing smiling faces, or by verbal or written statements, like ‘good, you have chosen the right answer’, or ‘sorry, try again’.

Winkler (2007: 59) points out that learners should be engaged in tasks that come as close as possible to mirroring tasks that they might do with the second language in a natural setting. For example, the use of Edmomdo, with a twitter-type networking tool, to share ideas, assignments, etc. Most students know Twitter, and how it works. The use of Webquest in their language classrooms could also be beneficial to students. A Webquest is an enquiry-
based activity that engages students in an outdoor-type education, which is based on analysing real-life situations. However, teachers should make a special effort, when preparing Webquests, to ensure they choose an appealing and professional topic, make clear plans, include research tasks, emphasise oral production, and, whenever possible, try to ensure written task production, as well as planning activities to share the results with the group, or class. Using Webquest to teach content is very likely to attract the learners’ attention in most activities (Genc, 2012). Webquest can also be used in the classroom to develop the critical thinking of students, and to keep them attentive.

2.12 Empirical Studies on the Use of Computer-Assisted Learning to Improve English L2 Learning

This section offers reflections on what educational technologies and CALL has to offer, and considers whether it is likely to change how English L2 is taught and learnt. The focus is on studies of asynchronous and synchronous web-based technologies of concern in this study. Almousa (2008) asserts that these technologies provide essential new elements for educational programs, but they need to be tested and proven. Learning with technologies, especially mobile learning, seems to belong more to students than it does to teachers, although we know that most students struggle without a lecturer’s direction, and guidance. Thus, lecturers’ pedagogical expertise should continue to play an important role, and it needs to be re-examined, and expanded, to address the specific attributes of learning with technologies.

2.12.1 Mobile Technologies: Asynchronous Technologies

Empirical studies of the use of mobile phones in language instruction have focused primarily on the use of the Short Message System (SMS) feature (Lu, 2008). In one group of studies, students in the SMS group significantly outperformed students from Web and paper groups on immediate post-test vocabulary recall measures (Lu, 2008; Thornton & Houser, 2004). However, other studies, which compared students’ accuracy and speed in completing language learning activities with some students using SMS, and others, a PC, revealed that vocabulary drills completed via SMS consistently took more time (Schutz, 2014).

Michelsen (2008) proposes the design of a mobile, game-based, digital revision space, which is learner-centred, self-directed, and based around a virtual community of practice, enabling
second language learners to revise on-the-go for the challenging third paper of the Cambridge First Certificate in English exam (Kukulska-Hulme, 2009: 21). Wilkinson (2004) asserts that the use of a tablet at Pepperdine University in the United States resulted in students being able to work together, and share screen images, while solving problems, and they also improved their ability to reference course readings during class discussions.

Dufresne, *et al.* (1996) report on the use of a classroom response system, called *Classtalk*, with first year students at the University of Massachusetts, USA. *Classtalk* helped to clarify the students’ conceptual understanding of the material, by allowing them to articulate and elaborate their ideas, reflect on both their own ideas, and the ideas of others, and evaluate the usefulness of having a number of different perspectives. The benefit of using *Classtalk* was that it afforded all the students the opportunity to present a viewpoint, whether or not they were comfortable presenting their ideas to the entire class. In addition to engaging students in active learning during the lectures, *Classtalk* also enhanced overall communication within the classroom.

2.12.2 *Classroom-Based Technologies: Synchronous Technologies*

Research conducted in Brazil shows that the English language teachers there were greatly interested in using computers, and were encouraged in computer use, when teaching English, because the CALL method had proven itself effective, by providing immediate positive results for language teaching and learning (Moras, 2001). Computers allowed students to move from teacher-dependent learning to independent learning. Students’ opinions about using computers, and the internet, were sought, and their responses were uniformly positive (Moras, 2001). This study shows the value of the use of computers, and the internet, in English teaching in a Brazilian context.

Carey and Hardison’s (2004) study had promising results with programs that recorded student’s speech, and they acoustically analysed it, compared the student’s pronunciation and prosody to a native speaker sample, using visual feedback. Although students often required additional training, so that they could interpret the feedback, such programs could improve students’ prosody and vowel pronunciation. An oral reading technique, “Cued Pronunciation Reading”, was applied in a study with 75 English L2 learners. It revealed that participants from the treatment group made significant gains in the perception of pausing, word stress, and controlled production of word stress (Tanner & Landon, 2009).
The software, *Candle Talk*, was studied with 49 college-level English L2 learners in Taiwan. The mean total score for oral performances improved significantly across all participants between pre-test and post-test; students typically reported positive experiences when using the software, increased motivation to practise the language, and an increased confidence in their ability to use the language. These affective variables, and the promising empirical results, suggest that ASR could be a valuable component of ITS for English L2 learning.

Jacobs and Rogers (1999) compared the use of *Microsoft Word*’s (Ms) built-in grammar checker with the use of paper grammar references. Prior to an explicit training session on the optimal use of the grammar checker, the group using the paper references outperformed the group, using the grammar checker. After the training session, however, the two groups performed with comparable accuracy. Abrahams (2003) also examined the usefulness of written chat in the development of oral proficiency, comparing a group of students who used chat to two other groups: one which used asynchronous CMC for discussions (bulletin board), and the other, which used no CMC. Abrams found that students, who practised with written chat, subsequently produced the greatest quantity of output in post-test face-to-face discussions.

2.12.3 *Studies on Social Networks*

Strickland and O’brien (2013) conducted a study on *Facebook* usage in an undergraduate French course in the U.S. Twenty-four students were in the U.S. class, which used *Facebook*, in partnership with a corresponding group of English language learners in France. They set up a group *Facebook* page, where they were able to socialise, and participate in discussions around course themes. Students also used *Twitter*, email, and *Skype* in their correspondence. The study sought to investigate (a) how the students would react to using the social networks in the course, and, (b) what students’ perceptions were of *Facebook* usage for foreign language learning (Strickland & O’Brien, 2012: 6). Data sources for the study consisted of student *Facebook* posts, as well as pre- and post-surveys. The surveys highlighted differing usage patterns for educational and personal uses of *Facebook*.

The primary educational uses were participating in chats, and belonging to groups, whereas the primary personal uses were viewing and posting pictures, and reading and writing wall posts. The findings were that: First, students reacted positively to the use of *Facebook* in the language learning classroom, and, generally, self-reported that the experience was beneficial.
for their language learning. Secondly, *Facebook* postings produced a great deal of authentic language. Each *Facebook*-specific topic contained between 20 and 26 posts, and replies to posts ranged from 1-13 (Strickland & O’Brien 2013: 15). According to Strickland & O’Brien (2013: 16), the students discovered how *Facebook* could become a pedagogical tool in the context of foreign language classes, and how they could exploit resources outside the classroom.

I deem it necessary to discuss the research conducted using CALL internationally, and nationally. The use of computer-assisted language learning to facilitate second language acquisition was studied in Georgia, USA, exploring the experiences of teachers and students, who had already used computers in learning and teaching English. Students’ scores, and teachers’ reports, were studied, and the conclusion was reached that computer use significantly improved the quality of the teaching and learning of English (Cobb, 2002).

The effectiveness of an instructional technology unit on English language teacher training in Egypt, in an Arabic context, was studied (Abdallah, 2005). It was confirmed that CALL contributed to improving the methods by which students acquired different parts of a language, such as finding differences between similar voices, and explaining why the meanings of words changed according to sentence order. The study showed that computer-assisted language learning also helped to improve the efficiency of translation from English into Arabic. CALL helped students to clarify the meanings of words, and their pronunciation, by pairing the words with equivalent pictures, thus, aiding memorisation and saving teachers’ efforts and time, while guaranteeing high quality output. This study revealed the greater efficacy of computers for teaching the English language, compared to the traditional face-to-face method (Abdallah, 2005).

Al-Jarf (2004) compared traditional in-class writing methods with a method that combined traditional practices and web-based writing exercises, and found that the computer-assisted learning approach significantly enhanced students’ syntactic structures. Furthermore, the students in the experimental group with computer-assisted learning method also exhibited more fluency in their written sentences for communicative purposes, and were more expressive in their ideas for essays. In Malaysia, the term, ‘Information and Communication Technology’ (ICT), is used when referring to education technologies. Malaysia has a big vision, known as VISION 2020, which calls for sustained, productivity-driven growth. It is
believed, by the Malaysians, that this vision will be achievable with a technologically-literate and critically thinking workforce, who are prepared to participate fully in the global economy (Government of Malaysia, 2006).

The focus of this study is to investigate the extent to which education technologies (in South African terms) are being used as a teaching and learning tool, as part of a subject, to increase efficiency. The Universiti Putra Malaysia (UPM) must produce teacher graduates, who are capable of using ICT in the classroom. Teacher education students, among other core courses, are also required to enroll in a program-specific ICT course, including English second language students (Bahrani & Smith, 2012).

The literature reveals that the use of educational technologies in teaching and learning has also become an integral driving force in the South African educational context. However, there is increasing evidence that emerging technologies could have an influence across a range of pedagogical dimensions, from direct teaching to social learning (Sharples, et al., 2012). The full introduction of CALL could provide an enjoyable learning environment in which students can practise interactively, using multi-media content, with or without teacher supervision (Kawahara & Minematsu, 2012).

In South Africa, policy support for educational technologies in education is manifest in numerous documents, including the National Plan for Higher Education (2001), the White Paper on e-Education (2004), amongst others. It is stipulated in the White Paper that every South African manager, educator, and learner in the general and further education and training bands will be capable of confidently and creatively using educational technologies, in order to participate in a global community by 2013 (DoE, 2004: 17). Maree (2007) agree that teachers and learners must be computer-capable, and all teachers must integrate technologies into teaching and learning practices.

The policy also proposes approaches for the use of technologies in education, such as the use of multimedia applications, to create contexts for problem-solving, draft analysis, and the creation of knowledge in the learning process. This is what this study seeks to investigate in English second language classrooms in the selected university. However, there is no distinct national policy guiding the integration process. Institutions of higher learning design internal policy documents to incorporate technology into teaching and learning. In order to keep up
with the demands of the present educational environment, it is necessary to ensure that successful and sustainable technology integration takes place in tertiary institutions.

2.13 Summary

This chapter laid out the theoretical framework and background for this study; namely, the constructivist theory and self-efficacy theory. The key point of both theories that is of interest to the present study is that construction of knowledge, and interaction with technological devices, are crucial for English L2 learning. Research conducted under both frameworks has shown that interaction facilitates English L2 learning in several ways. English L2 learning becomes a by-product of negotiation of meaning, a facet of the constructivist theory. Different strategies, such as confirmation checks, comprehension checks, and clarification requests, are used in meaning negotiation. These trigger modified input, in which the student elaborates his previous initial input - which helps the student in understanding the message. Adopting technology to enhance learning efficiency has proven to be useful, when the course structure and content are well-organised. It is believed that the overarching purpose of applying technology to education is to promote collaborative work among peers (Kessler & Bikowski, 2010; Lee & Rha, 2009; Tsai, Hwang, Tseng, & Hwang, 2008). Lecturers’ understanding of the selected theories might contribute in the selection of best teaching strategies, technological devices, and software that could assist students to be more proficient in English L2.

In order to transform students from passive recipients of information to active constructors of knowledge, lecturers must give students an environment in which they participate in the learning process. They should also supply them with the appropriate tools to work with that knowledge. Technological devices can give lecturers a unique opportunity to have students embedded in a realistic context at the same time as having access to supporting tools.

The growing use of these technologies in teaching and learning activities could create renewed interest for student use in supporting teaching and learning activities. However, these technologies are also capable of promoting educational activities (synchronous or asynchronous), which are not confined to specific time and/or place. The adoption and use of these technologies for instruction and learning is believed to be worthwhile, particularly, because of their prevalence throughout the society. The vast array of new technologies now
available for teaching and learning activities open new vistas for those engaged in the process.
The following chapter will outline the procedural methodology for this study and the issues, regarding ethics, at various stages of the research, as well as ways to establish trustworthiness.
CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter seeks to explain, as well as give a justification for, the research methodology adopted in carrying out this study.

Silverman (2010: 12) defines research methodology as a “general approach to studying research topics”. According to Myers (2009), research methodology is a strategy of enquiry, which moves from the underlying assumptions to research design, and data collection. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research. Research methodology constitutes a research activity, and should be in a position to specify the concepts and related statements, what methods to apply, how to measure progress, and what constitutes success in a research study (Walliman, 2001).

The technical aspects that guide this research include the research paradigm, research design, research approach, population, sample and sampling procedures, data collection instruments, data analysis, issues of reliability and validity, credibility and trustworthiness, and ethical considerations.

The main aims of this research were to: (1) examine how learning with technologies could support students in improving their English L2 proficiency; (2) examine whether learning with technologies supports students’ active learning (or not); and, (3) understand how knowledge about learning English L2 with technologies could contribute to upgrading the pedagogical knowledge base of lecturers, to enable students to acquire the knowledge and skills they need to become more proficient in the English language.

It is envisaged that the findings of the study will provide, for both the reader and researcher, better insights, and an understanding of the dynamics of quality teaching and learning with technologies as a way of improving students’ English L2 proficiency. This research will also, hopefully, contribute to the body of knowledge on learning English L2 with technologies.
3.2 Research Paradigm

A paradigm is a set of assumptions, or beliefs, about fundamental aspects of reality, which gives rise to a particular worldview (Maree, 2007). Generally, a paradigm is an interpretative framework, which guides the way things are done (Guba, 1994). Therefore, a paradigm is certain standards and rules that guide a researcher’s actions and beliefs. Researchers have different beliefs, and ways of viewing, and interacting with, their surroundings. As a result, the ways in which research studies are conducted vary. In other words, paradigms are patterns of beliefs and practices that regulate enquiry within a discipline, by providing lenses, frames, and processes, through which an investigation is accomplished. This implies that a paradigm reveals how research could be affected, and guided, by a certain paradigm.

There are, basically, three ontological paradigms, or frameworks, in research; namely, the positivist, post-positivism/critical, and interpretivist, paradigms (Neuman, 2006). The positivist paradigm gives a description and explanation of features of reality, by collecting data on observable behaviours of the sample, and using numerical data analysis leading to an objectivist, empirical, and quantitative research approach (Bogdan, & Biklen, 2007). The positivist paradigm adopts an ontological position that asserts that there exists an objective reality out there in the world (a realist ontology), and, hence, posits that, by using numerical analysis and facts, we can discover this reality (Neuman, 2006). Positivism is concerned with uncovering truth, and presenting it by empirical means (Bogdan, & Biklen, 2007).

The post-positivist paradigm represents the thinking after positivism, challenging the traditional notion of the absolute truth of knowledge. This paradigm recognises that humans cannot be ‘positive’ about claims of knowledge, when studying the behaviour and actions of humans (Creswell, 2009). Hence, it offers an alternative worldview to that of positivism, and focuses on the problem to be researched, and the consequences of the research (Creswell, Plano, & Clack, 2007).

The interpretivist paradigm guides the researcher into discovering meanings and interpretations of phenomena, by studying cases intensively in a natural setup, and applying the resultant data to analytic induction (Bogdan, & Biklen, 2007). The interpretivist paradigm also adopts an ontological position that assumes that reality is socially-constructed, and arises out of social interaction; hence, it is subjective and anti-positivist, and leads to qualitative research (Creswell, Plano, & Clack, 2007).
According to Myers (2009), the premise of interpretive research is that access to reality (whether given, or socially-constructed) is only through social constructions, such as language, consciousness, and shared meanings. Reeves and Hedberg (2003) also opined that the interpretivist paradigm stresses the need to put analysis in context, and is concerned with understanding the world as it is from the subjective experiences of individuals. Myers (2009) further asserts that an interpretive paradigm uses meaning- versus measurement-oriented methodologies, such as interviewing, or participant observation, and relies on a subjective relationship between the researcher and the subjects.

This research employed interpretivist paradigms. I located this study in interpretivism, as Guba (1994: 105) asserts that it sets down the motivation and expectations for the study. An interpretive paradigm, therefore, served as “the basic belief system or world view that guides the investigation” (Guba, 1994: 105), which is the learning of English L2 with educational technologies in the selected University in the Eastern Cape. The interpretive paradigm was chosen, because of its methodological approaches that provide an opportunity for the voice, concerns, and practices of research participants to be heard (Cole, 1996). Through the interpretive paradigm, I became close to research participants, and shared their perceptions and experiences. An interpretivist paradigm assisted me to understand the students and lecturers’ perceptions and experiences, in learning and teaching English L2 with technologies.

According to Creswell (2009), the researcher relied upon the participants’ views on the situation being studied, and recognised the impact on the research of participants’ own backgrounds and experiences. Students in English L2 classrooms in the sample used were from different backgrounds, and had different experiences, with regard to the use of technologies. This paradigm allowed me to interact with the participants to get their views and perceptions on the use of technologies in English L2 learning and teaching in their classrooms. This paradigm recognises the importance of both objectivity (quantitative research) and subjectivity (qualitative research). Therefore, I laid emphasis on the research problem, and used mixed methods, in order to understand the problem under study.

3.3 Research Design and Approach

3.3.1 Research Design
A *research design* is a plan, or strategy, that moves from the underlying philosophical assumptions to specifying the selection of respondents, the data-gathering techniques to be used, and the data analysis to be done, so as to obtain the answers to research questions (Maree, 2007; De Vos, *et al*., 2013). In other words, a research design refers to a plan, or detailed outline, of how the research is going to take place (Thomas, 2013). It is also defined as a blueprint, or detailed plan, of how a research study is conducted (de Vaus, 2001; Caruth, 2012; Kalaian, 2011), starting from the formulation of the research questions and hypotheses, to the reporting of the research findings (Kalaian, 2011). A research design is also defined as a strategy, or plan, for conducting research to examine specific, testable research questions of interest (Kalaian, 2011; Babbie, 2004; Buckingham & Saunders, 2004).

The case study design was adopted in this study. According to Yin (2009), a *case study design* is an empirical enquiry that investigates a phenomenon under study, that could only be studied, or understood, in real-life situations. The case under study investigated learning of English L2 with educational technologies by students in Bachelor of Education 1 classrooms in the selected University. This design was chosen, because it enabled the researcher to utilise numerous data collection methods as a process used to improve the findings of the study (Creswell, 2013). In addition, the participants are quoted verbatim as part of gaining answers to the investigation on the use of technology in their English L2 classrooms. Bell (1999: 97) states that “a case study approach is particularly appropriate for individual researchers because it gives an opportunity for one aspect of a problem to be studied in-depth within a limited time scale”.

Yin (2003) argues that a case study is suitable for a study whose focus is to answer the ‘how’ and ‘why’ questions; that is why a case study was considered suitable for this research. I was eager to know how BEd 1 students learned English L2 with technologies in their classrooms, and, if not, why they were not doing so.

