UNIVERSITY *of the*
WESTERN CAPE

Investigating the integration of Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy: A Case Study of one Primary School in the Western Cape

by

CHABINGA KELVIN
Student No 2353500

A Thesis in fulfillment of the requirement for the degree

MAGISTER EDUCATIONIS

at

University *of the* Western Cape

Faculty of Education

Department of Language Education

December 2015

Supervisor: Prof. Vuyokazi Nomlomo

Table of Contents

Abstract

The aim of this study was to investigate the use of Information and Communication Technologies (ICTs), through the use of iPads in English Home Language in the Intermediate Phase, with a special focus on Grade six, at one primary school in the Western Cape. Through the lens of the Sociocultural and Constructivist theories, the study investigated how iPads were used for language and literacy development in the Grade six classroom where English was the main medium of instruction. The study was purely a qualitative single case study involving one teacher and one class of 28 learners at a well-resourced former-white school in Cape Town.

Data was collected through classroom observations and interviews. The interviews were conducted with six selected learners, one Grade six teacher, the Head of Department (HOD) and the Principal. The analysis of the transcribed interviews, video recordings and documents was done through the Atlast.Ti 7 software package.

The findings of the study show that Grade six learners had good access to ICTs, and had no difficulties in using iPads for language and literacy learning. Their competence was associated with their high socio-economic backgrounds as most of them were from middle class families. The findings also indicated that teacher disposition had a positive impact on ICT implementation in the English lessons. Another interesting finding was that while the school had successfully adopted ICT as a teaching and learning resource, the Grade six teacher's pedagogical strategies did not enhance learners' comprehension of certain language (English) aspects such as grammar because there was no special training for integrating ICTs in language teaching. Overall, the results showed that the iPad is an extremely potential tool for literacy development and it encourages not only learners' active engagement and collaboration as directed by the teacher, but also learner initiated engagement and collaboration. The study concludes that while many well-resourced schools seem to do well with regard to access to ICT and its integration in teaching and learning, technology cannot completely replace the role of the teacher in the classroom. There is a need for teacher development to enhance their own understanding of ICTs and how to use it for effective language and literacy teaching and learning.

Key words

Information and Communication Technology, iPad, Literacy, Digital Literacy, Multimodality, Integration, Mediation, English, Home Language, Grade six.

Declaration

I, Chabinga Kelvin, declare that this thesis entitled "*Investigating the integration of Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy: A Case Study of one Primary School in the Western Cape"* is my own work, and that it has not been submitted for any degree or examination to any other university. I further declare that the work I am submitting for assessment contains no section copied in whole or in part from any other source unless explicitly identified in quotation marks and with detailed and accurate referencing.

…….. (Signature)

December 2015

Dedication

This thesis is dedicated to my two sons, Chatowa and Tikolane and their mother Roydah Chabinga Namwinga, for their relentless support throughout my studies.

Acknowledgements

I am glad to use this opportunity to express my profound gratitude to the Almighty for giving me the opportunity, strength and courage to do this degree (M.Ed). Furthermore, my gratitude goes to the K primary school and the staff, particularly T, H and P for their support during my data collection. I cannot forget the lovely disciplined learners in the Grade six class. I am grateful for their aspiring guidance, invaluable constructive criticisms and friendly advice during this research work.

I express my warm thanks and deep regards to my supervisor, Professor Vuyokazi Nomlomo for her exemplary guidance, mentoring and constant encouragement throughout the course of this research work. The blessings, help and guidance given by her during this period shall carry me a long way in the academic journey I have embarked on.

I cannot imagine my current position without the love and support from my family. My wife, Namwinga Roydah Chabinga and my two sons Chatowa Chabinga and Tikolane Chabinga have sacrificed whole-heartedly resources for this degree, and allowed me to come and pursue knowledge, leaving them alone at home. I always fall short of words to describe their profound support to me. If I have to mention one thing about them, among many, then I would say that they are God given to me.

List of Figures

List of Tables

List of Acronyms

3G	Third Generation of Mobile Telecommunications Technologies
ANA	Annual National Assessments
Apps	Applications
BBC	British Broadcasting Cooperation
CA	Cognitive Affordance
CAPS	Curriculum and Assessment Policy Document
CC	Cognitive Consonant
CD	Cognitive Dissonance
CDs	Compact Disks
CT	Constructivist Theory
DBE	Department of Basic Education
DoE	Department of Education
EHL	English Home Language
EK	Everyday Knowledge
ESL	English as a Second Language
ESOL	English for Speakers of Other Languages
FA	Functional Affordance
HOD	Head of Department
ICTs	Information and Communication Technologies
IH	Input Hypothesis
LITNUM	Literacy and Numeracy Strategy
MDGs	Millennium Development Goals
MILL	Molteno Institute for Language and Literacy
MoI	Medium of Instruction
NLG	New London Group
NLS	New Literacy studies
NLTP	National Literacy Trust and Pearson
PA	Physical Affordance
PISA	Programme for International Student Assessment

QDA	Qualitative Data Analysis
QRM	Qualitative Research Methodology
ROM	Read Only Memory
SA	Sensory Affordance
SDGs	Sustainable Development Goals
SES	Socioeconomic Status
SK	School Knowledge
ST	Sociocultural Theory
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNYR	United Nations Youth Report
US	United States
WB	World Bank
WCED	Western Cape Education Department
ZPD	Zone of Proximal Development

CHAPTER 1: SETTING THE SCENE

1.1 Introduction

Information and Communication Technologies (ICTs), especially emerging technologies are recognised globally as potential personal learning resources for teaching and learning and for literacy development. The study notes that in spite of the e-learning policy and the ICT rollout in some schools in South Africa, not all teachers use ICTs to enhance teaching and learning. This study investigated the integration of Information and Communication Technologies (ICTs) in a Grade six English home language classroom at one primary school in the Western Cape. The purpose of the study was to explore how teachers used ICTs to enhance literacy skills in English home language lessons. In this study, I argue that despite the availability of ICTs in many South African schools, there is little known about how such resources are utilized for teaching and learning. This is based on my understanding that ICTs play a significant role in teaching and learning in the 21st century. Thus, this chapter begins by discussing the background and context to the study and the rationale for embarking on this study. The problem statement, the research questions and objectives, as well as the operational definition of terms underpinning this study are provided. The chapter concludes with a summary and chapter outline for the entire study.

1.2 Background to the study

In the global world, Information and Communication Technologies (ICTs) have transformed people's daily lives in a number of ways, especially in the socio-economic sector of the 21st century. ICTs refer to a range of technologies such as mobile phones, television, radio, to mention but a few, that help to capture, interpret, store and transmit information (Anderson, 2010; United Nations Education, Science and Cultural Organization - UNESCO, 2004). Today, these technologies have advanced in such a way that it is possible to do certain things on phones and other related gadgets, which were not possible in the past.

The tablet iPads are part of the new advancement in technology. These devices help us receive data and transfer or exchange information with others in a much faster way. Currently, ICTs have become a human life partner in such a manner that without them, our existence seems to malfunction. To highlight the impact of ICTs on society, Toffler (cited in Loveless, 2003) uses the term 'technological revolution' to acknowledge the rapid and

widespread change society has undergone in the face of technology. Recently, new and more sophisticated mobile technologies such as iPods, smartphones and tablets and devices such as iPads have been developed in the global world.

Tablet and iPad devices are ubiquitous (i.e. found everywhere) mobile tools that have advanced built-in functions such as voice recognition, video cameras, and online software programmes referred to as *apps*, a short form for applications (Martine Pellerin, 2014). Tablets and iPads are especially designed to allow one's fingers to navigate, as opposed to physical mice and keyboards for desktop computers. They are available as Wi-Fi only or as both Wi-Fi with 3G capable models that bring the internet closer to the user at any time. Apple was one of the first companies to introduce the iPad tablet featuring a 9.7-inch, 1024 x 768 display with 16-, 32- 64-GB capacities in January 2010 (Shelly, Gunter, & Gunter, 2012). Since 2010, Apple has sold millions of iPads worldwide. As of June 2014, Apple had sold over 200 plus million iPads from the time it was made available http://www.statista.com/statistics/269915/global-apple-ipad-sales-since-q3-2010/. In addition, sales of the iPad further went up to over 26 million units in the first quarter of 2014 since the release of the iPad air model in November 2013.

Seemingly, their tactile interface and multi-directional touchscreens make tablets powerful and distinct contemporary mobile devices for use in the education system at any level. Like the interactive whiteboard, Pellerin (2014) maintains that the *apps* on the tablets create new learning environments that previously were not on devices such as laptops. The use of these multi-touch display screen tablets and their easy internet access has recently gained ground in education. Recent research shows that mobile assisted language learning is unexplored and where it is used, it is mostly concentrated on vocabulary building (Pellerin, 2012b). This practice negates the processes of writing, appears to be non-creative and does not take advantage of the ubiquitous tactile interface features for meaningful language learning (Kukulska-Hulme & Shield, 2008). In the face of these new mobile iPad technologies, teaching and learning has been transformed and enhanced, changing the roles of both teachers and learners. In other words, teaching and learning has increasingly become learner-centred where teachers play the role of facilitator as learners engage in meaningful construction of knowledge through tasks given to them by the teacher on their tablet computers (Sharples, Taylor, & Vavoula, 2005).

Language learning is seen as a fluid continuous construction and reconstruction of social experiences (Polkinghorne, 1988, 1991). This calls for teachers to continuously rethink and modify their instructional strategies to include skills that meet learners' needs as dynamic and competent citizens who can participate effectively in the contemporary world (Kohonen, Jaatinen, Kaikkonen, & Jehtovaara, 2001; Polkinghorne, 1988, 1991). In this regard, ICTs, such as the latest tablet computers, could be viable and potential instructional tools that teachers could use to facilitate learning, especially in language teaching. Given the increasing use of ICTs such as iPad tablets, it is questionable whether these digital devices have generic usability and whether they influence pedagogic processes in the language classrooms.

Touchscreen tablets not only encourage reading and writing skills in children, but also encourage creativity, interactivity and inventive thinking (Shelly, Gunter, & Gunter, 2012). In other words, teaching and learning with tablet computers is more learner-centred than the use of traditional instructional strategies. Arguably, because of their size, portability, wireless connectivity and specific special features, tablets are considered potential tools that can enhance language literacy development.

It is more than 20 years now since South Africa shelved the apartheid regime that characterised an education system with unequal distribution of teaching resources (Taylor, 2001). Current news speaks of a looming shortage of teachers against high learner enrolment (Louw, 2015). Recognising the potential benefits of ICT integration in teaching and learning, the South African government, through the Department of Basic Education (DBE), has been supplying schools with ICTs as intervention tools (WCED, 2012). These tools are not only meant to enhance the delivery of teaching and learning but also to enhance learner performance, especially in literacy and numeracy development. The Khanya project was one programme through which the Western Cape Education Department (WCED) distributed computers to selected schools in the Western Cape (Western Cape Education Department - WCED, 2012). The purpose of Khanya technology project was to supply and augment the current curriculum to enhance the quality of teaching and learning in all schools in the Western Cape. The underlying question, however, has been whether teachers make use of ICTs in teaching and learning and whether they exploit the use of tablet and iPad devices, in particular, to enhance literacy development. Given that, it is important to investigate and understand how teachers make use of these technological devices in the classroom, especially to enhance literacy learning, which is one of the educational challenges in many South African schools.

Literacy skills, worldwide, are recognised as the foundation for a better life for every individual (UNESCO, 2006). In order for any individual to enhance and unleash their full life potential, acquiring skills beyond reading and writing is inextricably important in order to function in the 21st century. Research has shown that emerging technology such as tablets and iPads with their literacy related applications (apps), enhance reading and writing skills (Pickett, 2012). Thus, it is crucial to recognise emerging technologies as potential tools for literacy development as part of our everyday lives in the 21st century (Jones, Fox, & Levin, 2011). This research study investigated how teachers used of tablet iPad devices to enhance Grade six literacy skills in English Home Language (HL) at one primary school in the Western Cape.

1.3 The South African Context

The South African policy on e-education states that:

> every South African learner in the general and further education and training bands will be ICT capable, that is, to be able to use ICTs confidently and creatively to help develop the skills and knowledge they need to achieve personal goals and to be full participants in the global community by 2013. (Department of Education Government Gazette, 2004).

However, there is not enough evidence to show that all schools are integrating ICTs across the curriculum, not to talk of specific subjects such as language literacy teaching and learning. Language and Numeracy literacy, especially in primary schools, are regarded as the engine for the social and economic viability of any country. In other words, language is everyone's business. Without language, none of us could understand and make sense of what others are putting across. Furthermore, being able to read and write is not only associated with one's economic wellbeing, but also power and identity. With this in mind, South Africa, like many other countries, grapples with ways of improving literacy and numeracy rates in most primary schools (Department of Basic Education, 2014). Teachers use different teaching methods and strategies to teach language literacies, especially second language acquisition (Richards & Rodgers, 2014). Some of the methods and strategies that have been used are grammar translation, audio-lingual, just to mention but a few, and are labelled as traditional methods. Since these methods proved ineffective, over time, other methods such as the communicative approach were formulated in the 19th century to teach English as a Second Language, mostly to foreigners (Richards & Rodgers, 2014). Notwithstanding the fact that not a single method is capable of solving teaching practices and delivery, technology comes as an intervention to complement these methods.

In South Africa, the Curriculum and Assessment Policy Statement (CAPS) prescribes the use of the communicative, the integrated and the text-based approaches to language teaching (Department of Basic Education, 2014). These approaches and methods still do not seem to improve the most talked about issue of language literacy, especially in primary schools. This is according to the Annual National Assessment reports on literacy performance in many South African primary schools (Department of Basic Education, 2014). As a result, the South African government, through the National Department of Basic Education (DBE), has over the years, invested heavily in ICTs to improve teaching and learning. This initiative aligns with the educational goals of the global world (UNESCO, 2005).

The government has since formulated a white paper document on e-education policy on the use of ICTs in the educational curriculum whose aim was to ensure that all schools were supplied and acquainted with the use of ICTs to enhance teaching and learning (Department of Education, 2004). However, even with the massive investments in the use of ICTs in teaching and learning, literacy levels are still low. In my view, a lack of suitable infrastructure, equipment, curriculum alignment and a lack of professional development with regard to the use of ICTs inhibit the successful integration of ICTs in teaching and learning. This is particularly the case in language literacy learning that has recorded a low pass rate over the past 15 years in many South African Schools (Department of Basic Education, 2014; Modisaotsile, 2012).

The low literacy and numeracy levels in South Africa are attributed to a lack of proper teaching methods by some teachers, among many factors, as stated by the Minister of Basic Education, Angelina Motshekga, in her 2014 Annual National Assessment results report (Department of Basic Education, 2014). Available data from the latest Annual National Assessment (ANA) indicates a slight improvement of 4% in literacy and numeracy achievement in 2014 in Grade six (Intermediate Phase), which still falls below the average of 60% (Department of Education, 2014). The report shows performance below the average of 40% and 50% in Mathematics and languages respectively. Motshekga notes that even if the 2014 results exhibited a notable improvement over the 2013 ANA results, there is a lot to be done to improve the literacy levels in most schools. Therefore, it is imperative that interventions are implemented to improve the low literacy levels in schools.

In this regard, intervention strategies have been suggested to improve literacy levels in the country such as the coordinated Literacy and Numeracy Strategy (LITNUM) 2006 to 2016

National Education Evaluation and Development Unit (NEEDU, 2012, p. 15). For example, the Molteno Institute for Language and Literacy (MILL) showed intentions to roll out tablet use in the Limpopo Province (eNews Channel Africa, 2013, April 17). It is alleged that Limpopo, Mpumalanga and the Free State, benefited from the tablet distribution made by Afrika Digital Education Centre Initiatives as a way to improve literacy levels (B.B.C News, 2014, July 8). The tablet computer or iPad, is one of the latest viable, portable, versatile and wireless multi-touch screen devices inaugurated by Apple in January 2010 (Shelly, et al. 2012), to improve children's reading and writing skills. The iPads' features and other portable devices such as the projector have implications for curriculum integration because they act as tools for presentation and demonstration to support children's learning.

It is assumed that these digital devices such as tablet computers foster collaborative, creative, critical and high order cognitive development in children for language literacy (Wang, Kinzie, McGuire & Pan, 2009). Children are naturally given an opportunity to explore and learn through inquiry about their immediate environment (Wang, et al., 2009). As iPads, smart phones and tablet computers are portable and wireless, language teachers and learners do not necessarily need to be in fixed computer laboratories. They can use them anywhere and everywhere. With regard to language learning, UNESCO (2002, p. 86) emphasizes the importance of digital devices '…given the software, students can compare their own pronunciations with those of a synthesized model, both orally and visually'. However, the challenge is whether under resourced or disadvantaged schools can afford the latest software or whether the software could be used effectively for all learning styles and abilities of young language learners. Therefore, my interest and focus on touchscreen tablets, in particular, is influenced by their worldwide recognised potential to enhance literacy development.

1.4 Rationale for the study

In the past few decades, we have witnessed a shift in educational goals and concepts of learning influenced by new technological innovations (Anderson, 2004). Because of the change in educational concepts, there is a need to go beyond mere policy formulation about e-education (Department of Basic Education, 2014), and explore how the policy could guide teachers and learners to use ICTs in teaching and learning. Low literacy achievement, which is attributed to a lack of proper teaching methods on the part of teachers (ANA Report, 2014), prompted me to conduct this research.

Thus this study focuses on the use of touchscreen tablets in teaching in order understand how they are used to enhance literacy learning in the Grade six classroom. Moreover, in my eight years of teaching English as a Second Language (ESL) in Zambia, it has interested me that ICTs have, in a short time, been used so much more in the business world than in the education sector. Nowadays, almost everything in commerce and trade is transacted through technology, yet in education, the use of technology in teaching and learning seems to trail behind. While language teaching continues to pose a great challenge to teachers, culminating in low literacy levels, ICT integration in the curriculum by teachers might open up more opportunities for literacy teaching and development, for both the teachers and the learners. I have endeavoured to assist my learners develop language reading and writing skills. This has not been easy in trying to find ways of improving my instructional strategies but the use of ICTs, especially tablet computers, have always been appealing.

Furthermore, the pronouncement of the policy on e-education intentions, not only to build technical skills, but also to extend the use of ICTs to enrich educational experiences across the curriculum (White Paper on e-education, 2004), seem not to have been fully explored in research, to understand their efficacy, particularly in language teaching and learning. Given that touchscreen tablets such as iPads have been recently introduced in many South African schools, it is necessary to investigate their use in language and literacy teaching and learning. This requires a more concerted effort to exploit this new development for a language learner in the 21st century in order to investigate how these technologies enhance language literacy development. Thus, it is assumed that the use of touchscreen tablets as interventional tools would augment language literacy development in primary schools.

In addition, to the best of my knowledge, little research has been conducted on how ICT materials are used to enhance literacy development in affluent schools. The only research on affluent schools was done by Gudmundsdottir (2011) who conducted her research on both under-resourced and affluent schools in Cape Town. The study included three disadvantaged schools and one former white primary school. The focus of the study was to carry out an intensive overview of the use of ICTs and possible digital divide across subjects. The study did not focus on English as a subject, even though the study mentions the language landscape in the Western Cape. Moreover, Gudmundsdottir's mixed method study was done in the senior phase among Grade seven learners. The findings in her study revealed lack of teacher professional development in computers (Gudmundsdottir, 2011, p. 181). My study is

contributes to ICT integration in primary schools, with a focus on the teaching of English in Grade six in a former white school.

Shandu's (2011) study was another study that was conducted on ICTs in education in the Western Cape. However, the study was conducted in a Grade ten classroom (Further Education and Training – FET phase) in an under resourced or disadvantaged school. Unlike Shandu's study, the focus of my study is in the Intermediate Phase (Grade six). Its findings shed light on literacy practices with ICTs in a well-resourced school as literature indicates that low literacy levels are worse in disadvantaged schools (Department of Basic Education, 2014). The aim was to determine whether there would be any lessons to be learnt regarding ICT integration to enhance literacy teaching and learning. While ICT refers to a wide range of digital devices as indicated earlier (Anderson, 2010; UNESCO, 2004), the use of this term in this study should be understood in relation to the use of tablet iPads that were used in the school where my research was conducted.

1.5 Problem statement

The challenge of illiteracy is a global concern (UNESCO, 2006). The UNESCO report estimates that one fifth of the world's adult population, which is about 770 plus million, do not have basic literacy skills, which translates into a huge loss of human potential and economic capacity (p.5). Of the 770 million plus population, 132 million between the age of 15 and 24 lack basic literacy skills. The implications of a lack of basic literacy skills are that life in general becomes unbearable with regard to socio-economic benefits.

Literacy development is supported by the ability to use different types of texts which include the audio-visual and visuals such as the ones prescribed by South Africa's Curriculum and Assessment Policy Statement in the Text-Based Approach (Department of Basic Education, 2014). To support literacy development initiatives, the government over the years, through the e-education policy, has supplied schools with ICT materials, as mentioned above. For example, through the Khanya Project established in 2002, the Western Cape Education Department (WCED) supplied ICT materials to most of the under-resourced schools in the Western Cape to aid teaching and learning (WCED, 2012). However, even with this support, as mentioned earlier, schools in South Africa report low literacy rates which are below the accepted standard of 60% in primary schools (Department of Basic Education, 2014). This in itself indicates that there is still a crisis in terms of literacy skills of children because many of

them fail to read and write at the accepted level. It further shows that even though learners are assessed in their Home Language their performance is low.

Another challenge is that both resourced and under-resourced schools often struggle with attracting quality-teaching staff and retaining them. Under-resourced schools are mainly associated with giving service to economically disadvantaged learners (Tatet, 1999). Every year, education institutions produce thousands of teachers with only a handful opting to work with the needy schools (Edwards, 1998) because some schools are under-resourced in terms of teaching and learning materials, including technology. Thus, this research study used a well-resourced school in the Western Cape to investigate how teachers used iPads for literacy development in English Home Language. The definition of a well-resourced school in this study referred to a school with significantly improved financial resources, solid buildings, and an amenable teaching and learning environment. In addition, it is a school equipped with teaching resources, including technological devices such as iPads and tablets, as well as other resources including qualified teachers to support the learners with an accelerated learning process.

1.6 Research Questions

The main research question that guides this study is:

How do teachers make use of ICTs to enhance Grade 6 classroom literacy skills in English Home Language? The sub-questions that aim at addressing the main research question of this study are as follows:

1) What strategies do Grade six teachers use to enhance learners' literacy skills using ICTs?
2) What are the guidelines of the current language curriculum with regard to ICT integration and literacy development?
3) What support is available to Grade six teachers and learners to utilize ICTs for language and literacy development?
4) What are the teachers' perceptions and experiences of the use of ICTs in English Home Language literacy lessons?
5) What lessons, if any, could be learnt from the use of ICTs for literacy development in well-resourced schools?

1.7 Research Aim and objectives

The general aim of this study was to investigate how teachers used ICTs for English Home Language in Grade six Intermediate Phase at one primary school in Western Cape.

From the above aim, the following objectives were derived:

1) To investigate the use of ICTs as tools for enhancing language and literacy teaching and learning in the Grade 6 English HL classroom.
2) To examine and analyse the Grade six language curriculum guidelines with regard to ICT integration in language teaching and learning.
3) To investigate and understand teachers' perceptions and experiences of the use of ICTs for English HL teaching and learning.
4) To determine the implications of ICT integration for literacy teaching and learning in the Intermediate Phase.

1.8 Research Methodology

This research used a qualitative methodology and a case study as its design. Interviews and observations were instruments used for data collection. Other sources of data included the actual work learners did on their iPad technology. In the case of interviews, a set of pre-determined questions were prepared for the selected learners, the teacher, the Head of Department and the Principal for their personal views. All the interviews were audio recorded and transcribed. Similarly, all class observations were video-taped and transcribed. Both transcribed interviews and videos were then analysed. The details of the methodology used in this study are given in Chapter 3 of this thesis.

1.9 Operational Definition of terms

An operational definition of key terms is provided for better understanding of how the terms are used in this study. The following functional terms are used in this study:

Information and Communication Technologies: refers to diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. In this study, iPad tablets are part of the larger family of ICTs and are used as devices to communicate, create, disseminate, store and manage information through teaching in the classroom (Anderson, 2010,p. 4).

Literacy: denotes the ability to read and write. In the context of this study, literacy refers to the ability to read and write beyond print media to reading and writing plural media forms (Daley, 2003).

Digital Literacies: in the context of this study denotes the capacity to access and use information and communication technologies to locate, assess, generate, and transfer information, demanding both intellectual and technical skills (Anderson, 2010; Nallaya, 2010).

Multimodality: Multimodal literacy in this study is borrowed from Walsh who describes it as meaning-making that occurs through the reading, viewing, understanding, responding to and producing and inter-acting with multimedia and digital text (Walsh, 2005; 2010). The term is used to denote the process of meaning-making from plural forms of texts.

Tablet or iPad Device: In this study, a tablet is a wireless touchscreen personal computer (PC) that is smaller than a notebook but larger than a smartphone. Teachers and learners use this piece of ICT device for teaching and learning (Godwin-jones, 2011; Goodwin, 2012).

Socio-cultural Theory: 'Sociocultural theory is a theory of development that stresses the importance of socialization on an individual learning' (McLeod, 2007). In the context of this study, it is used to understand the importance of social interactions among Grade six Intermediate Phase English Home Language learners.

Constructivism: is a world-view or framework which argues that learning is an active and constructive process through experiencing things and reflecting upon them. The study acknowledges that learners understand knowledge of English Home Language and learn through experiences as they use iPad technology in their learning to develop literacy skills (Flynn, Mesibov & Vermette, 2013).

Zone of Proximal Development: is the variance or the gap existing between what a learner can perform without assistance and what he/she can perform with assistance. The study uses the term to understand means to assist learners move from what they know to what they do not know (Zonzi, Barkham, Hardy, Llewelyn, Stiles, & Leiman, 2014).

1.10 Significance of the study

This study is considered significant in that the findings could be useful in informing the stakeholders in education such as learners of English Home Language, as well as the curriculum developers, on the importance of ICT integration in teaching and learning. This knowledge could enhance instructional methods and strategies in improving reading and writing skills in primary schools through the use of touch-screen tablets. Furthermore, findings arising from this study could support education specialists, education planners, curriculum developers, and language teachers in aligning the languages core curriculum contents with ICTs.

1.11 Chapter Outline

This study had five (5) chapters as described hereunder:

Chapter 1: Setting the scene

The introductory chapter comprises the introduction, background to the research study, objectives, statement of the problem and the research questions. In addition, the chapter provides definitions of key words.

Chapter 2: Literature Review

In this chapter, theories that speak to the study aims are discussed and examined with regard to how they contributed to the study at hand. The sociocultural and the constructivist theories are discussed respectively. Furthermore, the literature relevant to the study on the use of ICTs in language and literacy development is reviewed.

Chapter 3: Research Methodology

The research methods for the data collection and issues to do with ethical considerations are discussed in this chapter. The chapter justified why the methods opted for in this study were used and deemed appropriate.

Chapter 4: Presentation of Data and Data analysis

The data that was collected is presented and analysed in this chapter. The chapter paid attention to the trends of the lived practices of the observed and the interviewees'

experiences. Interpretations and explanations are given in order to answer the goal of the study at hand.

Chapter 5: Findings, Conclusions, and Recommendations

Findings of the research are discussed. This chapter presented conclusions drawn from the study and finally, some recommendations arising from the findings are given.

1.12 Chapter Summary

This chapter discussed Information and Communication Technology (ICT) and how ICT has continued to make an impact on all facets of life, including education systems and teaching practices, in particular. Attention was also given to how being able to read and write in the 21st century demands the need to embrace new emerging technologies in order to function and fit into the new landscape saturated with technology. In this case, it is how ICTs, such as tablet devices, are of paramount value in our everyday life and potential tools that can speed up the ability to read and write. Recognising the potential of ICTs for literacy development, the chapter then poses the question as to whether ICTs have indeed been integrated and used in teaching and learning following the white paper on e-education. The following chapter will look at the literature review and the theoretical framework informing this study.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews literature in the field of ICT and language teaching and learning. It explores the significance of Information and Communication Technologies (ICTs) in language teaching and learning. The concepts of ICTs, literacy, digital literacies, multimodality, tablet technology, and mediation are discussed in relation to language and literacy teaching and learning. The aim is to gain a deeper insight of these concepts as they apply to ICT integration in learning, and to understand classroom interaction where ICT is used as a teaching and learning tool. Thus, this section is divided into two sections; the conceptual and the theoretical framework that underpins the study.

2.2 Conceptualization of ICTs in Education

Until recently, Information and Communication Technologies (ICT) were known as computer technology and later Information Technology in the 1960s and 1970s, and the concept of technology keeps changing (Tinio, 2002; UNESCO, 2014). ICTs have become advanced in the 21st century than ever before, and still are. Literally, life is unimaginable without the usage of ICTs in all aspects of life, including the education sector. In the education sector, the concept of teaching and learning has changed in tandem with advances in ICTs and their role for both society and education (UNESCO, 2012). Thus, because of ICTs such as tablets' immersion in our day to day life, there have been calls for all stakeholders to think twice about the potentials ICTs have in teaching and learning, especially in enhancing literacy skills (UNESCO, 2002a; Voogt, 2012).

The concept of ICTs is notoriously tricky when trying to pinpoint an exact definition. There are different definitions by many scholars depending on what they perceive to be the role of ICTs in society and education. According to Toomey (2001, p. 3), ICTs commonly are linked to any such technology that can be used to access, collect, handle and display or transmit information. On the other hand, the World Bank describes ICTs in form of actions which enable, through digital means, the management, transmission as well as storage of data (Rodriguez &Wilson, 2000). Yet other definitions describe ICTs in terms of technologies used by people for data gathering and dispensation via computers and computer systems (ESCAP, 2001).

Furthermore, ICTs are also described as an intricate and diverse set of applications, goods and services used to produce, distribute, process, transform information including telecoms, television and radio set hardware and software, computer facilities and electronic media (Marcelle, 2000). In addition, Bannayan, Kalaš, Conery, Laval, Laurillard, Lim, Musgrave, Semenov, & Turcsányi-Szabó (2012) in the UNESCO report define ICTs as an all embracing term that covers various assortments of computer based gadgets, capitals, settings, procedures and abilities which can be used to obtain, process and communicate data.

From the above definitions, it is worth noting the words of Papert Seymour on the role of ICTs in education. According to Seymour (1999), ICTs in education have two angles from which technologies are viewed; first as a medium of information and secondly as a medium of construction. Information as a medium calls for the need to acquire necessary information and abilities, while construction as a medium is about the need to be able to create, discover, and construct knowledge. Seymour (1999) notes that while the two views are of equal importance, although the latter is mostly undervalued. In order to balance both angles, the term digital technologies is gaining popularity among many researchers (Bannayan, et al., 2012; Tapscott, 2009; Coward, Caicedo, Rauch, & Vega, 2014). Thus, in this study, ICTs and digital technologies are used synonymously. Hence, the definition of ICTs refers to assorted digital devices harnessed to mediate the teaching and learning of language literacy skills for the purposes of sharing information, collaboration, critical self-expression and construction of new knowledge (Anderson, 2010). The definition, though not claiming to be superior, hopes to signal a sense of holistic approach in the process of developing the learners' learning domains to encourage autonomous learning in language learning (Little, 1999, 2000a, 2000b; Benson, 2007).

2.2.1 The Role of ICTs in Teaching and Learning

The role of ICTs in teaching and learning depends on what people perceive the purpose and aim of education to be in society. Education in general is said to preserve and transform culture by shaping it as knowledge of the digital 21st century (Coward et al., 2014). In other words, the net generation challenged the traditional conception of learning within the confinement of school walls to open learning (Purg, 2011). While there are varied assumptions about the purpose and role of education in all spheres of life, UNESCO (2014) derives the purpose of education from the Delor's Commission that defined the purpose of

education simply as learning to live together. The aim is to allow all people to access quality education and lifelong learning.

In addition, access to quality education in the net or digital era is linked to poverty alleviation and development, both at global and national levels. Education is, in this regard, a conduit to produce informed citizens who will be able to contribute to their society and national economy (World Bank, 2012). In line with the latter statement, the United Nations (UN) Secretary General at the time, Koffi Annan, recognised ICTs as catalysts and reliable tools in meeting the Millennium Development Goals (MDGs) (Mikre, 2011). MDGs numbers two and three are premised on the concept of access to universal primary education and encouraging gender equality (InfoDev, 2010). This is linked to the idea of literacy for life promoted by UNESCO as a leading organisation to reduce illiteracy around the world (UNESCO, 2006; World Youth Report, 2003).

On the other hand, the post 2015 Sustainable Development Goals (SDGs) have not completely departed from the MDGs, but build on their commitment. The catchy word in the post 2015 SDGs is the word 'sustainable' for inclusive and resilient development (United Nations Development Programme, 2015). In the September 25th 2015 United Nations Sustainable Development summit of world leaders, 17 SDGs were adopted as the 2030 agenda for sustainable development. Out of the 17 SDGs, poverty and quality education are number one and four respectively. Unlike in the MDGs where education is placed goal number two, quality education is goal number four because, poverty has been split into two; poverty and hunger placing goal number two, health and wellbeing, on number three. Again, poverty is linked to low literacy levels. Thus, education is reaffirmed as number one conduit to sustainable development by working towards inclusive and quality education (UNDP, 2015). Access to ICTs is number nine under the SDG four, i.e. quality education among the objectives set for 2020 in terms of inclusive and quality education. Clearly, this goes to show how ICTs have not only permeated all aspects of life, but also how they have continued to transform the ways of communication and meaning making as well as the implication of literacy skills in the 21st century community.

Similarly, Mikre (2011) claims that ICTs have become part of everyday life and play an increasingly important role in all aspects of life, including the business world and education, just to mention a few. In addition, Watson, (2001) supports this view by stating that ICTs have transformed how people do business and work and that ICTs have not only percolated in

the education system, but also have influenced pedagogical instructional methods. Furthermore, Tinio, (2002) asserts that ICTs have an amazing potential fecundity (fruitfulness) to increase access and promotion of not only the relevance but also the quality of knowledge acquired by learners in school. Thus, it is clear that in education, ICTs are seen in terms of playing a salient role in transforming the way teaching and learning is practised. This implies that teachers have to be up to date with the new order.

Coward et al. (2014) contends that the role of ICTs in teaching and learning is underpinned by the multiplying of new emerging technologies that have apparently caused, and are still causing many changes which have an impact on all aspects of life. From this perspective, ICTs are seen as perfect implements that can be used to revolutionise teaching and learning and create collaboration and dialogue across obstacles (Tinio, 2002; Mikre, 2011;World Youth Report, 2003). In other words, teaching and learning practices should read the signs of change imposed by the proliferation of the net or digital era, and embrace adaptive plasticity to realise the full benefits of education in the digital generation. With this in mind, Tinio (2002) and Wheeler (2001) assert that ICTs in education prepare individuals for the labour market in the 21st century.

In research conducted in three primary and secondary schools in England on inventive instructional practices, Harris (2002) reports that as long as teachers are open to exploring new avenues, ICTs have the potential to transform their instructional practices. While this is so in England, the effects in the South African context as a developing country might be a bit different and that is why this study was undertaken. If the results indicate similar trends, this study's report would then strengthen Harris' (2002) findings. In this regard, teachers are called upon to move from didactic teaching roles to facilitative positions in their instructional practices (Littlejohn, Suckling, Campbell & McNicol, 2002). The roles of teachers regarding the new order of teaching and learning in a net or digital era will be discussed later. However, regarding language and literacy development and ICT use, research shows that ICTs have the potential to enhance reading and writing among learners.

Deaney, Ruthven & Hennessy (2003), in their study conducted in the United Kingdom, report that the use of ICTs in the teaching and learning of English language increases not only participation and motivation but also notable improvements in the reading and writing skills of learners. Similar views were expressed by Cox (1997) and Watson, Cox, & Johnson, (1993) on the use of ICTs in language teaching and learning. In other words, the increased

time learners seem to have with ICT tools gives learners an opportunity to check spelling errors and meaning from their gadgets. This contrasts the view that learners are distracted when they use ICT gadgets.

On the other hand, Deaney, Ruthven & Hennessy (2003) in their critical review of researched literature between 1990 to 2000 around UK, US and other parts of Europe, indicate that there were encouraging results in English language acquisition in terms of literacy skills development. The literature was based on English tasks given to learners. The tasks were assessed based on coherence and cohesion, including spelling errors exhibited by learners. According to their findings, the use of ICTs had an impact on English language performance (Deaney, Ruthven & Hennessy, 2003). However, in the new order, it is worth noting that the use of ICT tools for enhanced learning has shifted to ICTs that are more portable, referred to as mobile learning. Mobile learning includes the use of smart phones but now the shift is towards touch screen tablets such as iPhods, iPads, and other related tablets.

From the above studies, it is clear that technology influences and plays an exceedingly important role in the education system. Thus, it is important that technology becomes part for improved classroom practices and engagement. The issues surrounding technology continue to change and advance. While technology advances, it is equally important to change instructional practices with technological advancement. It is in this vein that this study investigates the use of new technologies for literacy development. This has been influenced by the fact that mobile devices are appropriately portable, making teaching and learning more flexible within or outside the school walls (Bjerede, Atkins, & Dede, 2010). In the following theme, the integration of iPad technology is discussed.

2.2.2 Integrating Tablets in Teaching and Learning

Although mobile learning has been in existence for a period of time now, the introduction of touch screen tablets such as iPads and other related tablets has challenged the notion of mobile learning (Wolf, & Flewitt, 2010). For over a decade now, the new order has brought and called for new forms and ways of teaching and learning (Gillen & Barton, 2010; Wolf, & Flewitt, 2010; Coward et al., 2014). The use of "anywhere and anytime" touch screen tablets has recently gained momentum, replacing the old ICT tools such as desktops and laptops. Touch screens' unique features such as using several fingers at once, the ability to take videos, pictures as well as their portability, has made it more popular today than ever before. These unique features make it ideal for today's classroom because they have potential

of meeting the individual needs of learners (Hutchison, Beschorner, & Schmidt-Crawford, 2012). As a result, more schools are embracing the new mobile learning tools. It is against this background that my study investigates the use of iPad technology as a mobile tool for literacy skills development and its implications for teaching and learning in the classroom.

Coughlan (2014) reporting for the BBC news, says that 70% of schools in the United Kingdom use tablets for education purposes, according to research led by Dr. Clarke. The National Literacy Trust and Pearson (NLTP) (2013) reported that tablets have the potential to aid reading and writing among learners. Touch Screen Integration in the education setup is undeniably part of life now. Tablet technology, as a tool for enhancing language literacy skills, is increasingly seeping into all education systems around the world, including South African schools. However, there are not many teachers who feel competent enough to integrate technologies such as tablets for teaching and learning (Selber, 2004). Hutchison & Reinking (2011) state that if meaningfully integrated, touch screen tablets as potential intervention teaching tools cannot only transform practices, but also open several new opportunities for literacy instruction for both teachers and learners. Thus, my study sought to understand how iPad tablets were used in teaching and learning of literacy and to understand the experiences of both teachers and learners. The findings of this study should inform stakeholders such as school management and policy makers on how to support ICT integration in schools.

Although little research has been done on iPads and other related tablets as tools for literacy development (Dobler, 2012) evidence shows that if tablets are integrated meaningfully, they can modify teaching of literacy skills among primary school learners including learning in other subjects at all levels (Hutchison & Reinking, 2011). While touch screen tablets have not been explored fully to ascertain whether they enhance literacy skills among learners in primary schools, Dobler (2012) observes, using the work done with learners in the first grades, that slightly older children are able to use touch screen tablets with the available apps collaboratively for literacy development.