I used an *explanatory-sequential design*. This design occurs in two distinct interactive phases. The first phase starts with the collection and analysis of quantitative data with the priority of addressing the research questions, followed, in the second phase, by the collection and analysis of qualitative data meant to refine and explain the initial quantitative results (Greene, 2007; Cronholm & Hjalmarsson, 2011; Creswell, *et al*., 2003).
3.3.2 Research Approach

There are four main approaches to research; namely, quantitative research, qualitative research, the pragmatic approach to research (mixed methods), and the advocacy/participatory (emancipator) approach to research (Alzheimer-Europe, 2009). This research employed a mixed-method research approach. Mixed method is defined as the class of research where the researcher mixes, or combines, qualitative and quantitative research techniques, methods, approaches, concepts, or language in a single study (Tashakkori & Teddlie, 2009).

In this study, I found relevance in using the mixed method approach, as it addresses both the ‘what’ (numerical and quantitative data), and ‘how’ (qualitative), types of research questions, thus, integrating the two approaches (Creswell, 2013).

Mason (2002) defines a qualitative approach as a research approach that has the following characteristics:

- It is grounded in an interpretivist position, i.e., it is concerned with how the phenomena of interest are interpreted, understood, experienced, produced, and constituted; and,
- It is based on research methods which are flexible and sensitive to social contexts.

According to Ticehurst and Veal (2000), a qualitative approach is more interpretivist, as the researcher’s main task is to explain how people create meaning in socially-constructed situations.

A quantitative approach, on the other hand, emphasises data collection in a social setting, but represents data numerically (Ticehurst & Veal, 2000; Denzin & Lincoln, 2000, 2005; Yin, 2006; Tashakkori, 2006; Miller & Gatta, 2006). In this study, the main aim of the quantitative approach was, therefore, to develop and deploy quantitative findings, pertaining to learning English L2 with technologies in the institution under study.

Explanatory-sequential mixed method was employed in this study. According to Creswell, et al. (2003), the purpose of the explanatory-sequential mixed methods is to employ a quantitative strand to explain initial quantitative results. Hence, in this study, qualitative results from semi-structured interviews of the English L2 lecturers and focus groups
corroborated and explained the responses of the BEd 1 English L2 students from the questionnaires. This implies that it “is appropriate so that quantitative and qualitative data can be triangulated” (Onwuegbuzie & Collins, 2007: 291).

3.3.2.1 Why mixed method?
According to Greene, et al. (in Hesse-Biber, 2010: 3-5), there are five reasons for combining methods; namely, triangulation, complementarity, development, initiation, and expansion. As mentioned above, by triangulation, the researcher wanted to improve the credibility of the study by strengthening its conclusions. The reason for using triangulation in this study was, therefore, to obtain information from the same population by means of two different methods; namely, quantitative and qualitative methods (Hesse-Biber, 2010). Cresswell (2002: 177) asserts that there is a dominant-less dominant design, whereby one method plays a subordinate role, and is used mainly to confirm and supplement the findings of the dominant method. Mixed methods provided a more complete picture of the phenomenon under study than would be yielded by a single approach (qualitative or quantitative), thereby overcoming the weaknesses and biases of single approaches.

According to Neuman (2006; 2007) and Cresswell (2002; 2003; 2009), the deployment of a combination of research approaches and techniques results in a stronger research position, as each approach complements the other. In this study, face-to-face student focus group and lecturer semi-structured interviews played a supporting role, and were used to confirm and supplement findings of the quantitative survey. Various scholars (Creswell, 2009; Neuman, 2007; Myers, 2009; Neuman, 2006; 2007; Bogdan & Biklen, 2003; 2007; Teddlie & Tashakkori, 2006; Morse, 2003; Morgan, 2006; Denzin & Lincoln, 2005) argue that, by utilising both qualitative and quantitative approaches to do research, the mixed methods design allows for greater flexibility in the methods used than either approach used alone. Combining both qualitative and quantitative research methods into the mixed method design is viewed by Leech & Onwuegbuzie (2009) as key to enhancing the validity of research. The researcher compares, and interprets the data. This design assisted in the verification of data, and in producing a better understanding of the research problem. At the same time, it improved the validity and credibility of the findings.

According to Green, et al. (in Hesse-Biber, 2010: 3-5), complementarity helps the researcher gain a more thorough understanding of the results, and enables them to clarify the results.
more effectively. It was expected that the focus group and individual interviews (qualitative) would also provide additional information that could offer deeper insights into the research problem. It was also necessary, in this study, to uncover information and perspectives, increase corroboration of the data, and render less biased, and more accurate, conclusions on the issues under study (Cohen, Manion & Morrison, 2011).

In this study, the parallel converging of both qualitative and quantitative methods in the data collection process, as well as the use of multiple sources of information, enabled me to solicit enough views from different data sources that gave adequate insights into students’ perspectives on the extent to which learning with technologies assisted them in understanding English L2, and getting involved in activities in their English L2 classrooms. It is believed that the commonly-used multi-methods design for data collection avoided errors and biases inherent in any single methodology (de Vos, et al., 2012: 434). Green, et al. (in Hesse-Biber, 2010: 3-5) further argue that the developmental facet allows the researcher to use one method to develop a second method; for example, using the results obtained from a survey, in order to formulate the questions to be posed to a focus group, although this was not the case, in this study. He is also of the opinion that the combined design can initiate further study, in order to clarify contradictions, and/or generate new questions that, ultimately, expand the scope of the study.

3.3.3 Research Methods, Instruments, and Procedures
A student questionnaire (quantitative data) and focus group interviews (qualitative data) were used to investigate how BEd1 English L2 students learned with technologies in their classrooms. The questionnaire and interviews were used to identify the strategies lecturers employed in integrating educational technologies in the teaching of English L2 in their classrooms.

3.3.3.1 The Questionnaire
A questionnaire is a tool for collecting and recording information about a particular issue of interest (Maree, 2007). Questionnaires can be used to gather both quantitative and qualitative data from large samples of people in survey designs (Creswell, 2009). According to Bryman (2012), questionnaires refer to a structured set of questions, intended to solicit answers from the participants on a “particular fairly tightly defined topic”, which are the views of students on their learning of English L2 with educational technologies in this study. In addition,
questionnaires allow for anonymity and privacy, which, in turn, encourage more responses on sensitive issues (Cohen, et al., 2011). The use of the questionnaire in this study aligns with the nature of the research (mixed methods), as data were collected quantitatively and qualitatively (Morse & Niehaus, 2009), and comprised of a mixture of closed and open-ended questions (Mertens, 2015). Secondly, it was useful, because it helped me to open gaps that I filled in with student focus group and lecturers interviews.

It is believed that data collection is the process of collecting information for a specific purpose, and the data consists of individual or group information. I collected data during the first term of the year, when the selected first year students were not familiar with University lecturing methods, as they were from high school. Secondly, these students were also not familiar with most technologies, such as data projectors, whiteboards, etc., as most of them were from educationally-disadvantaged schools. Lastly, considering what I have already explained about them during this first term, and the level of the desired outcomes in English, I was interested in knowing how they used educational technologies in their English classrooms, and their perspectives on whether learning English L2 with technologies could, and would, assist them in becoming more proficient in English L2. I acknowledged the first term as the best time for data collection. The survey method created an opportunity to collect data from students originating from a large geographical area without having to travel, because students at the selected University come from urban and rural areas in the Eastern Cape, and other provinces, such as Mpumalanga. There were also students from outside South Africa, i.e., Lesotho. Data was also collected from English L2 lecturers, to confirm, and supplement, the information received from the students. The data collection procedures are discussed below:

The questionnaire survey, being the dominant method, made up the largest part of the data-gathering phase. It provided the data necessary to enable the researcher make inferences and generalisations about the student’s personal technologies, their views on learning English L2 with technologies, their learning styles, their lecturers’ teaching styles, and how they worked on their daily classroom activities (language practice in the classroom). Since the study was conducted where I was employed, the questionnaires were self-administered in two lecture halls. I had easy access to the students on campus; therefore, there were no travelling or postage costs, and no time was spent travelling to collect the data. However, the problem was timetable clashes. I had to make internal arrangements with my own classes, in order to
accommodate the participants. Secondly, there were no questions left unanswered in the questionnaires, but I, as Moras (2011: 222) points out, had no control over how questions were interpreted by the respondents. In these two classrooms, there were no assistants needed to help with the administration of the questionnaires. In the other two lecture halls, the English L2 lecturers voluntarily administered the questionnaires in their classes, because of timetable clashes.

3.3.3.2 Interviews
An interview is a two-way conversation between the interviewer and the interviewee, so as to gain information, ideas, beliefs, views, and opinions about the phenomenon under study (Creswell, 2014; Maree, 2007). According to Zohrabi (2013), interviews are discussions, usually one-on-one, between an interviewer, and an individual, meant to collect information on a particular area. There are many types of interviews, which include structured, semi-structured, unstructured, and non-directive interviews (Cohen, et al., 2011).

In this study, focus group and semi-structured interviews were adopted. Interviews were conducted with selected BEd1 English L2 students (focus groups) and, lecturers individually, and as primary data-gathering methods on teaching and learning strategies, and their knowledge and opinions about learning English L2 with technologies. According to Wilkinson (2004), focus group interviews are a type of interviews, which involve about 6 to 8 people interacting with each other, so that the views of the participants emerge. Focus group is, therefore, an interview that usually takes place between the researcher and several people who are usually research subjects simultaneously, rather than individuals (Punch, 2013). Thus, it is a shared dialogue, which can stimulate ease of access of elements that other techniques may not be able to reach, or reveal (Wilkinson, 2004). Focus group interviews were used in this study to corroborate data collected from students through the questionnaire, as well as for clarity of other issues raised in the questionnaire. They were also used to measure the credibility of the concept of meaning to make the theoretical concepts empirically trustworthy and stable. I also employed this method to collect data, because it is economical, on time, and produces rich data in a short space of time (Mertens, 2015).

According to Maree (2007), semi-structured interviews allow the researcher to probe, improvise follow-up questions, and seek clarification to answers, as a way of enhancing the credibility, trustworthiness, and the conclusions that can be drawn from the study. The use of
semi-structured interviews was ideal for this study, as it sought in-depth data from the key participants on lecturers’ perceptions of their students’ learning with technologies, and their use of technology in their English L2 classrooms. Secondly, the semi-structured interview was used, because it used both closed and opened questions. This method gave me the opportunity to expand areas of interest that arose during the data collection, and allowed for in-depth expression of feelings. Moreover, interviews were also helpful in the development of themes related to the study. However, I was aware of the limitations of this method, as Silverman (2010) asserts that, at times, participants may go astray from the topic. Hence, the need for the researcher to guide the participants, so that they remained focused on the objectives of the study.

The interviews with the focus groups were conducted two weeks after the questionnaire survey. In order to be consistent with all participants, I had a set of pre-planned core questions for guidance, such that the same areas were covered with each group during the focus group interviews. All interviews were recorded by means of a voice recorder. As the interview progressed in the focus groups, each participant was given an opportunity to elaborate, when they opted to do so.

Interviews with lecturers were conducted after the focus group interviews. Lecturers were the ones asked to set times that would be suitable for them. The interviews were conducted in their offices. Same as with focus group interviews, I had pre-planned core questions, but, probing questions were also asked, whereby lecturers had an opportunity to provide more information. The interviews were also recorded by means of a voice recorder.

3.4 Population Sample and Sampling

3.4.1 Population

A population is the total quantity of things, or cases, of the kind which is the subject of one’s study (Walliman, 2001). Cresswell (2009) defines population as a group which the researcher is interested in gaining information and drawing conclusions on. It is representative of the finite list of participants who are in a position to answer questions, and to whom the results apply. According to Babbie (2004), the researcher draws a sample from the population, because they are, generally, not able to study the whole population. The population sample used in this study was drawn from the Faculty of Education at a university in the Eastern Cape.
3.4.2 Sample and Sampling

In describing what a sample is, Herek (2012) points out that, often, data are collected from a subset of individuals (sample), and researchers use those observations to make inferences about the entire population. A sample is, therefore, a portion of a total population, which represents the characteristics of the larger group, the population (Gay, et al., 2011). One selected university in the Eastern Cape was sampled as this is a case study, and, thus, only a small sample is needed to ensure a detailed examination of one setting.

Sampling is the process of selecting a group of subjects for a study in such a way that the individuals represent the target population (Mertens, 2015). Since there are two kinds of data in mixed method design, quantitative data (from questionnaires) may require a random sampling procedure, whilst qualitative data (from interviews) may use purposive sampling (Creswell, et al., 2007). In this study, purposive sampling was also used for both quantitative and qualitative data collection. Creswell (2013) defines purposive sampling as intentionally selecting individuals and sites to learn or understand the central phenomenon. I conveniently, and purposively selected the University under study for the reason of accessibility, as I am an employee at this university.

The research sample for this study comprised of two hundred and fifty-four (254) Bachelor of Education first year students (BEd1), who were studying English L2, and their four (4) English L2 lecturers. The purpose of having a small group was to help me gain a better understanding of the phenomenon under study. These participants were purposively, and conveniently, selected. BEd1 students were purposively selected, because it is their first year at university, and most of them were from educationally-disadvantaged schools in rural areas, where English is their first additional language. Secondly, they were not exposed to English native speakers. Thirdly, most of them were not exposed to any kind of educational technologies in their schools, except for radios and television - which are outdated in the 21st century. Cellular phones were the only technology device most of them had. It was hoped that such a group would provide rich and valuable information for the study, and their responses would be a yardstick in assessing their preparedness and ability to learn English L2 with technologies. Their lecturers were targeted largely due to their experiences in the teaching of English L2, and their exposure to educational technologies at the selected university. Purposive sampling was used in the study, because it was aimed at gaining a
better understanding from the participants’ perspective, who had knowledge and experiences of the problem-at-hand.

3.4.2.1 Sampling procedures
A total sample of 254 participants (98% of the population) were chosen for the administration of the questionnaire. This larger sample was chosen for the quantitative research, as it works well with larger samples than qualitative research, which usually requires face-to-face interaction; hence, fewer participants (Creswell, et al., 2007).

For the focus group interviews, students were randomly selected from BEd1 English L2 classes. Random purposive sampling is a strategy which involves selecting participants randomly, or unsystematically, who were purposively selected, but are too numerous to include in the study (Babbie, 2004). This is also meant to reduce bias linked with purposive sampling in the selection of participants, thereby promoting the credibility of the sample (Cresswell, 2014). According to Gay, et al. (2011), it is appropriate in targeting people who provide rich information for the study. A total of 10 groups of student participants were involved in the focus group discussions, each group consisted of 8 students. They were considered adequate to provide sufficient data (n=80).

In addition, purposive sampling was done to get qualitative data (through interviews) from individual lecturer participants. A sample of four English L2 lecturers were interviewed (n=4). This sample size was considered manageable, and adequate, in providing relevant information for the study.

3.4.3 Students’ and Lecturers’ Profiles
3.4.3.1 Students’ profiles
The participants were 254 BEd1 students studying English at the selected University in the Eastern Cape. 249 students were Black South Africans, and only 5 were from the coloured community. Out of 254 students, 111 were males, while 143 were females. 216 students fell within the age range 20-23 years. This is the right age for students entering university. Thirty-eight (38) students fell within the age range 24-25 years. 152 students spoke isiXhosa as their mother tongue - this is not surprising as the institution under study is in the Eastern Cape Province; while 54 spoke isiZulu, and 21, siSwati. 15 students spoke Sesotho, because they were from Lesotho. In other words, many spoke different languages as their home language.
Five students were Afrikaans-speaking, from Afrikaans communities in East London. (See Table 3.1.)

### Table 3.1: Students’ & Lecturers’ Profiles

<table>
<thead>
<tr>
<th>Variables</th>
<th>Students (n=254)</th>
<th>Lecturers (n=04)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>249</td>
<td>04</td>
</tr>
<tr>
<td>Coloured</td>
<td>05</td>
<td>-</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>143</td>
<td>04</td>
</tr>
<tr>
<td>Male</td>
<td>111</td>
<td>-</td>
</tr>
<tr>
<td>Age range (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-23</td>
<td>216</td>
<td>-</td>
</tr>
<tr>
<td>24-25</td>
<td>38</td>
<td>-</td>
</tr>
<tr>
<td>30-39</td>
<td>-</td>
<td>03</td>
</tr>
<tr>
<td>50-59</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>First Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>isiXhosa</td>
<td>152</td>
<td>02</td>
</tr>
<tr>
<td>isiZulu</td>
<td>54</td>
<td>-</td>
</tr>
<tr>
<td>siSwati</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Sesotho</td>
<td>15</td>
<td>01</td>
</tr>
<tr>
<td>Xitsonga</td>
<td>07</td>
<td>-</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>05</td>
<td>-</td>
</tr>
<tr>
<td>Shona</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>Qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>Master’s</td>
<td>-</td>
<td>02</td>
</tr>
</tbody>
</table>

#### 3.4.3.2 Lecturers’ profiles

The information in the table above shows that all the English L2 lecturers were Black and female. Their ages fell within the age range 30-59 years. Three lecturers were within 30-39 years of age, meaning the University has catered for young minds, when employing English L2 lecturers for BEd1 students. This also implies that they still had a chance to develop themselves further. Two of the lecturers spoke isiXhosa, as their L1. One lecturer spoke seSotho, and the other, Shona. There was no under-qualified or unqualified lecturer in the English L2 classrooms where the research was conducted. Lecturers were all professionally and academically qualified. Two lecturers had doctoral degrees, and the other two had Master’s degrees. English was their area of specialisation.
The qualifications of the participants helped the researcher to evaluate the effect of their level of education. The purpose was to establish the methodological differences, or similarities, that existed, if any. It was also executed to see if there were any gaps in knowledge among the participants.

### 3.5 Data Analysis Procedures

Research findings are not useful, unless we analyse them (Shank, 2009). According to De Vos, et al. (2013), data analysis is a process of bringing together order, structure, and meaning to the mass of the collected data in an incessant, and iterative process (Turesky, Cloutier, & Turesky, 2011). This study was analysed within the mixed methods framework, since it comprised of both quantitative and qualitative data (Creswell, et al., 2007). In this study, both quantitative and qualitative data was collected, transcribed, analysed, and re-assessed, to ensure accuracy.

#### 3.5.1 Analysis of Quantitative Data

Quantitative data was analysed descriptively. *Descriptive statistics* is a term used to refer to the analysis of data that makes it easy to describe, show, or summarise data in a meaningful way, such that patterns emerge for easy interpretation of the data (Atieno, 2009). Descriptive statistics raw data was presented in a more meaningful way, such as in a tabulated manner (tables), graphical descriptions (graphs and charts), as well as statistical commentary, which focuses on a discussion of the results; where appropriate, cross tabulations were applied to make inferences (Creswell, 2014).

The first step during the analysis of this quantitative data was to assign numerical values to the responses. Thereafter, recording and capturing was done with the statistical computer programme (Statistical Packages for the Social Sciences [SPSS]). Following tabulation, the next step was to summarise the data, using frequencies, and the results were then recorded, and reported, in percentages. This was done in order to investigate the potential influence of the selected variables. Analysis of variance was used, in order to see if there was any significant difference between the participants under study.