Similarly, Hutchison, Beschorner & Schmidt-Crawford (2012) note that Grade four learners in the United States of America (USA) were able to use and traverse touch screen tablets while reading, as well as respond independently and in small groups to sets of literacy tasks. In this case, what is important is how technology is used to aid literacy development in young learners (VanderScoter, Ellis & Railsback, 2001). Research has encouraged the appropriate

developmental use of supplementary forms of technology to enhance cognitive and social learning in young children (Clements, 2002; Haugland, 1992, 1999, 2000; Hutchison et al., 2012). Emphasis was placed on selecting those applications (apps) that enabled learners to have space for discovering, making choices, as well as making explorations while engaging in problems solving activities. According to Hillman & Marshall (2010), the selected apps programmes should be able to encourage learners' well-being, emotions as well as thinking. While these recommendations were relevant, old technologies were not suitable for use among young learners (Plowman & Stephen, 2003). However, new technologies in the 21st century are more interactive, and with their touchable interfaces, they are suitable for use among young learners (Hutchison et al., 2012).

In addition, their special in-built features allow learners to experiment with and manipulate artefacts or objects while encouraging inquisitiveness, creativity, self-expression, as well as discovery (Clarke & Svanaes, 2014). The tablet's stylus-interface could be used to implement school curriculum at any level with a focus to enhance learners' reading and writing skills (Couse & Chen, 2010). According to Hutchison et al. (2012), the touch screen tablets and other similar tools can be used beyond writing and reading and be applied to listening and speaking as well. As it has been said in the preceding paragraphs that literacy is a process of meaning-making through reading, writing and communication (Goodman, 1996), tablets can also be used for emergent literacy skills development (Clarke & Svanaes, 2014). In other words, learners can use tablets to develop literacy skills both through traditional and communicative processes of writing, reading, speaking and listening.

In addition, integrating the use of iPads or touch screen tablets and other similar tools for language teaching can afford learners an understanding of literacy and the use of communicative processes in multiple settings (Clarke & Svanaes, 2014). In fact, there are many application softwares that can be installed on the tablets to encourage writing, reading or communicating while facilitating the development of digital literacy. Thus, this study sought to identify other factors that can be capitalised for the successful integration of tablets in English literacy teaching and learning in the Intermediate Phase.

2.2.3 Factors influencing ICT integration

Although access to ICTs has increased in the past decades, there are still barriers that affect their successful integration in the teaching and learning process, especially in developing countries. These barriers include instructional reforms that come with the new orders of

technology (Vrasidas & Glass, 2005). According to the United Nations Youth Report (UNYR) (Coward et al., 2014), access to technology has not lived in tandem with its rapid growth for many nations. In other words, when technologies advance rapidly, so does the digital divide. By digital divide, I do not mean merely those that have and those that do not have but a divide among the high, medium, low and non-users. Those whose social economic status (SES) is poor, (learners and schools) will always play catch up. While advantaged SES ICT users (learners and schools), as it is the case of this study, may constantly enjoy complex levels of skills and with a desire to embrace latest technology and facilities. Digital divide, therefore, refers to the unequal distribution of ICTs (Gudmundsdottir, 2011). In this regard digital divide may have a bearing on the literacy prowess of learners depending on their SES (Kvasny, 2006). The lack of access to technology for many schools can be attributed to a number of barriers. The barriers include socio-personal factors which encompass attitudinal and behavioural elements such interest, responsiveness, understanding and acceptance of ICTs are among the key barriers to the adoption of ICTs in teaching and learning (Kvasny, 2006). The barriers are discussed below.

2.2.3.1 Lack of Teachers' Professional Development

Teachers have to make adjustments to their instructional practices in order to accommodate the new orders of technology (Cox, Webb, Abbott, Blakely, Beauchamp, & Rhodes, 2003; Yelland, 2007). This suggests that any lack of professional development, both by teacher education institutions and by school management contributes to the unsuccessful integration of ICTs in the process of teaching and learning (Dwyer, 2007; Fluck, 2001; Vrasidas, & Glass, 2005). On the other hand, conforming to curricular standards when text books are not installed on technological devices is yet another challenge the teacher must come to terms with because the teacher then relies on educational applications on the internet that might not be directly aligned with the curriculum standards (Kozma, 2003; Yelland, 2007).

Additionally, the teachers' perceptions and beliefs of the educational value of technology are regarded as one of the factors that influence the integration of technology in teaching and learning. According to Fitzgerald (2005), many teachers avoid the use of technology for teaching and learning because of their beliefs in technology as an educational resource. These beliefs relate to socio-personal factors such as attitude and one's behaviour regarding the interest and acceptance of ICTs as earlier mentioned (Kvasny, 2006). Deficient ICT skills provide us an indication why individuals might not want to integrate technology in

pedagogical practices to enhance teaching and learning. Furthermore, (Gray, Thomas & Lewis, 2010) acknowledge that in spite of the increased access to technology, ICTs are under-used in many schools. In other words, apart from the problems which institutions face, teachers have their own personal challenges ranging from their teaching philosophies, attitudes and beliefs in the value of technology in teaching, as well as their comfort in using technology (Blackwell, 2014). With regard to institutional challenges, the high cost of digital devices such as iPads and other related technologies is a challenge. The lack of policy guidelines, time and space is another challenge for successful integration of ICTs, especially for language and literacy as a subject (Ertmer & Ottenbreit-Leftwich, 2010; Voogt, 2012).

Furthermore, Gudmundsdottir (2011) and Goktas, Yildirim & Yildirim (2009) highlight that a lack of in-service training, appropriate software or materials, hardware, basic knowledge and skills for ICT integration are some of the barriers to ICT integration in language literacy teaching and learning. Furthermore, there are other barriers such as a lack of technical support, appropriate course content, especially with regard to e-text books, instructional programmes, time and appropriate support from the school administration. If more funds are allocated towards the purchase of ICT tools, schools can achieve a lot. Teacher training could help to alleviate the teacher's technological phobia so that they become competent and confident users of ICTs in language literacy teaching and learning.

2.2.3.2 ICT Policy Guidelines

Successful integration of ICTs rests on whether there is a sound policy document that supports the integration (UNESCO, 2005; Anderson, 2010). The policy guidelines can be drawn from the national, provincial or district guidelines. In addition, quality content and services are equally paramount to successful ICT integration in the teaching practices. Curriculum alignment with ICTs in teaching not only increases and improves the basic skills of learners in the use of technologies, but also enhances their critical thinking in many ways (Anderson, 2010). Thus, on or offline content should be innovative enough and structured in ways that will be easily accessed by many learners, regardless of their opportunities or status. It is also important to develop proper assessment methods because new orders mean new ways of instruction as well as assessment methods. However, this also depends on the teachers' attitudes to ICTs in their instructional practices.

2.2.3.3 Teachers attitudes towards ICTs in instructional practices

Many research studies show that success or failure in integrating ICTs into teaching practice is largely dependent on the attitudes that teachers have towards ICTs (Beggs, 2000; Bullock, 2004; Gilakjani & Leong, 2012; Mumtaz, 2000). Other research studies show the connection between teacher's attitudes and the use of ICTs (Al-Zaidiyeen, Mei, Fook, 2010). Teachers who feel confident and positive in the use of ICTs also feel confident and comfortable infusing them in their teaching (Kersaint, Hornton, Stohl & Garofalo, 2003). Unless teachers accept and feel comfortable in using technologies, no amount of ICTs, old or new, would be used without teacher preparedness with regard to the use of technologies for teaching and learning (Baylor & Ritchie, 2002). In other words, just like learners, teachers should be active agents of their own instructional practices (Hismanoglu, 2012). In short, successful use and integration of technologies requires that teachers are prepared, and equipped so that they would not feel challenged by learners in the digital era, who seem to have more skills than the teachers do. With regard to equipping the teachers, the school management through its school policy should prioritize teacher in-service training in the use of ICT across and in specific subjects. In other words, the school management should not act as a barrier to the integration of ICTs in teaching and learning in their respective schools. In The teachers' perceptions of the value of ICT in literacy development in the digital age might determine how they use them to support learners' digital literacy.

2.3 Conceptualizing Language and Literacy

Perceptions about literacy depend on how people perceive language itself because the two are two sides of the same coin. Language is an important aspect and at the centre of all human daily transactions. Language is not only used to convey messages, but it also enables us to connect with other people, and helps us express our experiences and our view of the world around us (Boroditsky, 2011). According to Gee (2004) and Lovelyn (2004), language is more than communication because it influences the way we think, and in turn, our thinking shapes our actions and the way we eventually conduct ourselves. In view of the above, the ability to communicate effectively is an important skill that is needed for someone to participate in one's social, economic and cultural lifetime (Prinsloo & Bloch, 1999). Knapp & Watkins (2005) complement this idea by asserting that currently emphasis is placed on the need to acquire both communicative and writing skills if one wants to function well in the increasingly demanding global labour market.

With regard to the above skills, it is, therefore, inevitable that the discussion includes language and literacy. Participating fully in social, economic and cultural life largely depends on how an individual has been prepared from the early stages to engage with different texts (Knapp & Watkins, 2005). In this regard, higher education success is also dependent on how one was prepared in the initial stages of life, both in one's society and in formal settings. Strong foundational literacy skills are directly linked to one's academic success or progress as well. This is why the UNESCO (2006) aims to reduce illiteracy. Illiteracy is associated with poverty, suffering and indignity, among other things.

Because there is no one immaculate definition of literacy as acknowledged and supported by Keefe & Copeland (2011) and Purdie, Reid & Buckley (2011), the term in itself is one word that has come to mean many things over the years and its definition is not only contested but has flickered sustained debates in the education sector. The purpose of literacy depends on how people perceive it in society. Over many decades, literacy was reduced to a definition of monograph teaching reading and writing. Literally, knowledge of reading and writing was sufficient to define literacy. On the other hand, UNESCO (2008) perceives literacy as a human fundamental right. The right includes access to educational opportunities, regardless of your status. It further implies the ability to read and write, as well as to understand short and simple sentences and how they function in one's life (UNESCO, 2006; 2008). On the other hand, Keefe, & Copeland (2011) and the Programme for International Student Assessment (PISA, 2006) define literacy as going beyond decoding and the ability to read and write a text, but to understand active interactions and the role that the participants bring to the text itself. Therefore, the proposed definition of literacy by PISA (2006) aligns with one's goals, knowledge and the potential for full participation in society (Organisation for Economic Co-operation and Development, 2006).

However, defining literacy in terms of ones' perceived goals can be problematic because it is not clear whether by teaching people how to write and read addresses their immediate problems. While Gee, (1990) also concedes that there is no one single definition of literacy, he exposes and opposes the manner in which literacy was reduced to merely the ability to read and write. He argues that defining literacy would be appropriate to discuss it in terms of discourse. Using the term discourse, Gee (2004) refers to it as a praxis of how language can be used.

Teaching literacy was mainly done with an emphasis on sounds (phonetics) of words when reading written texts (Makin & Diaz, 2002; Shepard, 2008). The phonological process involves assimilation and stressing of words. While this is the case, scholars also disagree on the appropriate means to attain literacy, whether it is through the phonetic approach or reading for meaning (Adams, 1993; Goodman, 1996) . The views above are also supported by Street (2004). In other words, as a way of preparing learners for the language itself, teachers need to spend a bit of time teaching them knowledge of vowels and consonants to enhance their literacy development. Therefore, one can deduce that there is great importance attached to literacy. There are millions of people around the world who need strong literacy skills in order to participate fully in socio-economic activities in society.

In addition, it is appropriate to suggest that literacy teachers should follow an interpretive perspective in their approach. This implies affording learners with critical skills of being able to question and challenge certain orders in society (Jewitt & Kress, 2003) and using these skills to emancipate themselves from factors that inhibit their chances of realizing their full potential in society (Freire, 1974). Thus literacy is viewed as a social practice (Kress, 2007).

Literacy as a social practice became prominent in the last two or so decades of the 20th century through Brian Street, James Paul Gee and David Barton who approached literacy from the sociocultural vantage. This group of scholars called the idea of new literacy, the New Literacy Studies (NLS). Their view of literacy is that literacy is not only a mental process of reading and writing but rather a culturally situated force (Gee, 2010). The NLS views about literacy skills have shifted from merely looking at how literacy skills are learned to what it means when we speak of literacy as a social practice (Street, 2004). Street argues that there should be a distinction between autonomous and ideological modes, literacy events and literacy practices. Below I draw a distinction between these literacy concepts to illustrate their relevance to this study.

2.3.1 Models of Literacy

According to Street (2003), there are two models of literacy, namely the ideological and the autonomous models. Emanating from what came to be known as the New Literacy Studies (NLS), the two modes of literacy give us a platform from which literacy should be seen as a social practice and why one of the two supports literacy as a social practice. As earlier alluded to, the NLS advances that literacy should not be seen as something that only takes place in someone's head, but rather something that takes place and influenced by society

(Gee, 2010). The following paragraphs discuss the two literacy models, namely the autonomous and ideological models.

2.3.1.1 Autonomous Model

The autonomous mode of literacy is mechanical in nature. Its focus is on fostering technical aspects of literacy development such as grammar (Street, 2003). In other words, literacy development is divorced from the social experiences of people in a particular social setting. Street (2003) describes it as a mode that is culturally blind, and whose aim is to enhance the marginalised or poor people's mental process development so that their chances in the social economic platform are enhanced. This limited view is considered less effective because there are many artefacts that contribute to meaning making.

2.3.1.2 Ideological Model

Unlike autonomous literacy mode, the ideological model (Street, 2006) supports the notion of literacy as social practice, as opposed to perceiving it as mechanical and impartial. Literacy is, in this sense, an epistemological and a socially ingrained principle (Street, 2004; Bock & Pacchler, 2013). The model is ideological in the sense that it is premised on a particular worldview, which in this case represents others more, and others less (Street, 2003; Ball & Freedman, 2004; Gee, 1990). By implication, that the interactions between teachers and learners are themselves social practices and the nature of these practices affects what is being learnt and taught in the classroom. These interactions are therefore not 'autonomous', but are an interplay between literacy and social practices. In other words, the ideological model is rooted in social practices such as the kind of jobs one would be doing in a particular context.

From the above perspective, I would say that literacy today is a fluid construct (Gee, 2010, 2004; Polkinghorne, 1991) which entails that meaning making or understanding something can be done in multiple ways and requires apprenticeship courtesy of a social group. When people read and write, they do not do so broadly, but with specific types of texts in specific manners informed by the principles and practices of a particular sociocultural group (Gee, 2010). With this in mind, the NLS's major contribution towards literacy in the 21st century is relevant to my study in one single way. In my view, the position NLS takes and exemplified by Street, (2006) that literacy is not a set of technical skills but a social practice, brings to light the plurality of literacies. This position fits my study in as much as literacy in its multiple forms in the digital cosmos is concerned. Particularly, the concept of plural literacies

implies that any text presented in various forms can be read and interpreted in no fixed ways, as suggested by the ideological literacy mode. It is clear from this perspective that literacy can no longer be a trip where the teacher takes the learners to predetermined and predictable destinations. My stance in this study is that rather than a journey in a predictable direction, literacy should be an outcome of thought engaged in a free ever evolving understanding and experiences of the world. Thus, my study anchors on the view that literacy as a social practice needs to be interpreted and understood within a particular context; the more reason this research explores the use of iPad technology with a view to enhance literacy skills beyond print media. The paradigm shifts from the individual mental processes to social intercourses coupled with the boom of emerging technologies comes with a number of literacy events. The next paragraph elaborates on literacy events as they relate to literacy today.

2.4 Literacy events

Literacy events can be said to be moments when an individual endeavours to make meaning from visual graphic signs (Anderson, 2004). It is a sociolinguistic term denoting speech events (Barton, 1994). Usually, activities and discussions are designed and centred around a written text or texts (Barton & Hamilton, 2000). In other words, literacy events could be activities where literacy has a role, with the assumption that events have a bearing on the practices that we do. This suggests that language and literacy practices do not happen in a vacuum, but in context, space and time.

The implication of literacy events for teaching and learning is that the teacher must look at what learners need to know and use visual graphics to capture the learner's thoughts for them to conceptualise ideas. This entails that activities for which literacy has a role should be carefully designed as purposeful activities located in time and space (Barton & Hamilton, 2000). It is a realisation that successful language and literacy development is socially rooted (Bock & Pacchler, 2013). In other words, meaning making should be in context and not through fostering decontextualized mechanical skills. As learners explore meaning making in context-embedded texts, they are equally creating new identities through language negotiations with others in the classroom (Thorne, Sauro, & Smith, 2015).

In simple terms, teachers should try to facilitate space for learners to talk about their own experiences, views, and opinions. Such space and activities inspire learners in language use. Cooke & Roberts (2007) in their research about English for Speakers of Other Languages (ESOL) in London, claim that literacy as a social practice encourages teachers to appreciate

the lived experiences, which learners bring with them from outside into the classroom. They suggest that when teachers draw on the everyday experiences of learners in class, this produces extended talks about what interests learners as quoted below:

> ….the most effective teachers….also drew on learners' own experiences and lives outside the classroom…bringing the outside in –and crucially, encouraged them to speak from within; we observed that where learners were speaking from within, they produced longer, more complex stretches of talk, which we know to be essential for language learning and acquisition to take place. (Cooke & Roberts, 2007)

The above quote implies that learning should not follow the prescribed set of topics, but rather learners should negotiate what to learn with their teachers. This follows that learners should be immersed in the purposeful functional language territory where they can talk about language, to learn about language. Thus, the idea of literacy events and social practices implies that observable occasions such as emergent technologies, influence what we do in everyday experiences. Information and Communication Technologies (ICTs) such as tablet technology have changed the concept of literacy from a reductionist monograph style of drilling reading and writing to an expanded view of multimodal literacy. From this view, I concede that touch screen tablets which are a focus of this study are tools that present texts in different multimodal forms. For this reason, this study endeavours to investigate how such tools enhance learning opportunities for literacy skills development in the classroom. In the following section, I focus more on multimodality.

2.5 Multimodal Approach to Literacy Development

Multimodality has become crucial in the understanding and acquisition of literacy skills in this technological environment. As stated above, there are different conceptions of literacy, with the advent of ICTs. In fact, it is inevitable to talk about literacy practices in the absence of increased technology (Bock & Pacchler, 2013). Multimodality refers to how people intermingle and exchange words through gestures, visual and video forms, as opposed to a single mode of writing (Kress, & Van Leeuwen, 2001; Jewitt & Kress, 2003). According to Kress (2003) and Gee, (1990) language is in itself multimodal. It is a hybrid of not only words and sounds, but also of images and gestures. Multimodality refers to 'semiotic resources which allow the simultaneous realization of discourses and types of interaction' (Kress & Van Leeuwen, 2001, pp.21-22). Because the idea is not only to focus on printed texts, multimodality includes various modes to transmit meaning. As mentioned above, these tools can include images, sounds, movement and gestures (Stein, 2008, p.1), as well as

pictures, magazines, articles, cartoons, CD ROMs, the internet and videos (Walsh, 2005). The modes work in tandem to facilitate improved understanding and meaning–making (Unsworth, 2008; Jones & Ventola, 2008).

While multimodality is an approach to engage learners in learning with more than one mode (Jewitt & Kress, 2003), there are mixed feelings about exposing learners to the digital world of multimodality. There is a belief that digital technology inhibits learners from concentrating in class. A research study conducted among college students in the United States about the use of iPhones, smart phones and tablets outside classroom (McCoy, 2013) reports that 80% of the respondents indicated that such digital technology affects their concentration in classroom learning because of social media texting (McCoy, 2013). However, researchers on digital literacies contest that learners should be oriented in using more than one semiotic channel system in their quest for meaning making. So the use of digital literacies is inevitable in this regard.

Many studies indicate that new emerging technologies or ICTs unquestionably play a role in enhancing language development (Bransford, Brown & Cocking, 2000). For example, research conducted in Hong Kong on the use of the multimodal approach to teach language literacy in Grades four to six in one of the primary schools indicates that the use of multimodal tools improves the reading skills of learners (Shepard, 2008). Another study conducted by Beauchamp & Hillier (2014) in six primary schools in the United Kingdom (Hywel Dda, Mount Stuart, Severn, Bryn Deri, Peter Lea, and Thornhill) shows that the use of multimodal iPad tablets have the potential for new opportunities and to enhance language development.

In the 21st century, printed texts have been displaced by the screen texts that come in multiple modes. For learning to be effective, it must take into account the view that learning happens in multiple modes (Bock & Pacchler, 2013). In other words, literacy learning requires representation of more than one mode to increase chances of literacy acquisition. ICTs such as tablet technology are potential tools that can engage learners through more than one mode. Multimodal modes require a semiotic process approach system to understand the extended meaning that the texts carry. Therefore, an understanding of semiotics and its role in literacy development is necessary.

2.5.1 Semiotic Resources to Literacy Development

Semiotic study is a vast topic that requires a full-fledged research on its own. Therefore, the brief description used here is not exhaustive due to limited space. Semiotics is a word derived from applied linguistics, which means the study of signs such as images and their meaning (Sebeok, 1994; Danesi, 2004). In this regard, meaning making involves the "what and how" questions, e.g. how learners can use ICTs such as tablet computers via the available applications (apps) with different images to make meaning. These apps can be downloaded from the internet. In the words of Bock & Pacchler (2013), meaning making does not only happen using a single sense because learning is uniquely synaesthetic (i.e. it stimulates more than one sense) where images, sounds and touch are vital to support this process. A blend of this increases perception and imagination which, in turn, pave the way for learners to engage with learning materials in a more lucrative manner (Huppauf & Wulf, 2009). ICTs such as tablet technology are, in this sense, ideal to appeal to more than one sense (Anstey & Bull (2010). Tablet technology, therefore, is both a tool that is used to present texts in multiple modes and for meaning making. However, teachers learning to make use of multimodal texts may be apprehensive because they might associate multimodal texts with technology they feel uncomfortable with ICTs (Selfe, 2007). In other words, it is important that teachers are comfortable with the use of ICTs to make teaching and learning of literacy fun and to enhance meaning-making.

In light of the above, the New Literacy studies (NLS) mentioned earlier support the view that meaning-making is only possible as people interact in the acts of social conversations rooted in the broader social setting (Gee, 2004; Street, 2004). Writing about how video games support literacy development, Kress & Van Leeuwen (2001) contend that there is a need for people to understand the current semiotic domains, i.e. any practices presented in multiple modes to convey meanings. This suggests that traditional or old ways of meaning-making have been transformed, and are continually undergoing further transformation.

On the other hand, the New London Group (NLG) (1996) for New Literacy Studies (NLS) maintains that to be effective and productive both in society and at work calls for effective use of multiple languages and patterns of communication that cut across national boundaries (Gee, 2010). Thus, in a world where ICTs have characterised screens, transformed everyday life, and challenged traditional ways of scaffolding literacy, mere texts that employ a single semiotic mode are inadequate to transfer meaning. Acknowledging Jewitt & Kress (2003)

that today's children live in a digital world, it is important that children are taught how to engage with various technologies or ICTs to make meaning in their learning.

My generalization of the purpose of education here may be limited in scope. However, my view is that if the purpose education is to ensure learning benefits for every learner, then appropriate literacy pedagogy is necessary to equip them with skills necessary for their full participation in their communities, public, as well as economic affairs. It is from this view that my study concedes to the crucial role of technological tools that support multiliteracies as advanced by the NLG.

In relation to the above, Kress (2007) notes that children today are brought up in a different world. The differences in time and space create and prompt new learning environments for our learners today, which require teachers to be constantly challenged to rethink ways of teaching. Therefore, teaching practices should draw on the idea that meaning-making is socially rooted (Barton & Hamilton,2000), and that the use of ICTs involves events that influence literacy practices by constantly extending talk and collaboration among learners (Prensky, 2010).

The Australian curriculum relates literacy to the use of multiple modes of expression using graphics, music and other media (ACARA), n.d.), as well as using multimodal texts in electronic and digital forms such as tablet computers (Oakley, Pegrum, Faulker & Striepe, 2012). With the new ICT devices such as touch screen tablets, the concepts of literacy, multimodality and digital literacy have received more attention in language education research. Literacy demands that learners are grounded in locating information in different and multiple modes. This can involve replying to an email, participating in audio-visual conference discussions and other platforms, as discussed above. Engaging learners in the activities mentioned above positions learners not only as decoders of texts in multiple modes, but also as authors and constructors of texts. While critiques question whether the use of emerging technologies is by any means a one size fits all notion, it appears that these tools help learners to engage with audio-visual interfaces e.g. when replying to emails. Therefore, teachers' understanding of the educational value of using tablet technologies and other multimodal tools to enhance learners' digital literacy is crucial.

2.6 Digital Literacies

The proliferation of multiple modes of communication today is as a result of the emergence of digital technology with its continued innovations (Lankshear & Knobel, 2008). Thus, literacy or being able to read and write today is not enough without being digitally literate. The term digital literacy, like the traditional meaning of literacy, is often reduced to being able to acquire technical skills of how to operate software and other related devices (National College of Ireland, 2009). However, drawing on the New Literacy Studies (NLS) and recent theories, digital literacy is viewed as a situated social practice within which media is used (Bock, & Pacchler, 2013). Being digitally literate refers to one's ability to use digital technology as a tool to construct and evaluate any form of information from different sources presented by a computer (Jewitt & Kress, 2003; Kress, 2003). In other words, literacy in the digital world goes beyond just reading and writing only, to reading and writing with meaning.

According to Meurant (2010) and Tapscott (2009), literacy today includes the "anywhere, anytime" dominant nature of new technology such as tablets. These technologies have affected reading as well as writing as a means of communication (media). This is particularly because of the increase of images presented in all forms or modes in today's texts as channels of communication. Therefore, digital literacy involves ability to read and understand texts, which are connected to other texts, including graphics, video and sound. Shepard (2008) associates this concept with multimedia, and that it entails knowing how to read and infer information from images, texts or sounds in which they are presented. Presentation in this case could be via tablets and other ICT tools.

In light of the above, for successful literacy achievement, teachers must have an understanding of the new forms of presentation to support language and literacy development. This understanding is linked to media literacy which involves skills such as being able to access, evaluate and analyse media information in different text types such as newspapers, videos, television and radio, including the internet (Kubey, 1997).

In a culture made up of complex and powerful images, sounds and texts, it helps teachers and learners to be able to appreciate, construct and make meaning through negotiation (Aufderheide & Firestone, 1993). Therefore, in order for learners to understand different text types, teachers must apply multimodal concepts to present information to learners.

Digital literacy is central to language and literacy teaching and learning. Multiliteracies are facilitated through digital tools that enable texts to be displayed in plural forms. From this perspective, I support the growing emphasis on the plurality of digital literacies because it is consistent and relevant to the sociocultural approach to literacy practices as advanced by Street (2003; 2006). To be digitally literate is to be aware and to have the attitude and capacity to make proper use of digital devices and other amenities in order to recognise, access, handle, incorporate and examine multiple texts. It also entails synthesizing digital texts to create new knowledge and generate media (Anderson, 2010).

Digital devices do not replace teachers in any way, but they aid them in sustaining and enriching the learning environment. For example, in a study conducted in Irish Primary Schools, digital devices enriched the inquiry cycle for literacy development (Long, Liang & Yu, 2013). As learners take responsibility for their own learning using digital devices such as tablets, they engage in meaning making, while constructing their own identity at the same time. To realise this, teachers should design learning around tasks that will make learners use accessible language in meaning making. In this regard, learners can use tablet computers to take photos and shoot videos for their collaborative tasks. As they do this, learners may not only be able to read and write, or make meaning and evaluate information presented in multiple modes, but may become text analysts as well. Luke and Freebody (1997) contend that any reader of texts ought to move beyond the comforts of code breaking, meaning making and being text users to become text analysts as well. Text analysts not only gain personal and social values, but also evaluate how the texts may position them in society. This competence could be related to digital literacies.

2.7 Identity and Digital Literacy

The advent of new emerging technologies means simply accepting new notions about the construction of identities. In other words, traditional ways of language identity construction have been challenged by the emergence of new technologies (Warschauer, 2000). Language identity refers to how one is positioned and the sense of being in the text. In the new technological era, it is now about the way we use digital devices to participate, share, promote as well as position ourselves, and who we are. For example, Porter (2002) demonstrates that human interaction with technologies affects who we are, and of course, what we do. It is about exploring the ways in which one's interpersonal associations shape one's understanding of self. According to Warschauer (2000), one's digital identity depicts to

a lager extent, one's overall identity. For example, our language identity construction through ICTs is essentially happening through a dominant set of collaborative and interactional domains (Porter, 2002).

In this regard, teachers need to be aware that language and literacy development through ICTs does not only mean mere use of digital devices for literacy skill development, but rather a platform of opportunity where learners create a sense of self and develop critical awareness of digital media. As teachers and learners use digital devices, they are constructing and shaping language identity via digital devices in tandem since language is an important identity marker (Lankshear & Knobel, 2008). All learners need digital literacy skills. This could be achieved if teachers have a range of technological tools in their classrooms to enable learners to survive and succeed, not only at college or at university, and also to compete in the job market. This provides opportunities for learners to discuss among others, the importance of technology in a bid to learn the necessary literacy skills. For example, teachers can use platforms such as wikis, blogging, video blogs (Vblogs) and interactive posters or podcasts as tools. The importance of these tools in teaching and learning is highlighted in the following section.

2.7 Digital Literacy Tools

Firstly, a wiki is a website collaboratively created and edited by several people (Austin et al., 2009). The classroom wikis are suitable for increased digital literacy because of their various features. Learners are able to create content by working together to edit it and make proposals. The software is able to operate on various computer systems, and therefore, there would be no need for teachers to worry about how to upgrade the software. Through this platform, teachers are able to post summarised notes to learners and many other users. Learners are able to correct their own mistakes and strengthen their literacy skills as they interact with the wiki software. Like the classroom blog, learners can also use the wikis to develop study timetables, lists of vocabulary and make research project summaries (Austin et al., 2009).

Secondly, classroom blogs, also known as clouds, (Austin et al., 2009) are yet another valuable and ideal tool that encourages learners to read and write. They promote collaboration and peer mentorship among learners. Classroom blogs encourage learners who hesitate to participate in class discussion when information is shared through the platform. Information can be stored on the blog as a central information store, making it ideal for both

parents and teachers to check the progress of learners using its learner's management abilities or affordances.

Thirdly, video blogs is another platform teachers can use to make their classes fun and interesting. Video blogs can be used by learners to display their projects, and develop a lesson beyond the confines of the classroom. Austin et al. (2009) conducted research in Australian primary schools whereby learners used the in-built video recording capabilities of digital devices such as the tablet computers for literacy development. They reported that tablet technology encouraged engagement though it was not established whether literacy skills were visible immediately. Video files can be edited and prepared for upload to the school cloud server making communication easier (Huang, 2010) as parents can easily see their children's activities in class. This helps learners develop necessary interpersonal skills such as collaboration, while having fun during recording.

Furthermore, podcast is one kind of digital media that could be documented by learners and where files are uploaded to streaming facilities like iTunes, which later can be shared with others. Most tablet computers now have this facility, which allows learners to modify their work, thus enhancing their literacy skills. Tablets are ideal tools for this purpose because teachers as well as learners may not need an extra microphone to record lessons or projects, which can be made available to parents. This is particularly good if learners would like to consolidate and internalise what they were doing in class (Hughes& Narayan, 2009).

Notably, using the above tools, learners can engage with three learning modalities: the visual, auditory and kinaesthetic modes (Gilakjani, 2011). The kinaesthetic mode refers to physical movements and it is perceived to support learning. Regarding the use of tablet technology in instructional practices in class, by both teachers and learners, virtual kinaesthetic is viewed as a more natural style of learning inherently embedded in technology (Edison & Franklin, 2012). Apparently, ICTs, in particular the new tablets, are innovative tools through which the learning styles of learners can be harnessed to improve the learning outcomes. In other words, while the tablets are not there to replace the role of teachers, they can help to engage learners in these three modalities, especially with readily available educational apps. The tablets and other ICT devices complement conventional techniques of administering hands-on classroom activities, thus challenging learners to engage with stimulating materials and encouraging them to feel the need to learn more.

As we can see from the literature, tablets are part of the larger family of multimodal devices that can enhance methods of teaching such as the Text Based Approach, particularly the writing process which is prescribed in the Curriculum and Assessment Policy Statement (CAPS) (Department of Basic Education, 2012). In fact, multimedia texts challenge the view of English language and literacy as being about words, sentences and traditional texts types and genres only. They require new and innovative ways of reading and writing. It is against this background that this study investigated how these technologies enhance the processes of reading and writing, listening and speaking in English lessons.

Furthermore, these technologies provide new learning atmospheres, particularly in the framework of second language learning (Godwin-jones, 2011; Jeon-Ellis, Desbski & Wigglesworth, 2005; Stockwell, 2007). In addition, the use of portable or mobile tools such as the touch screen tablets, iPads and others provide learners access to educational application software (Godwin-jones, 2011). They also have a prospective impact on the design and implementation of activities around specific language texts in more creative and interactive ways (Lys, 2013; Pellerin, 2012a; 2012b). They are perceived to enhance learning in many ways. Thus, in the education system, the dogma of learning, especially perceptual learning, has long transformed from a single sensory modality to multiple sensory modalities in learning. However, there are critiques on the use of these devices. It is alleged that the use of touch screen tablets can be very distractive during classroom learning (Moody, 2010).

The use of touch-screen tablets in language teaching has not been fully exploited. Recent research shows that mobile assisted language learning which includes touch-screen tablets is unexplored and where it is explored, it is only used to build the learners' vocabulary and less for use with writing processes such as writing narratives (Kukulska-Hulme & Shield, 2008). The touch screen's ability to appeal to more than one sense, its user friendly features, and its ability to combine different affordances such as video, auditory, and kinaesthetic enables young learners to easily interact with them (Chen, 2013). The interaction is better than when learners use traditional laptops, keyboards and the mouse. It facilitates learner centred teaching and learning which allows learners to engage in meaningful construction of knowledge in tasks given to them by the teacher (Sharples et al., 2005). This is made possible because touch screen devices such as the iPad have special affordances that can make it easier for learners to develop literacy skills if they are assisted properly (Hartson, 2003). In the

following section, I focus more on affordances of iPad that complement literacy development.

2.8 ICT and the Concept of Affordance

ICTs such as the touch screen tablets have a perceived concept of affordance, especially for literacy development among learners. Affordance is the ability and availability of something for use in doing something (action) or a match between something within a space and the learner (van Lier, 2004; Hartson, 2003). Similarly, Pouezevana (2012) describes affordance of touch screen tablets for teaching and learning in relation to their ease of access, proximity and personalization. Yet Gillen & Barton (2010) describes affordance in terms of social, cultural and cognitive applications. Research conducted by Godwin-jones (2011) in the evaluation of the use of iPads in Sydney, teachers described affordance as the use of digital peripherals such as a still and audio-visual camera, access to the internet, as well as the voice recorder. From this perspective, it is clear that different scholars perceive affordance of touch screen tablets differently.

This study adopts affordance as described by Hartson (2003) and adopted by Pellerin (2014). According to Hartson, touch screen tablets are tools that afford learners with cognitive, physical, sensory and functional affordance as discussed by Hartson (2003).

2.8.1 Cognitive Affordance

Cognitive affordance implies that touch screen tablets have features specifically made to support knowledge. The concept is derived from the cognitive theory which is described as a special ability in humans that enable them to make hypotheses and develop intellectually (Hartson, 2003). This affordance core concept is the emphasis placed on how humans think and acquire knowledge. Regarding ICTs such as touch screen tablets, learners (users) are enabled to engage with real-world problems by solving exercises. Research also shows that digital technology encourages higher cognitive development (Pellerin, 2014). In this regard, touch screen tablets are ideal tools for language and literacy development because, as research indicates, they motivate learners to explore learning on their own.

2.8.2 Physical Affordances

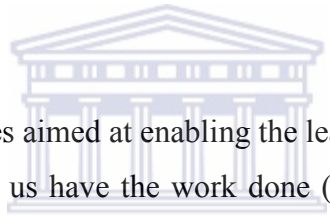
Physical affordances are features designed specifically to help learners (users) within the touch screen interface to perform certain actions physically. Concerning physical affordance,

the initial idea of affordance is to create technology that is sizeable enough so as to accommodate the fingers so that users would be able to use it with ease (Zhai, Milgram, & Buxton, 1996). According to Zhai, Milgram & Buxton (1996) the movement of fingers is particularly precise in as far as control is concerned, as compared to the arms. In other words, digital tools ought to be made in such a way that fidgeting with them using fingers would occur more easily.

2.8.3 Sensory Affordances

The sensory affordances are those features aimed at appealing to the affect domains, especially concerning the two above so that learners (users) may be able to feel, hear, or are prompted to perceive something. Touch screen tablets have been designed to make users feel that they are developing cognitively as they perform an action. Other sensations associated with the sensory affordances include the auditory and visual affordances of tools.

2.8.4 Functional Affordances



Functional affordances are features aimed at enabling the learners (users) to perform tasks. In other words, these features make us have the work done (Hartson, 2003). As earlier stated, for example, the car steering enables the driver to turn the car, therefore leading the driver in the desired direction.

In view of the above, this study believes that the notion of affordance is appropriate in answering the aim of this study, "how does the use of ICTs such as touch screen tablets enhance literacy development among Grade six English Home Language learners? These affordances depict the perceived role played by digital technology in supporting learners as they interact, as well as the nature of actions and steps which learners take in doing the tasks (Hartson, 2003). Furthermore, the use of tablets for language teaching is linked to how teachers themselves perceive digital technology affordance in providing the learners with tools for learning.

While the tablets are smaller than laptops or even desktop computers, touch screen tablets and related devices, with their relatively large screens for multiple fingers to operate them, replace the print media such as books, and have efficient computational functionalities (Educause, 2011). The in-built features to record both audio and video, make pictures and many others make the touch screen technology ideal for producing multimedia artefacts that

learners can experiment with (Educause, 2011; Godwin-jones, 2011). In other words, the touch screen tablets increase the pace of learning and provide novel opportunities which enable learners in new and different ways. According to Godwin-jones (2011), tablets and other related tools enable learners to express themselves creatively and increase their concentration time.

Thus, in the context of language and literacy development, the use of touch screen technology needs more investigation in order to ascertain how digital technology affords and enhances language and literacy development of learners more autonomously. The notion of autonomy is linked to the concept of metacognition processes in which learners are entirely responsible for and aware of their own learning (Benson, 2007; Nunan, 1992). Thus, in the light of what has been discussed regarding the touch screen affordances, the theoretical underpinnings of digital technology can be understood within the principles of learning which include learners' prior knowledge, the learning process and metacognition (Bransford, Brown & Cocking, 2000; Cisco Systems Inc., 2008; Nunan, 1992, 1995).

It is my view that exposing the learners to different text types with the aid of multimodal, tactile tablets allows realistic, flexible and meaningful language engagement. Using the tablet's ability to take photos, videos and other features, teachers are able to foster cooperation, creativity and critical thinking as learners use the tablet technology to develop different types of texts such as story-telling or procedures which relate to their cultural experiences. In this way, learners develop knowledge and understandings of the cultural context, and of the particular text/genre. In particular, the text activities move from experiential or everyday knowledge (EK) to abstract or technical which is also known as school knowledge (SK) (Mutemeri, 2013). Through activities, such as excursion, film making, or inviting guest speakers, learners 'experience' learning in unique ways. It is, however, important for the teacher to highlight the purpose, structure, and the language features, including the key stages of the targeted text.

Teachers' informed decisions about pedagogical approaches and instructional interventions depends on whether they have knowledge about how children learn a second language and how to maximise the language learning of learners through digital technology (Cummins, 2008; Rueda, 2008), especially the process of reading and writing texts which is now more than ever presented in plural forms.

To be successful in developing learners' literacy skills, teachers will need to be aware of the theoretical underpinnings of literacy and multimodal strategies as they relate to language literacy development. In my view, teaching without any theoretical awareness renders teaching random and spontaneous. In the following section, I focus more on sociocultural and the constructivist theoretical frameworks to highlight the value of knowledge construction on the basis of the learners' sociocultural experiences.

2.9 Theoretical Framework

This study is situated within two theoretical underpinnings, namely the constructivist and the sociocultural perspectives pioneered by Vygotsky, (1978), Bruner (1966, 1990, 1986) and Piaget (1972). In language teaching and learning, research shows that the constructivist and sociocultural theories play a major role in supporting language acquisition and language literacy development (Lantolf, 2000). In the broader context of learning, these theories are relevant to understand how teachers and learners interact to make sense of knowledge through the use of mobile technologies such as touch screen tablets. The next section is an in-depth description of the sociocultural theory as it relates to language teaching and learning.

2.9.1 Sociocultural theory

Firstly, the sociocultural theory is not a specific pedagogy, but is a theory of knowledge that argues that social interaction plays a fundamental role in the development of cognition. In other words, one would say that society has a profound role on the development of children. Current conceptualizations of sociocultural theory draw heavily on the work of Vygotsky (1986), as well as other theorists such as Wertsch, (1998, 1991). Vygotsky suggests that caregivers, parents and peers, including culture have a role in shaping individual's beliefs and perceptions, as one develops. According to Tharp and Gallimore (1988), the sociocultural perspective has profound implications for teaching, schooling and education, especially in language teaching and learning. Its strength lies in the fact that it recognises the role of social interactions as individuals construct knowledge and negotiate meaning in real world situations, while acquiring language skills (Lantolf, 2000; Lantolf & Thorne, 2002).

Vygotsky (1978) further argues that a child's holistic development cannot be understood only by a study of the individual. This implies that one must also examine the external social world within which that individual has been brought up, through participation in the lived experiences of a particular social setup. Vygotsky described learning as one that cannot be

divorced from the social events as they occur when children interact with objects, people and their immediate environment around them (p. 287). A key feature of this view of human development is that higher order functions develop out of communication and interactions between people.

On the other hand, Sutherland, Armstrong, Barnes, Brawn, Breeze, Gall, & John (2004) explain that what is unique about the sociocultural theory is the fact that certain devices or tools mediate human actions or learning. In other words, the theory places emphasis on social interactions enacted by humans in a social setting e.g. interactions such as those happening in the classrooms between teachers and learners happen in a social setting (Dale et al., 2004) influenced by global and national factors such as the curriculum. Contrasting the concept of tabula rasa, the sociocultural theory recognises the diverse learner experiences brought to the classroom, emanating both from social interactions (outside the classroom) and class interactions. Regarding ICT integration in teaching and learning, out of classroom cultures play an important role (Facer, Furlong, Furlong & Sutherland, 2003; Kent & Facer, 2004) because ICTs in themselves are cultural tools fashioned in a particular social setting. In the context of this study, ICTs, semiotic systems including language, images such as graphics, pictures and drawings as well as peoples' interactions mediate learning.

Similarly, according to Lim (2002), Vygotsky's sociocultural theory is ideal for learning because from it there are many concepts that can be applied in many other learning situations, particularly, conjoining cognition with activities. This is particularly because higher mental functions are said to be happening on two planes, namely the social and the psychological (Lim, 2002a). The social plane is referred to as the inter-psychological class happening between people, while the other is an intra-psychological happening within an individual leaner. Lim (2002a) highlights the fact that human mental functions as claimed by Vygotsky, are mediated by culturally embedded tools, both technical and psychological. Furthermore, Lim agrees with Cole (1990,1995) that the emphasis should be on the relationship between the learner and the medium through which any task is undertaken. This view corresponds with Vygotsky's sociocultural perspective (1978).

From this perspective, the learners' mental processes do not mature independently but rather with the help of the learners' interaction with the expert others and mediational tools in the learning environment (Guikema et al., 2014). As educators, the sociocultural theory is worth

understanding because human beings continually learn through the social and communicative processes as stated by Alexandersson, Linderoth & Lindö (2001).

Taking into account Vygotsky's sociocultural theory of mind, Lantolf (2000) Lim, (2002) and Cole (1995) state that the mind is basically mediated by tools. Mediation, as earlier stated, can be physical i.e. can be tools, or symbols such as language. The bottom line is that tools are introduced to activities as auxiliaries to connect humans to the world of mental actions or the world of objects (Oladunjoye, 2013; Lantolf & Thorne, 2002). In other words, the concept of introducing devices such as tablet technology, is similar to the way we use physical devices such as pen and paper to shape our thoughts and ideas as a channel of writing a text to convey a message. Thus, tablet technology can be regarded as mediating devices for literacy development for language learners, both in and outside the classroom (Guikema et al., 2014). Moreover, Barton & Hamilton (2000) describe literacy as social and cultural practices perpetuated by a particular social group.

In addition, the sociocultural theory view of learning is that mental or cognitive development does not take place in isolation, but rather through the transformation of the inborn abilities enacted by socially constructed mediational devices (Lantolf & Pavlenko, 1995; 2001). From this perspective, this study contends that tablet technologies are potential tools for literacy development. Further, the use of sociocultural mediational tools such as blog, wikis, and vblogs as earlier stated, promote literacy development as learners interpret and construct texts with the help of "expert others" such as more capable learners and teachers. Sociocultural tools promote intra-action through collaboration, interaction and communication.

2.9.1.1 Intra-action Concept, ICTs and Literacy Development

Intra-action or intrapersonal communication, which can be translated as private speech, is said to play a major role in language and literacy acquisition through the use of external tools. Some of the examples of intra-action activities in this case are blogs and other technological tools. Intra-action activities fit in the sociocultural theory in which, unlike other theories, the human mind does not depend entirely on its make-up (Lantolf, 2003) to develop or not to develop, but there are rather agents capable of controlling our minds. Similarly, Lankshear & Knobel (2008) and Hultman (2011) explain that in making sense of the world and the construction of knowledge, it is not only human factors such as language, discourse etc. that play a role, but also non-human factors such as tools i.e. tablet technology. In other words, as

education veers towards learner-centred approaches, learners are able to engage and mediate learning on their own, at an intrapersonal level through the use of technology.

Similarly, Barad (2008) describes the non-human materials as active and performative agents inherently embedded with material agency, that in turn, influence our own sense of judgement of the world. For this reason, Hultman (2011) concludes that tools are an extension of humans and not the other way round. In other words, non-human devices do not exist on their own, but are part of human life. Thus, intra-action or intrapersonal communication is an avenue where more than one agent have an effect on each other, resulting in an action (Barad, 2012). In other words, learning and literacy development cannot exist in isolation, but in collaboration with other cultural factors or agents such as tablet technology.

While literacy development is almost impossible to observe directly, Carroll (2001), using technology (digital literacy), helped learners to encode and access texts in multiple forms as they generated, communicated and negotiated meaning recognised in different social ways (Lankshear & Knobel, 2008). Tools such as the tablet screen help to deepen understanding of what learners learn about e.g. literacy as they use collaborative tools such as wikis and blogs. These tools promote both intra-personal development and interaction in the process of meaning making.

The sociocultural perspective provides this atmosphere and that is the reason why teachers need to have an understanding of this teaching and learning theory. Alexandersson, Linderoth & Lindö (2001) argue that literacy development can be measured to an extent through observation of utterances such as reading and writing, including the time taken for learners to construe these utterances. In other words, cognition or mental processes depend on the social experiences of learners on the intra-personal plane because reality of learning is socially constructed. This view relates to the Constructivist theory described below.

2.9.2 Constructivist Theory

The constructivist perspective is not a method either in itself but rather a body of knowledge that maintains that reality is socially constructed and not discovered (Flynn, Mesibov & Vermette, 2013). Like the sociocultural theory, reality cannot be constructed without the context in which it is created. In other words, reality cannot be understood outside human social intercourse. Contrary to criticisms made by some traditional instructors, constructivism

does not discharge or reject the active role of the teacher or the significance of expert knowledge (Briner, 1999). Instead, constructivism adopts and adapts the instructional role of teachers so that they can help learners to create knowledge rather than to imitate a series of facts in parrot fashion. This is in contrast to traditional ways of teaching where learners are passive receivers of knowledge. In fact, Lantolf (2003) praising the sociocultural perspective, argues that the human brain does not entirely depend on the make-up of the brain for cognitive development, but that humans are agents who can regulate their mind for learning. This statement is in line with the constructivist theory where learners, as said above, are not passive receivers of knowledge, but rather actively initiate and take control of their own learning.

In addition, constructivism as a theory of learning, advocates that learners or people should be active in constructing their own knowledge and understanding of the world (Lundkvist, 2005). This can only happen if learners are allowed to use their experiences and reflect on those experiences to make sense of the world. As learners experience knowledge, the new knowledge may conflict with what learners already know and cause cognitive dissonant or the new knowledge may also match with what they already know and promote cognitive consonant (van Lier, 2004). The learners will make an effort to either accept the new information or reject it; a process referred to as equilibrium which in the works of Jean Piaget, happens after the processes of assimilation and accommodation in the stages of knowledge adaptation (McLeod, 2009; Piaget, 1972). In both cases, learners engage in active construction of knowledge and this happens when learners are encouraged to use tools to explore and examine what they already know with what they do not know (Lankshear & Knobel, 2008; Shield, 2000). Therefore, teachers should have an understanding of how children learn, and adjust their teaching strategies accordingly to enable learners to construct their own knowledge.

Furthermore, Lundkvist (2005) and Shield (2000) state that proponents of the constructivist theory as a learning theory explore how learners acquire the knowledge within a context. Similarly, Kennedy, Dunphy, Dwyer, Hayes, McPhillips, Marsh, O'Connor & Shiel (2012) describe constructivism as one of the principles of teaching in which learners are paramount in the construction of their own knowledge, using non-human tools. Making reference to Stenso (1944) Kennedy et al. (2012) explain that the learners' prior knowledge and experiences cannot be understood to be equal to the sensory impression. According to Stenso

in (Kennedy, et al., 2012), knowledge is a cognitive tool through which the reality of the world can be perceived by combining the sensory impression and the reasoning. It is not surprising that Piaget, one of the constructivist advocates, spent time expounding his four stage concept of cognitive development: sensorimotor, preoperational, concrete operational, and formal operational for meaningful learning (Lundkvist, 2005; McLeod, 2009; Piaget, 1972).

The constructivist approach in the use of technology for instruction is based on the view that software packages have both a traditional and behavioural approach in teaching. The traditional approach views the teachers as transmitters of knowledge, and learners are at the receiving end (Guikema et al., 2014). Current or modern software packages are more interactive in nature and encourage learners to take a leading position in which they too can undertake explorations, manipulations and changes. In other words, designing software that is tailored to fit the learners' learning needs and not the other way round is what is now ideal in the constructivist approach. According to Shield (2000), designing learning environments in this manner could fully integrate texts, multimedia and communication.

In the views of Guikema et al. (2014) and Camp & Doolittle (1999) any learning that is appropriate for the learner and proceeds in realistic and real-life settings is a primary driving force in the construction of knowledge. This is one of the ideals of the constructivist perspective for education today, i.e. practical application of knowledge in real settings. If teachers can master the process of constructivism in their instructional practices, it is likely that there could be considerable improvement in the battle against illiteracy, globally.

With regard to literacy development, if teachers make a successful shift from traditional approaches to modern and constructivist teaching approaches such as phonology awareness, literacy teaching and learning could be facilitated. According to Kennedy, et al., (2012), through the expert other, teachers can expose learners to the metacognitive processes of reading and writing as they work with different texts types. Generally, the constructivist perspective proposes that learners should be encouraged to take responsibility for their own learning, using their prior knowledge. As stated earlier, this referred to as everyday knowledge (EK) which is augmented with closed knowledge or school knowledge (SK). Learners can talk about how their understanding is changing if they are exposed to real-world problems, and they can devise strategies to solve those problem-based tasks. Teachers need

an idea of the constructivist theory to enable them to understand learners' prior knowledge as they design learning tasks in collaboration with learners as active participants in knowledge construction, with the teacher's input as a scaffold.

2.9.2.1 Scaffolding Literacy development

In teaching and learning scaffolding is an important aspect. Scaffolding is part of continuous help that comes from any person other than a learner, which is withdrawn gradually when the learner becomes stable and proficient (Vygotsky, 1978). This stability is usually after many experiences of supported expression, before the child or learner gradually masters an action which aligns with cultural meaning. This act is said to have passed through the Zone of Proximal Development (ZPD) during which the adult has educated the child to new knowledge previously unattainable for the child (p. 21).

I am aware that the constructivist and the sociocultural theories are much more complex and interrelated. Nonetheless, the aspects described above are important components to consider when examining the communicative and cognitive development of learners. The ZPD is the area of exploration in which the learner is cognitively prepared, but requires help and social interaction to fully develop (Briner, 1999). A teacher or more experienced person is able to provide the learner with "scaffolding" to support him/her to understand knowledge domains or development of complex skills. Collaborative learning, discourse, modelling and scaffolding are important strategies for supporting learners' intellectual knowledge and skills and for facilitating intentional learning (Briner, 1999), both partly planned or improvised (van Lier, 1996; 2004). The following figure shows the graphic representation of the process of ZPD.

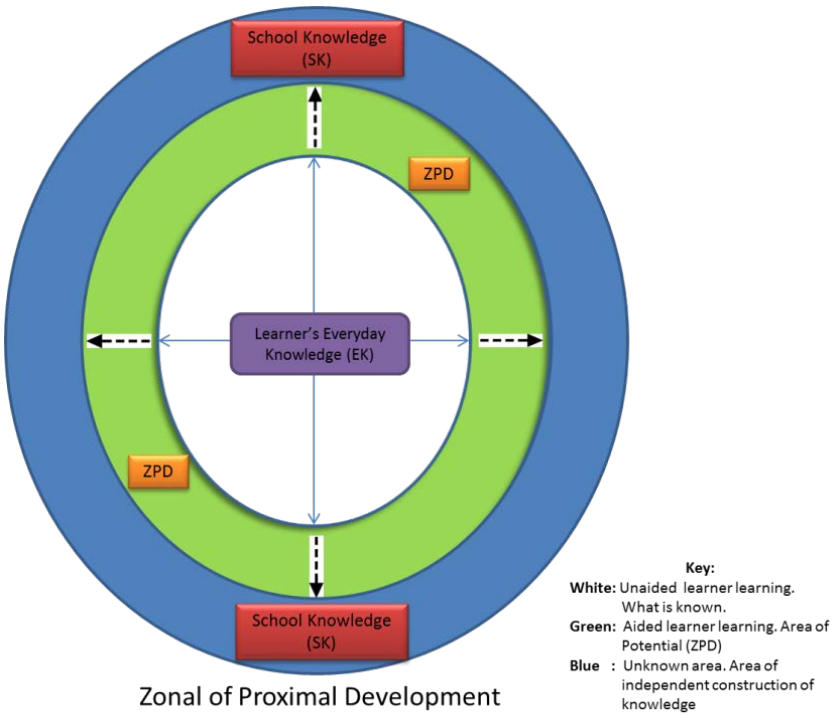


Figure: 1. ZPD Adapted from Ismael Peña-López, 2012

Following what has been said about scaffolding and ZPD above, figure one provides explanation on the process of mediated learning through explicit teaching. The first or innermost layer represents learner's prior knowledge or Everyday Knowledge (EK) (Mutemeri, 2013), which teachers should embrace and develop. It further represents the child's ability to work on his/her own, without assistance, while the middle layer represents aided learning whereby the learner is given support to reach the Zone of Proximal Development (ZPD). The outermost layer represents closed or School Knowledge (SK) (Mutemeri, 2013) aimed at shaping EK into independent knowledge construction skills. However, learners might not gain specialised and independent knowledge skills unless they are given a helping hand as represented in the second layer of the diagram. Artefacts such as iPads, as described in this study act as tools to mediate the learning process in language and literacy development.

In the context of this study, ICTs i.e. the mobile touch screen tablets may be seen as mediating learning tools in the Zone of Proximal Development (ZPD). ICTs as mediating tools have an impact on the interactions and relationships during the teaching and learning process, especially teacher-pupil, pupil-teacher, and pupil-pupil relationships. They shift the

balance of power and consider the importance of interpersonal (social) exchanges during learning. Research in the field of Computer Mediated Language Learning has explored the importance of technologies in language acquisition where scholars such as Stockwell (2007) suggest that smartphones, including the current tablet computers, are the most potential and integral parts of language learning. They support the constructivist approach in teaching and learning.

However, the constructivist perspective, like any other, has its own challenges. Critiques of the constructivist theory argue that the theory lacks structure. It is alleged that some learners may require a learning environment that is highly structured in order for them to do well (Gordon, 2009). On the other hand, Gordon laments that teachers may neglect the standard curriculum in support of the individualised curriculum premised on the learner's prior knowledge. In addition, learners may not be able to make a connection between their prior knowledge and the new knowledge (Gordon, 2009). It is also observed that teachers need adequate preparation in order for them to be able to perceive the learners' responses and modify the learning environment, but they cannot do this if learners are not making these connections. Yet, because learners are supposed to discover new ideas for themselves while they engage in problem-solving tasks, (Mayer, 2004), learners may end up deducing incorrect conclusions. However, the theory generally is a potential approach towards authentic and meaningful learning in the era of new technologies.

From this perspective, we are able to see that new technologies are contributing to developing new opportunities, new learning environments and enhancing teaching and learning (Bransford, Brown, & Cocking, 2000; Godwin-Jones, 2011; Jeon-Ellis, Debski & Wigglesworth, 2005). Therefore, it is suggested that ICTs such as the tablet technology and tasks around literacy development should be seen as fluid knowledge with modified constructs and enacted by individual learners in classroom events (Kahn, 2012). However, the mere fact that these ICTs are potential tools for new learning opportunities among language literacy learners, does not in any way mean that the role of teachers in fostering the literacy development in the learners should be replaced.

The two theories (sociocultural and constructivist) discussed above, both clearly demonstrate and suggest how teachers must endeavour to make learning as real as possible in an authentic and meaningful way. Drawing on the learners' social experiences enables teachers to identify with learning and its principles, while acting as facilitators.

2.10 Principles of learning

As can be seen, both the sociocultural and constructivist theories put the learner's social experiences upfront for meaningful learning. The implication of this, besides the many uses of ICTs such as the touch screen tablets, is that teachers will need to be aware of some certain learning principles that have evidently come out of this literature and theoretical review. Some of the principles of learning are the learners' prior knowledge, learning as an active practice and metacognition.

2.10.1 Learner's prior knowledge

To make teaching and learning authentic, teachers need to understand the implications of the sociocultural and constructivist perspectives. Research shows that tapping from the learners' prior knowledge embedded in their social setting enhances learning. Teachers can use prior knowledge of learners as a platform to introduce new knowledge and observe learner's change of perception as learning progresses (Bransford, Brown & Cocking, 2000). From this perspective, it is clear that without prior knowledge structures to build on, it may be impossible for learning to take place. In addition, this means that it may be a grave mistake to conceive learning as separate from the experiences of the learners. This resonates with Vygotsky's sociocultural and Piaget's constructivist theories, which have a common ground that learning is a socially situated activity. Our connection or contact with people surrounding us e.g. children, parents, peers, and so on, plays an exceedingly important role in the acquisition of knowledge. This is made possible through language.

Language is always at the centre of all sections of life such as the economy, including learning. Research has shown that people converse within themselves as they learn (private speech or intra-action) (Lantolf & Poehner, 2008). According to Vygotsky, language and learners are intertwined and inseparable. Smits, Huisman, & Kruijff (2009) supports this assertion about the role and importance of the Home Language in second language learning. However, this should not model the traditional transmission practice where the teacher owns the centre stage, but rather active participative process where learners take lead in discovering their world around literacy activities. The following section describes in detail the nature of active practice.

2.10.2 Learning as an active practice

Learning as opposed to traditional rote teaching is an active practice where learners take responsibility for their own learning by using their sensual involvement in constructing meaning. In addition, this means that learning exercises should not be technical but rather structured and premised on real-world problem solving. This is particularly to trigger cognitive, affective and scholarly engagement among learners (Bransford, Brown & Cocking, 2000). Linked to the concept of prior knowledge, as stated above, better learning takes place if topics are relevant to the experiences of learners, (Cisco Systems Inc., 2008) and they mirror authentic learning.

Additionally, the more people become aware about several factors that influence learning such as the affective and the cognitive, including the physiological aspects, the more we need to be aware of modalities that foster multimodal learning (Pellerin, 2014). This approach contrasts with the unimodal traditional type of instruction (Cisco Systems Inc., 2008).

2.10.3 Metacognition

There is more emphasis on making the learners aware of their own learning process. In order to enhance learners' performance, and to identify their weaknesses and strengths, learners should be engaged in metacognitive processes which can assist them to monitor and regulate their own learning (Bransford, Brown & Cocking, 2000). Branford et al. (2000) explain that this approach can assist learners through outlining goals and observing their own progress by taking ownership of their learning. When learners acquire metacognitive schemes, learning is enhanced because they will have time to think about how they pursuit their own learning (Cisco Systems Inc., 2008). In other words, metacognitive process is a way of making the learners agents of their own learning; a concept linked to learner autonomy, as stated earlier (Bransford, Brown & Cocking, 2000 ; Nunan, 1992; 1995). Learning theories may have differences in certain areas, but they have common grounds on which they meet. These common grounds include the fact that learners should be agents of their own learning.

2.11 Chapter Summary

This chapter discussed literature in which ICTs were described, and the concepts of literacy, multimodality and digital literacies were discussed at length. This discussion covered issues of digital access and factors affecting successful integration of ICTs in teaching and learning.

Furthermore, perceptions of literacy in the digital net and the different conceptions of literacy were explained. In the second part, two theoretical perspectives, the sociocultural and the constructivist theories were discussed. The means of scaffolding literacy activities through touch screen affordances were described. These discussions have enabled me to reflect and rethink both my position as a teacher and my teaching practices in terms of the manner in which literacy skills development should be practiced in the connected world. As a social practice, my traditional concept of literacy has been challenged to a more expanded and fluid meaning. In the next chapter, I focus more on the methodology employed in this study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Any successful research is informed by certain philosophical assumptions or traditions. There are three types or philosophical traditions, namely, the positivist, the critical and the interpretive. These assumptions determine the validity and what methods are worth using for the study. That is why it is necessary to be clear about what assumptions inform your worldview before embarking on research, because your study typically reflects your worldview. In other words, we all implicitly or explicitly identify ourselves with one of the three traditions mentioned above. I am comfortable with the interpretive tradition because it appeals and informs my worldview.

In view of the above, my research study is descriptive and interpretive. It is a single case study conducted through a qualitative approach. In this chapter, I begin by discussing the interpretive paradigm as a philosophical framework of my study. This is followed by a discussion of the research sample, site, design and data collection methods. Furthermore, the tools for data collection are described as well as the methods of data analysis and synthesis. It also highlights ethical issues, trustworthiness and limitations of the study. The chapter closes with a brief summary after developing each of the themes above to provide succinct details about the research methodology. In the next section, I focus on the research paradigm.

3.2 Research Paradigm

The aim of this study was to obtain a more detailed insight into how the use of ICTs such as tablets were used by both teachers and learners in enhancing language and literacy development practices in a Grade Six English Home Language classroom. With this in mind, it was necessary for me to be physically present at henceforth “K” Primary School which was one of the few public schools using the latest emerging technologies for teaching and learning as described in Chapter one. This enabled me to observe what went on in this particular institutional set up. My presence allowed me an opportunity to identify with the processes and experiences of the learners at “K” primary school as they interacted with the digital devices. In the words of Merriam (1998), being present in the social practices of the researched is the process which aims to gain a clear understanding of the world view experiences of the researched in the phenomenon.

Seeking to discern and understand the experiences of the researched is a process described as interpretive (Denscombe, 2003). An interpretive paradigm is underpinned by the fact that human actions are fluid and socially constructed activities (Geertz, 1973), and in order to make sense of those actions, actions need to be interpreted. This can be done if the researcher understands the intentions and experiences of the agent's actions. In other words, interpretivism concerns itself with making sense of the lived practices and gives the researcher insight into how phenomena can be interpreted and understood.

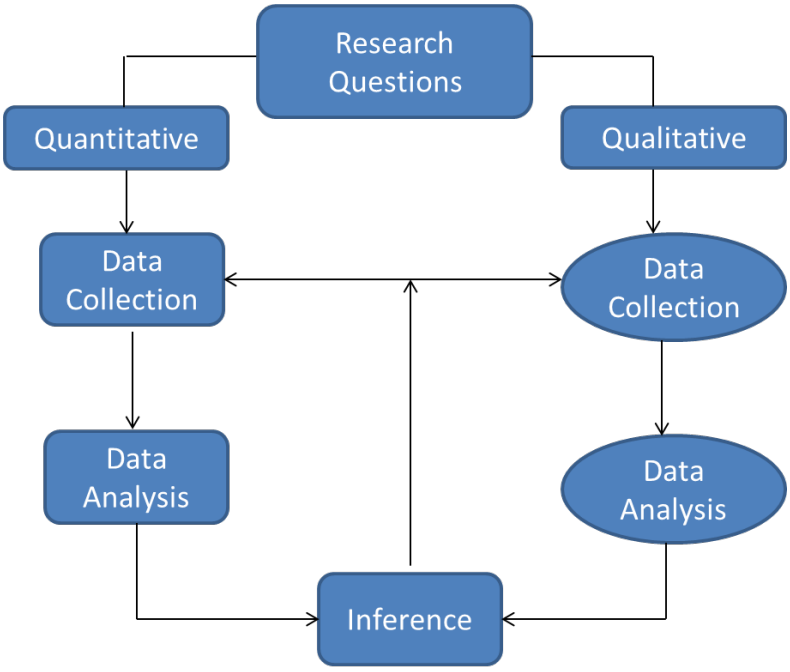
According to Denscombe (2003), social practices are not only constructed but also interpreted by people. From this perspective, Vierra & Pollock (1998) explain that interpretivism refer to socially located practices and experiences of those involved in the practices. In this regard, an educational institution or in this case, the primary school under study, is one of the typical social settings where social practices are constructed and interpreted by agents involved in the educational system such as teachers. Language and literacy instruction is a social practice enhanced by both human and non-human artefacts (tools) (Barad, 2008; Hultman, 2011). Thus, to discern, understand and interpret how ICT tools enhance literacy development as a social practice, an interpretive paradigm shaped and guided the exploration of this phenomenon in this qualitative study.

3.3 Research Approaches

According to Myers (2009), a research method is a plan of action usually aimed at and structured to meet certain goals. There are three different research paradigms, namely qualitative, quantitative and a mixed method of the two. Generally, it is acknowledged that these approaches may have different forms of knowledge underpinned by how one views the world and the goal of the study. It is also acknowledged that research approaches relate to how information regarding data collection, analysis as well as generalities and representations, are deduced from the collected data (Brysman & Burgess, 1999, p.45; Myers, 2009). However, no one approach can claim to be superior over the other. What makes them appropriate for a particular research study can be arrived at by considering the context, nature and the aims and goals of the research study at hand (Myers, 2009). Some researchers may prefer using a mixed method to reduce what may be termed as bias, depending on the nature of the study (Brysman & Burgess, 1999).

In order to get the desired answers to the research questions, it is important to have a clear research approach which provides a specification of the actions to be followed in order to successfully answer research questions (Swarts, de la Rey, Duncan, & Townsend, 2008, p. 22). In other words, the research approach is a road map giving directions of how to move from one place to another (Yin, 1994, 2014). Thus it is crucial that the research approach is clearly identified before embarking on the study (Swarts, de la Rey, Duncan, & Townsend, 2008, p. 22). In other words, the research approach is a road map showing directions of how to move from one place to another (Tashakkori & Teddlie, 2003, 2009).

Tashakkori & Teddlie (2003, 2009) in their mixed-method approaches describe two components of a mixed method design. While my study focus is not on mixed method design, the description of the data flow in both components resonates with the logical flow of my own research. Tashakkori & Teddlie (2003) explains that the data flow in both begins with formulation of questions, to data collection, to data analysis and finally the meaning making before the report is produced (p. 688). My focus is on the qualitative data flow of their description which I adapted for my study. On the next page the adapted visual illustration is given in Figure 3 which is preceded by the diagramatic illustration of Tashakkori's and Teddlie's concurrent mixed method design from which I chose the qualitative data flow component.



Concurrent Mixed Method Design (Tashakkori & Teddlie, 2003, p. 688)

Figure 2: Concurrent Mixed Research Logical Approach

In the above visual illustration there are two research approach components. In my study which used the qualitative research approach described in the subsequent paragraphs, I adapted Tashakkori and Teddlie's description of the data flow in their mixed method approach, while focusing on the qualitative description component. In the next section, I describe the qualitative research approach I employed in this study. The visual illustration of the research process is given below.

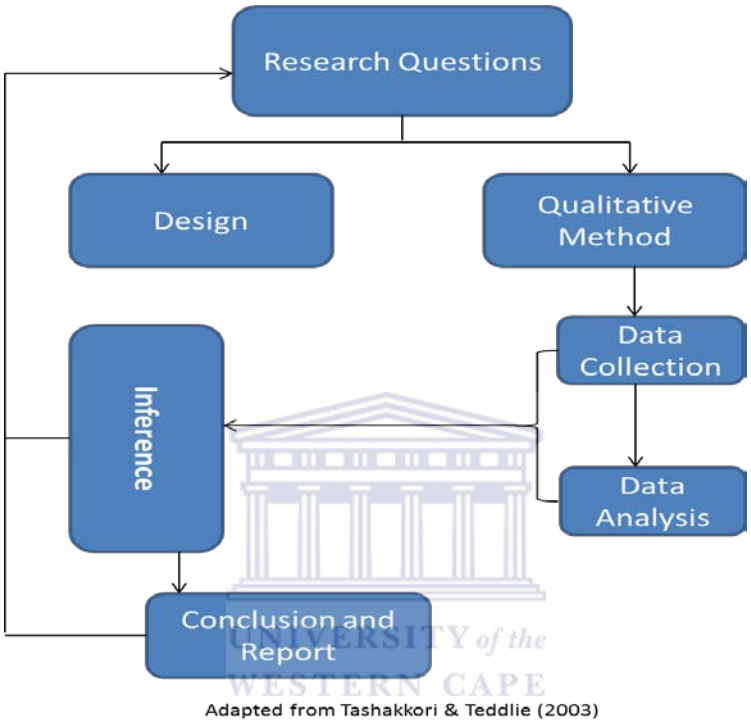


Figure 3: Adapted Research Approach

In my study, I adapted Tashakkori's and Teddlie's (2003) qualitative research approach shown above. The formulation of the research questions enabled me to know which research approach and design I could use. This, in turn, also paved way for me to carefully choose the research design, described under heading 3.6 in this chapter and the data collection methods and appropriate instruments. From the data analysed, I started making sense (inference) of the lived experiences of the practices of the learners and the teacher leading me to a conclusion that informed my report as discussed in Chapters four and five. Inference involves a step by step creative, intuitive meaning making and categorization for a holistic understanding of the phenomenon (Tashakkori & Teddlie, 2009). This is particularly true because the ultimate goal of the qualitative study is meaning making, after all. This process of sifting through the data analysis enhanced my understanding of my own assumptions about the language teaching practices.

Using the qualitative approach gave me an opportunity to investigate and understand the research phenomenon in more detail (Myers, 1999). This approach was ideal because it aimed at making sense of and interpreting the teaching and learning practices naturally within the classroom setup. I believe that the qualitative method helped in answering and revealing more about how ICTs such as tablet devices were used to enhance literacy development as a social practice.

According to Denzin & Lincoln, (2000; 2008), qualitative research is a social practice, socially embedded and positioning an observer in the researched world. Patton (2002) adds that the aim of qualitative research is to grasp how unique are the social interactions of those involved in their particular social settings. In order to grasp the uniqueness of these social interactions one needs to understand that reality does not take place in a vacuum or decontextualized settings (Denzin & Lincoln, 2000), but rather in a sociocultural location in which individuals interact and are part of. In other words, interactions are depicted more than what we see, full of figures of speech (McRae, 1991; Gibbs, 1994), embedded in the participants ever changing world views and calls for meaning making (Bakhtin, 1981).

The task of the researcher is to study and discover the many intricacies of different contexts and represent them in an accurate manner (Philip, 1998). Therefore, in order to gain the interpretation of the nitty-gritties of these socially constructed reality experiences, the qualitative method was appropriate (Durrheim, 2006) in the understanding and interpretation of social interactions (Denzin & Lincoln, 2000). As Wallace (2013) notes, qualitative research has the ability to generate rich textual data which becomes the platform for the researcher to understand and interpret how the participants experience certain things in their natural setting.

I opted for the qualitative approach because I was able to an gain in-depth understanding of the experiences of both the teacher and the learners as they used tablet devices for their language and literacy lessons in the classroom. It was ideal for me because my intention was to explore the behaviour of the teacher and the learners as it occurred in its natural setting (McMillan & Schumacher, 2010). The research questions were all phrased with a view to gaining an understanding of the social phenomena as the participants used tablet devices. In the following section, I focus on the sample of my study. The interpretive paradigm described further influenced the type of research design that could be used for this study. The next paragraph focuses more on the research design for this study.

3.4 Research Design

This study used the case study characteristic of a qualitative approach. For the purposes of this study, a case study was used to denote an in-depth and detailed evaluation of a subject with its context related conditions (Yin, 2014). According to Thomas (2011), a case study is an analysis of people, occasions, decisions, periods, projects, policies, institutions or any other system that can be studied holistically using more than one method. Typically, Thomas explains that case studies are used to describe entities that can form one unit such as an individual, organisations or even institutions. Decision-making is one of the central aspects of case studies, including making recommendations about a particular case or situation. Yin (2014), citing Schramm (1971), notes that a case study concerns itself with decisions, asking questions such as why certain actions were taken, how they were implemented and what the outcomes were. However, Yin cautions researchers not to mix case studies with ethnographic studies or participant observation strategy as a method of data collection.

In addition, Yin (2003) emphasises that a case study has a multifaceted approach consisting of logic design, techniques for data collection as well as particular methods for data collection. In other words, case studies are comprehensive research techniques, which logically connect the empirical data to the research's initial aims, questions and eventually to the conclusion of the study (Yin, 2003). Case studies are appropriate for single research and allow the researcher to conduct an in-depth study of a particular case within a limited time (Bell & Cowie, 2001; Bell, 1999). The strength of a case study rests in its ability to allow a researcher to study the various interactive processes at work as he or she concentrates on a particular phenomenon under study (Denzin, & Lincoln, 2000). Its purpose is to enable the researcher to expand his/her knowledge concerning the phenomena of the individual, group or organisation (Yin, 2014).

The Qualitative research described earlier complemented by the case study, takes place in a natural setting and attempts to make sense of the phenomena in terms of the meaning that people bring to them (Denzin & Lincoln, 2008). Similarly, this case study explored the use of touch-screen tablets and how they enhance language literacy development for Grade 6 learners at a primary school in Cape Town. In order to do this, it was necessary for me to carefully choose the sample of participants that were able to provide rich information to answer the goals of my research, how teachers used ICTs to enhance literacy sills development. The focus of the next section is sampling.

3.5 Sampling

In research, there are two populations, namely the target and access populations. The target population refers to all cases from which the study generalisation can be made, while the access population refers to all such cases meeting the criteria as well as being accessible to the researcher as subjects for the research under study (Polit & Hungler, 1991, 1999; Polit, Beck & Hungler, 2001). In this case, the accessible population was composed of one ICT well-resourced Western Cape Primary School. It was selected because it is one of the few public schools that are well resourced in ICTs. In addition, the selected teachers were those who were able to use ICTs such as tablets to conduct their lessons. Thus the selected school was the convenient target and sample for this study.

For Polit & Hungler (1991) and Polit, Beck & Hungler (2001) sampling is the process of coming up with a population segment which would represent the general mass. On the other hand, O'Leary (2004) describes sampling as a strategic structured and sometimes mathematical process directed at gathering characters that would participate in the research process. Deliberately, to represent the general population, small samples are ideal and usually opted for in a qualitative study (Brink & Wood, 1997). A sample population, according to Burns & Grove (2001) is premised on elements such as individuals, objects, or even events that meet certain criteria for inclusion in the research study.

In addition, there are several ways of sampling such as random, purposeful and snowball. Purposeful sampling (Henning, van Rensburg & Smit, 2004) as well as snowball sampling, both have one thing in common (Henning et al., 2004). Both methods agree that the participants involved in the study are picked at the most convenient time when they are needed. This approach gives the researcher a platform and opportunity to involve participants who are believed to be suitable for giving the most variable information that will speak to the research questions (Burns & Grove, 2001). In this case, small samples are easy to work with and out of them the researcher makes generalities (Tjale & De Villiers, 2004).

Purposeful sampling is ideal because of time and space within which the researcher may want to conduct the study (Coyne, 1997). Furthermore, using purposeful sampling enables the researcher to get the most important detailed information for the study (Patton, 2002). According to Creswell, Klassen, Plano & Smith (2011), purposeful sampling is used to select

knowledgeable participants for the study. These participants are able to succinctly communicate their experiences and opinions in a reflective way.

From this perspective, it is clear that the aim of qualitative research is not to focus on the quantity of the sample, but rather on the quality of the sample in order to extract quality data for the researcher (Burns & Grove, 2001). In this case, it is important that the sample size is chosen well in advance. This study used purposeful sampling as a conscious selection of the site and the participants in order to answer the questions of this research.

The selection process was guided by certain criteria described in this chapter. "K" primary school and its participants were selected because they were from a well-resourced school, equipped with the latest ICTs. Furthermore, the teachers involved had to be comfortable and competent in using ICTs in their lesson delivery. Thus, primary school "K" was the best school that met the criteria, so it was a purposefully selected sample for this study. The composition of my research participants is briefly described below.

My participants in the study comprised of one teacher and a class of 28 learners for classroom observations. Out of the 28 learners in the class, six learners were selected for a group interview. The teacher volunteered to video record his class teaching interactions with the learners besides the permission that was sought from parents to sit and observe the learners in class. He also granted me permission to audio record the interview with him. Other participants who were part of the study included the Head of Department of the Intermediate Phase and the school principal who were also interviewed. Table 1 on the next page shows participants' profiles, excluding the learners. All the interviews were audio taped with the permission of the interviewees. The ethical consideration section has details of sets of permission from different participants, which are also attached as Appendix 1 to 7. As an investigator, I ensured that the research process was free from investigator subjectivity in order to collect authentic data. The observation scene and the interviewees were not altered nor influenced in responding in a certain way. For example, interview questions were open ended to allow the interviewee flexibility when responding to posed questions. This was particularly possible because I was present at the site for two hours during English Home Language classes. More on the research site is described in the next section.

	TEACHER		
Name	T	H	P
Designation	Class Teacher	H o D	Principal
Qualifications	Diploma (Ed)	Degree (B.Ed)	Masters (M.Ed)
Sex	M	M	M
Experience	15	8	28

Table 1: Teacher Profile

3.6 Research Site

K primary school is found in one of the Western Cape's white northern suburbs. The co-education day school, K primary school has about 50 plus teachers and an enrolment of more than 1000 learners with a class size of 28. As a former Model C or former white school, the school has most of the learners coming from White and Afrikaans speaking backgrounds with very few visible black learners who are mostly isiXhosa speakers. The school catchment area in terms of where it draws its learners is predominantly from a formal and rich settlement. K runs from Grade one to seven. That is, the school has three phases, the Foundation, Intermediate and Senior Phases respectively. The two languages used for learning and teaching at K school are English and Afrikaans through a dual bilingual mode. With this rich and diverse background, I opted for a case study design as described earlier to provide a rich description of the lived experiences of the research site and the classroom in particular (McMillan & Schumacher, 2010). The following section begins with a landscape of the Grade 6 class where observations took place. This is important because highlighting the setup of the research scene reveals certain aspects that directly influence classroom practices.