The questionnaire consisted of items with different aspects to show students’ personal technologies, and technologies in English L2 classrooms, as well as English L2 language practices. It assisted in getting information from students on how technologies were used in
their classrooms during the teaching and learning process. Under language practices, the items also included: knowledge of the types of technology that students were learning with in their English L2 classrooms; how technology was integrated in English L2 classrooms; how the integrated technologies supported students’ active learning; the changes that the technologies generated in classroom activities; and how learning with technologies enabled and sustained students engagement in classroom activities.

3.5.2 Analysis of Qualitative Data

McMillan and Schumer (2001: 461) define qualitative data analysis as primarily an inductive process of organising the data into categories, and identifying patterns (relationships) among categories. The analysis of qualitative data is concerned with organising, and working with, the data, breaking them into manageable units, coding and synthesising them, and searching for patterns (Bodgan & Bilken, 2007).

Since the study was substantively qualitative and interpretative in nature, the analysis process was aimed at establishing how participants made meaning of a specific phenomenon. The analysis aimed at making meaning and conclusions from the research participants’ information provided. Qualitative data was analysed through content analysis, which is a procedure for the categorisation of verbal or behavioural data, so that it can be classified, summarised, and tabulated (Mertens, 2015). During the process of analysis, I aimed at noting patterns, themes, categories, and regularities.

Shortly after a data collection session (interviews) may have taken place, and the data may have been processed, data was read from the transcript, and a single sheet was prepared which summarised what was obtained, and body language during the interviews. The data collected through voice recorder was transcribed. Thereafter, the data was coded systemically according to specific themes, general ideas, and related features of students’ and lecturers’ responses. Bell (1999: 38) explains coding as how the researcher defines the data they are analysing is about. It involves identifying and recording passages of text that, in some sense, exemplify the same theoretical or descriptive idea. The identified passages were then linked with a name for that idea. All the text that was about the same thing, or exemplified the same thing, were coded in the same name. According to Gay, et al. (2011), categories may be linked into major categories/themes, or minor themes, depending on the relevance of the information. These notes were then listed, and categorised into meaningful information
In generating meaning, I focused on seeing the plausibility of trends and patterns. Comparisons were, thereafter, made from the questionnaire and interview responses. Together with results from questionnaires, data were arranged according to different themes, and tables were drawn which depicted responses in percentages. All the results were merged, as findings of the study, to enable the researcher establish students’ perspectives on how they learned English L2 with educational technologies, teachers’ perspectives on how they might teach English L2, in order to come up with recommendations.

3.6 Validity and Reliability/Credibility and Trustworthiness

This study employed a variety of strategies to ensure the collection of reliable and valid data. Validity and reliability are very important, particularly when dealing with quantitative data. Qualitative data also need to be credible and trustworthy for the research to be less subjective, in order to produce a more meaningful and acceptable view of the phenomenon under study. It is, therefore, expedient that, throughout the phases of the research study, credibility and trustworthiness are observed. Transferability, dependability, credibility, and conformability of the study were taken into account (Creswell, 2014).

3.6.1 Validity and Reliability

Validity is a measure of the truth or falsity of the data obtained through using a research instrument. It is classified as internal and external validity of the measuring instrument (Babbie, 2010). Validity is the most fundamental consideration in instrument development, and refers to the degree that the instrument measures what it claims to measure (Babbie, 2010). In other words, validity is the degree to which a particular instrument is used to ascertain the accuracy, meaningfulness, and credibility of the research study. Babbie (2010) further describes reliability as a particular technique which, when applied repeatedly, yields the same result each time. In other words, reliability refers to the ability of a particular research instrument used to provide results that do not vary in the course of someone else undertaking the research using the same technique. In this study, the use of multiple strategies in the data collection process enhanced the opportunity to corroborate findings, and validate the data.
Validity of instruments

Validity is the extent to which an instrument measures what it intends to measure (Creswell, 2012). In this study, a questionnaire was used to collect quantitative data. Various strategies were employed to ensure that the data collected through this instrument was accurate, so as to be useful for the study. I ensured that the instruments met the following criteria: face validity, content validity, and construct validity.

I commenced by checking the face validity, which is simply concerned with the ‘face value’, or appearance, of the instrument to the ordinary people, whether it looks like it measures what it purports to measure (Thomas, 2013). Face validity is considered vital for this study, as a general measure of determining whether the instrument is good from the perspective of the participants themselves, just by skimming through the instrument (Creswell, 2012). The questionnaire was well-structured, and not very long. Poorly-structured, and unnecessarily too long, instruments have an effect of discouraging potential participants from participating in a study.

I also considered the content validity of the instruments for this study, in addition to their ‘face value’, or appearance. Content validity refers to the appropriateness of the items in the instrument (Gay, et al., 2011). In this study, the items of both instruments (i.e., questionnaire, and interview schedule) had content that was directly linked to the research questions, or objectives of this study, in order to come up with valid and accurate data that helped in understanding the phenomenon under study (Thomas, 2013).

Construct validity refers to the way the instruments are constructed, in order to measure what they intend to measure (Cohen, et al., 2011). The questionnaire used in this study had both open-ended and closed-ended questions, in order to elicit valid responses for the study. Closed questions were posed as leading questions to evoke pre-determined responses, so as to get valid and useful data on the phenomenon under study. During focus group interviews, there were types of questions that were included, in order to ascertain students’ perspectives on the kind of technologies they worked with in their English L2 class, or how the technologies they worked with assisted them in getting a better understanding of the language. Open-ended questions were included to give participants an opportunity to express their opinions on certain issues (Creswell, 2012).
Reliability of instruments

Reliability is essentially a synonym for dependability, consistency, trustworthiness of instruments, and of groups of respondents (Cohen, et al., 2011). I came up with various strategies, to ensure that the instruments consistently measured what they were intended to measure. To check the reliability of the instruments, the following was considered: degree of measurement; stability of measurement; and, similarity of measurements within a given time period.

The inter-rater or observer reliability test should be used to give the degree to which different participants give consistent answers, or estimates (Thomas, 2013). The test-re-test method was conducted before the instruments were used in the real study, to check for consistency. One English L2 class had an opportunity to complete the questionnaire at two different times, to check for the reliability of the questionnaire. The responses from this questionnaire were similar, and this showed the stability of the instrument. A high degree of stability shows a high degree of reliability of the instrument (Cohen, et al., 2011). However, it has been argued that similarity in results may be a result of measurement in error, where there is a chance factor, since the participant may have an advantage of experience with the same content items (Gay, et al., 2011).

3.6.2 Credibility and Trustworthiness

It is important that, throughout the stages of the research study, credibility and trustworthiness are observed (Creswell, 2014). In qualitative research, there is a need to check if the instruments used to collect data have internal validity (credibility) and trustworthiness (the truth). Among other things, transferability, dependability, and conformability of the study were taken into account. In this study, I devised several strategies, so that data collected was both convincing and accurate (Cohen, et al., 2011). This was achieved through prolonged engagement with the data sources, and adequate checking of the raw data with their sources, and triangulation of data (Babbie, 2010). In this study, it included pilot testing, triangulation, member checking, iterative questioning, and use of real episodes, as discussed below.

Pilot testing

Pilot studying has also been found to be effective to ensure reliability and validity of instruments. According to Silverman (2013), it is a method of trying out questions for the
main study to check on the credibility, feasibility, and general pilot participants. I used a questionnaire twice in one class, in order to enhance the validity of the findings (Yin, 2009; Rule & John, 2011).

**Triangulation**

To promote the trustworthiness of the study, I used different data collection instruments (questionnaire and interviews) to facilitate a deeper understanding of the research. Secondly, triangulation of data was another way adopted to ensure the trustworthiness of the data. According to Patton (2001), triangulation is the use of a number of methods to gather data. This study made use of a variety of sources: questionnaire, focus group discussions, and interviews. I examined data collected from each source, and found evidence to support a theme. This process is referred to as *triangulation*, which involves corroboration of evidence from different individuals, types of data, or methods of data collection (Creswell, 2012). This technique ensured the accuracy of the information drawn from various sources. Data from the questionnaire were used to verify certain details which participants supplied during interviews.

**Transferability and Dependability**

To establish transferability, the study detailed the context of technology use and English learning (in Chapter 2), as well as the research sites in this chapter, enabling readers to decide whether or not the findings could be transferred to similar contexts. As for dependability, the researcher provided a detailed description of methodological procedures and issues concerning the study. In this sense, the study can be replicated, although subject to the influences of context.

**Iterative Questioning**

I used *iterative questioning* in cases where there was suspicion of inaccurate information from the participants, or contradictions during interviews with students and lecturers. This was meant to uncover misleading information by rephrasing previously-raised questions, in order to detect any inconsistencies (Creswell, 2012).

**Real Qualitative Episodes**

In this study, *real qualitative episodes* were used, including direct quotations from interviewees (both individual and focus group), in order to promote credibility, as it helped to
convey the actual situations investigated (Mertens, 2015). Detailed descriptions helped to convey the actual situation under investigation. I made an effort to be impartial throughout this work, to ensure greater reliability, validity, and trustworthiness of the study. The researcher should try to “stick to the ethical rules and principles, perform the evaluation as accurately as possible and report the findings honestly” (Zohrabi, 2013: 259).

3.7 Ethical Considerations

Ethical behaviour is of paramount importance in every research. The study of research ethics helps to prevent research abuses, and assist investigators in understanding their responsibilities as ethical scholars. Research ethics places emphasis on the humane and sensitive treatment of research participants, who may be placed at varying degrees of risk by research procedures. I obtained an ethical clearance certificate from the Faculty Research Ethics Committee, and Institutional Research Ethics Committee of the University of my study, before the commencement of data collection.

3.7.1 Negotiating Entry

Firstly, permission to conduct the study was obtained from the relevant authorities. Application letters to conduct the study were written to my University of employment authorities, as well as the relevant management of the Faculty of Education, where the study was conducted. I asked for a meeting with the Head of School of Further and Continuing Education (SFCE), and the English L2 lecturers concerned in the Faculty of Education at which the researcher honestly and truthfully informed them about the nature of the study.

3.7.2 Individuals’ Consent

De Vos, et al. (2013) state that ALL research should be grounded on ethical considerations, especially if it involves other individuals. Therefore, this study was grounded on confidentiality, informed consent, avoiding harm to participants, respecting the right to privacy, as this can enhance the free participation of the respondents (Water-Adams, 2006). This principle suggests the need to inform participants of the purpose of the study, the methods to be employed, how the data collected will be used, and, most importantly, inform the prospective participants of the potential dangers or risks involved (Silverman, 2010).

The students, as well as the English L2 lecturers, were given informed consent forms to sign before they participated, whereby they agreed to participate in the research. Moreover,
the participants were informed that the data collection process would not disrupt learning in any way. Duration and contact time suitable for collecting data were clearly stated by the researcher, and negotiated with the English lecturers, students, and confirmed by the Head of School (HoS) of Further and Continuing Education (SFCE) in the Faculty of Education at the University.

**Confidentiality and Anonymity**

Burns and Grove (2005) assert that all participants have the right to privacy, anonymity, and confidentiality. According to Neuman (2006: 153), *confidentiality* means that we may attach names to information, but we keep them secret from the public. I ensured that all the participants would not be easily identifiable from the research report, or any subsequent publication. McMillan and Schumer (2001: 479) state clearly that researchers have a dual responsibility, protection of the participants’ confidences from other persons in the setting whose private information might enable them to identify them, and protection of the subjects from the general reading public. It is necessary that research data, and its sources, remain confidential, unless in cases where participants agreed to have their identities disclosed - which should be put in writing, and duly signed by the consenting participant (Silverman, 2010). Any breach of promises may create suspicion and mistrust from the participants, thereby compromising the quality of the research (Gay, *et al*., 2011). In this study, I informed the participants of the significance of their participation in the study. The participants were informed that all the information collected would be treated in strict confidence, and used only for research purposes.

**Protection of Participants**

Silverman (2010; 2013) asserts that research needs to be carried out in such a way that it minimises risks or harm to social groups or individuals. This mainly applies to situations where material is sensitive, and may endanger the participants, if the information reached a third party; hence, the need for researchers to exercise care, in order to protect the participants. In this study, the information provided by the research participants should, in no way, reveal their identities. Codes are used to protect these identities.

**Voluntary Participation**

Participants were made aware of the need to take part willingly, i.e., without being forced to do so. This also implied the right to withdraw from participation, should they feel the need to
do so (Cohen, et al., 2011). Free participation by participants also ensures collection of valid and reliable data (Mertnes, 2015). Participants were informed, at the outset of the study, by the researcher that they could withdraw from the study at any time, if they wished to do so.

3.8 Field Problems
The first challenge was the size of the sample. I had more students than proposed in the initial research proposal, due to the fact that I anticipated the current enrolment, based on the previous year's first year students intake. Secondly, because of an increase in student numbers, there was also an increase in the proposed number of English L2 lecturers.

The research process was challenging for me, because of timetable clashes. I had to find time that suited both groups of participants (students and lecturers), and myself. There were three timetables that I had to consider when making time arrangements, i.e., the students’ timetable, lecturers’ timetables, and my own timetable. The greatest challenge was with the students’ timetable. I was not able to easily make arrangements with students, as they also attended lectures offered by sister-Faculties. I had to make internal arrangements with my own classes, in order to accommodate them. The lecturers were very understanding; as a result, some of them voluntarily asked to assist with administering the questionnaire in their classrooms. They agreed to read, and explain the implications, and signing of the consent forms, before the students could complete the questionnaire. Focus group interviews also took more than the planned time, because of timetable clashes.

Although the test-re-test method was conducted before the instruments were used in the real study to check for consistency, there was a challenge in the completion of the last section of the questionnaire by some students. As indicated above, one class of English L2 had an opportunity to complete the questionnaire at two different times, to check for the reliability of the questionnaire. It was so unfortunate that, because none of them had more than one learning style preference (compound learning style), I did not pick up the problem at that time. When I was conducting the survey in both classes, some students constantly asked for assistance in this section, despite the fact that it was quite obvious that they understood the instructions. They wanted to select more than one response. In classes where the questionnaire was administered by my colleagues, there were some students who selected more than one learning style in that section. Generally, the participants in this research were co-operative, and provided valuable information for the study.
3.9 Summary

This chapter dealt with the justification of the methodology used which I believe was suitable for the achievement of the research purposes. I explained the research design followed, elaborated in detail about how the empirical data was collected and analysed. Consideration was also given to issues, regarding ethics, at various stages of the research, as well as ways to establish trustworthiness. Admittedly, I experienced some difficulty, and made some inappropriate decisions during the research, especially in terms of timetable clashes, and dealing with students with compound learning style preferences in the survey. However, my efforts to overcome these problems have proved to be constructive, as they helped to derive extensive and informative insights for this research.

The following chapter will report the findings of the investigation conducted to draw some conclusions about the research questions.
CHAPTER 4: FINDINGS

4.1 Introduction
The purpose of this chapter is to present, and analyse, the empirical findings of the research. Data obtained from the student questionnaire and focus group interviews, and lecturers’ individual (semi-structured) interviews, is analysed, and interpreted.

As described in detail in Chapter 3, students’ personal technological devices, and prior experience of working with educational technologies, was investigated through a series of questions. The questions asked were in line with the following research questions:

The main research question was:
RQ1: How can learning with technologies support students to be more competent in English L2?

Sub-questions:
RQ2: What types of technology are students learning with in their English L2 classrooms?
RQ3: How is technology integrated in English L2 classrooms?
RQ4: How do the integrated technologies support students’ active learning?
RQ5: What are the changes that the technologies generate in classroom activities?
RQ6: How can learning with technology enable and sustain students’ engagement in classroom activities?

4.2 Student Questionnaire Data (n=254)
It is worth noting that there were students who indicated more than one response option in some of the questions, e.g., personal device, social networks, learning styles.

4.2.1 Students’ Personal Technologies and English L2 Classrooms
4.2.1.1 Types of technologies owned by students
The selection of the type of resources owned by students was gathered by the question that listed the type of educational technologies that could be used in English L2 classrooms.
The graph above indicates that the majority of the students (52%) owned cell phones; 33.4% owned laptops; and 13.4%, tablets. The least owned device was the desktop (1.2%). These findings need to be taken very seriously. If 52% of the students owned cell phones, and there was a need for the lecturers to consider the fact that there were activities that could have been done by students in their classrooms, as most cell phones had features that could have assisted them in English L2 learning, e.g., students could have read books from their phones, using applications, like Kindle. They could have recorded lectures, and referred to them later on; they also had a dictionary, thesaurus, and encyclopaedia in their cell phones. They could have had instant access to Google, and other text search engines, which turn cell phones into research tools.

**Social networks often used by students**

The question asked necessitated a broad brush picture on the use (or non-use) of social networks by students on their cell phones. It is worth noting from the findings that most students in English L2 classrooms were into social networks. Most students used more than one social network. The most popular were WhatsApp (96%), Mixit (96%), Google (48%), and Facebook (44.1%), indicating that they often used these four applications. Instagram and Youtube were used by only one student each. A general observation from these findings was that most of the students had the same choice, in terms of the selection of social networks. This was influenced by a lack of knowledge of technologies, or financial problems. This is
another factor that should be taken into consideration, when lecturers decide on the use of technologies in their classrooms.

Table 4.1: Social Networks Used by Students (n=254)

<table>
<thead>
<tr>
<th>Network</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whatsapp</td>
<td>244</td>
<td>96</td>
</tr>
<tr>
<td>Google</td>
<td>244</td>
<td>96</td>
</tr>
<tr>
<td>Mixit</td>
<td>122</td>
<td>48</td>
</tr>
<tr>
<td>Facebook</td>
<td>113</td>
<td>44.1</td>
</tr>
<tr>
<td>Instagram</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>YouTube</td>
<td>1</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Programs often used by students on their computers

The students were requested to rank, in decreasing order of frequency, the programs they often used on their computers.

Table 4.2: Computer Programs/Software Often Used by Students (n=254)

<table>
<thead>
<tr>
<th>Programme</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td>254</td>
<td>100</td>
</tr>
<tr>
<td>Microsoft Word</td>
<td>254</td>
<td>100</td>
</tr>
<tr>
<td>Emails</td>
<td>254</td>
<td>100</td>
</tr>
<tr>
<td>Power Point</td>
<td>78</td>
<td>31</td>
</tr>
<tr>
<td>Blackboard</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Turnitin</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

As the table above indicates, all the students sampled used Google, Microsoft Word, and emails. 31% indicated that they used power point - this means that they had access to data projectors in class. Interestingly, no student chose the use of Blackboard or turnitin. These findings suggest that the students had very little knowledge of the programs that could have assisted them to be more proficient in English L2. Blackboard could have been used to access English L2 reading materials, and turnitin, to check for plagiarised work in their activities, e.g., assignments.
The findings show that all the students (100%) indicated that there were no laptops in their classrooms. All the students (100%) reflected that there was adequate lighting in their classrooms. Most of the students (96.4%) indicated that there were also whiteboards in their classrooms. However, some students (56%) indicated that there were overhead projectors in their classrooms; 5% reported the availability of cupboard/storage space, no student responses indicated the availability of desktop computers in their classrooms.