3.7 Classroom Landscape

I start by looking at the concept of T's 'classroom landscape construction' as a way of helping us to relate and connect with the lived experiences of the observed activities and practices between July 28th and September 30th 2015. The concept of 'classroom landscape construction' has been inspired by Woodward (2004, 2013) who wrote a book entitled 'Military Geographies'. Woodward (2004) refers to three types of landscapes namely, morphology, emotive and textual landscapes. The morphology landscape denotes natural attributes or physical resources, while the emotive landscape refers to emotions or feelings

linked to a particular place. Landscape as a text describes how the physical resources of a place form part of the text that has potential to make meaning (Woodward, 2004, 2013). In other words, the concept of landscape enables us to read, understand and interpret in the same way we read other documents.

Some history scholars such as Bill Cronon as well as Tom Wessels, to mention but a few, are also pioneers of this concept. These scholars pursued the idea that the concept of landscape could be one of the strategies of revealing, as well as understanding particular places. Paying attention to the surrounding of a place can reveal deep insights concealed within the landscape (Watts, 1975) because landscape is a 'representation'. This is particularly because the surrounding of any landscape usually presents to us not only physical and material resources, but also representations of such elements through texts such as graphs, pictorials and many others, particularly in a class (Watts, 1975). Inspired by the concept and to gain a deeper understanding of the lived experiences of the participants of my study, paying attention to the morphology of the class in terms of its physical and material resources was necessary.

The class landscape concept implied understanding anything that gave particular meaning to the relationship between the teacher and the learners in the classroom. This was necessary, as the morphology of the class may have had emotional attachment to the mode of the class, thereby contributing to our understanding of the practices of the observed in this class landscape. For example, the classroom talking walls, the seating arrangement, the teacher's general outlook, to mention but a few, gave me clues as to the kind of relationships that existed in the classroom. Issues of 'power and authority' (Watts, 1975) and how this could impact on literacy teaching and learning practices, became top priority to me. Thus, I paid attention to the power relations as the teacher integrated the iPad technology in the teaching of English as a Home Language.

The nature of any landscape has a direct influence on the environment; in this case the lived practices of the observed (Woodward, 2013). The researcher is presented with a number of dynamic insights if attention is paid to the nature of the landscape. For example, it was interesting to observe how the teacher instructed the learners to use the iPad to search for information online for lessons. In essence, the teacher practically relinquished some of his powers to empower learners to take an active role in their own learning. This was consistent with the 21st century approaches towards learner centred instruction in the classroom.

3.8 Inside the classroom

The manner in which learners sat appeared to have had an influence on the social relationships among them. The seatting arrangement was such that a group of four learners faced each other on single desks. Learners had a choice, either to work in groups of two or as a complete set of four in that particular seatting arrangement. The warm class atmosphere was complemented by its almost underground location as the school was built on a slight slant slope with a mountain view. Windows dressed with brown blinds added to the beauty of the class landscape. When the blinds were slightly open, they allowed the sunlight into the class only at around 14h00, after which the sun disappeared behind the classes built on top of the site on the other bank of the school landscape, separating the two buildings which were approximately 12 metres apart.

Figure 4: Classroom Posters

Concisely, T's classroom had 28 learners with almost an equal number of boys and girls between the ages of 10 to 12 years. The class was a mixture of English, Afrikaans and two Xhosa-speaking learners. The majority were Afrikaans-speaking learners. The disciplined young boys and girls enjoyed the class atmosphere, and the classroom was cleverly lined with educational talking walls. Talking walls have (O'Neill & Jennings, 2012) been described as items that contribute to the learning process of the learner. Talking walls were representative

of the diverse backgrounds of the learners in respect of the characters displayed on the charts. Moreover, the inscriptions with regard to texts, expressed cross-cutting educational themes such as Human Immune Virus (HIV) and Acquired Immune Deficient Syndrome (AIDS), Nutrition and how to live a better life in general. The classroom's environment, decorated walls, moderate lighting system, as well as the seating arrangement have the ability to influence the learner's emotions positively (O'Neill & Jennings, 2012). Moreover, posters have significant effects on the learner's attitudes and behaviours in terms of attendance, class involvement, and rapport with the teacher (Çetin & Flamand, 2013). T's classroom was a good environment for learning to occur. I liked the way the learners engaged with or expressed themselves in no fixed or predetermined manner as the teacher facilitated learning through iPads. The teacher who was an Afrikaans speaker with a smart casual dress code was in his early 40s, with a tender but firm and moderate loud voice.

During the data collection period, T had fifteen years of teaching experience in various locations before joining K school, relatively recently in 2012. T was formerly overseas where he taught English as a foreign language. He taught in Saudi Arabia for four years at the American International School of Jedda, at Jedda Private Boys School, and after hours at Belit Language Institute where he taught English to people who had no knowledge of the language. In addition, T taught Natural Science, as well as Mathematics.

T had a four-year Higher Diploma in Education obtained from the Cape Peninsula University of Technology (CPUT) as it is called now. He taught in a couple of other primary schools in South Africa in Grades six and seven. At K school, T taught English to Grade six learners. The following sections describe his teaching practices on how he used iPads to teach English Home Language in Grade six. It starts off by describes the research tools used for data collection in this study.

3.9 Data Collection Methods

Data collection involves the procedure of collecting and measuring information collected on variables (Marree, 2007). Qualitative research data collection methods usually make use of a smaller sample, unlike in the quantitative research method, because they are time consuming. Some of the ways of collecting qualitative data include the non-participant observations, document analysis and semi-structured interviews (Marshall & Rossman, 2011; Yin, 2003).

This study used interviews, video recording, and observation as a means or strategies for data collection (Marshall & Rossman, 2011). Documents as finished products of learners work on their iPads were collected. After the teacher gave me permission to observe in his classroom, we agreed on the days and time to observe his English lessons. I visited his classroom every Monday, Wednesday and Friday when the class was time-tabled to have iPad technology. The aim was to video record the lessons. However, the video recording was introduced four days of observation when I had established rapport with the teacher and learners, the atmosphere was less tense because learners had become familiar with my presence.

3.9.1 Classroom observations

Observation is a systematic process of recording the behavioural patterns of participants and objects including occurrences, without necessarily questioning the participants (Maree, 2007; Marshall, & Rossman, 2006). It allows the recording of behaviour as it occurs in a natural setting (Cargan, 2007, p. 142) where hearing and smell are part of the process. However, there may be arguments against this type of procedure such as the objection that participants may behave differently when they are being observed. Observation is a useful tool that allows the researcher to discern what people claim to be doing, as well as understand their behaviour (Bell, 1999).

There are two types of observations, namely participant and non-participant observations. Participant observation means that the researcher is involved in the activities whereas during in non-participant observation, the researcher does not interfere with participants in the research (Swarts, de la Rey, Duncan & Townsend, 2008). This approach is usually applied in case studies because the researcher observes activities and interactions as they occur without necessarily getting involved. This is done with a view to understanding the phenomena in their original setting.

In this study, both teachers and the learner's activities were observed as the teacher delivered the lessons in the English Home Language class. This research used the non-participant method in which the researcher does not interact with the participants (Swarts, de la Rey, Duncan, & Townsend, 2008). During the observation period, all class activities were recorded through a video recorder.

3.9.1.1 Video Recording

Video recording for research purposes is not new (Kilburn, 2014) and is an equally potential tool for quality research data collection. According to Jewitt (2012), video recording has permeated the social research industry such as in sociology, anthropology, psychology as well as the education system. This is particularly because the video gadgets are much cheaper now than they used to be in the past. Currently, video images are exceedingly an important source of data collection for many researchers. Video data collection provides a multimodal character approach of social interactions. In the 21st century, videos or video data can be collected easily because the new tactile multimodal technologies i.e. smartphones and tablet devices are equipped with video recording affordances. Jewitt (2012) explains that video data capturing with current technologies gives the researcher quality multimodal motion images of recorded activities. In addition, these fine-grained multimodal records of activities include detailed gaze, expressions, body posture as well as body gestures (Heath, Hindmarsh & Luff, 2010). All the modes captured are malleable, and sequentially recorded with flexibility in order to be shared. Scholars argue that audio-recorded data helps the researcher to gain access to all interview details, while the video-recorded data helps the researcher to gain a better understanding of the data through the non-verbal paralanguage of the observed (Jewitt, 2012). In other words, body language adds flavour to verbal language.

Researchers use video recording for many different purposes. For example, videos have been used in workplace studies (Heath, Hindmarsh & Luff, 2010) and in the learning science (Goldman & McDermott, 2009). In the school set up, videos have been used to investigate how issues of social class, as well as race, are manifested in the classroom (Mehan, 1979). Videos have also been used to explore children and their identity construction, media practices as well as digital cultural reproduction (Marsh, 2004). Video data recording can be used beside the interview or in a focus group to spark and stimulate discussions (Roth, 2009). It can also be used to authenticate as well as crosscheck the researchers' interpretations as they work with videos of interactions occurring naturally.

While some scholars may argue that the camera may induce fear in the researched, thereby reducing the chances of getting authentic data, I contend that as long as precautions are taken prior to the shooting, everything should go normally. Distraction is one reason critiques advance for the learners discomfort when the camera is introduced. However, in case this happens, the researcher can allow the learners touch and have a feel of the camera under the

guidance of the teacher (Jewitt, 2012; Kilburn, 2014) before the actual recording starts. This is particularly done to quench learners' curiosity and allow them to know what is happening. What is important when every caution is taken care of is how to position the camera in order to capture every event of social interactions.

The position of the camera is crucial for a perfect view. Under established methods (Garcez, Duarte & Eisenberg, 2011) the camera should be at the back corner of the classroom if the intent is to capture both the teacher and the learners. Positioning the camera should also take cognisance of learners put in groups, in order not to lose sight of a specific group in order to record the complete evolution of the actions and arguments. Having said this, I now focus more on my experiences of the classroom video recording during this study journey.

My experience with classroom video recording was whether I only needed to capture certain moments that spoke to the aim of the study. However, I had a problem with capturing only certain moments because I was not familiar with the setting. This could have hampered my full understanding of several other factors that gave me insights into the social practices of the class I observed. Reminded by the fact that my study is informed by the sociocultural and constructivist theories, enabled me to focus more on the social cultural context. This meant that I needed to pay attention not only on the learners but also to other speakers who interacted with them, such as the teacher (Goodwin, 1993).

During videotaping, I was concerned about how I positioned myself with the camera. The camera was predominantly focused on the learners with a few moments focused on the teacher when he introduced lesson. However, with a deep and wide-angle view, I was able to capture the whole class as much as possible. The data set used for this study consists of seven video cases out of which the best four are presented in Chapter four. The lesson and recording time ranged between 50 to 60 minutes. The teacher's methods included the hands-on work with iPad technology and group collaboration, in some instances. The lessons taught in class ranged from comprehension to blurbs, to word division and to grammar. In the next section I focus on the data collection tools.

Considering the established methods of camera positioning (Garcez, Duarte & Eisenberg, 2011; Goodwin, 1993) I positioned my camera in the back corner of the classroom where it was able to pan every event, including the paralanguage, and not just faces of the learners. The angle also gave me an opportunity to zoom in and capture the actual activities individual

learners did on the iPad without necessarily relocating the camera position. Particularly, this opened avenues for me to understand the interlocutor's conversations as well as capture details I might have lost. However, to be less obstructive to the learners, I positioned my camera at a negligible withdrawn space from the learners. Initially, my worst fear was that learners might feel uncomfortable learning, knowing the camera was watching them. But learners at K school seemed to be more or less used to this kind of scenario because most of the activities in class were premised on the use of tablet devices for taking tests, shooting videos of each other for presentations, and so on. Keeping the setting natural was my top priority, and so I avoided tampering with the setting and the activities.

However, integrating theory into practice regarding the established methods of the use of the video camera (Goodwin, 1993) was one of the challenges I faced. Video recording for a period of one hour uninterrupted required a bigger memory card, probably a 16GB for my camera. Yet because of financial constraints, I could not manage to secure 16GB memory capacity. So, I rationed what I had at hand. Inconveniencing though it was, I managed to change the memory cards once the one hour period was over. Having only one camera restricted the perspective of video recording to one at a time. Furthermore, because of the class size and its location on the ground floor of the three story building, with the outside light entering the classroom from the west position, made it unsparingly fixed at one position.

The highly dynamic sophisticated nature of social interactions I witnessed in the classroom could not have been easy to make sense of, if only observation notes were used. As a non-participant observer, I could not have captured through note taking certain crucial moments. I was unable to trade or rely entirely on my memory to remember all the events as they unfolded. Therefore only video recording was necessary to capture the dynamic interaction because I would not recall things the way the video recording would present them to me. Even if I was adept at taking notes, classroom activities involved high-level interactions that could not be remembered in the same way the video recording would record these memories. Given this, it is an indisputable fact that video recording is highly necessary, especially if complex human interactions are involved and where one observer may not holistically describe the events as they unfold (Loizos, 2000; Garcez, Duarte & Eisenberg, 2011).

The analysis of video data forms part of the microanalysis whose aim is to address the qualitative researcher's key principles (Heath, Hindmarsh & Luff, 2010). Thus video recording was used because there was a need to observe the complex human social

interactions among participants. Video recording was able to highlight most of the tacit manners in which learners worked together (Silverman, 2011; Fele, 2012) drawing on their body movement, position, expression, usage of physical objects and direction of stare.

There are, however, challenges such as the difficulty involved in transcribing videos whose nature is characterised by the high heteroglossia of interlocutors. Bezemer & Mavers (2011) provide us with ways of using the multimodal approach to transcribe the videos and keep record of transcripts as artefacts and materials for meaning making. Details about transcription are presented in Chapter four. The next section discusses interviews.

3.9.2 Interviews

Interviewing is one of the most powerful ways to collect data in order to gain a sense of emic life experiences of the interviewees (Koshy, 2010). In the words of Gill, Stewart, Treasure & Chadwick (2008), interviews are ideal if the researcher wants to gain clarity of unclear statements, and also allow exploration of topics in more detail to understand the lived experiences of the participants. In other words, interviews come in the form of conversations which are tailored to allow the researcher to see the world through the eyes of the participants who can be variable sources of information, as long as the strategy is used correctly (Marree, 2007). Strause & Corbin, (1998) postulate that interviews are social interactions between the participants and the researcher, usually with the aim of ascertaining on the part of the researcher what the participants think, feel, and their knowledge about certain things. In this research, interviews were one of the major sources of real life practices in the school under study.

While there are various ways of conducting interviews for qualitative research studies such as the structured and unstructured interview formats, this research used the semi-structured interview format. Semi-structured interviews are ideal for in-depth search of information from the participants or informants, and are characterised by open-ended questions usually prepared beforehand (DiCicco-Bloom & Crabtree, 2006). Moreover, the semi-structured interview format is ideal for both group and individual face-to-face dialogues (p.315). In depth individual dialogue enables the researcher to understand the social and personal life experiences of the interviewee (DiCicco-Bloom & Crabtree, 2006). In other words, the researcher has the liberty on a shared understanding to ask questions that elicit personal life experiences of the informant. On the other hand, the group interview format is yet another ideal way to get shared experiences of informants. However, this type of setup inhibits the

freedom of the informants to express openly their personal life experiences (DiCicco-Bloom & Crabtree, 2006).

This single case study used both the individual and the group interview formats with the intermediate phase Grade six teacher, the intermediate Head of Department and the school principal. I used the group interview with the Grade six selected learners in a Grade six class. With this strategy, I was able to probe for clarity of responses while participants answered predetermined questions (Marree, 2007). Open-ended questions allow the respondent to answer in their own words, allowing for a wide variety of answers. Nunan, (1992) maintains that face-to-face interviews involve questions which elicit the deeper and subjective experiences of the participants.

Preparing questions in advance enabled me to appear prepared and competent in front of the participants. Open ended questions enabled the participants to be free to express their views, and I could ask follow up questions (Maree, 2007). Informants were selected because they were able to provide the required information for the goal of the study. However, interviews are not free from disadvantages.

Interviews in-person are highly expensive as well as time consuming. In addition, on the note of reactivity effects, interviewees may sometimes only display what they deem fit and socially desirable (Gill, Stewart et al., 2008). Interviews require a highly skilled interviewer, otherwise the data might be distorted because of the interviewer's personal bias (Opdenakker, 2006). Moreover, there are instances where the interviewee cannot recall information, a sign of a lack of self-awareness.

Finally, data transcription and data analysis are highly and inextricably time consuming. For the purpose of this study, rehearsing the skills of interviewing in a pilot test with my colleague who was also a Masters student helped me to deal with any issues regarding interviewing. As a result, I developed a good rapport with the participants in order to avoid reactivity effects. All interview sessions were recorded in order not to miss important points for the study.

3.9.2.1 Interview Audio- Recording

Interview recording for research purposes has been in existence for many decades, probably as old as interview the strategy itself. Recording the responses elicited from the interviewees

is optional and entirely up to the researcher. However, during interviews, an enormous amount of crucial information regarding the experiences of the informants relevant to the study is experienced. Usually the utterances are characterised by run on sentences in no chronological order (Sharp, 2012). This is why it is important not to rely on your natural memory but to document through audio recording the inner experiences of the informants, their interpretations, and their definition of the world around them (p.70). While the available option to take notes is one-way and economical in terms of time saving, it requires the researcher to be fast at jotting down salient points from the respondent. This could lead to a big deal of variable information missed (DiCicco-Bloom & Crabtree, 2006; Sharp, 2012).

The advantage of recording interviews therefore is that the researcher is accorded the opportunity of playing back and forth the recorded data to make connections and sense of what was said (DiCicco-Bloom & Crabtree, 2006). These connections are context embedded and so can be inferred through emotions attached to responses given by the interviewee during the dialogue and can be very helpful during the analysis stage. This is consistent with the sociocultural and constructivist theories underpinning this study in which paying attention to sociocultural practices or behaviours can lead to the researcher to understand how the participants construct knowledge. However, taking cognisance of unpredictable circumstances associated with technology failures and your personal disposition that might disrupt the interview process is cardinal.

While the audio recorded interviews cannot capture the individual's body paralanguage which reinforces meaning (Hejian, 1997; Neuliep, 2014), it provides the researcher with an accurate record of what was discussed if the recording was done correctly (Wallace, 2013). Thus, to secure quality recording, it is important to do these interviews in a place free from excessive background noise, and placing the voice recorder securely where it can capture the voices clearly (p. 70). Additionally, unlike the visual recorder, which might require an assistant in the process, the voice recorder helps the researcher to maintain eye contact with the respondent. Not maintaining eye contact can have a very negative impact and discourage the interviewee from giving quality information to the researcher (Atkins & Wallace, 2012; Wallace, 2013). Moreover, unlike the video recording, audio recording is regarded as less intrusive and reduces interviewee's chances of apprehensiveness or self-consciousness that might induce an atmosphere of non-free talk (Gall, M., Gall, P. & Borg, 2007; Wallace, 2013). Reflecting on the nature of interviews and using the semi-structured interview format

gave me an awesome experience with the participants. In the next paragraph, I reflect on these experiences.

My encounter with my participants was an unforgettable experience during the data collection journey. In order to cultivate a good rapport with the participants I made sure that they felt respected and valued. For example, I made sure I was early for all classes to have a few moments with the learners to get to know them, but also to make them accept me as an outsider. According to DiCicco-Bloom & Crabtree (2006), rapport is an important aspect for a successful interview and should be based on building the trust and respect for the interviewee (p. 315).

During the interviews, I opened with a light moment talk about something else to make the interviewee comfortable. Doing this helped me as a researcher to compose myself as much as the participants composed themselves to diffuse feasible self-apprehensiveness. In order to foster equal power relations, I decided to adopt a slightly adjacent sitting position which allowed me to keep eye contact, so that they could not perceive me as in authority or power as I probed them (Roller & Lavrakas, 2015). The duration of interviews ranged between 20 and 30 minutes.

In addition, to ensure that I produced quality-recorded sound, I made sure no excessive and disruptive sounds were disturbing the sound device recorder. Each time I had an interview, I supported the device with a soft cloth, and then, I had it placed on the table to avoid possible noise that could be transmitted through fidgeting with the table when speaking with gestures. Taking care of possible destructive noise diffusing in the voice recorder, I was able to record quality sounds that made transcription easy to follow. Not worrying about possible disturbances caused by the voice recorder enabled me to focus, pay attention, and maintain eye contact with my interviewees theirby making the interview process less apprehensive and tension free (Wallace, 2013). In the following paragraphs I describe in detail the process of interviews with the teachers and learners.

3.9.2.1.1 Interview with Teacher

The interview with the teacher took place in his classroom. The class served both as an office and as a classroom for him. In my encounter with the teacher, I had a chance to ask follow up questions to make sure I maximised clarity of answers, but avoided leading questions. Questions related to the use of technology (iPad) in his English lessons, the availability of

guidelines to the current curriculum for the use of technology and his perceptions and experiences in the use of technology in teaching and learning.

The teacher felt that he was successful in the use of technology for literacy teaching although this was not without challenges. He believed that technology, especially iPads, were potential literacy tool enhancers. However, his view was that this would only be possible if the teacher's mind-set was right about technology, had exposure to technology and skills to use technology, and being creative with the use of technology. His success to integrate technology for literacy development was his adequate exposure to technology and staff development within the school. The interview took approximately 28 minutes.

3.9.2.1.2 Interview with Head of Department

The interview that took place lasted for about 25 minutes with the Intermediate Phase Head of Department was captivating. The interview was held in the staffroom during one of his free periods. The staffroom atmosphere was good and allowed us to discuss freely. The HOD was also responsible for technology procurement explained how important technology was for teaching and learning. As the person in charge of ICT in school, he was passionate about ensuring that learners had access to technology to help them acquire critical skills befitting the 21st century context. He believed that technology aids in acquiring critical literacy skills if the teacher has a positive mind about its use.

The HOD who was also in charge of planning the staff support for the use of ICTs in the school, believed that if teachers were supported, technology would make a huge impact on literacy development. With this responsibility, one is able to tell why he spoke with such authority and passion about the need for teachers to embrace the use of technology in any subject. With the good rapport I developed with him since he was one of the first people that I spoke to in the initial stages of identifying the research site, it presented an opportunity for better freedom of expression.

3.9.2.1.3 Interview with the Principal

The interview with the principal was one of the most challenging encounters during the data collection. Because of his busy schedule, he was the last person whom I conducted an interview with. The principal specialised in ICTs in teaching and learning. He had a vast experience because he spoke at conferences, both locally and internationally. As a novice

researcher, I felt rather inadequate to deal with. However, gathering courage, I proceeded to asking questions as I had prepared them. The interview took 30 minutes in his office.

As I had anticipated, except for the first few questions about his profile, he was almost answering all questions relating to the use of technology in the school for teaching and learning. I interjected him at the right moments so that I could get more clarity regarding to my questions. Questions consisted of guidelines regarding the current curriculum in the use of ICTs, support given to teachers and his perceptions regarding the use of technology for teaching and learning.

Some of his responses pointed to the fact that the school had successfully integrated technology use because he believed that in this era technology, had an influence on learning and that it was useful for literacy development. The principal, like the HOD shared a big vision to take the school to greater heights, regarding the use of technology for teaching and learning. In one of the questions, he mentioned that there were no guidelines and no school policy, but passion about the use of technology was influential in ICT integration at the school.

3.9.2.1.4 Interview with Learners

A focus group interview was used with learners in order to consolidate evidence as a measure of triangulation to ensure credibility and validity. A group of six learners were selected to be interviewed. A small group was ideal because it was easier to keep the discussion under control, and focus on the areas of interest as described in the research questions. Free and open expressions characterised the discussion among the learners that resulted in the generation of new ideas helpful to this study.

Questions regarding access to any technology at home were asked and the learners confirmed owning iPads or laptops of different makes such as Samsung and Renovo. These technologies were used for different purposes such as gaming online, social media and doing homework. In school, learners enjoyed using iPads, although they felt that using them only improved their spelling and reading. Learners also felt that prior knowledge to technology made it easier for them to use technology in school for learning. I made sure that learners were comfortable to answer questions. To break the tension during interviews, I asked them to show me some of the features on their iPad just to get them talking without being apprehensive, and this strategy worked well. Only then, did I ask the infused questions and

the flow went on well. Below is a table with a summary of common responses that emanated from the interviews with the teachers and learners.

Common Responses from Interviews

Question Focus	Question Responder	Question Responses
1. Guidelines to current language curriculum regarding ICTs integration	**Teachers**	All interviewees said ICT integration was successful All said there were no guidelines from DBE/School
	Learners	
2. Support for teachers in ICT use	**Teachers**	All confirmed teacher support in school All confirmed support and not for specific subjects All confirmed support given and that implementation rested on individual teachers All agreed that lack of support on ICT integration affected its implementation in class
	Learners	
3. Teacher and learner perceptions and experiences	**Teachers**	All agreed that teachers' perceptions affected use of technology All agreed that access to technology affected perceptions of teacher All agreed that use of ICTs had the potential for literacy development All agreed that iPad technology motivated engagement, collaboration and individualised learning All agreed that teachers were key to successful ICT integration
	Learners	All agree learning through iPad technology was: -Fun - Enjoyable Some said- iPad technology was disruptive at times
4. Access and use of technology	**Teachers**	All teachers had access to one iPad; personal and school given T and H used iPad for teaching purposes P used iPad for administrative purposes
	Learners	All had access to an iPad or laptop at home All agreed to use technology for games, social media and homework at home In school they had access to iPads for learning
5. Literacy Skills	**Teachers**	Potential for literacy skills if teacher is creative
	Learners	Grammar Spelling Reading

Table 2: Common Responses from Interviews

3.9.3 Document Analysis

A document is any piece of information, either in black and white, published, snapshots, electronic or artefacts i.e. photos, technology which include video-recorded files with information about anything (Maree, 2007). Bailey (2008) argues that documents are any

primary eye witnessed experiences of a particular occurrence, behaviour or those that were written by those who were present at the scene. Bowen (2009, p.27) on the other hand, defines document analysis as a systematic procedure for reviewing printed, or electronic materials, which could be computer-based and transmitted via the internet. Similarly, Atkinson & Coffey (2004) highlight that documents are those social truths constructed and shared as well as used in ways or manners that are socially organised. Thus, as a variable source of information, researchers use documents or artefacts and analyse them to get information that speak to the aim of their study. Many researchers have relied on documents to source old information. Documents or any physical written materials such as the learners' completed written texts are one variable sources of information in qualitative research. I use two words interchangeably, document and artefact, to mean any written, or snapshot of work (electronic or printed) that has been produced by learners during their learning in class.

Physical artefacts are technological tools, devices, or implements and artwork, including other physical evidence, that can be collected during the observation period to give insight into the interactions of the observed (Yin, 2014). In education, artefacts include the teacher's written lesson plans, learners' written exercises electronic or printed. Thus, one of the advantages of using physical artefacts as sources of data is that they give the researcher insight into the cultural features and technical operations. I needed to investigate the use of tablet devices for literacy development. While it was possible to simply observe without collecting them (artefacts-electronic work), it was necessary for me to look at the finished products of the learner's work as illustrated in the next chapter. The learners' work gave me a broader view of how learners used tablet devices for literacy development.

Regarding document or artefact analysis, there are various forms of documents that can be analysed as part of the study. Document analysis includes three principal forms of documents such as public records, personal documents and physical evidence (Atkinson & Coffey, 2004). Public records are those formal day-to-day records of the undertakings of institutions or organizations. In case of schools, these particularly include the learner's transcripts, handbooks, yearly reports, policy booklets, the syllabus and many others. Personal documents, on the other hand, are real-life accounts of actions by an individual, which reflect his or her experiences or beliefs. For example, datebooks, electronic mail, blogs, Facebook posts, agendas, journals reflections and newspapers are all sources of someone's real life experiences and beliefs. Physical evidence documents are actual objects that can be found

inside the researched surrounding (artefacts) such as posters, brochures, and teaching materials (Atkins & Wallace, 2012; Atkinson & Coffey, 2004). Other forms of documents include memos, minutes of meetings, diaries, and letters and are usually documents on certain aspects or topics.

Analysing documents or artefacts, like any other form of data sources, involves the procedure of coding the content according to themes (Atkins & Wallace, 2012).This is similar to the way the focus group or interview transcripts are coded and analysed. The aim of this procedure is to analyse the collected data to make sense of and gain an in-depth understanding of the phenomena being researched (Corbin & Strauss, 2008). In other words, the process of coding themes is the process of searching, choosing and making sense of as well as compounding the information contained in the document into meaningful knowledge. According to Labuschagne (2003), documents provide the researcher with excerpts or even the whole passage of information which the researcher can arrange through content evaluation into themes and categories. However, it is advisable to use multiple document analysis in order to ensure credibility and reliability of your study.

3.9.3.1 Multiple Document Analysis

It is advisable that researchers use multiple data sources using different methods in order to create convergence and corroboration to meet the aims of the study at hand (Bowen, 2009). The singular purpose of using multiple sources (triangulation) is to augment and corroborate evidence from other sources such as the interview and observations used in this research.

In this study, I used snapshots of electronic written work from different learners which were captured during the video recording observations. During the initial perusal of the recorded video, I began looking for clips that were making sense of what took place in the classroom. This was specifically done because multiple sources enable the researcher to make the study credible through data confluence (Eisner, 1991). Similarly, Patton (2002) argues that the use of multiple sources enables the researcher to avert and evade accusations of shooting down the findings of the study based on the fact that they are a product of a single method, source and the analyser's bias. Avoiding this trap, I chose carefully from a wide range as my camera could zoom to capture the exact different work learners did on their individual iPads. These snapshots form the basis of my document analysis in the next chapter.

Furthermore, document analysis enable the researcher to gain an in-depth description of single study phenomena, programmes and events (Stake, 2010). It also helps the researcher to unearth sound meaning, enhance understanding and gain awareness in line with the aim of the study (Merriam, 1998). Because documents provide variable information within which the researched operate, and bear witness to background information of events, I was convinced that document analysis would provide and yield variable information to answer the research questions at hand. In this study, I captured four snapshots of learners' written work on the iPads their during video recording and used them for data analysis as I had no access to their printed work or any other documents, including the teacher's lesson plans and ICT policy documents.

3.9.3.2 Working with document sources

Working with sources is similar to those applied in other fields of research in social sciences. In working with documents, it is important to understand that documents are texts which are socially and culturally situated (Scott, 1990). The meaning of the text is an objective entity but its meaning depends on the intent of the author and the perceptions of the recipient (Platt, 1981; Mcculloch, 2004; Wellington, 2015). In other words, accessing the meaning of the text in the document is not about searching for a single, objecting and important meaning but rather it is a matter of interpretation because documents have multifaceted meanings. Any document retrieved for the purpose of study should be treated scientifically. Scott (1990) suggests four ways through which the quality of the document for the purpose of research and authentic meaning can be assured: Authenticity, Credibility, Representativeness and Meaning. To ensure that the documents were naturally credible for my study, I considered Scott's (1990) suggestion to check for authenticity, credibility, representativity and meaning.

3.9.3.2.1 Authenticity

For the document to be deemed authentic, the source of the documents must be proven to be genuine, of true evidence, sincere, devoted and attributed (Scott, 1990; Wellington, 2015). In this regard, the researcher should be concerned with making sure that genuineness and integrity characterises the document which the researcher is consulting. A situation at times may present itself where the document under scrutiny for the study is forged or altered and others are attributed to authors who are not the owners of the document (Platt, 1981). In this case, the researcher has a huge task ahead to ensure that they satisfy themselves beyond reasonable doubt that the documents under study are not in any way forged or tempered. To

do this, the researcher must carefully check the documents as to whether they make sense, are consistent in style and content, and maintain the same version, and so on (Scott, 1990). In addition, the researcher must further verify the authorship by making sure that the names printed on the documents are indeed the names of the original author. The idea of authenticity is akin to the idea of validity.

During data collection, I ensured that the documents such as the transcripts of learners were indeed that of the original learners although for ethical considerations, the names were all pseudonyms.

3.9.3.2.2 Credibility

Credibility denotes both the objectivity and subjectivity aspects of trustworthiness of the data source. In this regard, the information should be regarded clear of errors and ill manipulations. Generally, trustworthiness is challenged by positivists whose concept of validity and reliability hugs the imaginary of it in social sciences. Shenton (2004) describes trustworthiness in terms of its worth of confidence and dependability. In other words, credibility is a tactic that the researcher can fall on in an attempt to make sure that the sources of data, documents, interviews, as well as other sources, are honest. The researcher, therefore, must use only well recognised and appropriate methods of research.

According to Scott (1990), the data is only credible if the researcher exerts or exercises caution in the selection of essential points of view, as well as recording accurate information from a particular standpoint. In this regard, the observer must ensure that the documentary data source is not distorted or created for the benefit of the observer.

In making sure that such flaws do not happen or at least reduce the chances of such instances, this study kept this information in mind by verifying learner's electronic work on their iPads. I had no access to the teacher's lesson plans or related documents. Furthermore, during the video recording, I avoided manipulating the natural setting to allow the free flow of the class' by recording a true reflection of the events as they unfolded.

3.9.3.2.3 Representativeness

With regard to representativeness, not all documents require representativeness. According to Scott (1990), representation is concerned with evaluating the document's typical nature or distinctive qualities of a document or evidence. Wellington (2015) explains that this may

relate to the concept of generalisability of data but he points out that the researcher may not always concern himself or herself with typical evidence from a document. In other words, representativeness probes whether there is enough and an available body of facts regarding the nature of the document. As Shenton (2004) puts it, documents that are under research investigations must be holistically representative.

As I took snapshots of the work done by learners through the recorded video, I considered only those aspects of the documents that gave me enough evidence of the learners' work. In other words, I looked at facts that provided me with evidence on literacy related skills.

3.9.3.2.4 Meaning

In discussing meaning, Scott (1990) points to whether the data is comprehensive and understandable. In other words, the idea of evaluating the data sources allows the researcher the opportunity to satisfy her/himself that this is indeed the case. However, what seems to be a challenge with documentary sources is that sometimes documents may present insufficient detail because documents are collected outside the study's agenda. In that way, they may not speak directly to the question being explored in the study (Platt, 1981; Gaborone, 2006; Bowen, 2009). Again, if documents were selected because they were specifically prepared to answer the researcher questions, they would be guilty of predetermined bias and not authentic, credible, representative and meaningful, as stated earlier. While documentary sources are variable, there are disadvantages to using documentary sources (Appleton & Cowley, 1997). Table 1 below gives a summary of some of the advantages and disadvantages of documentary sources in social research.

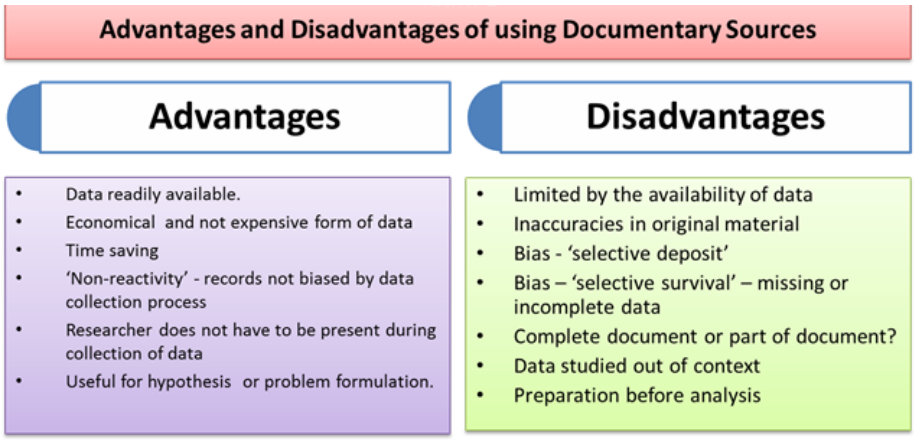


Figure 5: Document Sources: Adapted Appleton & Cowley (1997)

In respect of document analysis, I was particularly concerned about how I was able to make sense of what was imperative so that the information and the research as a whole adhered to validity and reliability. Trying to ascertain what was essential and salient in the artefacts as part of the documents collected was particularly challenging, especially that I had no access to other documents such as the teachers lesson plans and other finished products of learners especially; those that were emailed to the teacher through Edmodo for marking. During document analysis, I was able to see the need to engage with written texts, and still pictures for meaning making. However, drawing from what was available, and with memories of what transpired in class, the analysis process became easy.

3.10 Reflexivity

Full awareness of reflexivity in my research journey became apparent when I had already completed my data collection. I had it all at the back of my mind and literally obeyed its tenets throughout my research, but I did not seem to connect with it completely just yet. Reflexivity over the years has become an important aspect of qualitative research (Frosh & Emerson, 2005). One of the areas where its inertia is felt and debated is on the issue of the researcher's subjectivity in the study. There are various definitions of reflexivity and its inherent assumptions. My aim is not to exhaust the definitions and its expansive contested issues around its role in qualitative research, but rather to show how it has shaped my thinking during this research journey especially after my data collection.

Reflexivity refers to a process that aims at examining the self-interpretations as well as being open about how researchers come to know particular things about what is researched (Frosh & Emerson, 2005). Simply, it is about how the researcher's subjectivity and their position in the study affect the knowledge construction process (Reed, 1995).

Knowledge of reflexivity is aimed at reducing the researcher's chances of potential biases during data collection, analysis and the subsequent results. However, a question of how the researcher could do a research devoid of subjectivity beats me. In other words, is research without subjectivity feasible? Or what constitutes objective research? Answers to these

questions are for a complete new study. However, the idea behind reflexivity gave me insight into how I could avoid potential biasness and distortions of data and its interpretation (McGhee, Marland & Atkinson, 2007). In fact, the researcher's study could maintain its credibility if they (researchers) are able to bracket their prior knowledge and beliefs about their study (Cutcliffe, 2000) and declare interest of their intellectual and personal bias from the beginning. If flexibility is carefully exercised, it could enable the researcher to exercise honesty and openness to data interpretation, as well as avoid data manipulation and interpretation that serves the researcher's own interest (Holloway & Jefferson, 2007).

As alluded to above, I could not completely deal with reflexivity until my quiet moments of data analysis. The questions I have posed above induced more questions. Could it have been different, if I had a complete and sound knowledge of reflexivity? Could I have avoided subjectivity by asking the researched to record in my absence all I could have asked in a face-to-face encounter? Would they have spoken in the video or tape recorder the way they did in my presence about how the use of iPads enhance literacy skills?

This experience during data analysis made me aware that researchers are undoubtedly situated in every research study and are part of the context to be studied or observed, and as such, their influence in the study is an inevitable (Angrosino & Mays de Pérez, 2000). In other words, observation takes place in a social setting where both the researcher and the researched interact during the investigation (p.676). This particularly made me realise and appreciate the power relations that exist between the researcher and the researched. While I did not declare my interest regarding my own beliefs and intellectual standing in my study, most of the tenets, such as not to manipulate and interpret my data to serve my own interest, were achieved. In fact, I realised that the theories adopted for this study, i.e. the sociocultural and constructivist respectively, were more relevant. I realised that my interaction with the researched was an embodiment of negotiated knowledge or co-construction of knowledge.

Regarding co-construction of knowledge, one experience that gave me pride during my encounter with the participants, besides the challenges, was the clear role the knowledge of the sociocultural and constructivist played in co-constructing information with my participants. Consistent with Vygotsky's (1978) view, through dialogue and interactions, individual mental processes are formed and new knowledge is generated when individuals engage and collaborate. The recorded conversations through social interactions with the participants in the study enabled me to co-construct new knowledge about the ICTs

integration for language and literacy development in class. The implication of knowledge construction for literacy development is that it enlightens us about how crucial technology has become in mediating literacy development. It also reflected from the fact that what learners wrote using iPad technology contributes to their overall development of their writing skills implicitly or explicitly. Thus, the role of reflexivity in qualitative research is worth considering. Next, I focus on how I ensured my study's validity and reliability.