**Accessibility of Classroom Materials**

Figure 4.3: Accessibility of Classroom Materials (n=254)
Most of the students (100%) indicated that classroom materials were used by the lecturers only. This is not surprising, as it is already mentioned above that there were no resources in the classrooms. One learner (0.4%) revealed that the materials were used by groups of students. There were those who were allowed to use them for presentation purposes. None of the students agreed that the materials were accessible to students. The same could also be said about the availability of other ways of accessing materials. This suggests that, because of the lack of resources in English L2 classrooms, the materials were available to lecturers only, except for students’ personal devices.

*Types of English L2 Classroom Desks*

![Figure 4.4: Types of English L2 Classroom Desks (n=254)](image)

The graph above indicates that 68% of students revealed that their desks were slope and flat, and 32% indicated that they had double desks - this determined the availability of space in the classroom. The availability of space in the classroom is very important, when the lecturer wants to cater for students with tactile and kinaesthetic learning style preferences. Enough space allows for the effective use of teaching methods that encourage co-operative learning in English L2 classrooms, e.g., the Jigsaw model. When there is enough space, students experience change from an individual task structure, to a task structure in which they interact in small groups.
Spatial Arrangements of Desks

The way desks were arranged in classrooms determined the lecturers’ teaching methods, and the students’ involvement in the lecture. The chart indicates that 99% of students’ desks were in rows, and only 0.6% of students’ desks were arranged in groups, and the other 0.4% formed a horseshoe. With such a sitting arrangement, co-operative learning was discouraged, and the lecture method was promoted during lecture presentations.

Availability of Space in English L2 Classrooms
There were varied responses, as students attended their lectures in different lecture halls; that is shown by the arrangements of desks in Figure 4.5 above. 97% of the students revealed that there was no sufficient space for arrangements for group work in their English L2 classrooms. This indicates that most of the students were from auditoria, where desks were arranged in rows. The limited space also indicates that most English L2 classrooms were overcrowded. Only 3% of the students indicated that there was sufficient space for group work arrangement and movement in their classrooms. The lecturer’s movement in the classroom directs students’ attention and focusing. However, it should not be over-utilised such that students pay attention more to it, rather than to the intended message.

4.2.2 English L2 Practice
4.2.2.1 Lecturers’ teaching methods
Method(s) used for Presentation of Information

The findings on Table 4.3 show that all the students (100%) indicated that their lecturers mainly lectured to the whole class, with 76% of them also reporting that lecturers used practical demonstration. The information on the types of desks available in the classrooms, and the availability of space stated above, clearly suggest that it was not possible for students to be hands-on during their lectures. Hence, the majority of students agreed that the demonstrations were done by the lecturers only in their classrooms, and 67% pointed out that individuals used text books. 59% revealed that lecturers used visual aids in class. This means that students in overcrowded classes were in a position to see the projected information. 41% indicated that lecturers used mainly questioning, whilst 33% indicated that co-operative work was practised in their classrooms. 31% reported that lecturers mainly lectured practical work. This means that there were no concrete apparati used by the lecturer; they simply explained how to do the practical work, without showing it. One student claimed that the lecturers used group drilling. Overall, the students implied that their lecturer used the traditional approach, which is based on behaviourism. None of the students indicated that their lecturers mainly used story telling in English L2 classrooms.

Table 4.3: Teaching Methods Used by Lecturers (n=254)

<table>
<thead>
<tr>
<th>Method</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly lecture to the whole class</td>
<td>254</td>
<td>100</td>
</tr>
<tr>
<td>Mainly teacher practical demonstration</td>
<td>194</td>
<td>76</td>
</tr>
<tr>
<td>Mainly individual use of textbooks</td>
<td>171</td>
<td>67</td>
</tr>
<tr>
<td>Visual aid</td>
<td>151</td>
<td>59</td>
</tr>
<tr>
<td>Mainly questioning</td>
<td>103</td>
<td>41</td>
</tr>
<tr>
<td>Mainly co-operative work</td>
<td>84</td>
<td>33</td>
</tr>
<tr>
<td>Mainly lecture of practical work</td>
<td>78</td>
<td>31</td>
</tr>
<tr>
<td>Mainly mind map</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Mainly group drilling</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Mainly story-telling</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

This reveals that most lecturers used the lecture method when transmitting subject content to their students. It is evident that, at times, lecturers demonstrated what they were talking about, and visual aids were used, such as computers and data projectors. About a third of the
students (33%) claimed that they had an opportunity in class to work co-operatively with others in groups.

**Lecturers’ Use of Students’ Previous Knowledge**

The students were asked a question to ascertain whether the lecturers used students’ previous knowledge during lecture presentations. 93% of the students indicated that their lecturers usually sought to find out their current knowledge in class, while 7% indicated that they were not sure.

**Lecturers’ Questioning Technique(s)**

![Figure 4.6: Types of Questions Asked in Class (n=254)](image)

Effective questioning is a key aspect of the teaching and learning process. The graph above indicates that 66% of the students indicated that their lecturers used mainly open-ended questions. This suggests that students were allowed the freedom to come out with unique, new, or imaginative ideas. This implies that students had an opportunity to express their thoughts, no matter whether it was right or wrong, and heard explanations offered by their peers. This type of question was asked to help students to clarify their understanding of a topic. 24% of the students mentioned that the lecturers used mainly questions that required recall of information. Such questions were based on memory or retention, rather than reasoning. Therefore, lecturers, who asked such questions, were not encouraging students to critically examine the content taught. 10% did not respond to the question.
Transmission and Practice of New Information

When students were asked how information was introduced and practised in English L2 classrooms, 52% stated that words were projected on the whiteboard. This reveals that the lecturers used computers and data projectors. 26% of the students stated that words were written on the board. This shows that technologies were not used by their lecturer in her classroom. 15% of students stated that students searched for information from computers, or cell phones, i.e., they learned English L2 with technologies in their classroom. The minority of students (7%) stated that there were other ways (that were not listed) used by their lecturers to introduce, and practise information. Generally, most lecturers used data projectors during content delivery in their English L2 classrooms.

![Figure 4.7: Transmission of New Information (n=254)](image)

Lecturer’s Content Knowledge

Figure 4.8 reveals that 99% of the students indicated that their lecturers’ content knowledge was very good, and only 1% claimed that it was average. This means the use of technologies could have assisted lecturers in delivering the subject content, and also assisted students in understanding the content, so that they became more proficient in English L2.
4.2.3 Classroom Activities

Classroom Activities

All the students (100%) indicated that their lecturers supervised them during written work, and there was no chance for students to work on other activities, or struggle on working with the device. Most of the students (99%) indicated that they worked on any written activity in their English L2 classrooms.

Lecturer and Student Involvement

The students and lecturers’ involvement in classroom activities was investigated with a question. Classroom interaction was of relevance to this study, because assessment of language proficiency needs to be based on evidence which is partly drawn from classroom interactions.

Table 4.4 shows that all the students (100%) indicated that the lecturers included activities which encouraged listening, speaking, reading, and writing in their lectures. 99% of the students agreed that classroom interaction encouraged problem-solving, original, or imaginative work. 94% indicated that the lecturers used more than one teaching method in a lecture, and 91% agreed that there was teacher-learner interaction in their classes. 71% stated that lecturers included repetitive activities, while 46% mentioned that students worked in groups, and 13% suggested that the lecturers kept a strict routine during lectures. Most of the students gave positive responses about their lecturers’ involvement with their students in
the English L2 learning process. This reveals that the students’ English L2 classrooms were learner-oriented, and they found their classroom activities interesting. Students appeared to express an eagerness to learn, and to engage in tasks of learning the language.

<table>
<thead>
<tr>
<th>Table 4.4: Classroom Interaction (n=254)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes activities which encourage listening, speaking, reading, and writing</td>
</tr>
<tr>
<td>Encourages problem-solving, original, or imaginative work</td>
</tr>
<tr>
<td>Uses more than one teaching method in a lecture</td>
</tr>
<tr>
<td>Teacher-learner interaction</td>
</tr>
<tr>
<td>Activities include repetition</td>
</tr>
<tr>
<td>Students work in groups</td>
</tr>
<tr>
<td>Keeps to strict routine during lectures</td>
</tr>
</tbody>
</table>

4.2.4 English L2 Learning Styles

Understanding Work

The students’ views on the manner in which the subject content should be presented, in order for them to understand best, was investigated with the question that required them to select from a list provided (see Table 4.5).

The findings reflect that most of the students (44%) understood new work best when it was presented through the use of visual aids. These findings may suggest that most of the students were visual learners, in terms of learning style preferences. 30% indicated that they understood new work best when it was presented through the lecture method (with information, explanations, and discussion). This suggests that these students were compound learners, in terms of learning style preferences. This also indicates that they were used to their lecturers’ teaching styles. The findings, generally, indicate that almost all the students were not used to working with their hands. However, a small number of students (3%) did indicate that simply working with their hands, and making things on their own, made them to understand work best.
Table 4.5: Students’ Understanding of Work (n=254)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>When the information is presented through the use of visual aids</td>
<td>111</td>
<td>44</td>
</tr>
<tr>
<td>When presented through the lecture method with information, explanations, and discussion</td>
<td>77</td>
<td>30</td>
</tr>
<tr>
<td>When presented through the lecture method with information, explanations, and discussion, and the information is presented through the use of visual aids</td>
<td>45</td>
<td>18</td>
</tr>
<tr>
<td>When presented through the lecture method with information, explanations and discussion, and working with my hands, or making things</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>When working with my hands, or making things</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>When the information is presented through the use of visual aids, and working with my hands, or making things</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Remembering the Lecture

The students’ responses reflected in Figure 4.9 show that most students (54%) remembered more about a lecture when they wrote things down, or took notes for visual review. 45% remembered more about a lecture when tape-recorded for re-listening later. This further strengthens the view that many students were visual learners, in terms of learning style preferences.

![Figure 4.9: Remembering the Lecture (n=254)](image)

It is also evident that there were auditory students as well. 2% of the students remembered more about a lecture when they wrote things down, or took notes for visual review, and tape-
recorded for re-listening later. These were students with compound learning style preferences.

Students’ Information Recall

The students were required to indicate on the list provided what they did when the information was presented in class that made them recall it easily. The graph below shows that 56% of students recalled information best when they used highlighters during reading. 36% of the students recalled information best when they wrote things down several times when studying, even when detailed outlines were distributed. 8% of them indicated that they recalled the information best when it was set to rhyme, rhythm, or music, to aid retention.

Figure 4.10: Students’ Information Recall (n=254)

Students’ Learning Strategies

As indicated on Table 4.6, 58% of the students claimed to do better in English subjects when they listened to lectures; 22%, when they read a textbook, and listened to lectures; 13%, when they listened to lectures, and discussed the information with peers; and 5%, when they read textbooks. One student said they preferred to read a textbook, listen to lectures, and discuss the information with peers. Only one student discussed information with peers only, and another one read a textbook, and listened to lectures only. In view of these findings on what the students did in class, the responses show that several of the students were visual learners,
but may have been constrained to listen to their lecturers, as their lecturers favoured the lecture method.

### Table 4.6: Students’ Learning Strategies (n=254)

<table>
<thead>
<tr>
<th>Students’ Learning Strategies</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening to lectures</td>
<td>148</td>
<td>58</td>
</tr>
<tr>
<td>Reading a textbook, and listening to lectures</td>
<td>55</td>
<td>22</td>
</tr>
<tr>
<td>Listening to lectures, and discussing information with peers</td>
<td>34</td>
<td>13</td>
</tr>
<tr>
<td>Reading a textbook</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Discussing information with peers</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Reading a textbook, and listening to lectures</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Reading a textbook, listening to lectures, and discussing</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>information with peers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Students’ Concentration in Class**

A question was asked, requesting the students to indicate what made them to concentrate when studying. They were asked to rank the statements on a list provided.

As Figure 4.11 indicates, most of the students (72%) indicated that a quiet room helped them to concentrate. However, more than a quarter of the students (28%) - a significant number - claimed they concentrated best when there was background music. This is an indication that there were several students with a musical learning style preference among the students, although they were in the minority.

![Figure 4.11: Concentration in Class (n=254)](image-url)
4.3 Student Focus Group Interviews (n=80)

The focus group interviews were conducted with eighty (80) English L2 students in the Faculty of Education, School of Further and Continuing Education (SFCE), at the University in the Eastern Cape. The students were divided into ten groups of eight per group. I used focus group interviews to clarify, extend, qualify, or challenge data collected through the questionnaire; hence, open-ended types of questions were asked. Throughout the study, I used codes to categorise the groups’ information, and to protect the identities of the students (see their profiles in Addendum D).

Types of device(s) owned by students

All the students interviewed reported that they owned cell phones. Only a quarter of them indicated that they also owned laptops, and very few revealed that they owned tablets.

Social networks used frequently

On this question, I received varied responses from different group members within a group, and across groups. All the group members mentioned that they used Whatsapp, for educational and social purposes. Most of the students pointed out that they worked in groups, and used Whatsapp to communicate with classmates. They mentioned that it helped them to organise themselves for group discussions. There were also students who indicated that they used cell phones to communicate with their lecturers, when they needed to report something, or when they needed clarity on certain tasks, and assignments. One introverted student (Sf43) admitted that she also used Whatsapp to communicate with her lecturers in the absence of others:

“I use it when I want to ask my lecturer about something I did not understand in class, because I do not want to embarrass myself in front of my classmates.”

Most of the students claimed that they used Whatsapp to communicate with their friends, and family members. There were those who mentioned that they used Whatsapp, because it was less expensive than other social networks. This implies that the students’ backgrounds had an influence in their selection of social networks. This was also echoed by one student, who reported that his parents were illiterate, but they could communicate, using Whatsapp. All the students, who reported that they used Facebook, used it as a social platform. They said that
they used it for entertainment (to view pictures), to read news about campus, and worldwide. Only one student reported that she used Instagram.

Use of cell phones in English L2 classrooms
I received contradicting responses from the students on this question. The vast majority of students interviewed mentioned that they did not use cell phones in class, because they were not allowed to; however, they explained how they would use it, when permitted to do so. Some of them said they would record the lecture, instead of writing notes in class. Others suggested they would use it for spelling check, or to correct sentence construction, because their cell phones had such features. A quarter of the interviewees revealed that they used their cell phones without the lecturer knowing, i.e., “for my own benefit”, as they put it. There were some students, who pointed out that they used cell phones in class, and their lecturers encouraged them so to do. They also revealed that they used the devices to record their lecturers, to search for information from the Google application, to check for meanings of words, or spellings, etc. A minority of students were against the use of cell phones in class, and they gave various reasons: the classroom would be chaotic; students would visit other sites during lectures; and, the use of cell phones would not encourage critical and creative thinking:

“No, I do not think using cell phones in class would be a good idea, in fact, I do not picture myself using it. I prefer to think on my own, to be a critical and creative person not to depend on a device otherwise I would be a lazy person.”
(Sm7)

Technologies used by lecturers in the classroom
The overwhelming number of students interviewed claimed that their lecturers used computers and data projectors in class. Two groups mentioned that the lecturers were not using technologies, and the other two groups claimed their lecturers used data projectors, laptops, and tablets, at times, when teaching. As for the reasons why some of their lecturers used technologies, the majority claimed that it was because their classrooms were overcrowded. Others said the technological devices were used to cater for learners with different learning styles:
“Laptop and data projector, I think it is because she wants us to understand better the concept she is teaching. It is easy to remember what you saw than what you heard.” (Sm17)

Students had different views, as to why some other lecturers did not use technologies. There were students who indicated that carrying the devices everyday to class was strenuous, because there were no cabinets to store the apparatus in their lecture halls. Others suggested that their English L2 lecturer did not use technologies, because she was very talkative. One student reported that her lecturer liked to talk the whole lecture, and, at times, they did not get a chance to express their views. For them, that meant, if she could use the device, she would not get a chance to monopolise, or to ‘own’ the classroom. This clearly indicates that this was their lecturers’ teaching style. Two students reported that their lecturers used tablets, sometimes alternating it with laptops, and data projectors. They added that, at times, the same lecturers used to bring video cameras to class during student presentation sessions. They further reported that one of the lecturers also provided data projectors for teaching practice presentations. There was a student, who claimed that his lecturer did not know how to integrate technology in her teaching.

Technologies that students learn with when working on activities in the classroom
Most of the students reported that they were never introduced to any technologies to work with in their classrooms. They claimed that they communicated with their lecturers via emails, and Whatsapp outside the classroom. However, most of the students confirmed that they used technologies in class without their lecturers’ permission.

The computer program(s) students used most
Most of the student interviewees revealed that they used Microsoft Word, to type assignments. They used Google, to search for information from different scholars, with some remarking that the information online was clearer than their lecturers’ explanations. Others said they used Google, to search for available books in the library within a short space of time. All the students mentioned that they used emails, to communicate with their lecturers and fellow students. There were students who revealed that they also used emails, to submit their assignments. The minority indicated that they used PowerPoint, when presenting their projects.
How technologies could assist students in their classroom activities

All the students interviewed agreed that learning with technologies could assist them progress towards a better understanding of English L2. Most of those, who claimed that they were not allowed to use technologies in class, unanimously agreed that learning with technologies could make their work very easy, because they would ‘google’ from Google chrome, e.g., on how to work on comprehension, or to discuss a cartoon, for example. Others mentioned that it would assist them, because they would type tasks, and save time, instead of taking hours copying work from the chalkboard. Most of the students said that it would assist them in checking grammar and spelling, and they would download information on certain activities: for example, how to write a formal letter; how to take minutes at a meeting; and, how to write reports, etc. Most of the students explained that learning with technologies, when doing classroom tasks, would afford them an opportunity to practise academic writing, and improve their writing skills. Others were of the opinion that technologies would assist them to improve their speaking skills as well, because it would become easy to pronounce English words, like native speakers, as the dictionary has meanings, and shows phonetically in writing how to pronounce words. There were students, who claimed that working with technologies in class, would assist slow learners in various ways; for example, with vocabulary, spelling, how to summarise a text, spelling, etc.

There was a student, who remarked that learning with technologies might not change anything:

“I do not think technologies would assist me, and there is any need to learn English with it because English changes all the time; for example, you write essays in different ways, or format. I believe that it goes with how creative you are.” (Sm7)

Technologies and students’ active learning

Most of the students insisted that listening to what was said in class was boring, sometimes. They claimed that learning with technologies would make their lectures more interesting, and students would be more active participants, even the introverted students. One of the students also reported the video clip she watched with active students in university classrooms overseas (UK), where students learned with tablets. One student proposed that, by
learning with technologies in class, students would not only be active in class, but also outside the classroom, as they would also learn how to use technologies:

"Technologies would assist a lot because students would interact. Learning with technologies in class would also assist students to know how to use a laptop. Lecturers at times give us instructions in class to work on tasks or assignments using certain font, spacing, etc. They think that we all know how to use our computers." (Sf28)

Some students pointed out that working with technologies on activities would make the classroom chaotic, rather than active, especially the overcrowded classrooms:

"I believe that the classroom would be chaotic. The lecturer who intend to introduce student learning with technologies should think the best way of implementing that to avoid chaos more especially in overcrowded lecturers."