3.11 Validity

In conducting a qualitative study, validity is an immensely important aspect. Validity as a concept has over the past decades gone through a mutation. Validity is described in terms of the extent to which a research instrument measures what should be assessed (Polit & Hungler, 1991; O'Leary, 2004). Validity also involves gauging to what extent the research findings produce the same results if the study is repeated under the same methodology after a passage of time (Altheide & Johnson, 1994; Golafshani, 2003). Although no one method guarantees one hundred percent reliability and validity (Anderson, 2010), it is necessary that issues surrounding reliability and validity are carried out in order to take a deliberate measure to increase the chances of reliability.

To ensure validity in this study, the interview schedule was tested by asking the same questions to my peers, Master's colleagues from the Faculty of Economic and Management Studies (EMS). This gave me the opportunity to review the questions so that all questions were formulated in a language that was simple and easy to understand in order to obtain clarity (Burns & Grove, 2001). I am aware that validity means more than this, however, the idea was to try and increase the validity of the study.

3.12 Reliability

Reliability in a qualitative study points to the stability of the findings of the research (Altheide & Johnson, 1994). Reliability ensures that if another observer did the same study, they would get similar results using the same procedures. In other words, it is one way of checking whether similar results would be obtained using the same steps if another researcher did the same study. O'Leary (2004) describes reliability as an internal consistence procedure that checks to determine as to whether the collected data produces similar results under the same repeated tests.

Even if repeated trials were not possible in this study, multiple data sources helped to maintain reliability. For example, the interview questions were phrased in such a way that certain questions were similar (Francis, Robson & Read, 2001) in order to see if the respondent would still give the same answer as in the earlier question posed.

3.13 Limitations of the study

While the knowledge contribution of this study is significant regarding the use of iPad technology for literacy development, the results of this study may not be generalised to other contexts and should be used with caution. This is particularly because this research was a single case study carried out in a single classroom. Furthermore, this study involved only one teacher. Therefore, the findings may not be generalised to other teachers and classrooms. My personal classroom observations might have had bias while the interviews of my participants might have been influenced by many factors such as reactivity effects in response to the research questions. Video recordings could have also influenced or induced learners' unnatural behaviour during observations.

3.14 Ethical Statement

Since this research dealt with human beings, the consent of all the participants was sought and obtained (McNiff, & Whitehead, 2009; Diener, & Crandall, 1978). A consent form is an outline of the nature of the collection and the purpose for which the data will be used. This is presented to the people or community being studied in a style and language that they can understand (Boeiji, 2010). In other words, the participants were given full knowledge of the risks (if any) and benefits of the study and how they can participate as shown in Appendix 1 to 7.

This research endeavoured to keep the information confidential as it was an anonymous voluntary investigation. Data collected in the form of videos and pictures that have been used in my thesis were blurred to hide the identity of participants. The participants were required to give consent by signing the form that they were given before the start of the research. Any information collected was and is still kept in the strictest confidential manner and was only used within the classroom-learning environment and for my Master's research study. Participants were informed that they might withdraw their participation at any time and skip any questions they did not feel comfortable answering. These ethics are universally driven by honesty and justice including respect for the participants during and after the research has

been conducted (Miller, Mauthner & Jessop, 2012). In this regard, permission of the WCED, the principal, teachers, and the learner's parents was sought by way of ethical clearance and letters of permission respectively appendix 1 to 7.

3.15 Chapter Summary

In this chapter, the research methodologies, including the methods of data collection were introduced. The study used the interpretive qualitative method in its approach in order to explore the key issues of the research aim. The chapter then proceeded to give a description of how the research methods were implemented by explaining the aim of the research, how the participants were selected, the manner in which the data was collected, as well as the procedures of analysis applied to the collected data. In short, the purpose of this particular chapter was to describe the research process and how it fitted in the research question under investigation. The chapter that follows gives a detailed report of the data that was collected. It focuses on data presentation and analysis through an organised descriptive and narrative style.

CHAPTER 4: DATA PRESENTATION & ANALYSIS

4.1 Introduction

In this chapter, I present the data collected through observations of the practices of the teacher and the learners as they used iPads in a Grade six class preceded by a brief description of the classroom landscape. The presentation of data is divided into three sections: first, presentation of observed data of lessons, secondly, presentation of interviews and thirdly, document analysis. This is followed by the analysis of data, preliminary findings, conclusion and the chapter summary respectively.

Firstly, I present the teacher's integration of ICT into language teaching and learning, and then the learner's literacy practices and engagement with iPads during English Home Language lessons. The analysis of the practices from both the teacher and the learners are discussed and summarized.

Secondly, I present the interview data conducted with the teacher, HOD and the principal, here referred to as "T', 'H' and 'P' respectively. I also interviewed six learners to whom I refer as Ls, as well as L1 to L6 for individual learners for anonymity purposes. Interviews conducted with selected learners are also presented here. A discussion and summary of the interviews from both the teachers and learners are presented and this is followed by a discussion of some of the recurring patterns emerging from the data analysis in order to highlight how the analysed data relate to literacy practices in the Intermediate Phase English lessons. Observations were all captured by video recording while the interviews were audio recorded, as mentioned in the previous chapter. A description of what was observed is presented in the next section.

4.2. Lessons observed

I observed six lessons out of which I chose four for this report. The four lessons were specifically chosen because they were conducted on iPad as this study aimed at investigating how iPads are used in literacy development. More lessons could have been observed but due to power cuts during this period, some lessons were not observed. In addition, the use of iPads was not in every lesson because iPads were shared across the Intermediate Phase stream. Furthermore, not every lesson the teacher prepared required the use of iPads. However, lessons observed included tenses, gerunds, comprehension, word division and

formation, creative writing-blurbs, and types of pronouns. Although each of the lessons observed mostly encouraged individual work, learners felt free to move around with iPads to consult with other learners in class. In other words, not only did learners engage with the iPad technology for literacy practices, but also with each other as well as the teacher as the teacher facilitated learning. The lesson on tenses focused on the present and the future tenses, while gerund's focus was on the verb forms that function as a noun when 'ing' is added to the verb. The goal of comprehension was to test the learners' understanding of a given passage by answering the questions given after the passage. On the other hand, word division and formation aimed at drilling learners on how to split words on correct syllables and consonants. Writing blurbs focused on creative writing. The purpose was to write short descriptions on a product for sale and types of pronouns looked at how nouns were replaced by pronouns and the functions of different pronouns. The next section presents lessons from observations conducted on iPads.

Lesson 1: Types of Pronouns

T presented a lesson on the types of pronouns as an online lesson. He began by handing out the iPads to each of the 28 learners. The iPads were brought from the other class as classes were timetabled when to use the iPads. After switching the iPads on, the learners were asked to access google and type or use the voice recognition feature to search for types of pronouns. As I had expected the situation to be from a well-resourced school, most of the learners in this class were digitally fluent at the use of iPads, except for a few learners. The two Xhosa learners mentioned earlier were among the learners who showed digital skills at the use of iPad in class during lessons. They were able to interact with other learners as they sat in the corner of the classroom, with their backs facing the wall of the class, facing their counterparts on the same seating arrangement.

After a while of searching, at random the learners began to provide T with answers. T who appeared prepared for the lesson, listened to what learners had found. One of the learners shouted, *'I found 12 types,* (referring to some examples of pronouns)'. T asked the learner to read out and the learner read out examples. The other learners corrected their colleague that what he mentioned were examples of pronouns. Others said, *'I have found 10 and still others said 'I found 8'*. Another learner shouted, '*I found reciprocal pronoun'*. The seemly excited learners continued to give answers. At each instance, T listened attentively to the learner's responses and affirming them for the efforts while expanding on each answer they gave by

guiding their explanations in his (T) own words. T wrote what he deemed corresponded with what he wanted to teach on the interactive whiteboard. Some of the types of the pronouns given by the learners were Possessive, Personal, Indefinite, Progressive, Reflective, Interrogative, Relative, and Demonstrative respectively.

Following the listing of pronouns, T continued to ask the learners what could be the function of pronouns. Again, here learners give T different answers. T revealed eight types of pronouns from which he picked two and assisted the learners to find out the meaning while he guided them by expanding their answers. He mentioned; interrogative and indefinite pronouns on which he focused. Below is an extract about types of pronouns and the sample to the worksheets learners worked with for their tasks.

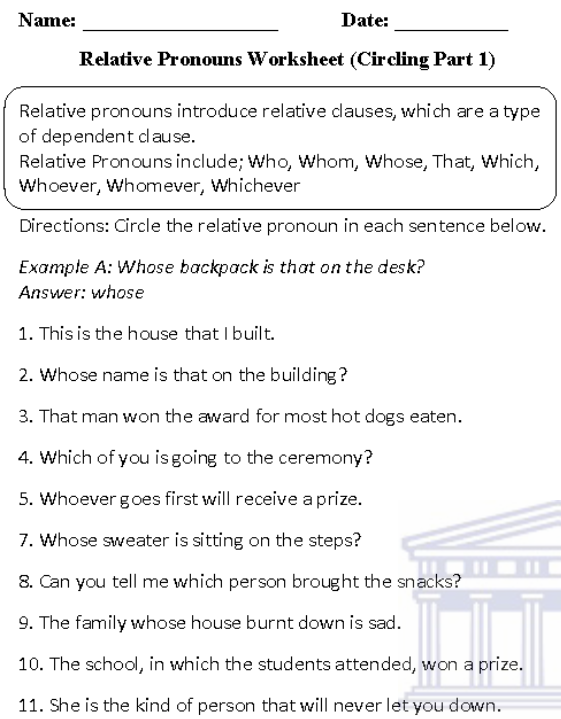
> Teacher: Okay guys, go straight to the web and search for types of pronouns. Now remember… [noise in the background] are you listening to me Jane (pseudonym)?You can actually use the voice recognition app to search types of pronouns. Okay, let's do that quickly.
> (All the learners engaged on their individual iPad with some voicing to the iPad to capture the words, 'types of pronouns').
> Teacher: yes buddy, how many have you found?
> Learner: Ah I found 12.
> Teacher: Can you mention to us what you have got please.
> Learner: Interrogative, possessive, indefinite, we, they …..
> Aaah class chatter [interrupts]
> Different learner: Nooo man, we and they are examples, can't you see, here look…
> Learner: Oh nooo…
> Teacher: Yes, some of those are examples and will get there soon because I will ask you to get examples of each one of the…

In the above lesson, learners were basically using individual iPads to search for answers which they gave to the teacher who approved whether or not the learners were correct. When T wanted the meaning of the interrogative pronoun, for example, he asked the learners to find a picture of 'interrogation of juveniles'. Learners got a number of pictures; some with police appearing in no friendly way by their posture, interrogating a minor. The excerpt below describes the learners' findings.

> Teacher: What you can do is look for a picture that shows a police interrogating a minor or something. You can type in anything as long as the word interrogate and minor are part of the key words.
> Learner: Ja this picture is showing a kid seated on a chair and a police asking…I thinking he was asking the kid something.
> Teacher: How do you know is the police?
> Learner: He is wearing a uniform.
> Teacher: How does look? Is he friendly or…
> Learner: No, he seems upset on his face…
> Teacher: So what do you think an interrogative pronoun is? … (Interviewee: T)

Below are samples of the worksheets the learners used to answer questions on the types of pronouns they learned. Answers were written and submitted in their workbooks.

Sample of Pronoun Worksheets



Name: _____ **Date:** _____

Relative Pronouns Worksheet (Circling Part 1)

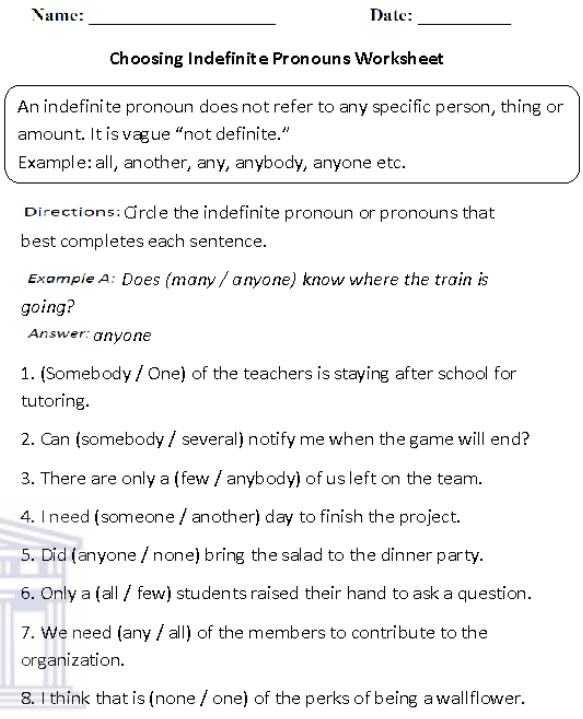
Relative pronouns introduce relative clauses, which are a type of dependent clause.
Relative Pronouns include; Who, Whom, Whose, That, Which, Whoever, Whomever, Whichever

Directions: Circle the relative pronoun in each sentence below.

Example A: Whose backpack is that on the desk?
Answer: whose

1. This is the house that I built.
2. Whose name is that on the building?
3. That man won the award for most hot dogs eaten.
4. Which of you is going to the ceremony?
5. Whoever goes first will receive a prize.
7. Whose sweater is sitting on the steps?
8. Can you tell me which person brought the snacks?
9. The family whose house burnt down is sad.
10. The school, in which the students attended, won a prize.
11. She is the kind of person that will never let you down.

Figure 6: Relative Pronouns



Name: _____ **Date:** _____

Choosing Indefinite Pronouns Worksheet

An indefinite pronoun does not refer to any specific person, thing or amount. It is vague "not definite."
Example: all, another, any, anybody, anyone etc.

Directions: Circle the indefinite pronoun or pronouns that best completes each sentence.

Example A: *Does (many / anyone) know where the train is going?*
Answer: *anyone*

1. (Somebody / One) of the teachers is staying after school for tutoring.
2. Can (somebody / several) notify me when the game will end?
3. There are only a (few / anybody) of us left on the team.
4. I need (someone / another) day to finish the project.
5. Did (anyone / none) bring the salad to the dinner party.
6. Only a (all / few) students raised their hand to ask a question.
7. We need (any / all) of the members to contribute to the organization.
8. I think that is (none / one) of the perks of being a wallflower.

Figure 7: Infinite Pronouns

As has been described above, T engaged the learners throughout the lesson, in their pursuit to discover knowledge on their own. Learners searched through the website online to get the answers. At the end of the lesson, he gave them exercises as shown in the extracts above. As can be seen from the extracts above, each of the pronoun types has its own explanation and questions for the learners to answer. Furthermore, T regularly gave cues to learners so that they could search for the right information on google. For example, for the interrogative pronoun, T asked learners to search for a kid's interrogation and then learners associated the picture with the meaning of the word "interrogative". At the end, they concluded that "interrogative" meant finding out. The next lesson was about comprehension.

Lesson 2: Online Comprehension Test

In this online comprehension test exercise, T asked learners to go on google and type online comprehension test which appeared on a window with a number of grades to choose from. He asked them to choose Grade five (5) and read carefully the comprehension and later answered

the eight (8) questions on the given link. T did not seem to follow the traditional way of comprehension teaching where he or learners read the passage aloud to the class and regularly stopping in some place to explain difficult words. Most of the learners seemed competent in using iPads, as observed from their smooth scrolling down of the comprehension passage, selecting answers after reading the passage.

Further instructions to the learners were given from time to time during the lesson regarding comprehension questions. At this stage, learners were able to move around freely with their individual iPad to consult other learners where they seemed jammed. T explained that the first two were multiple-choice questions including four, five, six and eight, while in three and seven, learners needed to type in answers to questions. After answering the questions, the learners clicked on the submit button to submit their exercise. The following pictures show the comprehension passage and the exercise that learners were given online. The picture below shows the comprehension titled 'It's All Clear Now' by Jean Lawler.

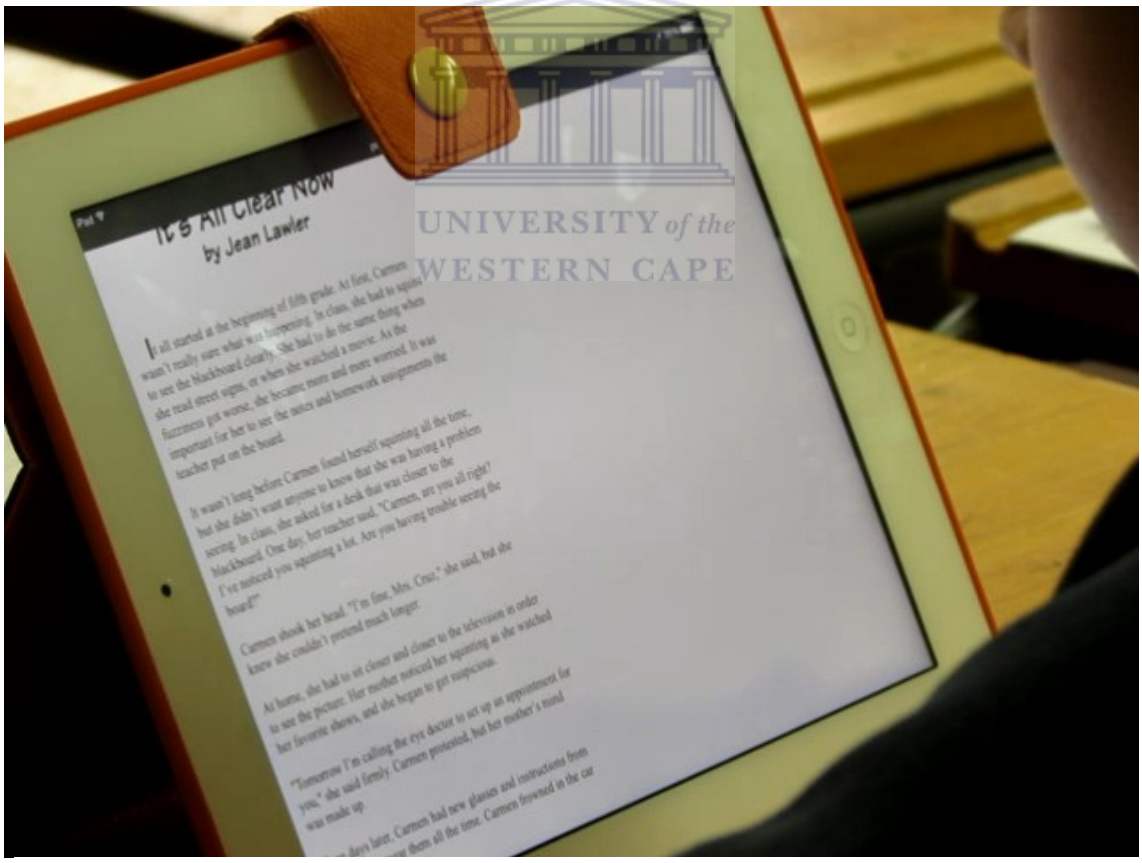


Figure 8: Online Comprehension

After reading the passage, T told the learners to click on the button on their iPad that signalled to the learners that they should proceed to the next page to answer the questions that

followed. It appeared that learners could use the internet dictionary to check for meanings of difficult words. The following figure (4) shows one of the learners answering the comprehension exercise.

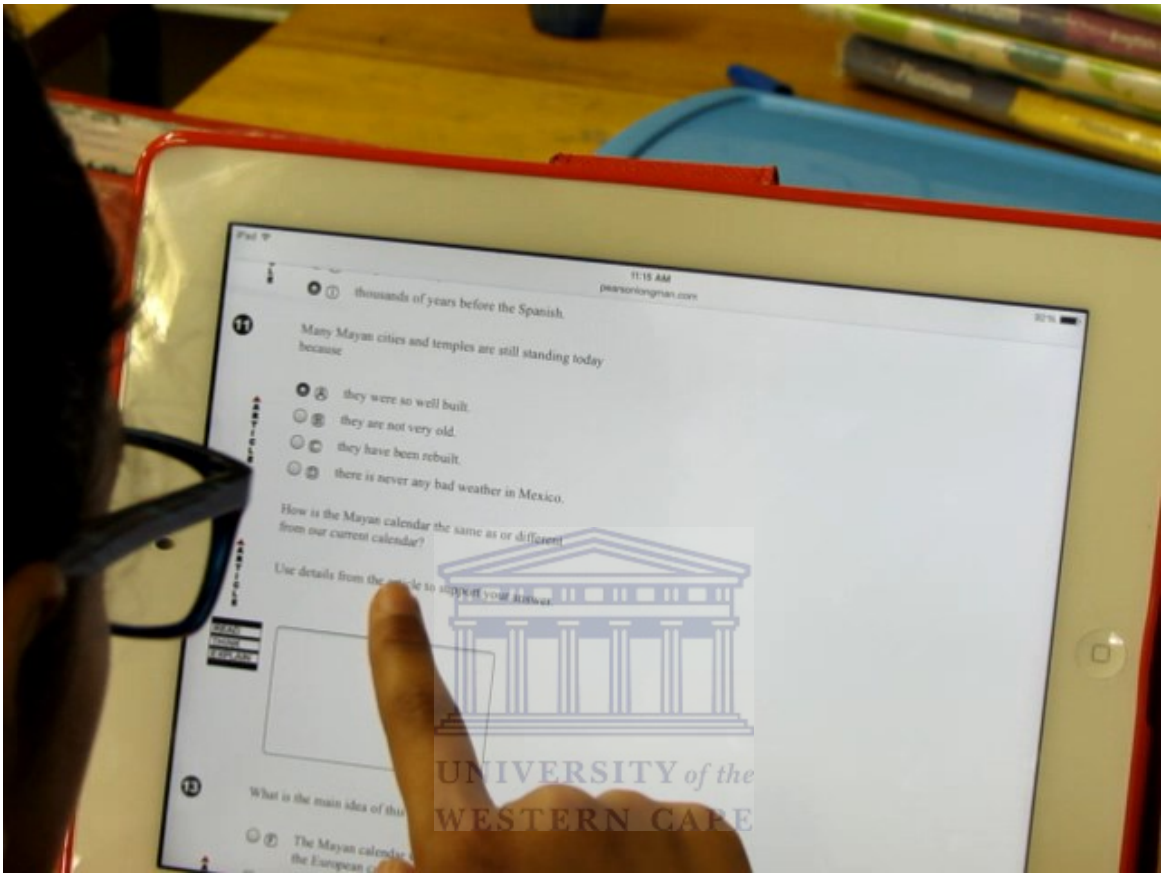


Figure 9: Online Comprehension Test

The iPad allowed learners to use their fingers in order to scroll up and down of the touch screen as answers were selected. The dialogue box in the picture involved a written answer, just as T had explained earlier on.

Lesson 3: Creative Writing

The following lesson is about creative writing. T introduced a lesson about blurbs. Blurbs are short descriptions of a product (e.g. a film) on promotion to entice customers to buy it. The following is a description of T's lesson on blurbs.

In this offline lesson, T began by revising the previous lesson in which learners were taught how to write an introduction and conclusion which learners swopped with others to complete. During the swopping, learners worked together, discussing and explaining to each other what they intended writing in order for enable their counterparts to write the conclusion on their

behalf. He explained the similarities between the previous lesson and the new lesson. Introducing a lesson, T explained what a blurb was and its function as described below.

T prepared a lesson on blurbs in advance and recorded himself using the "Explain Everything" app. The initial idea was to allow the learners to listen to the lesson using headphones, but not all learners came with earphones as he had instructed them previously. T then projected the recorded video lesson about blurbs through the interactive whiteboard (IWB). He told the learners that the example he gave them about a blurb was taken from a book called 'Glory Gate'. T explained that a blurb was usually a short depiction of what a film or a book was about. He further said that the purpose of a blurb was written for purposes of promotion. T explained that a blurb must leave people speculating of what could have happened next when they read it. This suspense, he added, should be able to either motivate people to watch the movie or buy the book. T further explained that the whole idea of a blurb was to give the plot of the story in brief to create a desire in people to read.

The blurb from 'Glory Gate' by Sally Odgers was about the rules that came with white shirts. T explained that the author was trying to say that, not that the new rules were hard to understand,

> Gavven just didn't see why the White shirts wanted to change every part of his life. Terrified of disobeying the White shirts, Gavven was even more afraid of losing one of the most precious things he still had - the freedom to think for himself.

After T had explained the blurb, he then asked learners to write their blurbs on their individual iPads and to read their blurbs to the class for discussion. The following are examples of blurbs written by learners. First, an example by T and blurbs written by learners are given below. They were captured by means of video recording in order to illustrate how iPads were used in the English Home Language lessons.

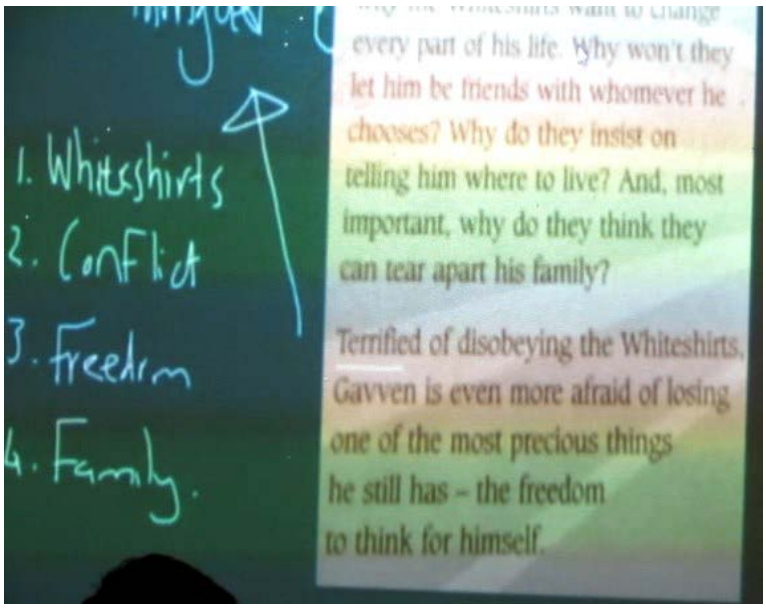


Figure 10: Teacher Lesson Presentation-Blurbs

In T's example above, he gave a brief summary of the blurb's plot, creating a short story line consisting of a conflict about Gavven's freedom and how it affected his family. Below are some blurbs written by learners.

Examples of Blurbs captured on iPads

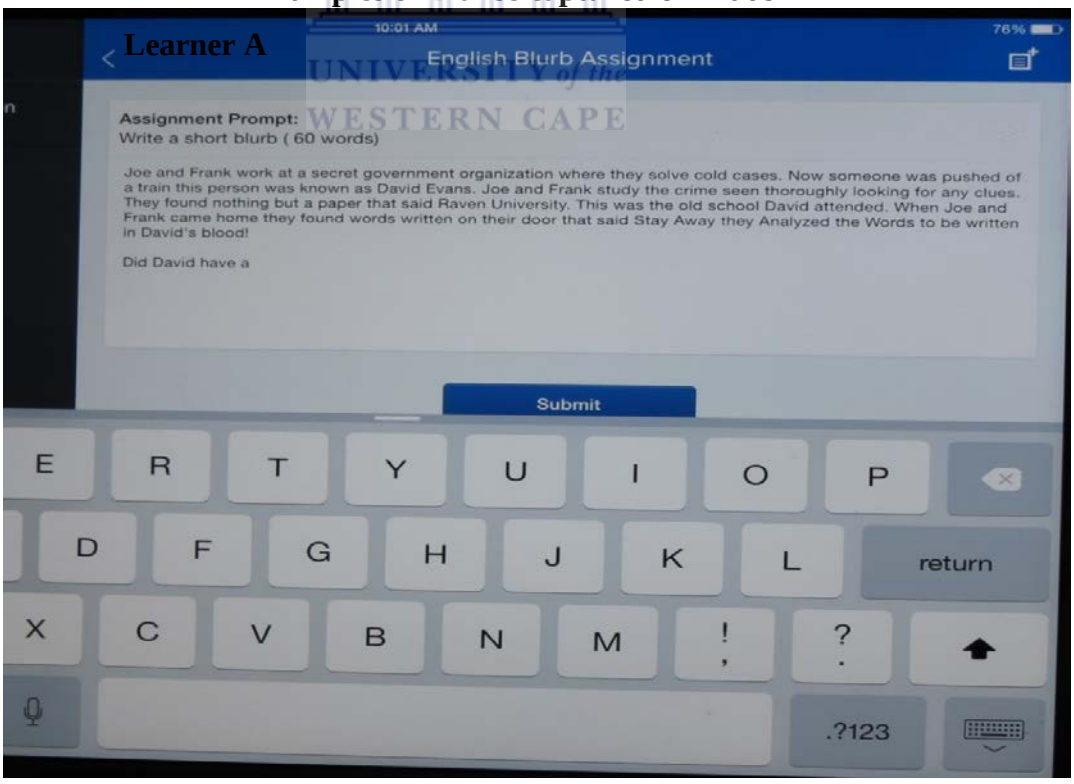


Figure 11: Writing Exercise -Blurbs

The edges of the iPad screen were cut to hide the identity of the learners as they used their names to log in on the Edmodo app. In the above example, the learner attempted to write a blurb.

Blurb for Learner B

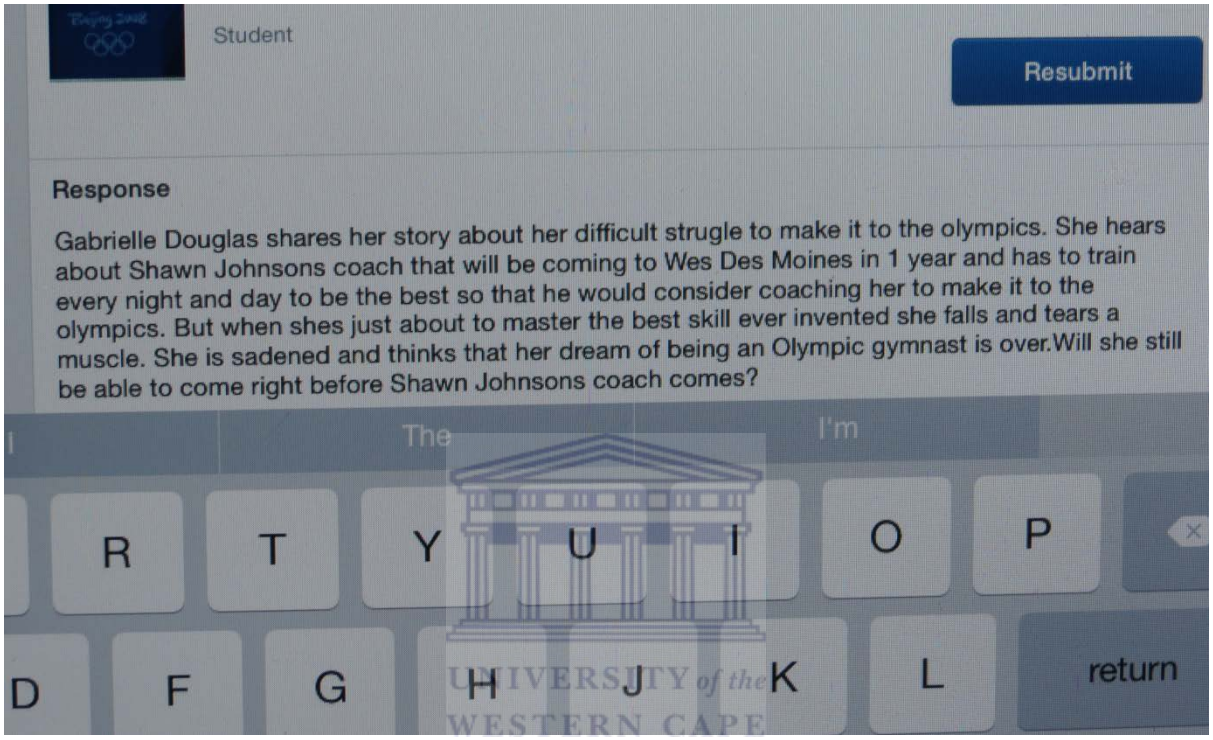


Figure 12: Writing Exercise 2

Lesson 4: Word Division

The last lesson description that was of interest to me was on word division and formation. The lesson was basically about how to count syllables in words. T demonstrated to the excited leaners how to divide words into syllables. The teacher explained the rules of dividing words into syllables as described below.

The first rule T explained was that words that have two consonants in the middle are split. He explained further that with words that have one consonant on the middle are divided before the single consonant. For example, ‘open’ would be split like O/pen, ‘exit’ for E/xit, and so on. The third rule was that a word is divided before the consonant with an ending ‘le’, for example ‘able’ would be a/ble, while ‘Fumble’ would read fum/ble. Lastly, T gave learners the final rule in which he explained that compound words are divided off, by prefixes and

suffixes. For example, ‘firefighter’ would be ‘fire’ and ‘fighter’ to mean a person who fights fire. T further explained that some compound words have three or even more syllables.

The learners were excited because the teacher gave them turns to use the teacher’s iPad to form and divide words into syllables that were already prepared on the iPad. Others watched the exercise projected on the interactive whiteboard. Some learners were able to make their mind up in advance which letters they were going to deal with when it was their turn. Others were discussing the words with each other beforehand. The learner’s iPad did not have the app that facilitated what they could do on the teacher’s iPad, i.e. the “explain everything” app.

The following pictures show some of the examples of the work that learners did on the teacher’s iPad, while projecting the work on the interactive whiteboard for the rest of the class to view.

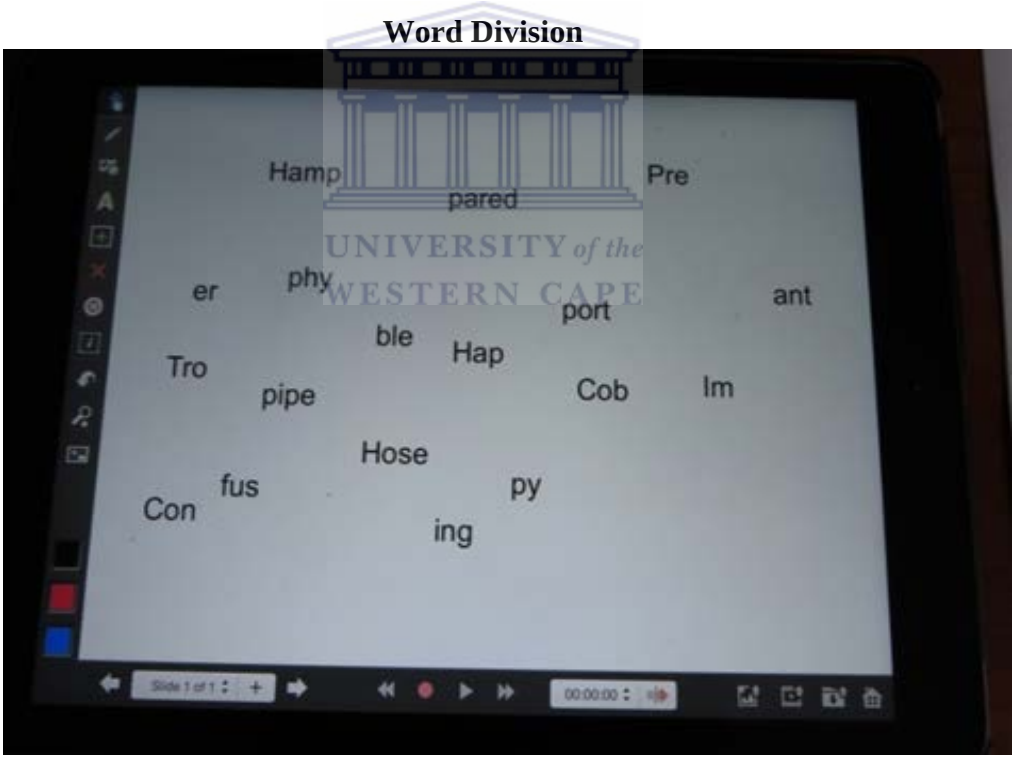


Figure 13: Word Division

The white word document was created by an app called ‘Explain Everything’. “Explain Everything” is a special app that makes it possible for the teacher to do many things in preparation for and during the lesson. It enables the teacher to record a lesson for the class beforehand, import pictures for the lesson and can be manipulated while demonstrating the

lesson in class. In this case, words could be played and shuffled on the iPad without losing them. See the picture in Figure 14.

Learner shifting parts of the words

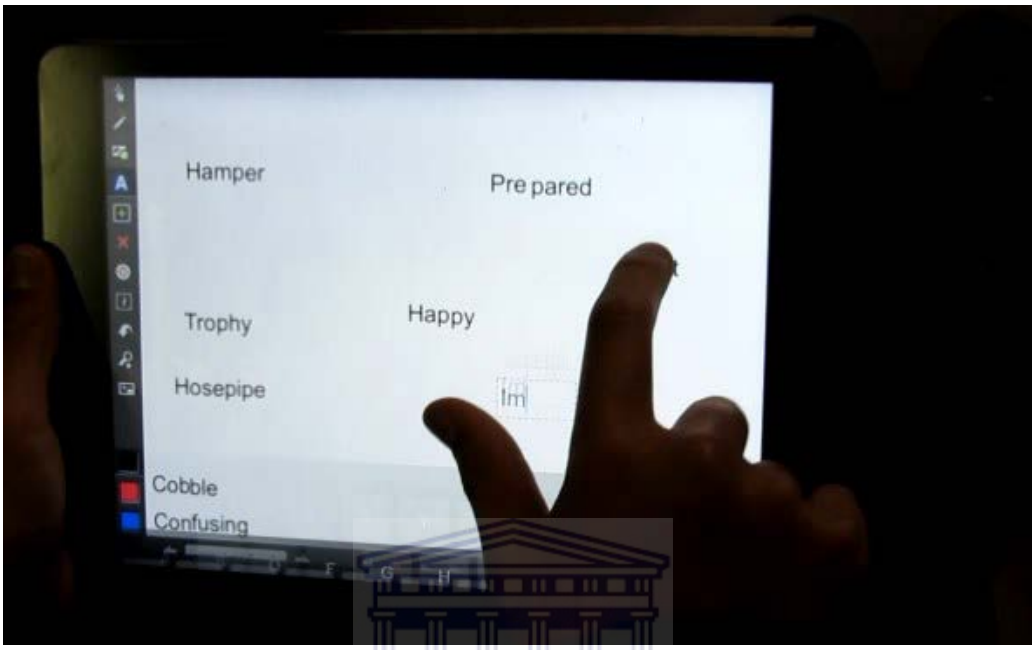


Figure 14: Word Division 2

4.3 Interview Data

In capturing the teacher's and learners' experiences and perceptions of ICT integration in language teaching and learning, interviews were audio recorded. In this section, I present data collected from the teacher, the HOD of the Intermediate Phase, the principal and the learners.

Interview 1: The Teacher

As stated previously, T was in his 40s, and was one of the most experienced teachers at K primary school, with an unbroken record of 15 years of teaching. Although he was relatively new at K primary school, he held iPad technology use for teaching and learning in high esteem. As indicated in the observation data, he successfully integrated the iPad in his English home language class. He perceived iPads as potential and effective tools for teaching and learning. T described the iPad as a potential tool that could be used effectively for language teaching and learning. This is what T had to say about iPads:

> I think that tablets can be used very, very effectively in language and literacy teaching….ah because it gives you access to students afterhours. Unlike in the past where you wrote homework on the board, now you can upload a lesson on the iPad. I think what we are aiming at eventually is that lessons will be taught in that form where everybody can access

> the lesson at home, watch the lesson then come to class to quickly discuss the things they did. For example, the lesson on gerunds, they come, we quickly go through the topic and they can check on words in the classroom and I can go round checking what they are doing. There is a lot on the internet, a lot of access to information that the kids can use to improve their literacy. You can upload things that your class can use, if there are three classes that happen to have the same lesson, three classes can use it. And the wonderful thing is that we are not restricted to an intellectual poor of say South African content. I can upload or download things from other international websites. I can go on those websites and ways of teaching, and I can use it during class and I think a lot of potential (Interview: T)

One of the questions asked how long he had been using technology, especially iPads, and whether he was comfortable using iPads. T explained that he had been using technology for a while although the use of iPad for language teaching was relatively new. He explained that he used the Interactive Whiteboard (IWB) quite a lot and was comfortable with it. He downloaded English lessons from the website called smarttec.com and was able to project the lesson on the interactive white board with Lumia technology. This he had been doing for more than four years. However, regarding iPads, T explained that he had been using iPads for about one year and half.