(Sm7)

This became a heated debate, and one student pointed out, to the contrary, that technologies might not only encourage active learning, but might increase student attendance.

4.4 Lecturer Individual (semi-structured) Interviews (n=4)
Classroom practices are, to a large extent, directed and controlled by lecturers. Therefore, understanding classroom practices from the lecturers’ point of view is very important. It is also believed that the successful implementation of change in the classroom results from lecturers’ preparedness to embrace, and accommodate, such changes. Semi-structured interviews were conducted with four (4) English L2 lecturers in the Faculty of Education, School of Further and Continuing Education (SFCE) at the University in the Eastern Cape. (Throughout the study, I used codes to represent the lecturers’ information, to protect their identities.)

The students’ socio-economic backgrounds
The question about the social-economic status of students in English L2 classes was posed, in order to understand the backgrounds of the English L2 students in the sample under study. What emerged from the lecturers responses was that their students were from poor to middle
income families. Most of the students were from rural backgrounds. Those, whose parents were working, were working on farms, or were doing menial jobs in and around the Eastern Cape. Even those, who were from far afield, did not exude comfortable backgrounds, but humble ones. A handful could be said to be from affluent families. Financially, most of them were assisted by National Student Financial Aid Scheme (NSFAS), Fundza Lushaka, and Eastern Cape funders. They experienced lot of challenges, especially in the first three months.

The impact their backgrounds may have on their English L2 learning process
I asked the question, in order to check the impact that their backgrounds may have on their learning of English L2. All the lecturers indicated that very few students were from well-to-do families, and they did not have problems with English learning. They had been exposed early to the use of English; hence, they were really comfortable in its use. However, the ones from the lower socio-economic stratum faced challenges. They failed to answer questions in English, and also failed to use the language for general conversational purposes. Their lecturers assumed that this could be caused by the fact that most of them had been taught in high schools by English L2 teachers, who usually code-switched (into their home languages). Students were experiencing lots of challenges, especially with academic writing in English L2.

Use of cell phones in the English L2 class
The lecturers had varied responses on the use of technologies by students in their classrooms. Lf1 pointed out that her students used cell phones as a resource tool, i.e., “to search for the meaning of words or any other information”. Lf2 agreed that her students used cell phones in class, but without her instructions; they surprised her. Two lecturers stated that they did not encourage the use of cell phones in class. Lf3 associated the use of cell phones in class with a lack of discipline. She reported that her learners only showed their cell phones when they had to switch them off. Lf4 became emotional, when responding to this question: “I hate to see students using cell phones when I am teaching”. This finding shows the need for a change in mindset among lecturers. Students could be deprived by various factors from using technologies when learning English L2, such as lecturers’ negative attitudes, and a lack of technology education.
Reasons for allowing, or not allowing, students to use cell phones in class

From the lecturers’ responses, it became evident that two lecturers allowed their students to use cell phones as a resource tool in class: “I realised they had a useful resource they always carry, and love to use; so, why not allow them to utilise it to their advantage”. (Lf1)

The other two lecturers demonstrated an understanding of the usefulness of a cell phone in English L2 learning, but they used to interact with their students outside the classroom. These two lecturers did not afford their students an opportunity to use their cell phones for English L2 learning in class. Lf3 claimed that students could be naughty, and Lf4 said the reason for not allowing them to use cell phones was the physical condition of the classroom, and the fact that she was teaching an overcrowded classroom.

Students’ English L2 learning strategies

“Lecturers’ views on how the effectiveness of learning depends on the excellence of the teacher in class.” (Hofstede, 1986: 313):

Two lecturers encouraged teacher-learner interaction, and the use of technologies; below is how Lf1 explained an effective teacher:

“The effective teacher is the one who supports his teaching with these devices when you are using these devices they strengthen your teaching and help them easy understand the content you are teaching. They are able to listen, and also to see what you are teaching.” (Lf1)

One lecturer stressed the importance of the dedication and seriousness of the lecturer, in order for students to take their English L2 learning seriously. The lecturers’ responses showed that they believed that a teacher should try to steer the direction of the ship, called ‘learning’, but there are other variables to consider, such as, space, availability of resources, the calibre of students, general school tone, etc. All the lecturers agreed that all these had a bearing on learning.

Lecturers’ perceptions of good language teaching and learning

The lecturers pointed out that good language teaching entails giving students ample time and space to use the language in real-life situations, not just loading them with principle after
principle on how to use it. The lecturers explained that lecturers should use various teaching strategies, such as group tasks, presentations, discussions, etc., and encourage students to be active in class, either by participating in group tasks, presentations, answering questions, asking questions, or just being allowed to give comments on whatever they thought. For them, good teaching and learning also meant understanding, and providing students with learning materials, and being patient with them, when teaching, because English L2 is not their (home) language. They also suggested that bringing apparatus, whether in the form of print media, or technological devices, should make learners understand, especially those with visual, tactile, and linguistic learning style preferences.

**Lecturers’ understanding of the term, ‘technology integration’**

The responses revealed that all the lecturers understood the term, ‘technology integration’, and that it refers to the use of technological devices during teaching, for various reasons. Lf1 indicated that technology was integrated in teaching, because most of the students were more technology-advanced, and were always interested in working with technology. Lf2 observed that her students became more interested, and more active, when asked to use technologies in class. She further explained that they even wanted to show their expertise on the technology, and suggested that technology should be integrated by all lecturers in lectures, as the delivering strategy, resource, or assessment strategy.

**How students learn with technologies in the English L2 classroom**

In analysing the lecturers’ responses, it is, generally, evident that students used different types of technologies outside the classroom, when doing English L2 extended activities. There were those who used computers when working on given tasks, or searching for information from the internet. Others used cell phones in class, searching for vocabulary, and others used computers, and data projectors, during presentations. It was quite interesting to note that even the lecturer, who claimed that she had a large class, suggested that, for technology integration to be effective, students needed to be supervised.

**The types of technologies students are learning with in English L2 classrooms**

The responses revealed that, even though the students came from poor backgrounds, as indicated above, they used cell phones, laptops, and tablets in their English L2 classrooms. Lf2 revealed that she used to provide students with data projectors, when needed, for presentation purposes. Even those students, who were not allowed to use the devices in class,
used emails outside the classroom to communicate with their lecturers. It was also noted that students were reported as less interested in devices, such as radio, television, etc.

All the lecturers pointed out that they selected certain types of technologies for English L2 teaching for various reasons. For example, time, class size, students’ backgrounds, and the content to be taught. It was stated by Lf2 that it was her ambition to see her students being able to teach, using technology, “because that’s life, these days”. That is why she used a laptop, and a data projector, instead of writing on the blackboard (writing board) in class. Lf4 reported that she did not have a clear sense of direction on how to use certain applications and programs to enhance the learning of English L2, e.g., Blackboard. However, she stated that she encouraged students to use technologies, but not in class, and she even referred them to the library, and the Department of Technology and Learning Centre (TLC), for guidance.

*Changes that technologies may generate in classroom activities*

The responses revealed that, when the lecturer brought a technology device to class, or asked students to use their devices, the classroom atmosphere came alive. Lecturers reported that the lecture became interesting, lively, attractive, and students became creative. Lf4, who was against the use of technologies in class, reported that she thought using technologies could make a difference, and could contribute a lot during the reading lessons. She also remarked that lecturers should consider students’ backgrounds, when selecting the technological device, to avoid discrimination.

*How the integrated technologies may support students’ active learning*

Lecturers unanimously agreed that students became actively involved, when working with technologies. They did not get bored; instead, they were at home, when using technologies. They argued that most of these devices catered for students with different learning style preferences.

*How technologies may inform, and enhance, English L2 learning*

The lecturers indicated that technologies had the potential to inform, and enhance, English L2 learning. They argued that students received relevant information most of the time without putting a lot of effort to acquire the skills, or rules, because they learned via play-way. Technologies helped them to improve their speaking skill. Lecturers claimed that they had learnt a lot from learning with the technology. However, one lecturer noted that technology
did not assist students on the grammatical part, or the writing skill in English L2, although students learned vocabulary. Lecturers reported that most of the students, especially those from rural schools, struggled with good sentence construction, and academic writing. They mentioned that, because of their backgrounds, they had different interpretations of what was required; sometimes, they used to come up with something the lecturer never thought of.

4.5 Summary

To sum up the findings of students’ questionnaire data and focus group interviews: despite the students’ socio-economic backgrounds, most of them owned cell phones. Only a quarter of the students indicated that they owned laptops, and very few students revealed that they owned tablets, and desktops. In cell phones, most indicated that they used Whatsapp, and Mixit, because they were less expensive than other social networks. A small, but significant number, used Facebook, although it was said to be more expensive than the other two social networks mentioned. Students also reported that they used Facebook to entertain themselves (share pictures, and read news). None of the students claimed that they used other social networks, such as Twitter, etc. They explained that they used these devices to communicate with lecturers, friends, and their families. This implies that the devices were used for social and educational purposes.

During students’ focus group interviews, there were students, who claimed that they used technologies in class, and their lecturers encouraged and supervised them. They used Microsoft Word, to type their work, email for communication (including sending assignments to their lecturers), and Google, to search for information (e.g., policy documents). They used technologies to research for vocabulary, and check for spelling during classroom activities. A quarter of the students revealed that they used their cell phones without the lecturers knowing. They used the cell phones to record the lecturers, and google information. They were so excited about learning with technologies in class, except for a few individuals, who claimed that learning with technologies could not encourage critical and creative learning, and the class would be chaotic.

Most of the students revealed that they did use a cell phone in class; however, they explained how they would use it, when permitted to do so. All the students agreed that they used cell phones, computers, tablets, outside the classroom, to connect with one another, and with their
lecturers, to get information about classes and lectures outside the classroom. They used cell phones and computers (emails) to organise themselves for group work, and to discuss educational issues with their lecturers after lectures. They reported that only some lecturers used technologies in their classes. The overwhelming number of students reported that their lecturers used computers, data projectors, laptops, video cameras, and tablets. Students mentioned that one lecturer used to lend them the devices for presentation purposes. One lecturer was reported not to be into any type of technologies during teaching.

Most of the students also indicated that space was not sufficient for group work, and group movement, in their classes. Their desks were flat and slope, and arranged in rows. They also mentioned that their lecturers mainly presented their lectures by lecturing to the whole class. Most of the students indicated that lecturers asked open-ended types of questions in class, and used activities, which encouraged listening, speaking, reading, and writing.

In their interviews, all the lecturers revealed that they used technological devices for instructional purposes, and to communicate with students outside the classroom via Whatsapp, and e-mails. Three lecturers reported that they used the devices during practice teaching, and presentations. Two lecturers claimed that they even allowed students to use technologies in class, to search for words, and other information, such as policy documents. Lecturers reported that technology integration acted as a motivating factor to their students, and they became more engaged and excited about using these new technologies. Most of the lecturers believed that technology expanded their English L2 classrooms into the real world, and this exposure enhanced student knowledge. Furthermore, there was a lecturer who revealed that she did not allow students to use technologies in her classrooms, because of their socio-economic backgrounds, claiming that she did not want to discriminate between ‘the haves’, and ‘the have-nots’.

According to the lecturers, while these technological devices have their intended benefits, there were also unintended, and unconsidered, challenges during implementation, such as infrastructure, time, basic knowledge about technology integration, and the added responsibility of needing to continuously monitor students in overcrowded classrooms. They mentioned the need and responsibility to critically evaluate the benefits and risks involved with the technologies. They also highlighted the exposure to other content that the students might experience, especially on the internet. They argued that, with the use of cell phones in
class, students might not concentrate, at times, because of social networking. Amidst all of the aforementioned concerns and challenges that individual lecturers encountered, regarding integrating technologies in lecturing, they claimed that they encouraged their students to learn with technologies, and voiced excitement and the willingness to incorporate new approaches towards teaching, including using technologies. The findings presented above will be discussed in detail in the following chapter.
Chapter 5: Discussion

5.1 Introduction
This chapter provides a discussion of the findings presented in the previous chapter. The researcher triangulates the findings obtained through the use of student questionnaires and focus group interviews, and lecturer interviews. As explained in Chapter 3, this study employed an explanatory-sequential design. This design occurs in two distinct interactive phases: first phase is the collection and analysis of quantitative data, with the priority on addressing the research questions; while the second phase is the collection and analysis of qualitative data, meant to refine and explain the initial quantitative results (Greene, 2007; Cronholm & Hjalmarsson, 2011; Creswell, et al., 2003).

Reeves and Hedberg (2003) opined that the interpretivist paradigm - the framework that guides this study - stresses the need to put analysis in context, and is concerned with understanding the world as it is from the subjective experiences of individuals.

The findings presented in Chapter 4 are divided into themes, and discussed below.

5.2 Students’ and Lecturers’ Perceptions on the Availability of Technologies

5.2.1 Personal Technologies
The findings of the data collected through questionnaires and interviews indicated that students in the institution under study owned technological devices. Most of the students owned cell phones, laptops, and tablets. Having cell phones was not strange, considering their backgrounds, because cell phones can be found in remote, rural communities, and across age groups, and income and literacy levels. Moreover, cell phones are relatively cheap, compared to other new ICTs, like tablets, and laptops. From the data collected, it is, therefore, clear that the students were ready for, and capable of, using cell phones to fulfill their learning and socio-emotional needs. The cell phones were used mainly to stay in touch with friends and family outside the classroom. According to Freynik (2014), student’s experiences on their use of cellular phones and social networks should equip them with the necessary skills to deal with challenges, thereby instilling self-confidence in learning with technologies in their English L2 classrooms.
These ever-present devices also made a highly likely learning tool to employ in the classroom, when the need arose. For example, most of the students reported that they used cell phones as dictionaries, when they did not understand the meanings of words, i.e., they used the device to search for the meanings of English words. Electronic dictionaries provided a multidimensional presentation of English translations, and other explanatory information. Given its large storage capacity, it can provide a full range of synonyms, as well as grammatical and stylistic information, in an efficient manner. I believe that this could really assist students, in terms of vocabulary, so that they can communicate with native and other speakers of English in and outside South Africa, as mentioned by one student during the focus group interviews.

It also seems that the students attached very positive values to these cell phones for exchanging teaching ideas, sharing teaching materials created on their own, and supporting fellow students during their spare time, when given assignments and tasks to work on. These personal technologies created an opportunity for groups to construct knowledge together; thus, linking reflection and interaction. Students, generally, acknowledged the value of cell phones as an avenue for sharing resources among themselves.

According to Creswell (2009), the researcher relied upon the participants’ views on the situation being studied, and recognised the impact on the research of participants’ own backgrounds and experiences. Despite the students’ socio-economic backgrounds - which was explained by all the lecturers as disadvantaged, the NSFS loan, Lushaka, and Eastern Cape Government funders made it possible for some of them to buy devices, such as laptops.

During focus group interviews, there was a student, who pointed out that there was a need for demonstrations by lecturers on how to use laptops, instead of giving instructions to them that required the use of laptops, because some of them were not computer-literate. They all agreed that they used computers (internet) to search for a lot of information, and they also observed that computers could not replace their lecturers. However, there was a student, who openly admitted his lack of interest in using any technological device during the teaching and learning process in class, arguing that technologies do not encourage critical and creative thinking. He further claimed that students needed to be afforded an opportunity to think on their own, rather than copying the ready-made information by scholars. This became a heated debate as one of the students indicated that getting information from the internet
develops students’ critical thinking skills, as they are supposed to read, select, synthesise, and analyse the information, and not just to copy it as is. The least-owned device by students were desktops, and the absence of data projectors in their classrooms. Corresponding to this finding on technology devices in the classrooms were the reported absence of cupboards for storage, and the desk arrangement for sitting students.

5.2.2 Social Networks

Most of the students reported that they used social networks, especially Whatsapp, Mixit, and Facebook. In the focus group interviews, most of them explained that they preferred Whatsapp, because other social networks needed more data bundles, and it was very expensive to use them. It was clear, from the students’ voices, that Whatsapp was an uploading and downloading platform for sharing learning materials. The focus group discussion also revealed that Whatsapp was a popular medium, and that most of the group members used it to communicate with their lecturers. They also used Whatsapp to arrange their meetings for group discussions. One student indicated their inclination to post their materials, and photos, on Facebook for fun. They all agreed that Facebook is a more interactive space, and the most convenient way for rapid exchange of ideas and information, but was more expensive to use than Whatsapp.

The findings from questionnaires showed that students were less experienced at using other newer social networks, such as Instagram, Youtube, Tweeter, etc., as they were not selected. During focus group interviews, interestingly, however, there was a student, who claimed that she used Instagram to connect with her friend in the United Kingdom (UK). In contrast, in the same group, one student could not differentiate between cell phone networks and social networks, as she reported that she used mobile telephone network (MTN), because she received airtime each time she recharged her cell phone. This implies that there was a need for workshops for students on the use of technologies. Students should know that they can make use of other networks as well to learn and practise English L2. For example, through tweets, a student can see all comments, and can compare their own ideas as individuals with those of their peers, examine the use of syntactic structure, and select vocabulary (Borau, et al., 2009).
5.2.3 Computer Programs

Students also reported that they were very practised at using Google, Microsoft Word, PowerPoint, and emails on their computers, but, none of them indicated that they used Blackboard and turnitin. In their study, Gonzalez-Bueno, Perez, and Thorson (2000) found that the use of emails does not only focus on writing skills, but also allows for an increase in meaningful communicative exchanges. It is apparent that the students’ writing skills and communication skills were developed. The use of computers also develops students’ reading skills (Constanzo, 1994). During the focus group interviews, some students surmised that using computers in class would be beneficial to other students who owned computers, but did not know how to use them. In an interview with one of the lecturers, she made it very clear that not all the lecturers knew how to use Blackboard and turnitin. She admitted that she was one of those lecturers. This indicates that lecturers themselves needed to regularly have opportunities to develop themselves in the use of technologies in their classrooms.

5.3 Students’ and Lecturers’ Perceptions on the Classroom Environment

5.3.1 Sitting Arrangement

Alexander (2006) explicitly acknowledges that learning with technologies has an ability to create both independent and collaborative learning environments, in which students can learn English more easily. Students indicated that their classrooms were laid out in a ‘traditional’ manner, with the individual desks that were slope and flat, all facing the front of the room. Most of the students’ responses showed that there was no sufficient space for movement, even for group work, in their classrooms. The overcrowded classrooms, and the sitting arrangement in the classrooms, were reported by the lecturers as some of the reasons their students were not allowed to use their cell phones as learning devices. The lecturers remarked that students might end up doing other things, and they (the lecturers) might find it impossible to monitor them. One of the lecturers also noted that the device itself could market one thing, while a student was busy searching for something else. One student, in the focus group interviews, referred to this situation as potentially “chaotic”.

5.3.2 Available Resources in the Classroom

All the students, in their questionnaires, indicated the absence of cupboards, or storage space of any kind, electronic/interactive whiteboards, desktop computers, and data projectors, and student laptops in their classrooms. This implies that lecturers, who used laptops and data projectors, carried the devices to class on a daily basis, instead of mounting data projectors on
the ceiling for better projection, and for safety purposes. One of the lecturers interviewed highlighted the underdeveloped and poor basic infrastructure, which is necessary for technology use. She reported the poor maintenance of teaching facilities in the Faculty, and further mentioned that the situation contributed, to a considerable extent, to the teaching strategies that she used. She further gave an example of the electricity and network/WiFi problems on campus, as one of the reasons she did not use technologies in class. According to the literature reviewed in other studies conducted in Africa, the same problems with integration of technology in English L2 classrooms were identified. For instance, in somewhat similar views, lack of confidence, lack of access to resources, problems of connectivity and affordability, were seen as obstacles to proper utilisation of technologies in the learning process (Davis & Danning, 2001). Another study conducted on the introduction of technology into education in developing countries, revealed that one of the barriers was the lack of ICT-supported infrastructure. The findings of these studies are similar to the findings of this research.

5.3.3 Lecturers' Teaching Methods

The finding in 5.3.2 corresponds well with what the students reported about the lecture method that was frequently used by most of their lecturers. In the student questionnaire data, students indicated that lecturers’ usage of teaching methods varied, but the most frequently used teaching methods were the lecture method (to the whole class), practical demonstration, and use of visual aids, respectively. This lecture method was also confirmed by lecturers themselves during individual interviews with them (Warschauer, 2000; Oakley & Jay, 2008). Ruschoff and Ritter (2001) assert that educational technologies can assist in transforming the teacher-centred, or transmission model, and text-bound teaching and learning, into technology-enriched contemporary dimensions of student-focused, and interactive knowledge environments. I am of the view that the lecture method is, sometimes, used by most lecturers in the classroom, because it is the method that is similar to what they experienced as students, and what they related to, and were comfortable with. However, students indicated that lecturers made use of their prior knowledge during teaching.

It was revealed by both students and lecturers that some of the lecturers used data projectors, to enable students to see what they were talking about. The students, who indicated that they had double desks in their classroom, were the ones who reported that their lecturers were using practical demonstration, and visual aids. They further remarked that this is the 21st
century, and, at this day and age, even in some schools, learners were now learning with tablets. One of them quoted a video she watched, wherein students in higher institutions abroad were learning with tablets in class, and she observed how active they were. One of the lecturers also mentioned that she would like to produce student-teachers, who would be able to teach in ‘paperless’ classrooms.

One lecturer highlighted the students’ calibre as one of the contributing factors which determined how teaching and learning occurred in her classroom. She reported that the type of students she had also influenced the choice of teaching strategies she used. Additionally, she mentioned that the use of laptops by first year students from poor backgrounds would be time-consuming, and remarked that the same students also needed to familiarise themselves with teaching methods that were different from what they were used to in high school. Dwayi (2011) asserts that, among other things, a large number of first year students lack general academic skills.

5.3.4 Classroom Activities

Only some students, and two lecturers, claimed that technologies were used openly in class, when students were working on their activities. During lecturer interviews, the other two lecturers reported that their students switched off their cell phones in class, because they were disciplined. That was confirmed by students during focus group interviews. The researcher believed that some of these lecturers avoided, or rebelled against, the use of technology in the classroom, and this stubbornness was due to their perception of their own power and authority. They associated their actions with exercising discipline in class. In fact, lecturers should embrace change, when it is required, to be more effective. This, therefore, shows that the lecturers needed to change their attitudes toward the use of technologies in the classroom. There were lecturers who mentioned that their students used cell phones to search for the meanings of words, others used it to search for answers, when the lecturer asked questions, but, those who were not allowed to use them, used them to record their lecturers.

One lecturer reported that she was surprised to see her students searching for Curriculum and Assessment Policy Statement (CAPS) documents from their cell phones, and she was very excited. There was a need, at that time in that lecture hall, for electronic learning activities that were authentic, learner-centred, and relevant to students’ lives. Offering students tasks, which were authentic and collaborative, and involving them in problem-solving in authentic
contexts, facilitated some of the benefits of constructivism - the theoretical framework of this study. According to Koohang, et al. (2009), constructivist theory proclaims that learners should discover new knowledge themselves. In other words, constructivism posits that students are considered to be active organisms seeking meaning in whatever is in their environment.

One lecturer reported that she asked her students to search for information from the devices, whilst working on activities in class. However, students require a careful understanding of the software that can enhance all the modalities of English L2 learning, as well as the programs that can be productively used to achieve English L2 proficiency - which is the rationale for conducting this study. Melor (2007, in Yunus, et al., 2014) claimed that the internet, and the World Wide Web, in terms of the learning of English L2, are able to provide supplemental language activities, which assist students with learning specific language areas. It is, therefore, believed that, to prepare students to use technology as a tool for learning, problem-solving applications, and entry into the digital world, most technology programs of study require teachers to meaningfully integrate computer technology into the daily educational experiences of students (Alberta Learning, 2000; Prince Edward Island Department of Education, 2008; Yukon Department of Education, 2007).

5.4 Students’ and Lecturers’ Perceptions on Learning with Technologies

I deem it necessary to state that the findings on how the students learned English L2 with technologies in the institution under study were from the responses of four types of students: the first type of students were students, who used technologies in their classroom, together with their lecturer; the second type of students used technologies in their classroom without the lecturers’ permission, but when the lecturer found out, she ignored them in an encouraging manner; the third type of students used technologies without the lecturers’ permission, and knowledge; the fourth type of students did not use technologies, and did not even have an interest in learning with technologies. The fourth type of students were in the minority. The first three types of students reported about their experiences, as they used technologies in class, but the fourth type of students suggested what they thought would happen, or what they would do, when allowed to use technologies in class by their lecturer.

It is also worth mentioning that I also noted four types of lecturers: the first type of lecturer was the one who worked with technologies, together with her students; the second type found
out that her students were using technologies, and encouraged and assisted them; the third type did not want her students to use technologies in class, because she wanted her students to be ‘well-disciplined’. Interestingly, this lecturer noted during interviews that she believed that learning with technologies could assist her students in developing certain skills, although she also thought that there were certain areas where technologies could not be of any assistance. The fourth type of lecturer had a negative attitude toward the use of any type of technologies in class, arguing that she does not want to discriminate between the students, and, secondly, the students were first years, so they needed to be afforded an opportunity to familiarise themselves with the teaching methods at the University.

5.4.1 Technologies Used as a Resource Centre
Learning with technologies assisted students with information. Almost all the students reported that they searched for information from the internet; this perspective resonated throughout the participant’s comments, both students and lecturers. Lecturers and students both used the technologies as a resource centre. The students, during the focus group interviews, and the lecturers, during the individual interviews, reported that learning with technologies gave them access to current subject content. Students further argued that it gave them more information in a format they liked better than a textbook, even though the information was the same. Students reported that they searched (googled) for information, when the lecturer asked a question during the lecture presentation. Nevertheless, lecturers were very concerned about plagiarism in assignment writing. There was a need for students to be shown how to use turnitin to check for plagiarism, before handing in their tasks, or assignments.

5.4.2 Technologies Encourage Collaborative Work
The use of inexpensive and user-friendly technology, such as cell phones, generated some potentially beneficial, and intriguing, possibilities to increase students’ collaborative work. In the focus group interviews, the first three types of students explained in 5.4 reported that they used technologies to share their information with others. They mentioned that, when they got stuck on a task or assignment, they used technologies to seek clarity from others. By posting their reflective commentaries onto a collaborative space, and commenting on their colleagues’ experiences, students shifted from the role of being passive recipients of content from a very didactic mode of delivery, to being more active, to become producers of knowledge.
Eskootchi and Oskrochi (2010) note that incorporating computers in the classroom significantly improves engagement, social interaction, and contact with real-life resources. They further argue that it allows peers to learn from one another, and aided weaker learners through constructive, scaffold, and collaborative learning. In this study, collaboration among students was essential to knowledge-building, as it provided them with an opportunity to discuss, and reflect on, their learning, as well as their experiences in their practice environments.

The literature reviewed showed that, in social group discussions, an asynchronous discussion platform had the capacity to facilitate learners’ efficacy in language, whilst promoting social interaction that results in higher language achievement, and problem-solving capabilities (Borau, et al., 2009; Lu 5 & Yeh, 2008). In this study, communicating, using technologies, increased the chances of interaction with other students, because there were no time or place constraints, as opposed to normal face-to-face communication. There is a growing body of literature which argues that technology in language learning is intended to enhance learners’ interactions and engagement (Yang, 2011), and computer-assisted methods could facilitate language learning by giving purposeful interactions, and constructive feedback (Borau, et al., 2009; Dunlap & Lowenthal, 2009; Murphy, 2007; Yang, 2011).

5.4.3 Technologies Encourage Active Learning

It was evident from the findings of this study that the students and lecturers believed that the use of technologies in learning reduced the amount of passive, lectured learning, and encouraged more interactive learning. Technologies create an active learning-enabled environment for the development of conceptual knowledge in English L2 classrooms. The implementation of these technologies within the English L2 classrooms promoted better student work, because students were more engaged in, and excited about, using these new technologies. There was a new motivation and concentration, and this strengthened the potential work of the students.

Most of the students, during the focus group interviews, argued that they did not use any kind of technological device in class, but supported the use of technologies, and remarked that listening to lecturers everyday was boring, and they became passive in class. Some of the students agreed that lecturers tried by all means to involve them in their lectures through the use of open-ended types of questions. There were students, who also claimed that other
lecturers used laptops and data projectors during lectures, but did not afford them that opportunity. During semi-structured interviews with lecturers, some of them agreed that they provided their students with data projectors during presentation sessions only. Students also said they appreciated the use of laptops and projectors, but they needed to be allowed to use their smart phones, tablets, and laptops in class, to assist them in the learning of English L2.

During semi-structured interviews with lecturers, they explained ‘good language teaching’ as teaching that entails encouraging learners to be active in class, and the use of various teaching strategies by lecturers, such as group tasks, presentations, discussions, etc. For them, it also meant encouraging students to use the language in real-life situations, not just loading them with principle after principle on how to use it.

5.4.4 Technologies Cater for Students’ Different Learning Style Preferences
The students’ learning style preferences also heightened the degree to which the lecturers used technology in their classrooms. The findings from the questionnaires reflected that BEd1 English L2 classrooms consisted of students with different learning style preferences. This was evident, when one student indicated more than one response option from the options provided. Most of the students remarked that they would love to be allowed to use technological devices in their classrooms, because they remembered best what they saw than what they listened to. This implies that lecturers should cater for all the students through the use of various teaching methods and technologies during their lecture presentations. It was also mentioned in interviews with lecturers that bringing technologies to class made students understand more, especially those with visual, tactile, and linguistic learning style preferences. According to the literature reviewed, there are various ways of delivering content with technologies that include coding options, such as colour, sound, picture, graphics, etc., which cater for different student needs, and that may become crucial factors to enhance the English L2 learning process.

5.5 Students’ and Lecturers’ Perceptions on Language Skills Development
5.5.1 Technologies Develop Students’ Listening Skills
In the questionnaire data, and during focus group interviews, most of the students pointed out that they learned best when the lecture was recorded, and they listened to the information later. Students, who were not allowed to use any type of technology in class, noted that, given a chance, they would also record the lectures, and listen to them later. This implies that
technologies are powerful tools to be used by auditory and tactile learners. It also means that listening to the recorded lecture after class assisted the students to get a better understanding of the content. Through playing the recorded work several times, students had a chance to even pick up something they did not hear in class. During the focus group interviews, the first two types of lecturers mentioned that students became attentive in class, when technologies were used. Warchauer and Healey (1998) argue that, when technologies are used in class, learners become motivated, and the increased interest stimulates memory; hence, speaking and listening skills are developed.

5.5.2 Technologies Develop Students’ Communication Skills

Students revealed that they communicated with family and friends inside and outside South Africa. This is pointed out in previous chapters by Nunn (2011) and Mete’s (2011) that “English is an International Language” (EIL), and along the same lines, McKay (2002: 79) remarked that it is not the number of native speakers of English, but the large number of non-native speakers of English, who make it “a language of wider communication”; thus, an international language. During focus group interviews, one student reported that she used Instagram to communicate with a friend in the UK. In other words, it is of great importance that a technological device assisted in improving the student’s communication skills, and provided the student with the opportunities to communicate, not only locally (nationally), but globally, for she felt less threatened to communicate (Gumbo & Mawire, 2013).

All the students interviewed reported the role played by technologies in connecting them with other students, in order to setup English L2 discussion meetings. They also indicated that they communicated with their lecturers outside the classroom, using mainly Whatsapp, and emails. The students’ statements were confirmed by the lecturers during their interviews. A somewhat alarming fact, however, was that the lecturer, who had a negative attitude toward the use of technologies in class, acknowledged, however, that technology is a useful communication tool. She reported that her students communicated with her via emails after class about anything they wanted to share with her, especially introverted students. Bandura’s (2001) Theory of Self-efficacy recognises that people should act, if they are of the opinion that their actions will produce the desired results; hence, English L2 learning with technologies in class should be encouraged, whereby students would be engaged in activities on web-based platforms.
5.5.3 Technologies Develop Students’ Reading Skills

The majority of students in their questionnaires indicated that they learned best when they wrote down the information, and read it later, rather than when they listened quietly to the lecturer. However, some of the students said that they would love to be permitted to use their laptops to speed up the writing process, and to minimise spelling and grammatical errors, whilst taking down notes during lectures. All the students reported that they retrieved information from the internet, in preparation for their assignment writing. It was the English L2 lecturers’ responsibility to afford students an opportunity to read extracts in class from their gadgets, so as to develop their reading skills. It was not necessary to bring reading books, as each and every student had a cell phone, tablet, or laptop. In classes where students were allowed to use technologies, they had a chance to practise reading. For example, when students used Power Point during presentation sessions, they read their slides to the plenary, and were expected to be accurate in their reading, and to ‘talk to’ their slides; this way, their reading and communication skills were developed.

5.5.4 Technologies Develop Students’ Writing Skills

According to Rathore (2011), when learning with technologies, students’ writing skills are developed. As it is stated above (5.4.2), students communicated with other students, regarding their tasks, or group discussions, or with their lecturers, at times. They were expected to select the best, and most economical, words to communicate clear and meaningful messages to other students, or their lecturers. There was an availability of more planning time for students to produce good utterances. This shows that learning with technologies reduced conformity and convergence, e.g., hostile language, and the likelihood of information overload. It was noted that written interaction in electronic environment relaxes important cognitive constraints normally prevalent in face-to-face interactions. The literature reviewed has shown that technology can play an important role in helping English L2 learners improve their spelling (Torgeson & Elbourne, 2002), and grammar would be learnt subconsciously by learners through the use of technologies (Gumbo & Mawire, 2013). They further argue that many teachers used spelling software in their classrooms, and found it worthwhile.

During the lecturer interview sessions, the third and fourth types of lecturer reported that their students struggled with academic writing, and they referred them to the TLC Department, for assistance. This implies that some of the lecturers, in the Faculty under study, realised that,
with proper computer training, academic writing skills might be developed. In fact, the power of computer technology had also been harnessed by Lf1, for its capability of analysing grammar rules, and identifying problematic areas, e.g., particles, conjunctions, vocabulary, etc. The study conducted by Shang (2001), at a university in Taiwan, which focused on examining the overall effect of using email on the improvement of writing performance in aspects of syntactic complexity, grammatical accuracy, and lexical density, had also proven that technologies improved students’ writing skills.

5.6 Students’ and Lecturers’ Perceptions on Challenges of Using Technologies in Class

5.6.1 Student Discrimination
While the proposed intent of the integration of technologies in English L2 classrooms was to assist students to be more proficient in the English language, with such disparity between students and available resources, it was noted that this intent could unintentionally create more of a divide between the ‘haves’ and ‘have-nots’. This was a concern of one of the lecturers interviewed, as she considered her students’ socio-economic backgrounds. She cited it as one of the reasons why she did not use technologies in her classroom.

5.6.2 Time
Time constraint was identified by all the lecturers’ interviewed, as a daunting challenge during lecture presentations by most lecturers. These challenges, regarding time, were both during the class period, as well as time limitations over the duration of the course. One lecturer argued that, as lecturers, they were required to cover specific, and typically large, amounts of work throughout a semester, or year. She further elaborated that, if a lecturer decided to include a given technology, or program, into the course content, without some sort of knowledge, or guarantee, this would not be effective both academically and time-wise. She further suggested that there was a chance that the class would not complete all of the mandatory work planned, and that that was a risk that she was not willing to take. There was also a concern among two lecturers that they could simply not keep pace with advancing technology; hence, they suggested workshops, so that they could use technologies in class.

5.6.3 Student Supervision
During the semi-structured interviews with lecturers, there were concerns, regarding plagiarism, and recognised potential cheating among students in this technological age. Two
lecturers, who used technologies, pointed out that their students also used the information that was already on the computer, selected what was relevant to the topic, analysed, synthesised, etc., when allowed to use the internet. Hill, et al. (2004: 443) argue that, in learning with technology, learners are “no longer solely taking the information, but are also contributing to the knowledge base”. One student pointed out that, in reality, there were no guarantees that, when working on a task from printed paper, students were not looking back at a passage, while answering questions, interspersed in the text, even under tight supervision. In contrast, the computer has the capability of controlling whether the student could re-inspect written passages (or not). One of the lecturers raised the issue of individual attention, reporting that teaching an overcrowded classroom made it impossible to supervise all the students, as students were ‘naughty’, sometimes. This lecturer was concerned about the added responsibility of continuously monitoring students, not only for their activities, but also for the technologies used - which would come at the expense of other class activities, and teaching opportunities. On the contrary, one lecturer mentioned that the more assistance she provided to her students, the less class management challenges she encountered, which made logical sense, given her increased involvement, and supervision.

5.6.4 Lack of Knowledge on Technologies

During lecturer interviews, one lecturer revealed that most lecturers, including herself, did not have sufficient technological knowledge to guide their students exploring computers, and knowledge of language learning programs. Ghitza (2012) argues the introduction of technologies into English L2 learning with the support of appropriate training, to ensure that teachers and students are up-to-date with technology, and have a strong and positive impact on teaching and learning. This implies that no student could utilise a computer, if they lacked training in the uses of computer technology. This was supported by one student during focus group interviews, when she observed that most students had laptops, but did not know how to use them.

All the language lecturers interviewed were not sure about the language software students could use online to improve their language proficiency. It was also important for lecturers and students to develop a knowledge base of the technological devices, and the necessary pedagogy, in order to be able to select the appropriate technological resources for designing structures that would support teaching and learning (Osborne & Hennessy, 2003). A study
conducted by Bozdogan and Ozen (2014) showed that lack of knowledge skills, and lack of confidence, negatively impacted its use in English L2 teaching and learning.

5.6.5 Lack of Knowledge on Technology Integration
Gill (2011) asserts that, when technology is used properly, it could be a powerful tool that could have positive effects on the acquisition of English L2 skills. The study revealed that there were lecturers, who used technologies in the classroom, and also lecturers, who used technologies outside the classroom; however, the reasons for this differentiation resided with lecturers, who used technologies more commonly for administrative purposes than for incorporating technology into their lectures, or classroom activities. Teacher training programmes conducted by the TLC did not, necessarily, demonstrate how to effectively use it in learning English L2, but focused on the use of technology as an administrative tool, or for research purposes.