> Ipads,… about one and a half years, before that we had a Lumia technology which also runs on projectors. There are a lot of things you can do with that in language and grammar. There is a couple of websites where you can download specific lessons for language which I have been doing for about four years. I have it in my history, I think its smart board, no smart exchange, exchange.smarttech.com. It's a platform where you can load lesson and download but that is not part of Lumia but you can run it through… (Interviewee: T)

T felt that he was comfortable with using iPads although he expressed concern that creativity was hampered because of other duties he had to attend to in the school such as sports.

> ….am comfortable to use tablets but it is always difficult to come up with new and innovative ways of doing things because the schedule as a teacher is very busy. Especially with winter sport, so to come up new things is not possible (Interviewee: T)

T had good experience as a teacher in different primary schools in South Africa. He had been exposed extensively to the interactive white-board which he felt very comfortable to use in class at any time as earlier said. While T felt he was comfortable teaching with iPads, he also expressed uncertainty in teaching certain topics with an iPad.

> Some of the things I want to do in the future when I have more knowledge is to create wikis, create a pass week where everyone is expected to contribute something within time, and then maybe have different wikis and have them worked at in the classroom. We also have web quests, ah.. which we might do a little bit later to look at, specifically language and literacy. Unfortunately, there is not a lot of web quests on language and literacy. Time is the big thing because I haven't really thought about how to teach grammar using the iPad other than what I have been doing at the moment**.** Now I have thought about that a lot, I can't think of new ways (Interviewee: T)

Other questions of concern were whether there were guidelines with regard to ICT use for language teaching. T explained that there were no guidelines that guided language teachers for language teaching. But, when asked how curriculum standards were conformed to if there were no guidelines, he had this to say.

> There is no need to be fixed to the prescriptions of CAPS, otherwise you may not teach any lesson with technology. CAPS need to be complemented by other sources. So ah… as a teacher you've got to be resourceful… and well how do I maintain CAPS standards….to maintain standards, be selective on the web. Pick resources that are found in CAPS for example… the skill to do that does not happen overnight though, comes with experience built over the years. Websites such as Edmodo connects you to other teachers all over the world and you can find quite a lot of topics that can be helpful and you can just modify them to suit your needs, and others you don't even need to modify and so basically no need to prepare a lesson plan (Interviewee: T)

T further said that there was no specific district or school policies on ICT integration in teaching. The teacher was not aware of any policies in place, both at school and at district levels. However, T confirmed that the only policy he knew of was the White paper on e-Learning which did not specify how ICTs should be used in subject areas. T, however, believed that the Curriculum and Assessment Policy Statement (CAPS) should be revised in order to align and accommodate time to switch on and load iPads. According to T, a lesson without iPads did not waste a lot of time as was the case when iPads were used. Thus, for T, CAPS should be revised and schools should reduce the number of learners in classes for ICT integration to be effective.

> I would suggest smaller classes, reduced work load, and of course, time to be revisited because learning with iPads takes prolonged time because of issues of loading switching on, etc. (Interviewee: T)

T was also asked about how he used iPads in class. T explained that one of the advantages of using an iPad in class was the freedom to prepare the lesson in advance. He referred to one lesson he taught about blurbs where he allowed learners to watch and only explained a few things, then allowed learners to exercise writing blurbs.

> Well the iPad has been very useful to me personally. Sometimes, ah ah… well it gives you the opportunity to prepare your lesson in advance. For example, you remember the lesson I taught the learners about blurbs. That lesson was prepared in my own free time and all I did was to project it on the interactive whiteboard for the learners to see the explanations I was giving and that saved me quite a lot of time if you ask me. Except the time to wait for the iPads to come from the next class and distributing and switching them on… and… and sometimes I give the work through Edmodo and they work at their own pace at home and we only come to discuss answers. Unfortunately you won't be able to see that … maybe hopefully if I plan another lesson.. (Interviewee: T)

In addition, T felt that an iPad always engaged learners a lot except that he did not use iPads more often in class, except the time I (as a researcher) went to do research at the school. He was responding to the question about access to iPads in school. He felt that access to iPads was one issue that needed improvement and that not all lessons needed the use of iPads. Apparently, the class used iPads a few times in a week, depending on who were using them.

> You know what, since you have been here a lot more. Ah, one of the problems is access to iPads. You saw that sometimes we have them, and another we don't, so we try and use them in those periods three to four times in a week. Not always for this class but they have another teacher who have them for this class. So, ah, it can be as little as 20% or as much as 60% because not everything we do in class is compatible with iPads (Interview: T)

Apart from the workload that seemed to be a challenge for T in terms of preparing his lessons creatively, access to iPads and bandwidth or internet speed was also problematic. T strived to ensure that the learners used iPads in a way that engaged them online through apps such as Edmodo, Explain Everything, Khan, smartboards, including the website and YouTube. T explained his eagerness to do better, despite the challenges:

> You know what I haven't done yet is that… because we have had problems with the internet bandwidth here at school,… is that those lessons that I record on Explain Everything, they had to listen to and can be uploaded to you-tube as well… You can have your own you-tube, which is something we are looking at in future. And Khan Academy website is another great site where you can access everything related to education (Interviewee: T)

From the extract above, it appears that infrastructure development was one of the challenges T faced with iPad use in class. While T believed that the iPad had great potential to support teaching and learning, he indicated that generally there was a problem in South Africa with the internet speed or bandwidth as stated in the above extract.

Whether teachers had support from management regarding iPad use for teaching, T explained that there was a programme that took place and repeated in the afternoon every Mondays, Wednesdays and Thursdays. He said that the training was general in the sense that they were taught how to use an iPad, especially the Explain Everything app and how to insert pictures and how one could record a lesson, he added. How a teacher used it in class, was entirely up to an individual, T continued.

> We also have in service training at school and it is compulsory to attend a session a week where we get new concepts and most of the times it's the iPad. Everyone has his own iPad. So you go home and you play with it and do everything as a teacher. The apps that we use, we have information on how to use them, apps like explain everything, book creator, and keynotes. But, how we use those apps in our lesson is entirely up to us. (Interviewee T)

T felt that an iPad had the potential to enhance literacy development among learners although he had personally not gauged whether it had an effect on his learners since he hadn't been with them for a longer period. He believed in a period of one and half year was too short to tell if iPads had an impact on the learners in terms of literacy development. T explained that what was rather clear was that iPads naturally attracted learners, and so learners were always excited to learn using iPads in class. Although T had not tried to give them (learners) work that involved projects for collaborative work because of time to prepare such lessons, learners initiated collaboration on their own. He explained that to be sure of the impact of iPads on teaching and learning, it required more time and an investigation conducted on those who used iPads and those who did not. He believed that the teacher was the key person to make it happen, and if everything in terms of access to iPads were in place, it could potentially enhance literacy development.

Generally, T admitted that iPad technology engaged learners both at individual and collaborative levels. T was able to engage learners, especially at the beginning of the lesson to assist and ensure that they understood the lesson and instructions. Afterwards, while T was busy on his personal desktop, learners themselves were engaged in collaboration with others. When learners were happy with their tasks, they affirmed each other by a handshake. The next page shows pictures of learners working together and affirming each other.

Figure 15: Learners working together

Figure 16: Learners Affirming Each Other

The following section reports on an interview with the Head of Department.

Interview 2: The Head of Department

The Head of Department (HOD), referred to as H here, was between the ages of 30 and 40 years. Apart from his duty as teacher and HOD, H was responsible for managing Information Technology (IT). He was not the IT manager in the sense of a technician, but rather in charge of purchases of iPads and other related devices, as well as teacher in-service training. He planned for the training sessions on the latest apps for educational purposes. H had the view that iPads enhanced literacy teaching and learning. He emphasised, however, that the teacher was the key person in the success of ICT integration in teaching and learning.

H believed that education had to provide learners with skills that were relevant for the 21st century. In this regard, an iPad was a tool that engaged learners for literacy development. Learners could use the device to do tasks and to effectively communicate those tasks to others. The iPad also enabled learners to develop higher cognitive skills, especially if they were given the right guidance, he added. Below is an extract of H's views.

> It's about trying to get children within that language to use technology to figure out things out and respond to that within that language. So if you put a general question, to the kids,

> regarding anything, you would want them to use the IT to solve a problem using IT within that language and respond to that. It is not just reading and writing better, but to be able to analytically think within that language. A tablet is just a resource tool within a class to use. It's not necessarily the primary tool and not only a visual reflection about the text book that is in your suitcase. And I think that they use tablets with textbook on tablet just to … so a tablet is supposed to be a tool to use to find information and package that information and respond to that, so it's a resource tool (Interviewee: H).

When asked whether in his opinion the iPad impacted on literacy development, his reply was positive. However, H believed that teachers needed to change their mind-set or attitude towards the 21st century approach. He explained that working with the 20th century approach in the 21st century was not attainable. In this regard, H believed that teaching practices or the pedagogical approaches needed to be revolutionised to meet the current trends in education circles today. The extract below illustrates his views.

> In my opinion it does, but it will take a definitely pedagogically revolution in the teacher's mind. In other words, in order for that statement to be correct, and it is correct but the teacher will have to think in a different way, or the essence of the success of using it in the classroom management of the teacher. The teacher will not be able to think like the teacher 20 years ago. The teacher as the sole driver should think in the 21st century environment or thought. Then it can be successful. But to teach with the 20th century methods on a tablet, … it is not going to be successful. Teaching with 21st century methods on a tablet then it can be successful. So the essence of the question lies in the thinking of the teacher. Change of mind-set (Interviewee: H)

In terms of what support teachers received regarding the use of iPads, H explained that teachers were given help on how to use different apps which they could apply in individual subjects. However, how teachers used apps such as Explain Everything in teaching their subject was entirely up to them. It seems that staff training played an important role in ICT integration in the school for the teacher.

> At the moment we in K primary do not focus directly on individual subjects. We don't train our teachers focusing on individual subjects. We spend a lot of time teaching our teachers the correct methods and tools to apply in the subjects. We spend time teaching the philosophies and techniques to use tablets and we expect them to use those within their subjects (Interviewee: H)

Concerning the attitudes and challenges of teachers in the use of iPads, H explained that teachers were up to the task although not everyone liked the technology. But with support through in-service workshops, attitudes were improving. He also explained that teachers had not reported any challenges regarding the use of iPad in class. On whether the school had a policy that guided the use of ICTs in school, H disclosed that the school had an ICT policy on the use of iPads. He explained that individual teachers wrote a weekly report on how iPads

were used. H also explained that the actual monitoring to see if teachers had problems in the use of iPads was not done.

On whether the iPad encouraged collaboration and engagement, H said that the use of tablets, engaged learners more than a lesson without technology. According to H, all learners were engaged in the teaching process. He regarded this as the success of the device. He stressed the fact that learners could be engaged even at their individual level of ability within a lesson without necessarily causing others to lag behind, or vice-versa. For example, a clever learner can work at a higher cognitive level while a slow learner can work at her/his own pace. For H the iPad was a learner-centred tool and did not call for a teacher-centred environment.

H further noted that most of the teachers appeared to be trapped in their traditional ways of teaching. He explained that teaching without technology did not encourage group work. H added that ICT was interesting to learners and it was what they grew up with. So they could engage in collaborative work when given this opportunity in class. According to H, one of the core principles of the 21st century education was collaboration.

> Collaboration is a complex process but when you have the right technology involved, it is easier to manage the learners. We get learners involved at their own pace and level of ability and assign them work where others would be doing text writing, while others video and present. This way, they feel they own learning while you as a teacher facilitate. My perception is that it can enhance teaching in the essence of getting everyone involved in the class. I think that it is the biggest success of using the tablet within the class. With good classroom management, you can have every kid in the classroom involved whereas, before and with interactive whiteboards, it was difficult involving every kid. You would involve some and some left out. With tablets, you get 29 kids involved within the teaching process and that is the success of the device. You can get them involved at their level at the same time. A kid that is clever can work at higher level just like a slow kid can work at their own pace. So you would have 29 kids in the class but working at different levels all at the same time. It is a learner centred and not a teacher centred environment. By getting the children involved, you get them involved in their abilities in literacy and learning (Interviewee: H)

On whether the iPad enhanced literacy development, H felt that the impact of the use of iPads could not be felt immediately or within a short period. H believed that iPads were highly potential tools that enhanced teaching and learning for as long as the teacher embraced the device. H explained that ICT can enhance literacy skills but that as a school, they needed to conduct some investigations for a period of not less than four years. He noted that they (school teachers) could be sure if Grade four learners were put on observation right up to Grade seven to ascertain the impact of iPads on literacy development. Below is what H said.

> We have not done a specific study to see if it improves our marks. When we write out systematic test, it is too early now to say that it made an impact. We should take it over a

> period of time. It is still too new to see the impact now. To see whether it improves, we should get kids in Grade 4 up to Grade 7. We can get Grade 4 learners right through to Grade 7, then we can see an impact. Otherwise, we have not done a study to see the impact and it is still early. It is something that we will do. Our aim now is to enable students develop skill, to make them have learning skills to make them better employees. But definitely I know that iPads have an impact on literacy skills otherwise we were not going to use them in the first place. I use iPad in my class so I know how they are engage and collaborate in Afrikaans home language. All we need to do is conduct study so that we can tell a better story beyond collaboration and individualised learning it provided (Interview: H).

H concluded by highlighting that if only teachers could change their mind-set, teaching with iPads which learners are exposed to always anyway, could be fun. He added that as a school, they were not there yet, but that they were striving to make sure that all the teachers became comfortable to use iPads in all their lessons in their individual iPads. The section highlights the interview with the principal.

Interview 3: The Principal

The school principal (P) had nine years of experience as a class teacher and 19 years as a principal. He had been at K school for four years during the time of data collection. At his current school, he initiated the use of iPad technology because he was a specialist in this area, and believed in the use of ICT to support teaching and learning. The school started using iPads in 2013. Before that, the school used computer laboratories where teachers took turns to use it for educational purposes. Even so, teachers who taught subjects such as science used the laboratories the most. The principal explained that the initiative to purchase a set of 32 iPads for each phase, turned events around. P admitted that it was a drastic change which happened so fast that not all teachers were comfortable with the turn of events. There was silent resistance from the teachers, but slowly, teachers had accepted the technology and were using it successfully. This is what P said:

> But there was a huge resistance in the beginning of 2013, with the tablets we brought, … we brought in, it was difficult with Interactive White Board as well, although they had computers in the classroom. In 2013 when we… so we were still busy mastering the interactive whiteboard and we started bringing in the tablets in 2013. There was a huge silent resistance about iPads (Interview: P).

In K school, the strategy for the iPad implementation started with the head of departments who were trained as 'iChampions' in their respective subjects to encourage other teachers. According to P, this was one of the best moves to implement iPad use in the school. Although the school did not have a written policy regarding the use of ICTs, the school had a system that recorded all activities which teachers did to support learning. P monitored the use of technology through the school system saver managed by an IT specialist who made it

possible for the school principal to view all activities going on in all classes. The extract below gives a sense of how the school operates in the absence of a formal ICT policy.

> Most of the policy is all based on verbal policy. At my old school, the staff had a gap. We are re-introducing it now. There is no worded policy but there is on our computer system, let's say Grade 6, with all the topics in English; then we have English 1, and under English 1, we have the planning which is a document, field resources (teachers adds all additional learning materials), depository on interactive white board, and media. Every teacher in his subject must have a depository with material available; such as written texts, videos, explanations of teaching from Edmodo,… teacher is depositing and Christ (Pseudonym) next door organises a depository of every teacher's depository in an organised way retrievable later if they want to go back to it. I will show you how it works … but …. but... you see from here, I can actually see everything. See this teacher used these pictures for creative writing and so… I gave teachers time to adjust but next year I am going to be strict with them (Interview: P)

P further explained that the success of the iPad rested in its ability to present text in all formats. For example, P explained that unlike in the past where learners were only exposed to type of text or print media, today the iPad is made in such a way that you could download pictures from the internet, take photos of something, record a video and use them for teaching and learning. With an app called Explain Everything, P added, this (Picture import- above) was what made the iPad use successful in K school. He described the iPad as a tool that appealed to more than one sense. He stated that learners could create texts from pictures downloaded from the internet or related aids which made them multi-literate. In addition, P elaborated on the success of the use of iPads for teaching because they orientated teachers every week during training that did not take much of their time. Below is the principal's explanation:

> One of the apps is explain-everything. The teacher can type, write, put a picture, and shoot a video. He can also record himself while he is teaching and automatically upload it to you tube and put it on the web for the kids to use. The teacher does not stand in front of the class anymore…..The training is not long. The teachers use specific tools like usual email, app for putting content on together. They try to take time on the normal school day to improve…..(Interviewee: P)

In a follow-up question on how the apps could be used in literacy skills development, P explained that the apps teachers were taught was Explain Everything which allowed them to import pictures and record videos, as mentioned above. However, P further explained that teachers needed to be creative and gave an example of how the teacher could use the iPad to teach literacy skills. Below is an example.

> What you can do is this…. For example, if you are creating poetry or story you can have two or four children in a group. Again, there will have to be some development in teaching as to how to put these tools together. But the kids are quite bright with these things. They know how to open files and so on, so you can have two or three kids and give them a task to do,…

> We are going to practice the story today, and the story is about this, the story is going to be about something that happened in the past, meaning you deal with past tenses and you say you create the story and so the need is the past tense in the story. Then kids can collaborate to create the story, visually and verbally present it. (Interviewee P)

Further in the extract above, P explains that if the teacher was creative, learners would collaborate on the task in order to get them to share ideas. He pointed out how in essence a flipped classroom worked and admitted that it required preparing in advance.

> You can break it down in different ways. You can ask them of the opinion of what was presented. You have heard of the flipped classroom, so in essence you are creating a flipped classroom. So lots of people may criticize, that but it is far-fetched but we will now get children engaged. You can get a lot of rules, because they know most of these rules without you standing in front of the classroom and teach all the rules. But it takes a bit of more preparation. But a diligent teacher like Miss aah…. So that is an example of collaborative learning and you can analyse a poem, do comprehension reading, etc. From a teacher's perspective, you can present a much more colourful message. (Interviewee: P)

Moreover, P highlighted that while iPads enhanced literacy skills, most researchers were quick to look for the results of using iPads instead of what skills were needed to be given to learners first which could eventually lead to literacy skills. P illustrated the concept of iPad use which he felt should be the concern of every researcher or policy maker before they thought of its impact on literacy. In his opinion, P felt that emphasis on access to technology was first priority and necessary. After the excerpt below is a visual representation of P's 'difficult concept' of what needed to be done to realise better results in literacy development among the learners.

> I will present you with a very difficult concept. The question you are asking is the question that has been asked at all levels. And I personally think it's a wrong question. The… it is all about getting a tool into the hands of the kids. It's about a tool. And that tool can do a lot of things. Ah, it gives you the ability to find resources, gives you access to materials, access to your lecturer or teacher, access to your friends, and all those things. What, ah, … it will… then if you take this at the education level, [illustrates with hands in the air] that we all know, and you take it that below this line, we have English, maths, geography. The focus in research is that, they want to know how much those tools improve the ability of the students. But what we have to understand is that we… those tools… we are completely putting down a new layer of information, and that layer of information is this tool, …. we teach learners to get access to resources and thinking differently about education. Now if we take that access to information, then, for example, browsing through a dictionary, the child's ability to look at two, three different dictionaries at the same time is great …. that will have an increased effect on those aspects… reading, writing, grammar mathematics**…**.(Interview: P)

The visual illustration below represents P's concept which he said was what the school strived to do. He narrated that the school was working towards purchasing more iPads and apps such as Explain Everything so that each learner could use them to import and manipulate visuals on their iPads too in the near future. The school only managed to purchase

Explain Everything for teachers to enable them present their lessons in a more fashionable way.

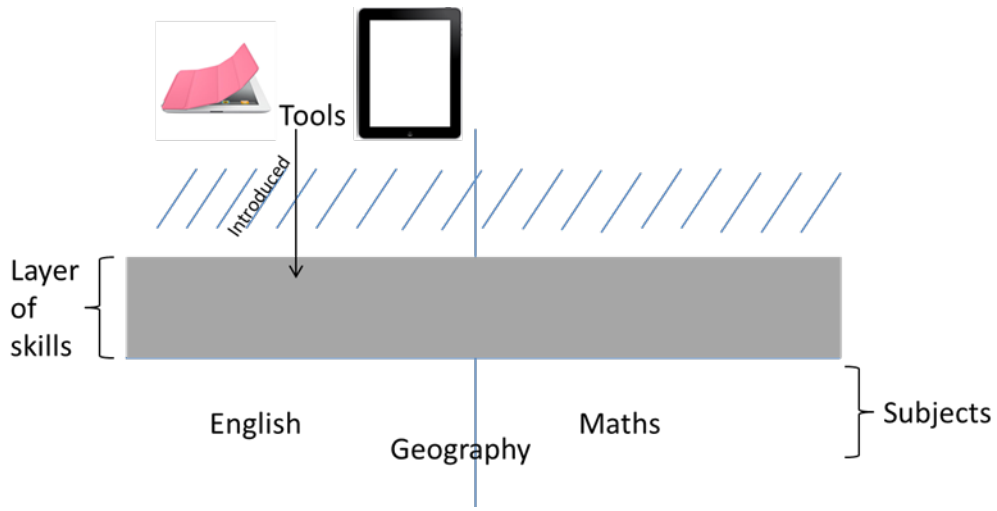


Figure 17: Layer of skills introduced by technology

P's concept in the above visual illustration was to unlock the skills that technology brought along with by ensuring that learners had access to technology and had the necessary skills to use technology to handle any information presented in more than one form.

In addition, P believed that teachers should be digitally exposed because they were at the centre of teaching and learning. He explained that teachers needed to be proficient in technology and only then would they be able to be confident in teaching in a digital age and assist learner's with skills that needed them to handle much more information. Here is what P said:

> The basis is that every teacher should be technologically sound and there should be technology into the class…you understand? It is about getting the child to know technology and, and, and… ah make them handle much more information. If for example, you study one of Shakespeare's' easier stories, you can very easily ask the groups in your class to each… to look at different interpretation of one of Shakespeare's stories and you can have a complete discussion and feedback. Whereas in the past you give them one interpretation of someone's Shakespeare's interpretation… now they look at 6 interpretations. It's about teaching the children skills to handle technology and therefore handle much more information and that is a layer of skills they need to be exposed to before we can talk about the impact of …. Ja… (Interviewee: P)

In the following section, I focus on the interviews with the focus group of learners.

Interview 4: The Learners

As discussed in the previous chapter, six learners were selected to participate in a group interview which took place in their own classroom after school hours. The interview took approximately 15 minutes as it was lunch time and parents were waiting to fetch them. The age group of the six selected learners ranged from 10 to 11 years. One of the questions asked to the learners was whether they had access to any digital technology at home. Five learners confirmed they had access to touch screen tablets such as Samsung, Renovo and iPad mini. One of them, the only male in the group, said that he had no iPad but he had his own laptop on which he did his work and had access to an iPad when he came to school.

> L1. I have an iPad that I use at home, ja
> L2. I have a Sumsang iPad
> L3. I have an iPad at home which I use frequently and I do whatever I want to do with it, which is very nice for me.
> L4. I have a Sumsang tablet
> L5. I do not have a tablet or iPad but I have a laptop computer which… it shows me more on what I can do with iPads, but at school I get the iPads and I don't have problems to use them.
> L6. With me, ah… what I have is an iPad mini. It's a nice small one.

According to the learners, they used their iPads or digital technology for many things, such as surfing the web for video games, face-book and WhatsApp. Out of the six learners, only one confirmed that they used their digital technology to do homework with a best friend.

> L2. Usually, I use my iPad to play games and chat with my colleagues on social media and ja…[laughter] ja!
> L3. Same here. I! I use my iPad to skype especially when mum buys me some bundles, ja…it's kind of fine to me". Because I have an iPad at home, it's kind of easy to use it in class, like you don't struggle, you don't really start from the scratch you see. What I do is, my friend Daniel (Pseudonym) he posts homework on the internet on Edmodo and I will log on and see what he has posted and we discuss.

Regarding their experience using iPads in class, the learners felt that it was fun to use iPads for learning. They felt that it was good because at home, they used their iPads more for social media and so using them for learning gave them a whole different experience altogether.

> All. It's fun
> L5:Usually we go and fetch the iPad and we bring them and it's really nice to know that you are going to learn with electronics instead of books. It's kinda of easier to search up stuff… instead of …ja, and and your book gives you specific things but the internet wow…
> L6. J,a here at school it's kinda of different experience all together…ja, because at home you spend all the time on social media but here we use it for learning, ja…

Regarding whether knowledge of technology at home gave advantage to learn with iPads at school, learners felt that their knowledge of using computers at home allowed them not to

struggle too much with iPad use in class. According to the learners some of their colleagues struggled to use iPads because they probably had no iPad at home.

> All: Ja,ja, .ja
> L 4. Ja, like the learners in class who struggle like a bit to use iPads, kinda of, maybe they ah… ah maybe not.. I mean don't use iPad quite a lot at home. But if you know, you kinda of have less problems when the teacher is explaining.
> L3. Ja, for me, yes I don't have problems because I use my iPad at home quite a lot, ja.

On whether the iPads enhanced their literacy skills or not, learners had mixed feelings about it. Two out of six, said that iPads did not improve their literacy skills. They, however, had a second thought about reading and grammar, but not writing skills. Four believed that iPads improved spelling, grammar, reading and writing.

> L2. I don't think it improves it at all. It may improve reading a little bit but not writing. We don't write though on the iPad. … we type on the iPad, like do… do… do… hehehehehe
> L3. Like typing stories, excitement [mixed voices] ah… reading! Only if you read a lot, from a book not on the iPad, it can affect your eyes.
> L6. I think it improves your spelling and your grammar. The only thing, you know… when you type in the wrong word and it suggests something, I think you should take that away and just learn how to spell,… the suggestion on top of the key board
> L4. It also improves your pronunciation because there is a small…like speaker and a word, when you click you hear the voice

In the next section, I elaborate on the data that was collected from the work that learners did on their iPads in class. All the artefacts were snapshots of the documented video.

4.4 Data from Documents

Most of the learners demonstrated the ability of using the iPad comfortably as the teacher gave them instructions on different lessons. Learners were able to experiment with the touch screen features of an iPad confidently. In this snapshot, the learner was answering the comprehension test from one of the online lessons described earlier in this presentation. The learner literally used all the fingers to navigate the touch screen tablet. The figure on the next page indicates what the learner did with the iPad.

Figure 18: iPad Affordance

Furthermore, as learners used the iPads to learn, they were able to collaborate with others on their tasks. Girls were also actively involved as learners collaborated in pairs or groups. The snapshot on the next page shows how learners assisted each other during their tasks.

Figure 19: Collaboration

Lessons that were observed included writing tasks. Regarding writing, most learners were able to type their work without problems on the iPad. One of the lessons was about writing blurbs as described earlier. This was part of the creative writing exercise in which learners were asked to write an enthralling short description (blurb) of a book that they had read, or movie they had watched for the purposes of enticing customers to buy the product. As part of an assessment, learners were instructed to write not more than 60 words, and not less than 30 words. In addition, learners were given 30 minutes to think about what they planned to write their blurb and submit it via the app, Edmodo. T had registered his class on this app to facilitate online learning. Below are pictures and examples of what the learners wrote.

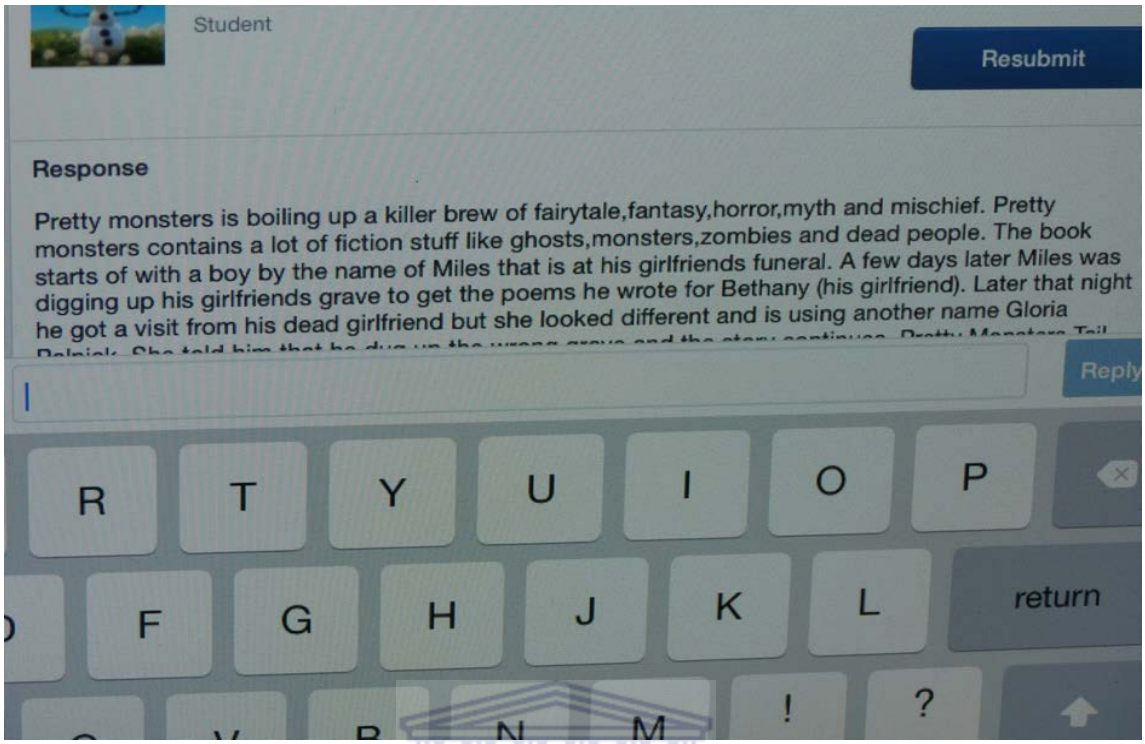


Figure 20: Writing Exercise 3

The above snapshot shows what the learner wrote about, 'pretty monsters', while the snapshot below shows another learner who wrote about a school called 'monster'. Both writings were extracts from one of the lessons about blurbs.

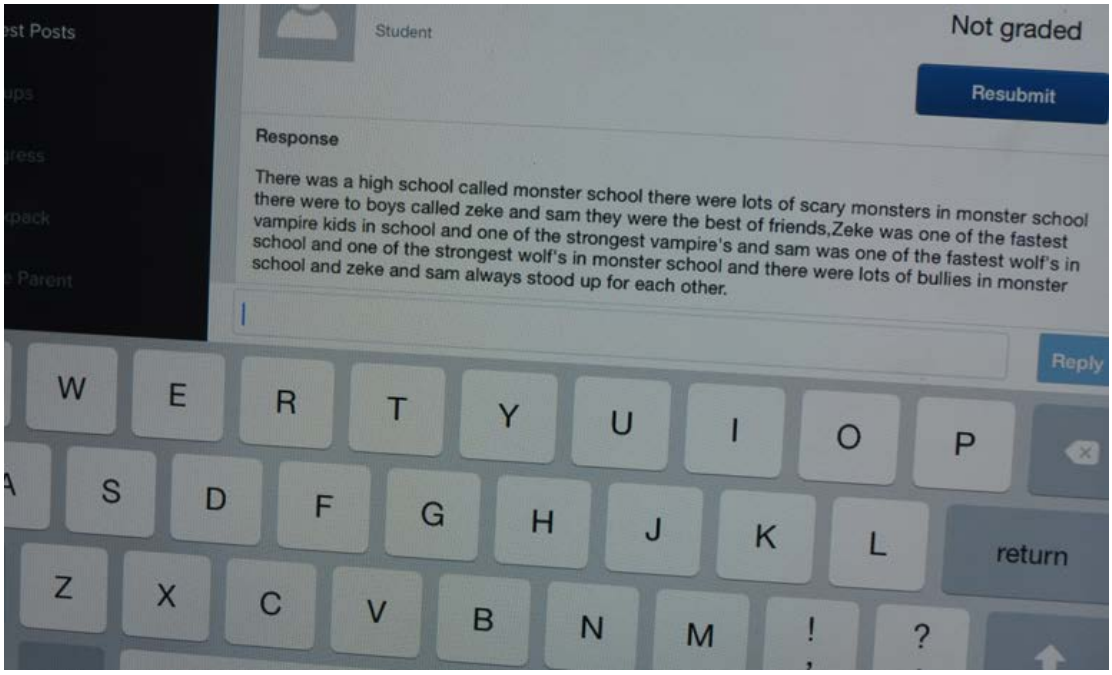


Figure 21: Writing Exercise 4

4.5 Data Analysis

In this research, data analysis was purely qualitative. The goal of data analysis is to uncover data in order to understand the big picture or make sense of the phenomenon through coding (Denzin & Lincoln, 2008). In other words, the transcribed data was closely examined by taking apart or stripping chunks of words, single words including sentences. Atlas.ti 7 was used to analyse the transcribed interviews as well as the recorded videos. Atlas.ti 7 is a software package that allows the researcher to transcribe, analyse and organise data in a systematic form (Coders, 2013). Using atlas.ti.7, enabled me to code videos, audios, as well as pictures which were part of the artefacts that were analysed for this research. In coding videos or audios, the researcher is enabled to select specific segments which are showed in time period for the selected segment as in the example below.

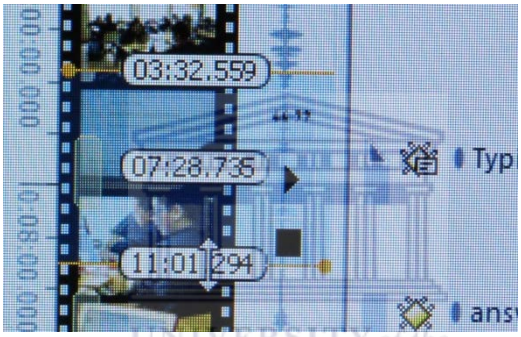


Figure 22: Example of Video coding procedure

Coded data was further analysed and classified according to general themes. In the next section, I focus on the data analysed via atlas.ti.7 software package.

4.5.1 Emerging Themes and Discussion

Data analysis of the transcripts focused on how iPads were used in Grade six English Home Language teaching and learning. In this regard, the investigation considered how the learners interacted with the iPad and with each other through teacher facilitation. The patterns emerging from the triangulated data from interviews, observations and documents are summarised into four themes below.

1. Influence of Socio-Economic Status (SES) in ICT Integration for learning
2. Influence of ICTs on Literacy Development
3. Teacher Disposition and ICT Integration
4. Dynamic Assessment
5. Potential Barriers to ICT Integration

4.5.1.1 Influence of Socio-economic Status (SES) in ICT Integration for learning

From what was observed, the data indicates that prior knowledge of ICT use renders learning stress free in school. Results show that the learner's prior knowledge of the use and access to various ICT gadgets, including iPad tablets at home, made their learning struggle free. Out of the six (6) purposefully selected learners with the help of the teacher, all six (6) of them confirmed that they owned digital technology at home as reported in Section 4.2.3 interview 4 above.

The responses from the learners indicate that the socioeconomic status (SES) play an important role in learner achievement in school. SES can be described in terms of individual or families' financial status which could either advantage or disadvantage learner performance in school. According to the American Psychological Association (2009), poverty adversely affects their children's rate of literacy development in school. This is particularly because such families barely afford basic resources for literacy development such as books.

This finding is consistent with the literature discussed in chapter two of this study which indicates that access to technology enhances literacy development in learners (Hutchison et al., 2012; M. Pellerin, 2012a). Literature also shows that disadvantaged schools lag behind in literacy development (Gudmundsdottir, 2011; Shandu, 2011; United Nations, 2013). In addition, studies conducted by Doctor Stephen Taylor (2012) in South African Grades 3, 4 and 5 classrooms indicated that family SES ascertained their children's educational performance in school to a larger extent. By implication, learners coming from high SES standing perform better in schools than their counterparts who come from poor backgrounds. This is consistent with responses given by learners in K school. Many learners in K school come from high social status and their parents could afford to give them access to the basic literacy resources such as books, including technology (Chiu & Chow, 2015). This has enabled learners at K school to appear comfortable with iPad use for learning. Furthermore, it appears that access to of technology has enabled most learners at K school to learn easily, although their literacy skills development was not explicitly investigated.

Similarly, SES connects with the sociocultural and constructivist theories claims that language is a mediated process organised by cultural artefact (Lantolf, 2000; Taylor, 2012). The literature revealed that the goal of the theories above recognise learners' prior knowledge from their socio-cultural environment because that is what enhances learning, particularly

literacy development. In other words, teachers need to use the learner's prior knowledge as a building block for new knowledge (Bransford, Brown & Cocking, 2000). Moreover, it is inconceivable, according to the constructivist theory, to enhance literacy or learning outside the learners' experiences because learning is a fluid constructive process and therefore, acquisition of new knowledge should be contextual (Lefever-Davis & Pearman, 2015).

All the learners acknowledged that they mostly used the ICT gadgets to play non-educational games and to chat with their peers on social networks. Very little time was spent on using the ICT gadgets to type or work on school projects.

The idea above confirms that technology, whether face-to-face or in a virtual environment, fosters social interaction which is again the core value of the constructivist view (Lefever-Davis & Pearman, 2015). Language is a mediated process, so cultural artefacts such as social media, iPads and many others enhance learners' literacy awareness as they enable them to engage in meaning-making negotiations (Urguhart & Weir, 2014). For example, of the six learners, one of them acknowledged using his iPad to share school homework with his colleague. This implies being engaged in meaning-making while in a virtual learning environment. This was a rare practice because many young learners spend time chatting with friends on social media.

The second lot of results indicate that iPads used in a lesson engaged learners more than in a lesson without an iPad. Learners explained that it felt good to know that they would be learning with an iPad in class. Learners seemed to have more fun when they used iPads to learn than when they did not use them. They seemed to be more engaged (Dawson, Heathcote & Poole, 2010) when they were using iPads because iPads offered more in terms of what they could search on google. This links with the literature reviewed about active learning under principles of learning styles. Literature indicated that learning as a social practice should engage learners actively as opposed to parrot fashion learning where learners are passive receivers of knowledge (Bransford, Brown & Cocking, 2000). The learners also explained that it was good to learn with iPads because at home iPads were mainly used for non-academic activities. Words that were not clear to them could be checked through online dictionaries. Moreover, learners felt that unlike the printed textbooks, iPads gave them an exciting and wide range of materials to look at. This implies that learners who have confidence and positive perceptions of the role of ICTs in their learning, are likely to learn better, and develop strong literacy skills. Online dictionaries open more avenues for literacy

skills development because of the different interpretations the online sources may display to them. This directly or indirectly enhances their learning of literacy. These findings demonstrate how today's learners are active users of emerging technologies. This directly and indirectly call for teachers also to be well abreast of emerging technologies for educational purposes.

4.5.1.2 Influence of ICTs on Literacy Learning

One of the recurrent themes is that of engagement, which is influenced by the fact that the features of an iPad such as the soft touch screen, ability to use fingers, and using voice to search for information, appeal to learners. An important factor which influences engagement that is provided by mobile technology is that feedback is given in real time (Blackwell, 2013).

As mentioned above, knowing that learners were learning with iPads enhanced their engagement as evident during observations. Literature on engagement and prior knowledge of learners shows that learning is fostered learners are able to relate with what they already know (Cisco Systems Inc., 2008). From their engagement with their tasks in class, it appeared that learners' metacognitive skills were also enhanced. Literature reveals that technology enhances learner engagement because of its multimodal functions, and this in turn, enhances metacognition among learners because the learners' affective, cognitive and psychological functions are activated (Pellerin, 2012b; Pellerin, 2014).

The notion of seamless learning (Li, Pow, Wong & Fung, 2010; Wong, 2012) also was apparent and encouraged learners to engage with the iPads. Seamless learning entails learning "whenever and wherever" learners are (Wong, 2012). It raises their curiosity and they easily switch learning contexts, for instance, from formal to informal, or personal to social. A key component of this interaction is that each student should have their own dedicated mobile device. Using mobile devices allows students to physically move around various different locations with their devices and communicate with others, and thus learn across spaces (Blackwell, 2013).

During lesson observation, learners moved about within the class with their tablet technology to initiate their own collaboration with others, other than sticking to the prearranged seating arrangement. This happened more often without the teacher's interference or directive. It appeared that it was more convenient to learners to initiate their own learning support teams

and this created a warm learning atmosphere in the classroom where learners could talk, read and write together. Such activities contributed to their literacy learning. In an interview, learners also confirmed that they stayed in touch with classmates through ICT devices outside the class time. This suggests that literacy skills development can be extended beyond the classroom walls (Wong, 2012). In an interview with the teacher, T explained that learners and him were able to use the device in the classroom, and still stayed in touch with the teacher while they were at home.

Having this portability enables students to further explore their interests in a subject at any given location. Mobile devices can, therefore, help to augment the current environment of children by providing access to information while on the move and working with others through collaboration.

Collaboration is one of the platforms promoted by mobile technology, since it is able to stimulate social interactions among learners in the classroom. An iPad enables learners to engage with subject content because the device is easily portable and so learners can view information anywhere, any time (O'Mahony & Siegel, 2008). The iPad motivates learners to search for any information and as they search, they are forced to read and sift out which information is credible (Karsenti & Fievev, 2013) for their tasks while enhancing their reading and writing skills for their lifetime (UNESCO, 2014). Clearly, iPads provide an opportunity for learners to take ownership of their own learning while they discover knowledge under the guidance of the teacher. During class observation, learners were able to work together and expand each other's knowledge. When learners seemed to understand the concepts without the teacher's intervention, learners affirmed each other by a hand shake as indicated in figure 16 in this chapter above. In sociocultural and constructivist perspective, the most important forms of human cognitive activity develop through social and material interactions (Lantolf, 2000; Lantolf & Poehner, 2008).

From this, it was clear why the introduction of iPad to aid the learning process (mediation) was at the heart of K school as confirmed by the principal in an interview. Relating to mediation, the core value of the sociocultural theory is regulation or self-regulated learning (SRL). Regulation has three main aspects that must underpin the process of learning, namely the Object, Other and the Self (Açısı, 2011; Lantolf & Pavlenko, 1995; Lantolf & Poehner, 2008). The object in this case is the tool (iPad) which the P described as one that appeals to more than one sense. iPads are types of tools that helps to generate regulation because they

use animations and images to help with comprehension of text of different forms (multimodal) (Jewitt, 2012; Jewitt & Kress, 2003) as indicated in the reviewed literature. The other aspect of regulation is the 'other'. As indicated in the picture in figure 15 apart from the teacher who gave feedback to the learners, learner-to- learner interaction mediates literacy learning that eventually lead to self- regulation. Self-regulation will be discussed a bit later.

What the learners were doing during the period of this study was to shape one another's knowledge which they could later use on their own to position themselves in the larger context of the world (identity) also reviewed in the literature (Porter, 2005; Warschauer, 2000). The teacher (T) in his lesson presentations taught the learners about certain grammatical forms such as word division as an "expert other", whereas the learners as indicated in the picture shared knowledge; one acting as an expert. The acts of mediation can be implicit (learners in figure 19) or explicit (Teacher on word division Figure 13 and 14) feedback, the baseline is that in language learning such are features of regulation, leading to self-regulation (Ortega, 2014; Ortega-Llebaria & Colantoni, 2014). In the next paragraph I focus more on individualised learning.

One of the most important aspects of sociocultural and constructivist theories is that an individual emerges from the social interactions with others (Ortega, 2014). Ortega (2014) highlights how the theories such as the one used in this study should be able to explain knowledge and cognition, interlanguage, first language, linguistic environment and instruction (p.246). The sociocultural theory, as stated earlier, for example, claims that language is aided by socially engrained artefacts which could be used in a particular social context and culture which includes schools as institutions (Lantolf & Poehner, 2008). Relating what happened in T's classroom at K school can be seen as a particular context, the school. Most of the lessons observed were purely individualised learning tasks. Individualized learning denotes an approach or method of instruction whereby the content of a particular subject, instructional technology as well as the pace at which learning is taking place, is premised on the capabilities and interests of an individual learner (O'Mahony & Siegel, 2008). In this regard, the individual learner is now striving towards SRL, as earlier mentioned.

The analysed data showed that learners had different learning paces in the class. While this could be understood in the sense that other learners worked at a slow pace, it was also possible that others chose to work alone. The teacher who took the role of facilitator at the

beginning of the lesson left learners working individually on the tasks. It appeared that learners had no choice but to work individually to complete tasks. However, what was interesting was to see learners initiating collaboration to answer questions. As SCT suggests, it may be assumed that learners at this point needed expert opinion from their fellow learners as they engaged with their task on their individual iPads (Lantolf, 2003). The learners in the collaboration who acted as "expert others" supported fellow learners to navigate their way towards SRL (Lantolf & Poehner, 2008; Ortega, 2014).

Taking the historical perspective on how humans develop tools, Vygotsky argued that humans could develop mental ones (artefacts) (Vygotsky, 1978, 1987). With T taking the role of facilitator, he was assisting learners to shape their individualised mental processes in collaboration with others. Other linguistic semiotic resources (individual learner iPad) also mediated the learning process. Through tasks which learners eventually discussed with others and some opted to work alone, learners experienced private language, which in this case, contributed in shaping learners' literacy skills. Language as a cultural artefact which relates to thinking and speaking, has two aspects, namely the inward and the outward aspects (Lantolf, 2003). In the literature review these were referred to as the intra and inter and intra-psychological planes (Lim, 2002b).

In relation to inter-psychological plane, T as a facilitator, helped learners shape their process of internalising the literacy skills through the tasks he gave them (Lantolf, 2003). At an individual level, learners were trying to internalise through private speech. T did this by allowing learners to take the lead in giving solutions to tasks, and sometimes asking them challenging questions in order to challenge their thinking. This is consistent with the sociocultural theory which encourages higher order cognitive development (Lantolf, 2000). For example, learners planned how to present their work on blurbs in front of their classmates. iPads as cultural artefacts appeared to engage learners in the process of internalising linguistic resources towards maintaining SRL (Lantolf, 2003). Consistent with most studies (Clark & Luckin, 2013; Godwin-jones, 2011) e-learning, or learning with technology such as the iPads enables a more personalized learning environment. Self-regulated learning (SRL) can be understood in relation to the Zone of Proximal Development (ZPD) and scaffolding. In the following section, I discuss more on ZPD and scaffolding as how they featured in data analysis of this study.

Many teachers misunderstand the concept of scaffolding. In fact, to some teachers, scaffolding equals ZPD. As one of the recurring themes, scaffolding refers to a deliberate move to assist a learner to accomplish their aim in learning (Chaiklin, 2003; McLeod, 2007; Vygosky, 1978). According to Sawyer (2006), scaffolding denotes the support given to the needs of a student with the intention of helping the student achieve his/her learning goals. On the other hand, ZPD refers to the gap between learner's inability to do a task on their own and what they can do on their own (Lantolf, 2000; Lantolf & Pavlenko, 1995). Interestingly, scaffolding in this instance is quantitative in nature. It deals with the amount of help given to the learner towards their regulation point while ZPD is qualitative in nature because it deals with the quality of assistance given to the learner to have quality SRL (Lantolf & Poehner, 2008). What this implies for literacy development is that help given to the learner should be accompanied by quality language mediation. Therefore, iPads cannot replace the work or duty of the teacher, in this case. Teachers ought to be physically present in order for learners to use language literacy artefacts such as iPads effectively and to provide quality teaching and support the learners need.

T appeared to be aware of scaffolding learning. For example, in the comprehension lesson, learners were shown online where to find the comprehension task and were allowed to answer the questions after they had read the passage. Lantolf (2000) notes that scaffolding is an aspect of teaching which teachers often hang onto, at the expense of quality assistance. He notes that teachers do not distinguish between ZPD and scaffolding; instead teachers give more assistance to learners in the absence of quality mediation. For literacy lessons, T probably needed to focus more on the quality of dialogues he gave learners so that learners, either through self-initiated collaboration, could be engaged in quality and authentic language dialogues to support their language skills.

The role of the "expert other" is crucial for authentic learning and literacy development. It should be a continuous process so that learners could attain SRL and use the skill independently (Lantolf & Poehner, 2008). For example, in the blurbs learners wrote and presented above, figure 11 and 12 one of them did not intrigue the teacher and he was advised to add a few words that could lead to suspense and persuade people to buy their product. The learner did not get it right the very first time; he needed more scaffolding.

As discussed in Chapter two, scaffolding undergoes four stages, setting the scene, modelling, joint construction, and independent construction (Copple & Bredekamp, 2009). In language

and literacy lessons, setting the scene involves explicit explanation about the topic and unpacking of vocabulary. Modelling is about giving learners a model of a written piece of work and its procedures, while joint construction entails writing a similar piece of work together with learners. The final stage involves allowing the learners to write their own piece of work with minimal assistance. Observation data shows that T did not follow all these stages of scaffolding. My summary of the scaffolding process that T appeared to have skipped would be: 'I do, you watch; 'I do, you help'; 'you do, I help'; and 'you do, I watch'. This could have improved the learners' understanding of a blurb. From Lantolf's (2000) perspective on teacher's misconception of the ZPD and scaffolding explained earlier, the implication of T's way of literacy teaching could have been relevant if his learners were home language learners who did not need a great deal of scaffolding and a gradual release of responsibility. But almost all the learners were not home language speakers of English, although they took English as a Home Language. However, these learners had adequate exposure to English in their immediate environments.

Finally, apart from authentic and quality language dialogues, T's learners could be assisted to decode all forms of texts with an emphasis on meaning making through visual texts. T's help appeared to be more on how to use the iPads than for developing learners' language and literacy skills. Apps such as "Explain Everything" could be used to present different forms of texts, visual or otherwise, from which learners could use iPads as mediational tools to engage in meaning making through the process of scaffolding, as explained above. "Explain Everything" is designed specifically to aid lesson presentation in a manner that allows the teacher to record his/her own lesson presentation and upload it on his personal YouTube account for the class. It could be used to prepare for flipped classrooms where learners would be given tasks that they can access while at home, discuss it and then present it in class the following day. The aim is to present learners with many opportunities that could help them decode language codes (Krashen, 1989).

Krashen's input hypothesis (IH) enables teachers to ensure that the first stage of the scaffolding process is thoroughly done, because how learners comprehend language determines their literacy acquisition (Krashen, 1989). Preparing flipped classrooms where learners work at their own pace i.e. visual clips should enable teachers to put in place strategies to develop learner's literacy skills. Thus, "Explain Everything" could be used as a tool to mediate literacy skills at the learners own time through recorded short video clips intended to help or support slow learners who struggle with certain tasks (Sandvik, Smørdal,

& Østerud, 2012; Cviko, McKenney, & Voogt, 2015). The teacher must be in a position to go extra mile for this process. This leads me to discuss more about teacher disposition and experiences.

4.5.1.3 Teacher's Disposition and Experiences in ICT Integration

Teacher disposition is one complex topic that has various definitions and angles from which it can be viewed. For the purpose of this study, the definition of teacher disposition was shaped by Hallam (2009) and Vaughn (2012) who refer to teacher's attitudes, beliefs and temperaments towards life. In other words, teachers' disposition is their mood or general attitude about something. In my study, teacher disposition refers to the teacher's tendency and pedagogical ability to use technology for language teaching and learning. I argue that if the teacher's perceived attitudes are positive, coupled with professional orientation in technology use for language teaching, the teacher is more likely to be effective in his/her teaching. This implies the affective perspective of teaching and learning. This also goes with how a teacher provides quality and meaningful learning experiences that make the learning experiences fun too.

At K school, T appeared to possess these qualities even though he lacked certain experiences in teaching other language aspects through the use of iPad technology. In an interview with him, T referred to topics such as grammar teaching on an iPad that seemed to be a challenge. It was evident that T's positive disposition was geared to move learners to SRL. This positive disposition was influenced by the amount of professional orientations T was given in school regarding the use of iPad technology to his teaching. Therefore, teacher attitudes, beliefs and professional development and support could be regarded as important factors in ICT integration. However, professional development needs to be subject based on subject specific as well (Shallcross & Robinson, 1999). This would be useful for individual teachers such as T who lacked expertise to teach certain topics with an iPad (Rodrigues, Marks & Steel, 2003). In the next few paragraphs, I focus more on teacher attitudes, support and perceptions of ICT in relation to the analysed data of this study. The teachers' attitudes towards technology emerged as one of the key factors throughout this study, especially from the teacher, the head of department and the principal. The teacher as the sole driver of learning must embrace technology in order for it to be integrated successfully (Barbour, 2012). When a teacher is convinced that technology has a lot to offer to their teaching practices, they are likely to develop love for technology. T's use of iPad in class attested his positive disposition

towards ICTs. He was eager to use the iPads every day, although he could not as the iPads were used by all the Intermediate Phase classes. He encouraged his learners in the use of iPads.

At the heart of technology use, teacher support from the custodians of the curriculum in school contributes to teacher disposition in the class (Ertmer, 1999; Ertmer& Ottenbreit-Leftwich, 2010). This of course is an institutional factor where administrators must endeavour to equip teachers with the necessary tools for them to succeed in integrating technology in teaching. In this regard, teachers are regarded as agents of pedagogical mutation who, if they lack exposure to technology, the consequence is on the teacher's efficacy in class (Ertmer, 1999). T at K school appeared to be on top of technology use. He hoped he could do more if certain other skills he lacked such as teaching grammar with iPad were acquired. It appeared that T needed peer support in language teaching e.g. his fellow language teachers. For their busy schedule in school, it appeared that it was not possible for language teachers to make time for such means to offer support to each other. Opening a chat room through the school Edmodo could help them discuss and enhance language literacy practices further as the general teacher development in the school was not subject specific.

Technical support equips teachers with basic skills on how to handle simple trouble shooting cases such as intermittent internet connection. The teacher at K school showed experience and was able to handle simple technical issues with iPads such as rebooting if it froze. While the teacher was equipped with these skills, he was able to use the iPad in class successfully, while learners enjoyed the benefits of an iPad. Teacher support appeared to be paramount in the success of ICT integration in the school. While technology may be viewed as an invader of the traditional comfort zones of teachers, with support and exposure to an expanse of technological domains or apps, teachers can manage technology in the classroom. Once teachers are capable of using technology, they are equipped to facilitate learner-centred lessons at different paces (Blackwell, 2013).

Positive perceptions of the use of ICT can positively enhance learner achievement. The teacher's use of technology is linked to the perceived usefulness and proficiency to bring about desired results (Good & Brophy, 1994; Lai, 2015; Pellerin, 2014). Teachers' positive perceptions of technology use are likely to influence teachers to fully exploit the potential of iPad and other related devices for teaching and learning as observed in T's classroom practices. T appeared confident at iPad use and the interactive whiteboard that he also used to

display illustrations for his lessons. It seemed that teacher disposition, therefore, was directly linked to learners' interest and motivation in learning. The next section describes dynamic assessment.

4.5.1.4 Dynamic Assessment

One of the reasons why learners are given an assessment is to determine if they can demonstrate their understanding in what they have been taught. In order to achieve a more functional assessment, Dynamic Assessment (DA) would be appropriate for both first and second language acquisition (Poehner & Lantolf, 2005). In line with the sociocultural theory applied in this study, DA fits well and has its roots in the work of Levy Vygotsky's work which emphasises the role of social interactions on cognitive development during language acquisition (Lantolf & Poehner, 2011; Poehner & Lantolf, 2005). Like many other academic terms, DA has diverse definitions and several applications within education and other disciplines. It is not the aim of this study to delve into these several definitions of DA. However, for the purposes of this study, DA is used to describe a deliberate infusion of interventions within assessment during the lesson and for monthly or term tests (Lidz, 1991). In other words, mediation is a part of the assessment process.

When assessment is seen as a means to promote learning, it is thus the means to enhance performance (Flórez & Sammons, 2013). It is common practice that technology assessment focuses on word processor skills and how to search the internet. For example, whether or not learners can type on the iPad and use it to search the internet is misunderstood as the only form of assessment when teachers integrate ICTs into their subjects (Goodwin, 2012). DA which could be associated with ICTs in education (i.e. iPads in this study), appears to help the teacher to stimulate learners' responsiveness to the literacy interventions, as opposed to what the learner already knows (Ndlovu & Lawrence, 2012). Ideally, assessment in this regard, should be able to go beyond basic word processing and internet search skills to include learners using technology as more than a tool to respond, create and understand how multimedia texts work in their social environment (Meurant, 2010).

It appears that at K school, progress was made with regard to integrating iPads in teaching and learning across subjects, e.g. iPads were used as content delivery tools (Barbour, 2012). As cultural artefacts for language mediation, T appeared not to have spent time to design lessons that engaged learners to manipulate and reconstruct visual texts into creative piece of writing (Godwin-jones, 2011). I do not suggest that T was not creative, but he probably

needed a variety of lessons, as CAPS prescribes, to modify them and make them tasks for creative writing. CAPS describes writing as a powerful tool because it enables learners to use their thinking and ideas to construct and communicate the ideas logically (Department of Basic Education, 2011). The process of creative writing that is similar to the process of scaffolding is also suggested (p.11).

T's activities mostly focused on using iPads to merely answer questions, and that is equivalent to using iPad for content delivery purposes. As earlier discussed, the sociocultural perspective of language acquisition is about assisting learners with meaningful quality language mediation through other physical cultural artefacts such as iPads to enable learners attain SRL (Lantolf, 2000). In other words, well integrated ICTs equip learners with 21st century skills such as responding to multimedia texts, as well as how these written and visual texts are designed (Godwin-jones, 2011). Learners should be able to use such texts for different purposes and audiences. Thus, being able to understand multimedia texts means understanding how they position the reader, how they assume authority, and what meaning and values such texts convey are crucial.

In all the observed lessons, the teacher gave an assessment which gauged what learners were taught at the end of each lesson. However, apart from the comments on the two learner's written blurbs and the word division exercise in class, no marked feedback was given in class. Learners used their iPads for assessment in class (Meurant, 2010). For example, the online comprehension assessment was done on the iPad and was submitted online for the teacher's feedback, but feedback was not immediate. In addition, an assessment of the online lesson on types of pronouns was given in class but the feedback was not immediate either. According to what learners were able to do on the iPad, it appeared that they had fewer difficulties in using an iPad for learning.

In all interviews with T, H and P, iPads were used to test learners where questions were recorded on the iPad and the learners had the opportunity to listen to, pause and replay them until they got to understand the questions. However, written examinations were not conducted through an iPad, but rather through a normal manual paper. In short, it appeared that T's teaching strategies were affected by the school's lack of ICT policy plan (Gülbahar, 2007; Tondeur, van Keer, van Braak & Valcke, 2008) which supported the use of iPads in formal examinations. In other words, K school lacked ICT-Based assessment especially in Home Language teaching and learning. The use of iPads could be successfully used to

provide quality mediated literacy skills and examination of the learner's action and mental processes (Bannayan, Kalaš, Conery, Laval, Laurillard, Lim, Musgrave, Semenov, & Turcsányi-Szabó, 2012). In assessment learners could use technology to take end of term tests, allowing them to search information for useful resources in order to answer questions (Miller, 2009). This practice could assist K school to determine the impact of iPad technology on learner performance, apart from classroom engagement and participation. Lantolf (2000) argues that assessment is not only about performance but where the performance lies when learners are with the "expert other". Thus, dynamic assessment is crucial as it can show what learners are able to do with levelled mediation.

4.5.1.5 Potential Barriers to ICT Integration

One of the challenges that the teacher expressed in this study was time constraints. A delay occurred when iPads were switched on and this consumed learning time. Distributing the iPad case from another class and trying to distribute the iPads to the learners also wasted time. In addition, the battery lifespan was another challenge. If the iPads where not charged when they were used by another class, that became a challenge, especially if there was load shedding. If there was no electricity, the interactive whiteboard could not be used for lesson displays too.

On the other hand, handling 28 learners was T's concern when he used iPads because he could not manage to give immediate feedback to learners. While this may not be generalised to other contexts, the teacher felt that a sizeable class was ideal in order to teach effectively with iPads. When a class is big, it becomes difficult to attend to learner's individual needs. The internet connection was yet another draw-back which inhibited full exploitation of iPad use in class. Sometimes the internet connectivity was extremely slow, sometimes there was no network at all, and that impacted on the learning time.

Moreover, the lack of school policy plan appeared to be one of the barriers as the school could not explain the impact technology had on teaching and learning. It is important that a school policy is in place as policies serve an important function of sustaining the vision and mission of an organisation. Policies provide the rationale, the goals and vision to guide any programme within the institution (Bakewell, 2008). In the case of an education system, a policy on the introduction and use of ICTs in the school provides guidance on how to measure the extent or impact of ICTs, otherwise it is difficult to explain the impact precisely. K school has not had any measure of the impact of the iPad on teaching and learning since its

introduction in 2013. This explains why it was difficult to tell whether the use of iPads had had any impact on literacy development, especially since the school was a former model C school with adequate resources and facilities. The three teachers I interviewed, (T, H and P) were in agreement that the use of iPads had to be given some time at least four years before its impact on teaching and learning could be determined.

Tondeur et al. (2008) highlight that the school policy plans are necessary for successful ICT integration in class. Lim (2007) recommends that schools could develop their own assessment standards. Similarly, other scholars recommend school-based plans to support teaching and learning (Gülbahar, 2007; Tondeur, van Keer, van Braak, & Valcke, 2008; Vanderlinde, & van Braak, 2011). Thus K school needed to develop a written school ICT policy plan as opposed to the verbal one. The policy could go beyond mere integration of technology or guarding against cyber security but also evaluate ICT integration in relation to teaching practices to enhance performance (Tondeur, et al., 2008).

4.6 Research Findings

The preceding discussion demonstrates that while ICT integration is not a smooth path, especially for the teacher, it is an educational benefit because it enhances teaching and learning. Once teachers realise the potential benefits of ICTs in teaching and learning as, iPads have the potential to unlock new and better ways of teaching and learning than before. This is consistent with Harris's remarks in his research conducted in primary schools regarding the use of ICTs in teaching and learning. According to Harris, if explored, ICTs such as iPads can open many new opportunities for instructional practices (Harris, 2002). They can be used as a tool for quality language mediation. Their potential to present texts in multiple forms was evident in the teacher's practices, although the analysed data shows that the use of iPads was not fully exploited in the Grade 6 English lessons. From the triangulated data presented and analysed above, the following findings emerged:

1. Teacher's Pedagogical Literacy Strategies
2. Few Learners' Writing Opportunities
3. Limited quality language mediated dialogue
4. Limited ICT-Based assessment on literacy
5. Teacher Motivation
6. Insufficient Training for Language Teachers
7. Access to Digital Technology

8. Tension between Curriculum Requirements and Teacher Literacy Practices

4.6.1 Teacher's Pedagogical Literacy Strategies

The study indicates that the teacher (T) used some literacy strategies to enhance literacy development such as vocabulary development, question and answer method and the use of decoding reading strategies. Although the study period was short to ascertain whether the learners' literacy skills were enhanced, the above-mentioned strategies are some of the effective ways to enhance literacy development (McNamara, 2012). Reading and writing are complex and daunting skills that require careful time investment in planning, on the part of the teacher. They involve processing letters, associating sounds, recognising words including abilities to process texts (Au, 1997). Understanding what one reads about also calls for understanding the complex stretches of sentences, and in turn understanding paragraphs of these connected words and sentences. This means that learners who are not exposed to such sophisticated skills during literacy practices are denied the chance to be critical readers. With this in mind, the teacher needs to use a number of reading strategies such as decoding, vocabulary, word knowledge, questioning and many others such as the communicative approach to literacy development mentioned in Chapter one (Au, 1997).

Decoding words is one of the most important and basic foundation for effective reading strategies because learners cannot understand texts if they cannot read the words. Decoding involves translating texts into speech by quickly matching letters to their sounds, including recognising pattern forming syllables and words (Adler, 2004; McNamara, 2012). Other reading strategies build on this foundation because learners who lack decoding skills have flaws in fluency, limited vocabulary as well as reading comprehension skills (Adler, 2004). In every lesson aimed at developing reading skills, it is important that teachers pay attention to explicit instruction on reading strategies to help learners become effective readers, increase their vocabulary and speed of reading with understanding so that learners can use these skills in future (McNamara, 2012).

Vocabulary was one of the literacy strategies T used during one of his lessons I observed. Vocabulary in language learning is important as it helps you understand and make sense of what you are talking or writing (McNamara, 2012). Thus building the vocabulary and word power or knowledge for yourself is especially important because it increases your chances to

enhance understanding as well as to be understood by others (Edge, 1993). As earlier mentioned, decoding a text or texts of new words may need skills of sound association strategies and formation of syllables (Adler, 2004; McNamara, 2012). The vocabulary and work knowledge strategy was evident in T's teaching of word division where learners used his iPad to form words and to break down words into syllables. Although some elements of complete explicit language teaching described earlier were lacking, the use of iPad not only made the lesson interesting but also mediated the mastery of syllables and word division. Explicit language teaching through meaningful tasks (Richards, 2010) is important as suggested in the Sociocultural Theory (SCT) through scaffolding and Zonal Proximal Development (ZPD) (Krashen, 1989; Lantolf & Poehner, 2008).

In T's lessons, it was noted that explicit teaching of reading and writing skills were not fully exploited. During T's comprehension texts, for example, learners were only introduced to the topic and what the story was about. T allowed learners to read and answer questions that followed. Features of the iPad such as recording sounds in T's class could have been used to support learners in reading. In a group interview with learners, learners were not sure if iPads enhanced their reading skills. Learners were right because they were not introduced to features of the iPad technology and how they could enhance reading skills to become sophisticated and effective readers (McNamara, 2012).

Apart from decoding, T used question and answer strategy to enable learners read and understand what he wanted them to know. Asking questions helped learners to understand what they were reading and what questions they could answer. Questioning is one of the teaching techniques that is aimed at giving cues or stimuli that enable learners access the content features to be learned, and instructions on what and how they are to do tasks (Cotton, 2001). T asked learners questions in order for the learners to get thinking about what answers they were going to give, only at the beginning of the lessons. For example, on the types of pronouns lesson, the question and answer technique enabled learners to get engaged in social conversations, thus providing opportunities for literacy mediation (Thompson, 2013). On the other hand, T did not provide questions and answers during the comprehension lesson (Lesson 2).

4.6.2 Few Learners' Literacy Writing Opportunities

Regarding plural literacy opportunities, the study found that there were limited writing

literacy opportunities given to the learners during the course of the study. During T's lesson presentations, the creative literacy writing technique was used. Similarly, T lacked a complete explicit teaching process of scaffolding writing skills in a blurb lesson presentation. According to the CAPS (Department of Basic Education, 2011), through writing and presenting, learners can acquire effective writing skills if the process approach is used. The process approach involves pre-writing or planning, drafting, revision, editing or proofreading and publishing or presenting. T's lesson on blurb writing was a catchy short paragraph aimed at advertising products, and was prepared on Explain Everything. Learners listened to the video and a few reinforced explanations were given before learners were told to write their own creative piece of blurb.

Writing as a complex process involves higher cognitive application (Knapp & Watkins, 2005), therefore, explicit instruction about the process is necessary before learners are asked to produce an independent piece of writing (Chaiklin, 2003). This may take several attempts before learners can produce a well organised piece of writing. The iPads were used as a writing and presentation tool for the few learners that completed their tasks in time. As mediational tools, iPads could have been used to present in the form of graphic or pictorial presentations, or any other visual or textual form such as a mind map of what learners could have written about before writing the actual blurb (Adler, 2004). The products of the learners' writing were submitted online for marking in readiness for feedback. In other words, several opportunities were necessary to engage learners in collaborative talk to discuss how they could make a road map for any piece of writing (Au, 1997; Department of Basic Education, 2011; Knapp & Watkins, 2005).

In line with literature reviewed, acquisition of literacy writing skills too depends on whether learners have comprehended the language input (Krashen, 1989), and the extent of learners' exposure to multiple opportunities of reading and writing (Lantolf, 2000; Goodman, 1996). Learners used the iPad to correct spelling mistakes. T could have exposed learners to online visual texts such as pictures in order to practice producing creative piece of writing by reading the pictures searched online via iPads. These pictures could have encouraged discussions among learners.

4.6.3 Limited Language Mediated Dialogue

Concerning language dialogue as mediation, the study indicates that there were limited creative tasks provided by the teacher to promote collaboration and a platform for language mediation through the iPad technology and social interactions by learners, as well as by the teacher or an expert other. As mentioned earlier, learners initiated collaboration by moving around with iPads to consult with other learners in the classroom. This seemed to suggest that the use of iPads had greater potential to create a collaborative atmosphere. Through the use of iPads, T had an opportunity to prepare task-based instruction around which learners could have been given a chance for communicative language skills (Martine Pellerin, 2014; Rodgers & Richards, 2014). The text-based approach uses texts and explicit explanation to literacy development. The task-based approach, on the other hand, uses tasks to engage learners in collaborative social interactions for literacy development (Rodgers & Richards, 2014). This is consistent with the sociocultural and constructivist theories informing this study which advocate for social interaction for language learning (Lantolf & Poehner, 2008; Lys, 2013; McLeod, 2009; Turuk, 2008).

According to the data presented, T explained that it was very difficult to use iPad creatively because of his heavy workload. Learners initiated collaboration while using iPads on tasks. Creating opportunities for dialogue to mediate literacy skills is one of the ways of classroom management (Oliver & Reschly, 2007) because learners would be engaged in talks with others, while correcting each other. Opportunities for dialogue purposes were not created for the learners which could have provided an opportunity for literacy development and intervention.

4.6.4 Limited ICT-Based assessment on literacy

On assessment, the study found that iPad supported assessment was limited as there were no ICT-Based assessment activities. Learners could have used the iPad as a literacy tool to draw sketches depicting what they would write about if they were guided (Beauchamp & Hillier, 2014).

In an interview with the principal it was explained that though the iPad was not fully used for assessments, it features sound recording, allowed them to record examination questions for assessment of learners who preferred taking examination through listening to recorded

examination questions. In T's classroom, learners submitted their tasks for marking online via Edmodo app but this had little impact on learners' literacy skills development. As a mediational tool, the iPad could have been used to assess learners' understanding of words, spelling, their speed to complete tasks with accurate answers, as well as other literacy related activities (Clarke, Svanaes & Zimmermann, 2013).

4.6.5 Teacher Motivation

From the analysis of data, the study found that teacher motivation was essential and linked to teacher's learner engagement with literacy practices. Motivation can be positive or negative. On the positive side, the teacher enjoyed engaging learners in literacy activities using technology. Timely support was an essential aspect for K primary school to maintain high levels of teacher motivation and interest (Norris, Hossain & Soloway, 2012) in the use of iPad for teaching and learning. In an interview with T, it was indicated that successful technology integration rested on the willingness of the teacher to embrace technology. In other words, technology could be anywhere, but still needed the teacher to use it. Similarly, the HOD had the same view that the success of iPad technology for literacy practices depended on the teacher's willingness, interest and the skill (Beggs, 2000) to use it for the benefit of equipping learners with the 21st century skills, critical skills.

For K primary school, management gave each teacher including T a personal iPad which they carried home in order to allow them prepare lessons from home. Thus teacher motivation was synonymous with assisting the teacher to acquire necessary digital skills that could enable them to deliver lessons confidently and skilfully. To boost teacher motivation, the school had an orientation programme to enable teachers to become more digitally fluent but this was not for subject specific expertise.

On the other hand, lack of motivation was associated with poor performance and lack of self confidence in the eyes of the net generation (Beggs, Director, Shields, Telfer & Bernard, 2012). P and H in separate interviews explained that the school endeavoured to motivate teachers through training because other than that, it was not going to be possible for them to integrate iPad technology in the school. They explained that they worked on boosting teachers confidence that they needed in the 21st century teaching.

4.6.6 Insufficient Teacher Training

While K school endeavoured to boost teacher motivation through training, the study indicates that there was insufficient teacher training in specific subject content such as English Home Language. It was also noted that Language teachers had no time to meet to support each other. Successful integration of technology for teaching and learning is dependent on the skills endowed on the teacher for specific purposes such as language teaching.

According to Hutchison, Beschorner & Schmidt-Crawford, (2012), it is important that teachers are helped to meet particular goals such as engaging learners with literacy activity practices through teacher training. From T's experiences, I noted that not every teacher in resourced schools had the ability to integrate technology in specific subjects, let alone specific topics. A lack of training, particularly in specific content subjects can lead to unclear application of technology for teaching and learning (Hutchison, et al., 2012, p. E16). T expressed such experiences in his English Home Language teaching, especially in certain topics such as grammar. These were evident in the manner that T used his literacy teaching strategies.

4.6.7 Access to Digital Technology

The study shows that owning digital resources and early familiarization to digital technology enabled learners to use iPads for literacy practices with less difficulties, and improved their spelling and vocabulary (Flewitt, Messer & Kucirkova, 2014; Wolf & Flewitt, 2010). This is consistent with the findings of Dr. Taylor Stephen on the impact of SES on learner achievement in school (Taylor, 2012). As the presented data indicates, the learners appeared comfortable using the iPad for literacy learning as they worked on their tasks individually and collaboratively. There was a timetable planned when T's class used iPads for English Home Language.

This is consistent with the literature review which shows that learners should be comfortable so that learning with technology is about learning through and not learning technology (Goodwin, 2012). Furthermore, it was noted that because the teacher and learners had full access to technology for teaching and learning (Gudmundsdottir, 2010, 2011; Hutchison, Beschorner & Schmidt-Crawford, 2012), iPad use for literacy learning was successfully integrated. It appeared that the use of iPad for literacy learning did not only support and

encourage learning but also motivated learner engagement, collaboration and individualised learning styles through its unique affordances such as accessibility and use of multiple fingers at once on the touch screen (Hartson, 2003). This is also consistent with the sociocultural and constructivist theories employed in this study which promote active learner involvement in authentic learning experiences (Lantolf, 2000).

In addition, as there was no use of traditional print textbooks used throughout my study, it was noted that access to the iPad technology gave the teacher a variety of opportunities to provide learners with authentic learning materials in real time and space required for the 21st century literacies (Hutchison, Beschorner & Schmidt-Crawford, 2012, p. 16). From the movements learners made in classroom, it was also found that the iPad supported learning in the classroom and at their homes (Hutchison, et al., 2012, p. 23). It was also noted that iPads did not transform teaching on their own, so their use as literacy development tools depended on how the teacher and the learners used them (Beauchamp & Hillier, 2014). It seemed that the adoption of iPad technology as individualised devices increased learners' access and use of technology to access multiple information online, as it was confirmed when I interviewed T, H and P.

4.6.8 Tension between Curriculum Requirements and Teacher Literacy Practices

The data shows that there was a mismatch between T's actual literacy strategies and the curriculum standards. The guidelines affect the use of technology for literacy development. The data indicates that lack of the guidelines for language teaching, as was the case with K primary school, made the teacher sceptical on how to approach certain topics in CAPS, using the iPad (Flewitt, Messer & Kucirkova, 2014). This was despite T's confidence about the use of iPads.

Lack of guidelines for technology integration could lead to failure in ICT integration. For example, during T's lesson presentations he expressed that there were certain things that could not be done with the iPad. In an interview with T, he particularly mentioned how he had not figured out how to teach grammar lessons on an iPad. To keep curriculum standards, T said that he searched the lessons from the internet with a focus on what he wanted to teach and something that spoke to the CAPS curriculum, although it was not always that he found similar topics for use in class. From the data, curriculum guidelines ought to focus on practical use of technology for literacy development (Holloway, Green & Livingstone, 2013).

Explicit instruction on literacy practices were blurred because T lacked guidelines on the use of technology. For example, online comprehension which is lesson number two, T did not provided explicit teaching procedures as is the case with text-based approach prescribed in CAPS (Department of Basic Education, 2011). As a comprehension reading strategy, CAPS suggests that learners are engaged in pre-readings, reading, and post reading stages (pp.10-11). The strategies enable learners to become effective readers and critical thinkers. Pre-reading basically connects the learners to their Everyday Knowledge (EK) or prior knowledge as described in the literature review and consistent with the sociocultural and constructivist theories employed in this study. According to Rodgers, & Richards (2014), explicit teaching techniques are highly effective for literacy development as a reading strategy for comprehension. According to them, explicit teaching requires plain explanations coupled with the teacher modelling texts, guided practice and the application.

T used part of the procedures above to explain what the story line was about briefly and straight away allowed learners to answer the comprehension questions that followed before submitting answers using learners iPads. T's explanations captured only the first stage, connecting learners to EK. There was little scaffolding through different texts how learners could pay particular attention to particular parts of texts for understanding (Adler, 2004). Consistent with the literature review, reading strategies can assist learners to develop metacognitive skills as they use technology (Hartson, 2003) because this helps learners to think about and be in full control of their reading. This however was not the case with T's comprehension exercise.

T's literacy practices falls below the effective ways of literacy teaching because the acquisition of literacy depends on whether learner's language input (Krashen, 1989) is adequately understood. This lack of explicit teaching to scaffold reading extended to creative writing skills one of the literacy development techniques T employed.

4.7 Conclusion

This study provided a case study presentation of the use of iPads in a primary school setup. From what has been presented and discussed in this chapter, it is apparent that technology in the 21st century classroom is a matter of urgency. In order for learners to compete favourably

with others and function fully in current society, learners must be equipped with 21st century skills by using emerging technologies.

The study has shown that teaching with technology such as the iPad, requires teachers' immense exposure and motivation to use emerging technologies. In addition, iPads provide great opportunities for literacy learning as long as the teacher is well equipped to integrate technology into his or her classroom practices. Furthermore, the participants indicated that teaching and learning with iPad technology was easier because of its features and design that made it a useful device for learning. Because of the size and portability of an iPad and absence of peripheral accessories, it enabled users to carry it around the classroom and in the school, even if in this case the iPad was not used in a mobile teaching and learning fashion. The learners were always enthusiastic to use the iPad for learning and literally hardly waited for instruction except that they were not exposed to numerous opportunities.

Generally, learners adopted the technology so much that learning appeared fun and rewarding through iPads. It is apparent that the device can be used to support learners through collaboration, engagement, in groups or as individuals. This, however, requires that the teacher pay careful attention in order to prevent learners to be distracted when they are working on any task. Good learning environment, facilitation and management make the iPad adoption in the school successful

4.8 Chapter summary

In this chapter, data was presented, analysed and discussed to draw preliminary findings. The findings show that specific subject teacher support, School ICT policy plan are important for successful technology integration in the teaching and learning in general. Furthermore, it was clear that SES was one determinant of the rate at which the learner acquires literacy skills. Pertinent issues such as the need for teachers to draw on the learners' SCT to teach literacy skills with quality mediated language dialogues could not be overemphasised. In addition, the need for teachers to use ZPD and scaffolding in a meaningful ways was stressed because it provided an opportunity for teachers to predict where the learners stood in terms of literacy learning and what could be done to facilitate interventions. ZPD meant that teachers needed to apply explicit teaching strategies in order to expose learners to most features of any form of text in order to enhance their reading and writing skills acquisition. It was stressed that building learners reading and writing strategies through explicit instruction was a foundation for future complex texts. While the teacher made use of ICT to teach English language

aspects, his teaching strategies did not seem to fully challenge learners' higher order thinking skills. The following chapter provides the conclusion and recommendations to the study.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the study I conducted. I include in this summary a brief overview of the purpose of the study, restate the research questions, the methodology used, as well as a summary of the results, conclusions and a brief discussion. Finally, I make recommendations for further potential research.