The findings from the interviews conducted with lecturers showed that lecturers encountered challenges, which included the use of modern technologies in teaching and learning of English L2. Moreover, the difficulties, for the last three types of lecturers interviewed, was attempting to determine how to incorporate a given strategy and technology into the course content in an effective and meaningful way. This was also confirmed by one of the students in focus group interviews.

Another challenge among lecturers was that they had limited access to the specialised software programs, and general ineptitude with certain applications and resources. Debski (2000) asserts that, even when lecturers do believe that technology has “empowering potential”, they do not always know how to make this happen in the classroom. The findings of this study are just an opposite of findings of the study conducted at the University Putra Malaysia at the Faculty of Educational Studies on teaching efficacy, whereby student-teachers were asked to make a self-reflection on their ability to integrate ICT in teaching. The findings of that study showed that student-teachers were quite confident of their ability to integrate ICT in their teaching (Bakar & Mohamed, 2008).

5.7 Summary
In sum, the findings of this study revealed that, irrespective of whether lecturers decided to adopt new technologies in the teaching and learning of English L2, students were found to be
already using them to support aspects of their learning. From the discussion above, it is evident that students, who used technological devices in their classrooms without the lecturers’ knowledge, and lecturers, who allowed their students to use technologies in class, believed that the use of the technologies could assist students in improving their English L2 proficiency. The purported advantages of learning English L2 with technologies was students’ active learning. The students’ interactions with one another, and with their lecturers in class, generated more opportunities for students to participate, and to provide a greater amount of language production. However, because of the challenges identified from the students’ and lecturers’ responses, the conclusions and recommendations are presented in the following chapter.
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction
The preceding chapter discussed the findings, based on the research questions the study sought to address. This chapter presents the main implications of the findings, advances conclusions, and proposes recommendations from this, and for further, research.

The first chapter discussed the problems, pertaining to English L2 learning with technologies in institutions of higher learning. The problem statement focused on English L2 learning with technologies in a selected University in the Eastern Cape.

6.2 Conclusions
The findings, based on the students’ and lecturers’ perspectives, revealed that learning with technologies in BEd L2 English L2 classrooms in the institution under study became a motivating factor to the students; they became more engaged in English L2 activities. According to their reports, it was noted that technology expanded their classrooms into the real world, and this exposure enhanced their knowledge of English L2. The use of technologies supported students’ active learning. According to the students’ responses it developed their listening, reading, writing, and communication skills. It generated changes in classroom activities, as discussed below.

6.2.1 Technology Expanded the Classroom into the Real World, and Enhanced Students’ Knowledge

Students had positive attitudes toward the use of technology in their English L2 classrooms. It developed their intrinsic motivation, as they became curious, and adventurous, and it aroused their interest. In English L2 classrooms, the technological devices owned by students assisted them socially and academically, and that contributed to the development of their English L2 proficiency. In their classrooms, they used social networks to organise group meetings, in order to construct knowledge together as groups; thus, linking reflection and interaction. They shared resources among themselves, exchanged ideas, shared materials they created on their own, supported fellow students during their spare time, when given assignments, and tasks. They used their cell phones to communicate with friends even outside
South Africa. Both synchronous and asynchronous devices enhanced their knowledge. Students used Google, and other search engines, to search for information inside and outside the classroom, and Microsoft Word, to type their assignments, and tasks. According to Thakur (2014), “students’ experiences on their use of cellular phones and social networks equip them with the necessary skills of dealing with challenges, thereby instilling self-confidence in learning with technologies in their English L2 classrooms.”

6.2.2 The Use of Technologies Supported Students’ Active Learning

Constructivism - which served as lens of this study - posits that students are active organisms, seeking meaning. Indeed, students in BEd1 English L2 classrooms in the institution under study were in need of their lecturers’ guidance to discover the best ways of learning English L2 with technologies for themselves. According to constructivists, lecturers should ask questions, rather than giving students facts, engage with students in conversations, and allow them to arrive at their own conclusions. Hence, Jacobs, et al. (2004) assert that the lecturer does not present information as the ultimate, unchanging truth, but as a piece of information on which learners need to reflect, by trying to relate it to their own existing information.

6.2.3 Technologies Encouraged Co-operative Learning

As indicated in previous chapters, the technology-enhanced environment brought about the shift of traditional teacher-centered to a more learner-centered classroom. It reduced the amount of passive learning, and encouraged more co-operative and active learning, and enhanced lecturer-student interactions. Hence, Fosnot (1996), and Cholewinski (2009), argue that, when learning with technologies, language learners are often required to actively give meaningful and topic-related feedback in the online conversation. Students were able to manage their own learning process, by gathering information, and negotiating meaning themselves. It promoted better student work, because they became more engaged and excited about using the technologies - which enhanced motivation, and concentration. It increased collaboration among the students, as it provided them with an opportunity to discuss, and reflect on, their English L2 learning, as well as their experiences, when they used their cell phones, and emails. There is a growing body of literature, which argues that technology in language learning is intended to enhance learners’ interactions and engagement (Yang, 2011), and computer-assisted methods could facilitate language learning, by giving purposeful interactions and constructive feedback (Borau, et al., 2009; Dunlap & Lowenthal, 2009; Murphy, 2007; Yang, 2011).
6.2.4 The Use of Technologies Developed Students’ Listening, Reading, Writing, and Communication skills

The exposure to technological devices, such as cell phones, tablets, and laptops developed students’ listening, reading, writing, and communication skills in English L2 classrooms. This finding is in line with the findings of the study conducted at the University of Illinois, Urbana by Douglas Mills, who wanted to improve his Master’s students’ listening, speaking, reading, and writing skills in English L2 for academic and professional purposes. According to him, using CALL in English L2 increased students’ self-esteem, vocational preparedness, and language proficiency. In this study, students recorded their lectures, and listened to the recorded work later; that way, the students’ listening skill was developed. Technologies offer authentic and communicative tasks, with pictures, sound effects, listening options, and animations. These features assisted in improving students’ reading skills. Students’ reading skills, such as skimming, and scanning, were developed. For example, during discussion sessions, pictures assisted them in predicting what would happen next. Learning English L2 with technologies improved the students’ communication skill. To improve communication skills, students used their cell phones and laptops in class for presentations (PowerPoint), and emails, to communicate with their lecturers. In their study, Gonzalez-Bueno and Perz (2000), and Thorson (2000), found that the use of emails does not only focus on writing skills, but also allows for an increase in meaningful communicative exchanges.

6.2.5 The Use of Technologies Generated Stimulating Changes in Classroom Activities

Technologies promoted better student work, because they became excited about using technologies, and their concentration span improved. Through the use of pictures, sound effects, listening options, and animations, students were able to minimise spelling and grammatical errors in their written activities. Their vocabulary acquisition improved, as they used dictionaries from their cell phones more often in class. The cell phones used in class consisted of various features, such as dictionaries, thesaurus, spelling and grammar check pane, etc., that assisted them in developing their academic writing skills. Technology can help ESL learners improve their spelling (Torgeson & Elbourne, 2002), and grammar is learnt subconsciously through the use of technologies (Gumbo & Mawire, 2013). Shang’s (2001) study at a university in Taiwan focused on assessing the overall effect of using email to improve writing performance, in terms of syntactic complexity, grammatical accuracy, and lexical density, and demonstrated that technologies can improve learners’ writing skills.
Some of the challenges that need to be addressed for the effective integration of technologies in English L2 classrooms are the following:

6.2.6 **Lack of Sufficient Knowledge of Technologies**

Students and lecturers encountered some difficulties, due to a lack of sufficient knowledge of technologies, and how to use them, e.g., cell phones, computers, data projectors, electronic whiteboards, etc. Some lecturers were not effectively equipped to assist their students to learn English L2 with technologies.

6.2.7 **Lack of Computer Skills, and Unavailability of Classroom Resources**

Classroom technologies, known as ‘static resources’, e.g., data electronic whiteboards, data projectors, clickers, etc., were not available in English L2 classrooms. Lecturers’ levels of competence, in terms of computer use, were not adequate for effective teaching of English L2 with technologies either, as some of them displayed difficulty in using them themselves, e.g., *Blackboard*, etc. However, some of them were able to use computers as a resource centre, and as an administrative tool. As a teaching tool, all they knew was to project the subject content during lectures. They were not able to effectively integrate technologies into their lectures in a manner that helped students to benefit much from learning English L2 with technologies. They did not know how to use certain features on their computers. This situation resulted in computer anxiety, and lack of confidence - which became a challenge to both students and lecturers. It was a cause for concern that students only used their devices for vocabulary, and to check spelling; they lagged behind in CALL use, due to their lecturers’ lack of required competencies. However, all was not “doom and gloom”, as one lecturer was computer-literate, and allowed them to use their personal devices under her supervision in class.

6.2.8 **Lack of Experience in the Use of Technologies**

The students’ calibre was reported as a contributing factor, in their lack of experience in technology use. It was reported that BEd1 students in English L2 classrooms were from underprivileged backgrounds, and were not familiar with technologies. Most of them managed to own technologies, because they were funded by NSFAs loans, Fundza Lushaka, and the Eastern Cape Government. Students and lecturers had limited access to specialised software programs, certain applications, and other search engines, other than *Google*, that could help students in English L2 learning - which resulted in the absence of Web-based
activities.

6.2.9 Lecturers’ Teaching Methods
It may be concluded that the lecturers were equipped with professional knowledge on how to teach students, as they held professional teaching qualifications, English L2 was their area of specialisation, and they had an interest in what they were teaching. Lecturers also claimed that they knew what principles and strategies to use in teaching English L2; however, most of them favoured the lecture method, which encourages rote-memorization, and passive learning. Their English L2 classrooms were teacher-centred. This became a challenge to first year students, as they were to familiarise themselves with the teaching methods that were different from those used in their high schools, as well as academic writing.

6.2.10 Lecturers’ Attitudes Toward Technology Integration in Their Lectures
Lecturers’ attitudes, or concerns, had a significant influence on the use of technologies in the English L2 classrooms. Lecturers’ attitudes emanated from, among other things, personal backgrounds, such as age, interest in using technologies, and willingness to change with the times. I presuppose that their negative attitudes toward the use of technologies in class disadvantaged students, as they were asked to switch off their personal devices during lectures. Lecturers reported that, by so doing, they used their power and authority. Their personal beliefs of the advantages of using technology for language teaching disadvantaged students, and their lack of confidence influenced their decisions, regarding the selection of technologies to be used in class.

6.2.11 The Classroom Environment (Space, Sitting Arrangement, Class Size, and Time)
Space for movement by students and teachers during lectures, the types of desks, and how they were arranged in the classroom, determined the choice of technologies used by the lecturers. Unavailability of space, and desks that were arranged in rows, did not allow the use of technologies in most of the classrooms. The unavailability of storage space of cupboards/cabinets in class was also one of the demotivating factors in teaching English L2 with technologies. Overcrowded classrooms encouraged the use of the lecture method in most of the English L2 classrooms. Overcrowded classrooms was reported as a cause of time constraints during lesson presentations, and time limitations during a course. The poor maintenance of teaching facilities in the Faculty were also experienced.
6.3 Recommendations

Herewith six recommendations which the researcher hopes can remedy some of the challenges identified by the study:

**Recommendation 1: Lack of Sufficient Knowledge of Technologies**

Students should be allowed to use technologies in class (e.g., cell phones, computers, desktops, laptops), and be connected to the internet (University WiFi), because the internet serves as a useful educational tool for motivating students, providing large amounts of information, teaching resources, and materials. Students should be encouraged to use it as a place for experiencing different cultures, and communicating with other people in the target language, as Krashen (1987) suggested in his Input Hypothesis, i.e., language acquisition is promoted by exposure to language which is somewhat more advanced than the language one can understand. However, lecturers have to avoid division between the ‘haves’ and ‘have-nots’ among students. Students should bring their devices to class, and be advised on the types of technologies they could benefit from in selecting the devices; for example, to buy tablets, or cell phones, with third-generation protocols (3G), since not all cell phones have features found on computers. I hasten to suggest that they should also be introduced to other types of devices they are not exposed to - that could assist in the learning of English L2 in their classrooms, e.g., clickers, etc.

**Recommendation 2: Lack of Computer Skills, and Unavailability of Classroom Resources**

Although there is a shortage of technological devices in English L2 classrooms, it is the lecturers’ responsibility to improvise, by using their own affordable devices, such as bringing their personal laptops, or tablets, to their lectures for teaching and demonstration purposes. They can borrow data projectors from their colleagues, or from other departments, e.g., the TLC. It is suggested that the institution provide each English L2 classroom with a data projector, which should be mounted on the ceiling, to save space, and for safety purposes.

Lecturers and students should deal with internal barriers associated with their insufficient computer skills, by attending computer training on the use of technologies that would focus on learning English L2 with technologies. Through this kind of workshop, they can acquire computer literacy, integration skills, use of various social networks, and various platforms for English L2 learning, e.g., discussion boards, blogs, Wikis, etc.
**Recommendation 3: Lack of Experience in the Use of Technologies, and How to Generate Changes in English L2 Activities**

The on-going training on the use of Blackboard and turnitin, and the use of English language software for both lecturers and students, should be organised. This should be conducted to improve students’ listening, reading, and writing skills. The software programs should respond to students’ needs, interests, backgrounds, and learning styles. Goral (2011) confirmed that using software applications does not only encourage greater interaction among students, but also enhances creativity, and critical thinking.

**Recommendation 4: Lecturers’ Teaching Methods**

Lecturers should select teaching methods that would promote independent learning, as suggested by constructivism, such as the question-and-answer method, and the discussion method. They should select teaching methods that are useful, effective, and diagnostic in nature. When implemented correctly, these teaching methods would determine the depth of the students’ understanding, and identify misconceptions. These teaching methods encourage co-operative learning. When working co-operatively, students feel that their contributions are valued, respected, and celebrated, and, therefore, this improves communication proficiency (Wright, 1999; Vaughn, Kligner and Brayant, 2001). In learning, based on constructivist theory, teachers help students to build their own understanding, rather than lecturing answers. Chomsky (1986), in his nativism theory of English L2 acquisition, promotes the idea of human beings having an innate ability to acquire language similar to the ability to learn to walk, with the help of a device, known as the ‘Language Acquisition Device’ (LAD), that needs to be activated through limited language input (Lightbown & Spada, 2006: 15). Although models could increase the probability for students to learn more, and retain better what they learn - and Skinner describes language learning as imitation (and reinforcement) of what one hears - Bandura, in his Self-efficacy Theory (1997), noted that exposure to the L2 is not enough in the observational process, it has to be relevant and direct to the observers’ attention in complex L2 stimuli, i.e., educational technologies, in this case. In addition, Lubliner, et al. (2008) assert that learners need to be encouraged to explore, and to learn, through positive collaboration in a social interaction scaffolding framework.

**Recommendation 5: Lecturers’ Attitudes Toward Technology Integration in Their Lectures**
It should be lecturers’ responsibility to consider the inhibiting, and facilitating, factors carefully. They should overcome barriers that make them feel reluctant to use technologies in the classroom. For example, they should look for ways to deal with internal barriers associated with negative views of the use of technologies in their classrooms, especially, mobile technologies, such as cell phones, because they are relatively cheap, compared to other technological devices, like tablets, and laptops.

**Recommendation 6: The Classroom Environment (Space, Sitting Arrangement, Class Size, and Time)**

The institution should keep improving standards of the classrooms at the same rate that technology progresses. It should be realised that, even when updates and modern renovations do happen, they are quickly outdated by standards, e.g., data projectors should be mounted in classrooms. It is of great importance that English L2 lecturers provide a meaningful learning environment. The classroom atmosphere increases student’s independence through collaborative and accommodative learning. The classroom should be spacious for group work, and to accommodate use of technologies by students during lectures. External factors that affect the integration of technologies, such as poor maintenance of teaching facilities in the Faculty, class size, and classroom environment, should be addressed by the institution, as they affect the choice of teaching methods, and technologies, to be used in class. The institution should consider the teacher-learner ratio, so that lecturers can have enough time for individual attention, and enough space for group/co-operative learning.

The contribution made by this study increased the research literature on the learning of English L2 with technologies in institutions of higher learning in rural communities. The current study revealed the strengths and gaps in the knowledge and use of synchronous and asynchronous technologies in English L2 classrooms in the selected University in the Eastern Cape. The findings of this study also illustrate the contributions made by technologies in English L2 learning, and the challenges experienced by students, and their lecturers, during technology integration in lectures. The challenges that prohibit the implementation from taking place are identified, as well as the possible solutions. It further demonstrates the importance of English L2 workshops, for both students and lecturers, that would equip them with best resources/technologies to learn English L2, as well as best teaching methods that could be used by English L2 lecturers. Learning environments, which will be non-
threatening, meaningful, and affectively supportive, by using technological devices in their learning and teaching of English L2. The findings of the study, moreover, inform BEd1 English L2 students, and their lecturers, of their strengths and weaknesses in learning with technologies in their classrooms, the lecturers teaching methods frequently used, and the types of students they cater for. This would have a bearing on the selection of activities to be done in their classrooms, as well as the types of technologies to be used in particular lectures.

In addition, the institution will be able to use the training needs of both BEd1 English L2 students, and their lecturers - revealed by this study - to improve the students’ English L2 proficiency, and the quality of English L2 teaching by their lecturers in their classrooms.

The research component of this study was conducted on a small-scale, as a case study. The scope was limited to three English L2 classes only. It would be useful to undertake such research on more students, and English lecturers in other Faculties, even in other universities in the Eastern Cape. A number of factors reduce the generalisability of this investigation: the fact that the researcher is a full-time employee; and, the time available for this would not have allowed such geographical scope; furthermore, there would be financial implications. Therefore, it cannot be presumed that the findings of this research are applicable to all students studying English L2 in other Faculties in the institution under study, and in other universities in the Eastern Cape.

Future research needs to focus on the use of technologies in the English L2 classrooms, particularly, to determine how and which CALL technology is used in the classroom, and for what pedagogical purposes. The current study can be replicated in the English Department within the institution under study, or in other institutions.
ADDENDUM A: STUDENT QUESTIONNAIRE

Instructions: Answer each question as honestly as you can. Tick on the appropriate box after each statement.

Table 1: Students’ Personal Technologies and English Second Language Classrooms

1.1 Students’ Personal technologies

<table>
<thead>
<tr>
<th>1.1.1 Do you have the following devices / technologies</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tablet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laptop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.1.2 I often use the following social networks in my cell phone</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twitter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whatsapp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instagram</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YouTube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.1.3 I often use the following programmes in my computer</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microsoft word</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emails</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnitin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.2 English language classrooms

<table>
<thead>
<tr>
<th>1.2.1 Does the classroom have the following resources?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cupboard / Storage space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whiteboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic whiteboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laptops for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate lighting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead projector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data projector</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2.2 Materials accessible to:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group of learners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual learner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.2.3 Description of desks

<table>
<thead>
<tr>
<th>single</th>
<th>double</th>
<th>Flat/Slope</th>
</tr>
</thead>
</table>

1.2.4 Spatial arrangements of desks

<table>
<thead>
<tr>
<th>row</th>
<th>group</th>
<th>Horseshoe</th>
</tr>
</thead>
</table>

1.2.5 Sufficient space for arrangements for group work

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

1.2.6 Sufficient space for arrangements for group movement

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Table 2: English Second Language Practice

**Instructions:** Answer each question as honestly as you can. Tick on the appropriate box after each statement.

2.1 Lecturers’ Teaching Methods

2.1.1 Method(s) used for presentation of information:

<table>
<thead>
<tr>
<th>(Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly questioning</td>
</tr>
<tr>
<td>Mainly mind map</td>
</tr>
<tr>
<td>Visual aid</td>
</tr>
<tr>
<td>Mainly lecture to a whole class</td>
</tr>
<tr>
<td>Mainly group drilling</td>
</tr>
<tr>
<td>Mainly story-telling</td>
</tr>
<tr>
<td>Mainly teacher practical demonstration</td>
</tr>
<tr>
<td>Mainly lecture practical work</td>
</tr>
<tr>
<td>Mainly co-operative work</td>
</tr>
<tr>
<td>Mainly individual use of textbooks</td>
</tr>
<tr>
<td>Other (specify):</td>
</tr>
</tbody>
</table>

2.1.2 Lecturer seeks to find out learner’s current knowledge?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

2.1.3 Questioning technique(s) used by the lecturer:

<table>
<thead>
<tr>
<th>(Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly open-ended questions</td>
</tr>
<tr>
<td>Mainly questions that require recall of information</td>
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</tbody>
</table>

2.1.4 How is new information introduced and practiced?

<table>
<thead>
<tr>
<th>(Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Words written on the board</td>
</tr>
<tr>
<td>Words projected on whiteboard</td>
</tr>
<tr>
<td>Students search for information from computers / cell phones</td>
</tr>
<tr>
<td>Other (specify):</td>
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</table>

2.1.5 Do you work on any written activity in the English classroom?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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</table>
2.1.6 Does your lecturer supervise students during written work? | Yes | No
---|---|---
2.1.7 How is lecturer’s content knowledge? | Very good | Average | Poor
---|---|---|---
2.2 Classroom activities

2.2.1 Lecturer and student involvement: | Yes | No
---|---|---
Includes repetitive activities
Students work in groups
Includes activities which encourage listening, speaking, reading, and writing
Encourages problem-solving, original or imaginative work
Uses more than one teaching method in a lesson
Teacher-learner interaction
Keeps to strict routine during lessons

Table 3: English Second Language Practice

Instructions: Answer each question as honestly as you can. Tick on the appropriate box after each statement.

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<tr>
<th>Elicitation Items</th>
<th>Options</th>
<th>(Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand new work best when</td>
<td>presented through the lecture method with information, explanations and discussion</td>
<td>1</td>
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<tr>
<td></td>
<td>the information is presented through the use of visual aids</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>working with my hands or making things</td>
<td>3</td>
</tr>
<tr>
<td>I can remember more about a lesson when</td>
<td>I listen without taking notes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>I write things down or take notes for visual review</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tape-recorded for re-listening later</td>
<td>3</td>
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<tr>
<td>I remember best by</td>
<td>writing things down several times, even when detailed outline is distributed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>using highlighters when reading</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>setting information to rhyme, rhythm, or music to aid retention</td>
<td>3</td>
</tr>
<tr>
<td>I do better in English subjects by</td>
<td>listening to lectures</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>discussing information with peers</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>reading a textbook</td>
<td>3</td>
</tr>
<tr>
<td>What helps me to concentrate?</td>
<td>Background music</td>
<td>1</td>
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<tr>
<td></td>
<td>A quiet room</td>
<td>2</td>
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</table>
ADDENDUM B: STUDENT FOCUS GROUP INTERVIEW QUESTIONS

1. Which technological devices that you have (own)?

2. Which social networks you use most, and why?

3. Which networks assists you, or would assist you in English Second Language learning in class?

4. Are you allowed to use cell phones in your English Second Language classroom? If yes, how do you use them? If no, how would you use them?

5. Which technologies does your lecturer use in the classroom, and why?

6. Which technologies does your lecturer ask you to learn with when working on activities in your classroom, and why?

7. Which computer programmes do you use most, and why?

8. How could learning with technologies in classroom activities assists you progress towards understanding of English language?

9. Does learning with technologies encourage active learning?
ADDENDUM C: LECTURER INDIVIDUAL INTERVIEW QUESTIONS

Part One: The information about the lecturers

Question: Could you briefly share with me your profile under the following:

1.1 Gender : .............................................................

1.2 Highest qualification : ..............................................

1.3 Language of learning and teaching : ................................

1.4 Subjects / Courses / Modules the lecturer teaches : ................

1.5 Lecturer’s preferred language in the classroom : .................

1.6 Most frequently used teaching method in the classroom : .........

1.7 Most preferred teaching aids in the classroom : ......................

Part Two: The Student’s background

2.1 How would you describe the social, and economical backgrounds of your students?

2.2 What impact do their backgrounds have on their English learning process?

2.3 How do students use their cell phones in their English Second Language class?

2.4 Have you ever asked them to make use of their cell phones during their English lesson, if yes, why? and if no, why?

Part Three: Students’ English Learning Strategies

3.1 “…the effectiveness of learning depends on the excellence of the teacher in class”    
(Hofstede, 1986:313). Do you agree with the statement?

3.2 What is your perception of good language teaching and learning?

3.3 Are you familiar with the term ‘technology integration’ ?, explain your own understanding?

3.4 Are your students learning with technologies in your English classroom?

3.5 What types of technologies that your students are learning with in their English classrooms ?.

3.6 What influences your selection of the technologies they are learning with in their classroom?

3.7 What are the changes that these technologies generate in the classroom activities ?.

3.8 How do the integrated technologies support students’ active learning ?

3.8 Does learning with technologies have potential to inform and enhance the English Second Language learning in your classroom, ?, how?
## ADDENDUM D: MASTER LIST OF STUDENTS’ PROFILES

NO OF STUDENTS: 254  |  VARIABLES: GENDER, RACE, AGE, MOTHER TONGUE (L1)

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ADDENDUM E: STUDENTS’ FOCUS GROUP PROFILES

NO OF STUDENTS: 80  
VARIABLES: GENDER, RACE, AGE, MOTHER TONGUE (L1)

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ADDENDUM G: EXEMPLAR TRANSCRIPT OF FOCUS GROUP INTERVIEWS (FOCUS GROUP 1)

Q1: Which technological devices do you own?

Sm1: “I have Cell phone, and laptop.”
Sm2: “I have Cell phone.”
Sm3: “I have smart phone, and laptop.”
Sm4: “I have Cell phone, laptop, and a tablet.”
Sf1: “I have Cell phone, and laptop.”
Sf2: “I have Cell phone, and laptop.”
Sf3: “I have Cell phone, and laptop.”
Sf4: “I have Cell phone, and laptop.”
Sf5: “I have Cell phone, and laptop.”
Sf6: “I have Cell phone, and laptop.”

Q2: Which social networks do you use most of the time, and why?

(I received varied responses from different group members with in a group and across groups. All the group members use Whatsapp for various reasons. Below are the responses from different group members):

Sm1: “Whatsapp, we usually work in groups so I communicate with classmates. I also communicate with and friends.”
Sm2: “Whatsapp, helps me to communicate with friends and family members back home.”
Sm3: “Whatsapp, I communicate with friends, and send them pics, it’s cheap.”
Sm4: “Whatsapp, and Facebook. I communicate with my family because I am from Mpumalanga and Whatsapp is cheaper than making call. I use Facebook to chart with friend and share pictures.”
Sf1: “Whatsapp and laptop. I use whatapp to communicate with friends, and family and write emails to my lecturers when I sometimes want clarity on certain things done or said in class.”
Sf2: “I use whatsapp to communicate verbally with my grandmother who cannot read nor write. It is not as expensive as making a call. It is good to hear her voice.”
Sf3: “I also use whatsapp to report to my lecturer when I am not going to attend lectures because I am sick or when I have a problem.”
Sf4: “Whatsapp helps me to communicate when we have group assignments.”
Sf5: “Whatsapp and laptop; I chat with friends, email them and my lecturer.”
Sf6: “Whatsapp and Facebook, I text and call my family and friends using Whatsapp. It’s not that expensive like other social networks. I use Facebook for fun, I read trending issues about celebs and watch pictures from face book when I am not studying.”
Q3: Which social networks assist you, or would assist you, in English L2 learning in class?

Sm1: “I do not use my cell phone in class, I am no sure.”
Sm2: “Every day, we are told to switch off our cell phones in class, but I think I would use Whatsapp because it’s cheap.”
Sm3: “I would use whatsapp; I am not sure.”
Sm4: “I use Whatsapp, when communicating with my friend...asking something in class.”
Sf1: “My cell is off in class; I am not sure.”
Sf2: “I would use Whatsapp.”
Sf3: “I use Whatsapp to organise group discussion after class.”
Sf4: “I use Whatsapp to communicate with my group members about a given task or assignment.”
Sf5: “I would use whatsapp; that’s all I have.”
Sf6: “I think I would use Facebook to get information.”

Q4: Are you allowed to use cell phones in your English L2 classrooms? If yes, how do you use them? If no, how would you use them?

Sm1: “No, I do not use my cell phone in class, I am no sure.”
Sm2: “No, every day, we are told to switch off our cell phones in class, but I think I would not use cell phones because I would be disrupted by incoming messages during the lecture and not concentrate”.
Sm3: “No, I would check meanings of words.”
Sm4: “Yes, When I do not fell like writing notes, I record the lecture and listen to it later in my room.”
Sf1: “No, I would check spelling and vocabulary.”
Sf2: “No, but I would use my cell phone to google the correct answer to the question asked in class.”
Sf3: “Yes, I use when I want to check spelling or correct sentence construction, because my cell phone has such features.”
Sf4: “Yes, I record the lecture, and search for policy documents.”
Sf5: “No, but I think I would google information on everything done.”
Sf6: “No, I think I would take videos of lectures in preparation for tests and exams.”

Q5: Which technologies does your lecturer use in the classroom, and why?

Sm1 “My lecturer does not use technologies, I do not know why.”
Sm2: “She does not use technologies, I think madam that it is because our lecturer does not know how to use these gadgets.”
Sm3: “My lecturer does not use the any device, I do not know why.”
Sm4: “Laptop, data projector, and tablet because of the overcrowded classroom and I think that she enjoys working with technologies.”
Sf1: “Our English lecturer does not use technologies. She is very talkative, madam, she does not mind talking the whole lecture. At times we do not get a chance to express our views. That means when she uses the device she will not get a chance to monopolise or own the classroom.”

Sf2: “She does not use the any device, I do not know why.”

Sf3: “Laptop and data projector, because our classroom is overcrowded, she wants all of us to see.”

Sf4: “Laptop, data projector, and tablet. I think it is because she wants us to understand better the concept she is teaching. It is easy to remember what you saw than what you heard.”

Sf5: “My lecturer does not use technologies, I do not know why.”

Sf6: “Laptop and data projector, because our classroom is overcrowded.”

Q6: Which technologies does your lecturer ask you to learn with when working on activities in your classroom, and why?

Sm1: “No, I do not use technologies in class, we were never asked to.”
Sm2: “Every day, we are told to switch off our cell phones in class.”
Sm3: “No, I do not use technologies except for calculator.”
Sm4: “Cell phone, or tablet, I search for information.”
Sf1: “We are not allowed to use our cell phones or tablets, even laptops.”
Sf2: “I do not use technologies in class.”
Sf3: “Cell phones, or tablets, when doing tasks.”
Sf4: “Cell phone, laptop, data projector; I search for information and policy document from a cell phone and use laptop and data projector when presenting.”
Sf5: “We are not allowed to use technologies in class.”
Sf6: “I am not allowed to bring technologies in class, I switch off my cell phone.”

Q7: Which computer programme(s) do you use most, and why?

Sm1: “I use Word to type my assignments, email to communicate”.
Sm2: “I use emails to communicate with my lecturer, and submit assignments, and Word to type documents.”
Sm3: “I use word to type documents, and google, to search for information.”
Sm4: “I use Power point when presenting, and emails.”
Sf1: “I use Word to type my work, internet and emails.”
Sf2: “I use google to search for books available in our library within a short space of time than spending hours in the library, word, email.
Sf3: “I use Google to search for information, because I get information from different scholars.”
Sf4: “I use Google, because, in the library I get information from 1 source after 2-3 hours searching, with google I get what I want instantly, power point, emails.”
Q8: How could learning with technologies in classroom activities assist you progress towards understanding of English L2?

Sm1: “Technology would make our work very easy because we would google from Google, e.g., on how to work on comprehension or to discuss a cartoon, for example.”

Sm2: “Learning with technologies would assist me because it would trigger memory.”

Sm3: “It would assist me in checking grammar and spelling on my activity.”

Sm4: “I think it would assist me, because, sometimes, I would type my notes as…and save time instead of taking hours copying notes from the chalkboard.”

Sf1: “I would use it to download various templates on doing certain things, such as how to write a formal letter, how to take minutes in a meeting, and how to write reports.”

Sf2: “I would practice academic writing, and improve my writing skills.”

Sf3: “I think it would assist, because I would study any time, because I will not have to carry lots of books from the library.”

Sf4: “I think working with technologies would assist slow learners in various ways; for example, to search for meaning, when you do not know the word. It could also assist on different format of essay writing, how to summarise text, assist with spelling, etc.”

Sf5: “It would become easy to pronounce English words like native speakers as the dictionary has meanings, and shows to pronounce words by writing it phonetically.”

Sf6: “I do not think technologies would assist me and there is any need to learn English with it, because English changes all the time; for example, you write essays in different ways, or format. I believe that it goes with how creative you are.”

Q9: Does learning with technologies encourage active learning, and motivate?

Sm1: “Yes, listening to what is said in class is boring sometimes and learning with technologies would make the lecture very interesting, and students would be active participants.”

Sm2: “I do not think so; I am not sure. I believe that the classroom would be chaotic. The lecturer who intend to introduce student learning with technologies should think the best way of implementing that to avoid chaos, more especially in overcrowded lecturers.”

Sm3: “Yes, students like technology.”

Sm4: “Yes, learning with technologies would assist us as students because seeing what the lecturer is talking about would make all types of learners active even
the introverted students.”

Sf1: “Yes, most students are technological literate.”
Sf2: “Yes, students would want to be hands-on.”
Sf3: “Yes, working with technologies would be like playing and students would love that, and learn at the same time.”
Sf4: “Yes; on the positive side it might encourage active learning, the issue of chaos can be addressed from different angle because chaos is there even when we are not learning with technologies. To add on that it might increase student attendance because the lecture will not be boring.”
Sf5: “Yes.”
Sf6: “Yes, I believe so, because I have been observing a clip of a certain class at one of the university in UK overseas where every student had a tablet in class and they learn with them. Students were very active, they were hands on.”
ADDENDUM H: EXEMPLAR TRANSCRIPT OF LECTURER INTERVIEWS

Q1: Tell me briefly about yourself: where are you from; age range; highest qualifications; your L1; major subject(s) you teach; and, the teaching method(s) you frequently use in class?

Lf4: “I am from Lesotho and my L1 is seSotho. I am within 30-39 age range. I am a holder of PhD and B PEd Degrees. I majored in English and I also teach English Method. I frequently use lecture and discussion methods in my English L2 classrooms.”

Q2: How would you describe the social and economic backgrounds of your student?

Lf4: “Most of them are coming from a poor background, even in class it takes time for them to adjust to university language. The first two or three months is a challenge because of their background. Sometimes you even ask yourself how did they even pass metric.”

Q3: What impact do their backgrounds have on their English learning process?

Lf4: “The way they respond shows that they come from rural, rural, rural...I have to guide them. I do not have to rush them, one step at a time, for example, if you ask them to write a paragraph about anything. Some will write an essay without paragraphs. Most of them do not know how to write the ideas that they should have topic sentence with main idea, supporting sentences, and a concluding sentence. Very few will write a paragraph correctly.”

Q3: Do students use technologies in their classrooms? If yes, how do students use their cell phones in their English Second Language class?

Lf4: “Yes, but not in class. I hate to see students using cell phones when I am teaching. Some of them they do that. They do not focus, they are bust chatting in social whatever.”

Q4: Have you ever asked them to make use of their cell phones during their English lecture? If yes, why? And if no, why not?

Lf4: “No, the venue that I am using is a problem. Sometimes even the plugs are not working. Secondly, I have a big class, so I just teach.”

Q5: “…the effectiveness of learning depends on the excellence of the teacher in class” (Hofstede, 1986: 313). Do you agree with the statement?

Lf4: “I do agree, with me teaching should be done by both parties. There must be proper
interaction between the teacher and the learner. I do not like learners who cram work. In class students interact and we discuss even those who are sceptical to talk. They have right to say no, they must say something so that I can identify a problem so that I can assist.”

Q6: What is your perception of good language teaching and learning?

Lf4: “Students learn better when they see things. They become curious even if they do not have enough information but they will have something to say. For example, you can show them a picture and ask them to discuss or write about it.”

Q7: Are you familiar with the term, ‘technology integration’? Explain your own understanding?

Lf4: “When you are using technology when you are teaching for the sake of the learners.”

Q8: Are your students learning with technologies in your English classroom?

Lf4: “No, I think if its be an alternative it means it need to be monitored and there is no time for that. Another thing is that it all depends also on how big the classroom is. I have a big class. I can only ask them to use it outside the classroom. In class even when asked to work on small task they will start laughing, talking, or busy with their ‘social whatever’. I think it could work in small classes.”

Q9: What types of technologies that your students are learning with in their English classrooms?

Lf4: “They do not use technologies in class, but we use emails outside classroom whereby individuals email me about anything that is bothering them.”

Q10: What influences your selection of the technologies they are learning with in their classroom?

Lf4: “They do not learn with technologies in the classroom because of the type of students we have, their background. They also complain about airtime and I suggested that they go to the library for UFH WiFi. They need to get used to the environment and mingle with other students since they are new. It is better for them to see you using it so that they can use it later maybe at second year level. For example for them to be able to use blackboard they have to attend workshops and even then some will still struggle. I never tried blackboard because I also have problem myself, I do not know how to use blackboard. When I give them assignment, I refer them to the library for assistance. I do not restrict them, I encourage them.”
Q11: What are the changes that these technologies generate in the classroom activities?

Lf4: “They can use it to check words when we do reading only, otherwise it cannot help much. As a lecturer if you think of using it you need to consider that not all students have smartphones because of their background, otherwise others will feel isolated because they do not have smartphones.”

Q12: How do the integrated technologies support students’ active learning?

Lf4: “They will be active because learners learn better when they see things, they become curious.”

Q13: Does learning with technologies have potential to inform and enhance the English L2 learning in your classroom? How?

Lf4: “Technology has a potential to keep students active and they believe in what they see. They will interpret it according to their own background and they, sometimes, come up with something you never thought of.”
BIBLIOGRAPHY