5.2 Purpose of the Study and Research Method

The main purpose of the study was to investigate the integration of Information and Communication Technologies (ICTs) in Grade six English home language (HL) at a primary school in the Western Cape. The study was guided by five questions whose main question was 'how do teachers use ICTs in English home language lessons in the intermediate phase?'. The research questions were;

1. What strategies do Grade six teachers use to enhance learners literacy skills through the use of ICTs?
2. What are the guidelines of the current language curriculum with regard to ICT integration and literacy development?
3. What support is available to Grade six teachers and learners to utilize ICTs for language and literacy development?
4. What are the teachers' perceptions and experiences of ICTs in English Home Language literacy lessons?
5. What lessons, if any, could be learnt from the use of ICTs for literacy development in well-resourced schools?

The study successfully used the qualitative research methodology (QRM) and case study as a design for data collection. The research was descriptive and interpretive in nature. Classroom observations and interviews were the main instruments used for data collection. The collected data typically represents the perceptions of the participants under the study regarding ICT's integration into English Home Language. Regarding interviews, the respondents, who included a focus group of six selected learners, the teacher, Head of Department and the principal, responded to a set of questions prepared in advance addressing the aim of the study as stated above in 5.1. The non-probability subjective sampling technique used for 'identification and selection of information-rich cases' as Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood (2013, p. 533) postulate, was especially used to choose the research site.

The research site was particularly selected because it was suitable for investigating the use of ICTs as a phenomenon of interest in this study.

5.3 Summary of Findings

The study indicates several results from the research that have successfully answered the research questions of interest in the study. The research shows that, K primary school had successfully integrated the use of ICTs and is in the process of standardising the practice of using iPads. In this regard, teaching strategies play a major role in facilitating literacy skills development, as well as adequate mediated language dialogues which in this case were not fully used.

The results also indicated that iPad technology was a potential tool for assessment. However, the digital gadget was not fully exploited to assess the literacy skills of learners. Insufficient subject specific teacher training affected literacy delivery skills, and so blurred effective literacy instruction in line with CAPS. Finally, the socioeconomic background of learners had a bearing on either access to technology for literacy development or not.

5.4 Discussion of Findings

K school seemed to have successfully integrated the use of technology in teaching and learning, however, the Grade six intermediate teacher needed further subject based training for him to feel comfortable to teach any topic in the syllabus without problems. In the interviews with the Head of Department and the Principal, both indicated that challenges experienced were at an individual level. This is an indication that as a school, they were doing everything possible to ensure that the school fully integrated iPad technology in teaching and learning.

According to the results, the socioeconomic status (SES) of the learners has an influence on learners' literacy skills. Almost all the learners had good access to iPad technology, and that facilitated their learning to use iPads in learning. It appeared that those learners who had access to ICT at home learned faster than those who did not have access to technology at home.

The language teachers needed to create a forum that would enable them to discuss matters relating to language and literacy best practices with iPad technology. Furthermore, K school needed a school policy plan to help them guide the integration of iPads in the school. This

was an institutional barrier to ICT integration. With the teacher, the challenges had to do with the class size, internet speed and lack of certain digital related skills to develop lessons for iPad use and to realise its impact on literacy development.

While there were challenges, it was apparent too that technology integration was close to normalization (Bax, 2003). In other words, teaching in K school is heading towards a situation where teachers will no longer be able to do without technology. In addition, it appeared that the iPad created tangible opportunities for personalised engagement and collaboration.

Personalised engagement was necessary because individual people or learners were unique with differentiated aptitudes. Any teaching and learning, therefore, must acknowledge the differences of learners and assist them to achieve learning goals at their pace. Using the unique iPad technology features such as a portable device, an iPad could be a personal partner in supporting individual learners in learning. This could be helpful when the iPad was populated with relevant literacy apps to support learning differences. T, during his lessons, was able to assist learners with individual tasks from time to time if they needed help.

Each learner had an iPad and so learning was more at an individual level. Mostly learners received instructions on most of the tasks, and then were left to use the iPad to work on the tasks. Higher order thinking skills, in this case, may or may not be fostered, depending on the kind of activities given to the learner. For example, if the task was about comprehension learners would be instructed to go online and search a specific website to find a comprehension task and then follow the comprehension instruction to answer the task.

If used properly, the iPad can be a personalised engagement tool (Burden, Hopkins, Male, Martin & Trala, 2012) which goes beyond merely answering online questions and which can enhance higher order thinking skills. Similarly, Henderson & Yeow (2012), in research done at New Zealand primary schools, report that an iPad provides a smooth environment for learning in any context, either formal or informal.

As the findings further indicate, the seamless environment supported through iPads can only be meaningful and hassle free if the teacher attended specific subject continuous training on the use of technology, which was deemed a crucial aspect for successful integration. I advance that since technology is ever changing and so should the teacher's digital skills be.

As results suggest from K primary school, the iPad will be seen not only as a content delivery tool, but as a tool through which meaningful and critical thinking skills are nurtured.

Furthermore, the results indicate that teachers did not hold meetings with regard to their specific subjects for peer teaching and challenge discussion. As one of the findings, the lack of specific subject training among teachers could have been complemented by peer teacher meetings face to face or virtual. Such platforms, if encouraged and planned for the way co-curricular activities are perfectly planned for in the school, would lead to improved pedagogical practices. Teachers could meet regularly to discuss common notes and how to use technology such as the iPad to deliver lessons. For example, educational apps which the teacher suggested to his class could be used as a platform to foster higher order cognitive development (Goodwin, 2012). Educational apps are especially important for teachers, but technical skills through exposure to modern technology and pedagogy practice are crucial for teachers.

Collaboration, on the other hand, as one of the strategies which could have been used more effectively, is one of the benefits of the iPad apart from engaged personalization. Deeply ingrained in the theories of Vygotsky, collaboration is a learning approach which believes that meaningful learning could be achieved through group based learning (McLeod, 2007). Vygotsky believed that learning, with the support of the expert others in a social natural context (Chaiklin, 2003), closes the knowledge deficit gap. The gap is what learners are not able to do on their own. With the help of others this is also known as the "more knowledgeable other" (MKO). The gap is the Zone of Proximal Development (ZPD). Explicit teaching coupled with other reading and writing strategies such as decoding could have been more useful in T's class had he used their processes.

5.5 Implications for Literacy teaching and learning

From the findings above, iPad technology has several implications for teaching and learning. Based on the findings, the teacher's attitude, motivation, perceived perceptions about the benefits and exposure to digital skills, plays an exceedingly important role to make sure iPad use yields the desired benefits. It is also clear from the study that the teacher's pedagogical approaches implemented in the classroom are critical to the successful use of iPad technology. No matter how useful iPad's affordances are, the teacher's sound instructional practices and strategies are crucial for the iPad's successful use in the classroom.

Regarding peer teaching and common note discussions, teachers, in their specific subject domains, need to create time to share and discuss the best practices in literacy development, using iPad technology in class. These discussions may not only be face-to-face but on platforms such as group social media, chatrooms or any other means that is cost effective, in terms of time or financially.

On the other hand, it is apparent from the findings that iPad technology in itself cannot replace the role of the teacher in class. The potential efficacy of an iPad, therefore, should be rooted in the teacher's ingenious creation of tasks that promote engagement and collaboration while learners make use of the flexible iPad affordances (Hartson, 2003; Klein & Knitzer, 2006). Because of the seemingly heavy workload as indicated by the teacher (T), it appears there is not enough time for the teacher to engage learners with critical skills in ICT led lessons. Teachers ought to expose learners to critical and visual literacy skills through explicit instructional practices because iPads and other related touch screen devices are predominantly saturated with visual images. These skills would enable the learners to learn how to discern any information misrepresentation that may conflict with what they already know, because they need to process graphic information (Prensky, 2001 a) before any print text.

5.6 Concluding Remarks

The study results show that there is a link between the teacher's teaching strategies and learners' literacy abilities. Furthermore, the results show that there exists a link between multiple literacy opportunities and enhanced learner's literacy acquisition. In other words, the more the learners are exposed to literacy writing practices, the more they acquire literacy skills.

In addition, there is a correlation also between exposing learners to quality language mediated dialogues and their quality acquisition of language skills. That is to say, learners who are exposed to quality language dialogues are more likely to enhance their language skills more than learners who are not. ICT-based literacy assessment also indicates a connection for improved literacy development.

From the results, a connection between teacher motivation and improved literacy delivery efficacy was evident (Kyanka-Maggart, 2013). Motivated teachers are more likely to work

harder to prove their worth. This is also true to teacher training. There is a connection between teacher adequate exposure to technology with their ability to effective literacy instruction. In addition, access to technology shows that there is a co-correlation between the learner's socioeconomic status and the learners access to technology (American Psychological Association, 2009; Taylor, 2012).

While the findings of this study cannot be generalized because of its small scale, it can be deduced that ICT use either in well-resourced or in under resourced schools is still a challenge with regard to its use for teaching and learning. The challenge is associated with lack of specific subject teacher training to fully use technology for literacy instruction. The study has shown that school management is concerned with teacher training in the general knowledge of technology. The findings resonate with other research findings that high literacy performance in well- resourced school has a direct link to the learners' SES.

5.8 Recommendations

a) Teacher in-service training or continuous professional development on the use of technology is necessary for effective ICT integration in teaching and learning, especially in individual content subjects. This would reduce the chances of using the iPad as a content delivery tool only.

b) Teachers need specific subject platforms and training where they can share and be oriented with best practices of literacy development with each other. Regular meetings could be a good platform for them to share ideas and improve on how to use iPads for teaching certain language aspects.

c) Clear School policy guideline plan could be developed to help teachers evaluate the integration of technology practices and later improvements.

d) The impact of the iPad literacy development is a long-term achievement over a period of at least four years. There is a need to conduct a longitudinal study to determine the impact of iPad on literacy development in the Intermediate Phase.

References

(ACARA), A. C. A. R. A. (n.d.). The Australian Curriculum. Retrieved May 5, 2015, from www.australiancurriculum.edu.au/English/

Açısı, Ö. Ö. S. B. B. (2011). Self-regulated learning from a sociocultural perspective. *Education*, *36*, 160.

Adams, M. (1993). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Adler, C. R. (2004). Seven strategies to teach students text comprehension. *Reading Rockets*, *3479*, 1–5.

Alexandersson, M. & Linderoth, J. & Lindö, R. (2001). *Bland barn och datorer. Lärandets villkor i mötet med nya medier.* Lund: Studentlitteratur.

Altheide, D. L., & Johnson, J. M. (1994). *Criteria for assessing interpretive validity in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 485-499)*. Thousand Oaks, CA: Sage Publications.

Al-Zaidiyeen, N.J., Mei, L.L., Fook, F. S. (2010). Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. *International Educational Studies*, *3*(2), 211–218.

American Psychological Association. (2009). Education and Socioeconomic Status. *American Psychological Association*. doi:10.4135/9781412971959.n355

Anderson, C. (2010). Presenting and evaluating qualitative research. . *American Journal of Pharmaceutical Education*, *74*(8).

Anderson, J. (2010). *ICT Transforming Education: A Regional Guide*. Bangkok: UNESCO.

Anderson, T. (2004). *Towards a theory of online learning. In Anderson, T. & Elloumni, F. (Eds), Theory and practice of online learning (pp. 33 -60).* Athabasca, AB: Athabasca University Press. Retrieved from Retrieved from http://cde.athabascau.ca/online_book/ch2.html

Angrosino, M. V. & Mays de Pérez, K. A. (2000). Rethinking observation: From method to context. *Handbook of Qualitative Research*, *2*, 673–702.

Anstey, M., & Bull, G. (2010). Helping teachers to explore multimodal texts. *Curriculum & Leadership Journal*, *8*(16).

Appleton, J. V. & Cowley, S. (1997). Analysing clinical practice guidelines. A method of documentary analysis. . *Journal of Advanced Nursing*, *25*(5), 1008–1017.

Atkins, L. & Wallace, S. (2012). *Qualitative Research in Education*. London: Sage Publications.

Atkinson, P. A. & Coffey, A. (2004). *Analysing documentary realities. In D. Silverman Qualitative research: Theory, method and practice* (2nd ed.). London: Sage Publications.

Au, K. (1997). *A sociocultural model of reading instruction: the Kamehameha Elementary Education Program. In S. A. Stahl. & D. A. Hayes (eds.), Instructional models in reading*. Mahwah, New Jersey: Lawrence Erlbaum Associates Inc Publishers.

Aufderheide, P. & Firestone, C. M. (1993). *Media literacy: a report of the national leadership conference on media literacy*. Washington DC: Aspen Institute.

Austin, A., Coates, J., Donnelly, H., Fitzgerald, B., Black, P., Pappalardo, K., … Carroll, E. (2009). *Blog, Podcast, Vodcast and Wiki Copyright Guide for Australia*. Australia: Queensland University of Technology.

B.B.C News. (2014, July 8). South Africa education gets e-learning digital makeover. *B.B.C*. Cape Town. Retrieved from http://www.bbc.com/news/business-28191371

Bailey, K. D. (2008). *Methods of Social Research* (4th ed.). New York: Simon & Schuster Inc. Retrieved from http://books.google.co.za/books?id=NT8eiiYhIpoC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Bakewell, O. (2008). Research beyond the categories: The importance of policy irrelevant research into forced migration. *Journal of Refugee Studies*, *21*(4), 432–453.

Bakhtin, M. M. (1981). *The Dialogic Imagination: Four Essays. Ed. Michael Holquist. Trans. Caryl Emerson and Michael Holquist.* London: University of Texas Press.

Ball, A. F., & Freedman, S. W. (2004). *Bakhtinian Perspectives on Language , Literacy , and Learning Edited by*. UK: Cambridge University Press.

Bannayan, H.E., Kalaš, I., Conery, L., Laval, E., Laurillard, D., Lim, C.P., Musgrave, S., Semenov, A., & Turcsányi-Szabó, M. (2012). ICT in Primary Education. *UNESCO Institute for Information Technologies in Education*, *1*, 1–136. Retrieved from iite.unesco.org/pics/publications/en/files/3214707.pdf?

Barad, K. (2008). "Intra-actions" (Interview of Karen Barad by Adam Kleinmann). *academia.edu*. Retrieved June 30, 2015, from https://www.academia.edu/1857617/_Intra-actions_Interview_of_Karen_Barad_by_Adam_Kleinmann_

Barad, K. (2012). "On Touching – The Inhuman that Therefore I Am." Differences: 206-223. *A Journal of Feminist Cultural Studies*, *23*(3).

Barbour, M. K. (2012). Teachers' Perceptions of iPads in the Classroom.

Barton, D., & Hamilton, M. (2000). *Literacy practices. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), Situated literacies: Reading and writing in context (pp. 7-15).* New York: Routledge.

Bax, S. (2003). CALL – past, present and future. *System*, *31*, 13–28.

Baylor, A. L., & Ritchie, D. (2002). What Factors Facilitate Teacher Skill, Teacher Morale, and perceived Student Learning In Technology-Using Classrooms? *Computers and Education*, *39*(4), 395–414.

Beauchamp, G., & Hillier, E. (2014). An Evaluation of iPad Implementation Across A Network of Primary Schools in Cardiff.

Beggs, T. A. (2000). Influences and Barriers to the Adoption of Instructional Technology. *Beggs*. Retrieved from Retrieved from http://www.mtsu.edu/~itconf/proceed00/beggs/

Beggs, P., Director, P. D. R. D. S., Shields, C., Telfer, S., & Bernard, J. L. (2012). *A shifting landscape: Pedagogy, technology, and the new terrain of innovation in a digital world*. Canada. Retrieved from http://csc.immix.ca/files/251/1349272509/A_Shifting_Landscape_October_2,_2012.pdf

Bell, J. (1999). *Doing your Research Project: A Guide for first time Researchers in education and Social Science* (3rd ed.). Philadephia: Open University Press.

Bell, B., & Cowie, B. (2001). The characteristics of formative assessment in science education. *Science Education*, *85*(5), 536–553.

Benson, P. (2007). Autonomy in language teaching and learning. *Language Teaching: Journals.cambridge.org*, *40*(1), 21–40.

Bezemer, J. & Mavers, D. (2011). "Multimodal transcription as academic practice: a social semiotic perspective",. *International Journal of Social Research Methodology*, *14*(3), 191 — 206.

Bjerede, M., Atkins, K., & Dede, C. (2010). Ubiquitous mobile technologies and the transformation of schooling. . *Educational Technology*, *50*(2), 3–7.

Blackwell, C. (2013). Teacher practices with mobile technology: integrating tablet computers into the early childhood classroom. *Journal of Education Research*, *7*(4), 1–25.

Blackwell, C. (2014). Teacher practices with mobile technology: integrating tablet computers into the early childhood classroom. *Journal of Education Research*, *7*(4), 1–25.

Bock, M. & Pacchler, N. (2013). *Multimodality and Social Semiosis: Communication, Meaning-Making, and Learning in the Work of Gunther Kress*. New York: Routledge.

Boeiji, H. (2010). *Analysis in Qualitative Research.* London: SAGE Publication.

Boroditsky, L. (2011). How language shapes thought. *Scientific American*, *304*(2), 62–65.

Bowen, G. A. (2009). "Document Analysis as a Qualitative Research Method." *Qualitative Research Journal*, *9*(2), 27 – 40.

Bransford, J.D., Brown, A.L., & Cocking, R. R. (2000). *how people learn: Brain, Mind, Experience, and School: Expanded Eddition.* Washington DC: National Academies Press.

Briner, M. (1999). Briner, M 1999. Learning theories - constructivism. Retrieved from http://curriculum.calstatela.edu/faculty/psparks/theorists/501const.htm.

Brink, P. J., & Wood, M. J. (1997). *Advanced design in nursing research.* Sage Publications.

Bruner, J. (1966). *Toward a Theory of Instruction.* Cambridge, MA: Harvard University Press.

Bruner, J. (1986). *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press.

Bruner, J. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.

Brysman, H., & Burgess, R. (1999). *Qualitative research methodology: A review.* London: Routledge.

Bullock, D. (2004). Moving from Theory to Practice: An Examination of the Factors that Preservice Teachers Encounter as They Attempt to Gain Experience Teaching with Technology During Field Placement Experiences. *Journal of Technology and Teacher Education*, *12*, 211–237.

Burden, K., Hopkins, P., Male, T., Martin, S. and Trala, C. (2012). *iPad research in schools*. Hull: University of Hull.

Burns, N & Grove, S. (2001). *The practice of nursing research: conduct, critique and utilization.* (4th ed.). Philadephia: WB Saunders.

Camp, W. G., & Doolittle, P. E. (1999). Constructivism: The career and technical education perspective. *Journal of Vocational and Technical Education*, *16*(1).

Çetin, Y., & Flamand, L. (2013). Posters, self-directed learning, and L2 vocabulary acquisition. *ELT Journal*, *67*(1), 52–61.

Chaiklin, S. (2003). The zone of proximal development in Vygotsky's analysis of learning and instruction. *Vygotsky's Educational Theory in Cultural Context*, *1*, 39–64.

Chen, X.-B. (2013). Tablets for Informal Language Learning: Student Usage and Attitudes. *Language Learning & Technology*, *17*(1), 20–36.

Chiu, M. M., & Chow, B. W. Y. (2015). Classmate characteristics and student achievement in 33 countries: Classmates' past achievement, family socioeconomic status, educational resources, and attitudes toward reading. *Journal of Educational Psychology*, *107*(1), 152.

Cisco Systems Inc. (2008). Multimodal learning through media: What the research says. Retrieved June 18, 2015, from

http://www.cisco.com/web/strategy/docs/education/Multmodal-Learning-through-Media.pdf

Clark, W., & Luckin, R. (2013). iPads in the Classroom. What The Research Says. Retrieved August 17, 2015, from http//www.lkldev.ioe.ac.uk/lklinnovation/wp-content/uploads/2013/01/2013-iPads-in-the-Classroom-v2.pdf

Clarke, B., & Svanaes, S. (2014). An Updated Literature Review on the Use of Tablets in Education, (April).

Clarke, B., Svanaes, S., & Zimmermann, S. (2013). One-to-one tablets in secondary schools: an evaluation study. *Tablets for Schools.*

Clements, D. H. (2002). Computers in early childhood mathematics. *Contemporary Issues in Early Childhood*, *3*(2), 160–180.

Coders, F. (2013). INSIDE ATLAS . ti – The QDA Newsletter. *Read*, 1–9. Retrieved from file:///C:/Users/KELVIN/Documents/Masters Thesis 2015/ATLASti_Newsletter_2013-02.pdf

Cole, M. (1990). *Cognitive development and formal schooling: The evidence from crosscultural research. In Moll, L.C (Ed.), Vygotsky and Education.* Cambridge: Cambridge University Press.

Cole, M. (1995). Culture and cognitive development: From cross-cultural research to creating systems of cultural mediation. *Culture and Psychology*, *1*(1), 25–54.

Cooke, M. & Roberts, C. (2007). *ESOL. Developing adult teaching and learning: practitioner guides.* London.

Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs*. Washington DC: National Association for the Education of Young Children.

Corbin, J. & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Cotton, K. (2001). Classroom questioning. School improvement research series, 3. Retrieved November 24, 2015, from http://www.learner.org/workshops/socialstudies/pdf/session6/6.ClassroomQuestioning.pdf

Coughlan, S. (2014). Tablet computers in "70% of schools." *British Broadcasting Corperation News, Education Correspondence*. Retrieved June 15, 2015, from http://www.bbc.com/news/education-30216408

Couse, L. J., & Chen, D. W. (2010). A tablet computer for young children? Exploring its viability for early childhood education. *Journal of Research on Technology in Education*, *43*(1), 75–96.

Coward, C., Caicedo, S., Rauch, H., & Vega, N. R. (2014). Digital opportunities : Innovative ICT solutions for youth employment. *International Telecommunication Union -Youth Report*.

Cox, M. (1997). *The effects of Information Technology on students' motivation*. Coventry: NCET and Kings College.

Cox, M., Webb, M., Abbott, C., Blakely, B., Beauchamp, T. & Rhodes, V. (2003). *ICT and pedagogy: A review of the research literature*. London New York: DfES and Becta.

Coyne, I. T. (1997). Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries?. *Journal of Advanced Nursing*, *26*(3), 623–630.

Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health, 2094-2103.*

Cutcliffe, J. R. (2000). Methodological issues in grounded theory. *J Adv Nurs*, *31*(6), 1476–1484.

Cviko, A., McKenney, S., & Voogt, J. (2015). *Exploring Teacher Roles and Pupil Outcomes in Technology-Rich Early Literacy Learning. In Educational Media and Technology Yearbook*. Switzerland: Springer International Publishing.

Daley, E. (2003). Expanding the concept of literacy. *EDUCAUSE Review*, *38*(2), 32–40.

Danesi, M. (2004). *Messages, Signs and Meanings: A Basic Textbook in Semiotics and Communication* (3rd ed.). Toronto, Ontario: Canadian Scholars Press.

Dawson, S., Heathcote, L., & Poole, G. (2010). Harnessing ICT potential: The adoption and analysis of ICT systems for enhancing the student learning experience. *International Journal of Educational Management*, *24*(2), 116–128.

Deaney, R., Ruthven, K. & Hennessy, S. (2003). Pupil Perspectives on the Contribution of Information and Communication Technology to Teaching and Learning in the Secondary School. *Research Papers in Education*, *18*(2), 141–165.

Denscombe, M. (2003). *Ground Rules for Good Research: A 10 Point Guide for Social Researchers.* Philadelphia: Open University Press.

Denzin, N.K., & Lincoln, Y. S. (2000). *Introduction: "The discipline and practice of qualitative research" in Denzin, N.K. & Lincoln, Y.S. (ed) Handbook of Qualitative Research, 2nd ed.,*. London: Sage Publications.

Denzin, N.K., & Lincoln, Y. S. (2008). *Strategies of Qualitative Research*. London: Sage Publications.

Department of Basic Education. (2011). *National Curriculum Statement (NCS): Curriculum and Assessment Policy Statement, English Home Language Intermediate Phase Grades 4-6*. Pretoria, South Africa: Department of Basic Education.

Department of Basic Education. (2014). *Report on the Annual National Assessment of 2014 Grades 1 to 6 & 9*. Pretoria: Department of Basic Education.

Department of Education. Government Gazette. (2004). *White Paper on e-Education: Transforming Learning and Teaching Through Information and Communication Technologies (ICTs).* Pretoria.

DiCicco-Bloom, B. & Crabtree, B. F. (2006). "The qualitative research interview." *Medical Education*, *40*, 314–321.

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, *40*(4), 314–321.

Diener, E. & Craendall, R. (1978). *Ethics in social and behavioral research*. Chicago: University of Chicago Press.

Dobler, E. (2012). Using iPads to promote literacy in the primary grades. . *Reading Today*, *29*, 18–19.

Durrheim, K. (2006). *Research in practice: Applied methods for the social sciences*. Cape Town: Juta and Company Ltd.

Dwyer, J. (2007). Computer-based learning in a primary school: Difference between the early and later years of primary schooling. *Asia-Pacific Journal of Teacher Education*, *35*(1), 89–103.

Edge, J. (1993). *Essentials of English Language Teaching*. (N. Grant, Ed.). New York: Longman Press.

Edison, T., & Franklin, B. (2012). Kinesthetic Learning in the Classroom: Great ideas originate in the muscles, 1–9.

Educause. (2011). "7 things you should know about iPad apps for learning." *Learning Initiatives*. Retrieved May 14, 2015, from http://www.southernwv.edu/files/iPad Apps for Learning_0.pdf

Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Toronto, Canada: Collier Macmillan.

eNews Channel Africa. (2013). Tablets to improve education. *eNCA*. Retrieved March 14, 2015, from https://www.enca.com/south-africa/technology-education

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, *47*(4), 47–61.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, *42*(3), 255–284.

ESCAP, E. and S. C. for A. and the P. (2001). "Are ICT Policies Addressing Gender Equality?" Retrieved June 12, 2015, from http://www.unescap.org/wid/04widresources/11widactivities/01ictegm/backgroundpaper.pdf.

Facer, K., Furlong, J., Furlong, R., & Sutherland, R. (2003). *ScreenPlay: Children and Computing in the Home*. London: Routledge Falmer.

Fele, G. (2012). The use of video to document tacit participation in an emergency operations centre. . *Qualitative Research*, *12*(3), 280–303.

Fitzgerald, R. (2005). Understanding informal learning with technology: Insights for ICT integration. Paper presented at the Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2005. Chesapeake, VA.: Green, H & Hannon,.

Flewitt, R., Messer, D., & Kucirkova, N. (2014). New directions for early literacy in a digital age: the iPad. *Journal of Early Childhood Literacy*, *0*(0), 1–22.

Flórez, M. T., & Sammons, P. (2013). *Assessment for Learning: Effects and Impact*. England: . CfBT Education Trust. 60 Queens Road, Reading, RG1 4BS.

Fluck, A. (2001). The rise and rise of computers in education. *Children's Ways of Knowing: Learning Through Experience*, 144–157.

Flynn, P., Mesibov, D., & Vermette, P. (2013). *Applying Standards-Based Constructivism: Elementary.* Routledge.

Francis, B., Robson, J. & Read, B. (2001). An Analysis of Undergraduate Writing Styles in the Context of Gender and Achievement. *Studies in Higher Education*, *26*(3), 313–326.

Freire, P. (1974). *Education for Critical Consciousness*. UK: Bloomsbury Publishing Plc.

Frosh, S. & Emerson, P. D. (2005). "Interpretation and Over-Interpretation: Disputing the Meaning of Texts." *Qualitative Research*, *5*(3), 307–324.

Gaborone, B. (2006). The use of documentary research methods in social research. *African Sociological Review*, *10*(1), 221–230.

Gall, M.D., Gall, P.J. & Borg, W. R. (2007). *Educational research: An introduction.* (8th ed.). White Plains, NY: Pearson.

Garcez, A., Duarte, R. & Eisenberg, Z. (2011). Production and analysis of video recordings in qualitative research. [Online,. *Educ. Pesqui*, *37*(2), 249. Retrieved from http://www.scielo.br/pdf/ep/v37n2/en_v37n2a03.pdf

Garcez, A., Duarte, R., & Eisenberg, Z. (2011). Production and analysis of video recordings in qualitative research. *Educação E Pesquisa*, *37*(2), 249–261.

Gee, J. P. (2004). *Situated language and learning a critique of traditional schooling*. New York: Routledge. doi:10.1111/j.1467-9345.2006.02802_1.x

Gee, J. P. (2010). *New digital media and learning as an emerging area and" worked examples" as one way forward*. Cambridge, MA: MIT Press.

Gee., J. P. (1990). *Social Linguistics and Literacies: Ideology in Discourses.* Bristo, PA: The Falmer. Retrieved from http://www.periodicos.ufsc.br/index.php/desterro/article/download/11567/11194

Geertz, C. (1973). *The interpretation of cultures: Selected essays (Vol. 5019).* Basic books.

Gibbs, R. (1994). *The poetics of mind: Figurative thought, language, and understanding.* New York: Cambridge University Press.

Gilakjani, A. P. (2011). Visual, auditory, kinaesthetic learning styles and their impacts on English language teaching. *Journal of Studies in Education*, *2*(1), 104–113.

Gilakjani, A. P., & Leong, L. M. (2012). EFL Teachers" Attitudes toward Using Computer Technology in English Language Teaching. *Theory and Practice in Language Studies*, *2*(3), 630–636.

Gill, P. Stewart, K., Treasure, E. &, & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, *204*(6), 291–295. doi:10.1038/bdj.2008.192

Gillen, J., & Barton, D. (2010). *Digital Literacies*. London: University of London.

Godwin-jones, R. (2011). Emerging Technologies Mobile Apps for Language Learning. *Language Learning & Technology*, *15*(2), 2–11. doi:ISSN 1094-3501

Goktas, Y., Yildirim, S., & Yildirim, Z. (2009). Main Barriers and Possible Enablers of ICTs Integration into Pre-service Teacher Education Programs. *Educational Technology & Society*, *12*(1), 193–204.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, *8*(4), 597–606.

Goldman, S. & McDermott, R. (2009). *Staying the course with video analysis, in Goldman, R., Pea,R, Barron and Derry Video Research in the learning sciences*. New York: Routledge.

Good, T., & Brophy, J. (1994). *Looking In Classrooms* (6th ed.). New York: HarperCollins.

Goodman, K. S. (1996). *Ken Goodman On Reading*. Michigan, Canada: Pearson Education Canada.

Goodwin, C. (1993). Recording human interaction in natural settings. *Pragmatics*, *3*(2), 181–209.

Goodwin, K. (2012). Use of Tablet Technology in the Classroom. *State of New South Wales, Curriculum and Learning Innovation Centre*, 1–96.

Gordon, M. (2009). Towards a pragmatic discourse of constructivism: reflections on lessons from practice. *Education Studies*, *54*, 39–58.

Gray, L., Thomas, N., & Lewis, L. (2010). *Teachers' Use of Educational Technology in U.S. Public Schools: 2009 (NCES 2010-040). National Center for Education Statistics, Institute of Education Sciences, U.S.* Washington, DC.

Group, N. L. (1996). A Pedagogy of multiliteracies: Designing social futures. *Harvard Educational Reveiw*, *66*, 60–92.

Gudmundsdottir, G. B. (2010). The use of ICT in South African classrooms and the double literacy trap. In Desai, Z., Qorro, M. & Brock-Utne, B. (eds.). *Educational Challenges in Multilingual Socities*, 147 – 172.

Gudmundsdottir, G. B. (2011). *From digital divide to digital opportunities? A critical perspective on the digital divide in South African schools*. *Department of Educational Research, Faculty of Educational Sciences*. OSLO.

Guikema, J. P., Williams, L., Abraham, L. B., Blyth, C. S., Bostelmann, E. D., Gómez, R. L., … Lange, K. (2014). *Digital Literacies in Foreign and Second Language Education Edited by Digital Literacies in Foreign and Second Language Education* (Vol. 12). USA: CALICO Monograph series. Retrieved from https://calico.org/bookfiles/pdfs/DigitalLiteracies.pdf#page=278

Gülbahar, Y. (2007). Technology planning: A roadmap to successful technology integration in schools. *Computers and Education*, *49*(4), 943–956.

Hallam, M. K. (2009). Why teacher dispositions are a crucial aspect of student success. *The Language Educator*. Retrieved November 17, 2015, from http://video.wallace.edu/pd/articles/2013/2013_TLE_Jan09_Article.pdf

Harris, S. (2002). Innovative pedagogical practices using ICT in schools in England. *Journal of Computer Assisted Learning*, *18.*, 449–458.

Hartson, H. R. (2003). Cognitive, physical, sensory, and functional affordances in interaction design. *Behaviour and IT*, *22*, 315–338.

Haugland, S. W. (1992). The effect of computer software on preschool children's developmental gains. *Journal of Computing in Childhood Education*, *31*(1), 15–30.

Haugland, S. W. (1999). What role should technology play in young children's learning? *Young Children*, *54*(9), 26–30.

Haugland, S. W. (2000). Early childhood classrooms in the 21st century: Using computers to maximize learning. *Young Children*, *55*(1), 12–18.

Heath, C., Hindmarsh, J. & Luff, P. (2010). *Video in qualitative research: Analysing social interaction in everyday life.* London: Sage Publications.

Hejian, C. (1997). Paralanguage and utterance meaning. *Journal of Foreign Languages*, *5*.

Henderson, S., & Yeow, J. (2012). iPad in education: A case study of iPad adoption and use in a primary school. *In System Science (HICSS), 2012 45th Hawaii International Conference on*, 78–87.

Henning, E., van Rensburg, W., & Smit, B. (2004). *Finding your way in qualitative research.* (1st ed.). Pretoria: Van Schaick.

Hillman, M. & Marshall, J. (2010). Evaluation of digital media for emergent literacy. *Computers in Schools*, *25*(4), 256–270.

Hismanoglu, M. (2012). THE IMPACT OF A CURRICULAR INNOVATION ON PROSPECTIVE EFL TEACHERS ' ATTITUDES TOWARDS ICT. *International Journal of Instruction*, *5*(1).

Holloway, D., Green, L., & Livingstone, S. (2013). *Zero to eight: Young children and their internet use*. LSE, London: EU Kids Online.

Holloway, T. & Jefferson, W. (2007). *Doing qualitative research differently, free association, narrative and the interview method*. (Eds, Ed.) (1st ed.). London New York.

Huang, W. H. D. (2010). A case study of wikis' effects on online transactional interactions. *Journal of Online Learning and Teaching*, *6*(1), 1–13.

Hughes, J. E., & Narayan, R. (2009). Collaboration and learning with wikis in post-secondary classrooms. *Journal of Interactive Online Learning*, *8*(1), 63–82.

Hultman, K. (2011). *Barn, linjaler och andra aktörer: Posthumanistiska perspektiv på subjektskapande och materialitet i förskola/skola. (Doctoral dissertation)*. Stockholm University.

Huppauf, B. & Wulf, C. (2009). *Dinamic and performativity of imagination: The images between the visible and invisible*. New York: Routledge.

Hutchison, A., Beschorner, B., & Schmidt-Crawford, D. (2012). Exploring the use of the iPAD for literacy learning. *Reading Teacher*, *66*, 15–23. doi:10.1002/TRTR.01090

Hutchison, A. & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the United States. *Reading Research Quarterly*, *46*(4), 312–333.

Hutchison, A., Beschorner, B., & Schmidt-Crawford, D. (2012). Exploring the use of the iPad for literacy learning. *The Reading Teacher*, *66*, 15–23.

IITE Brief, 2012. (2012). ICTs FOR CURRICULUM CHANGE UNESCO Institute for Information Technologies in Education CONTENTS :, (April).

InfoDev. (2010). Information and Communication Technology for Education in India and South Asia Essay II ICT in School Education (Primary and Secondary). *Price Water House Coopers*, 1–24.

Jeon-Ellis, G., Desbski, R., & Wigglesworth, G. (2005). Oral interactions around computers in the project oriented CALL classroom. *Language Learning and Technology*, *9*(3), 121–145. Retrieved from Retrieved from http://llt.msu.edu/vol9num3/jeon/default.html

Jewitt, C. (2012). *An introduction to using video for research* (No. 3). London.

Jewitt, C. & Kress, G. (2003). *Multimodal Literacy*. New York: Peter Lang Publishers Inc.

Jones, C. and Ventola, E. (2008). *From Language to Multimodality: New Developments in the Study of Ideational Meaning.* London: Equinox.

Jones,R., Fox, C., & Levin, D. (2011). *state technology leadership essential for 21st learning*.

Kahn, G. (2012). Open-ended tasks and qualitative investigation of second language classroom discourse. *Journal of Ethnographic and Qualitative Research*, *6*, 90–107.

Karsenti, T., & Fievez, A. (2013). *The iPad in education: uses, benefits, and challenges. A survey of, 6057 students and 302 teachers* (Vol. . A survey). Quebec, Canada: CRIFPE.

Keefe, B. E. & Copeland, S. R. (2011). What Is Literacy ? The Power of a Definition. *TASH*, *36*(3-4), 92–99.

Kennedy, E., Dunphy, E., Dwyer, B., Hayes, G., McPhillips, T., Marsh, J., O'Connor, M., & Shiel, G. (2012). *Literacy in early childhood and primary education (Children aged 3-8 Years)(Commissioned research report, National Council of Curriculum and Assessment (NCCA)).*

Kent, N., & Facerw, K. (2004). Different worlds ? A comparison of young people ' s home and school ICT use. *Journal of Computer Assisted Learning*, *20*(SPECIAL SECTION), 440–455. doi:10.1111/j.1365-2729.2004.00102.x

Kersaint, B., Hornton, H., Stohl., & Garofalo, J. (2003). Technology Beliefs and Practices of Mathematics Education Faculty,. *Journal of Technology and Teacher Education*, *11*(4), 549–577.

Kilburn, D. (2014). *Methods for recording video in the classroom: producing single and multi-camera videos for research into teaching and learning.* (No. 10). England.

Klein, L., & Knitzer, J. (2006). Effective Preschool Curricula and Teaching Strategies. Pathways to Early School Success. *National Center for Children in Poverty*, (2). Retrieved from http://files.eric.ed.gov/fulltext/ED522728.pdf

Knapp, P. & Watkins, M. (2005). *Genre,Text, Grammar: Technologies for Teaching and Assessing Writing*. Australia: University of South Wales Press Ltd.

Kohonen, V., Jaatinen, R., Kaikkonen, P., & Jehtovaara, J. (2001). *Experiential Learning in Foreign Language Education*. New York: Routledge.

Koshy, V. (2010). *Action Research for Improving Educational Practice. A Step-by-step guide* (2nd ed.). London: Sage Publications.

Kozma, R. B. (2003). Technology and classroom practices: An international study. *Journal of Research on Technology in Education*, *36*(1), 1–14.

Krashen, S. (1989). We Acquire Vocabulary and Spelling by Reading: Additional Evidence by the Imput Hypothesis. *The Modern Journal of Language*, *73*(4), 440–464.

Kress, G. (2003). *Literacies: Literacy in the New Media Age*. New York: Routledge.

Kress, G. (2007). *Meaning, Learning And Representation in a Social Semiotic Approach to Multimodal Commuication. In A. McCabe, M. O'Donnell & R.Whittaker (Eds.). Advances in Language and Education*. London: Continuum International Publishing Group.

Kress, G. & Van Leeuwen, T. (2001a). *2001. Multimodal Discourse: The Modes and Media of Contemporary Communication.* Oxford UK: Oxford University Press.

Kress, G. & Van Leeuwen, T. (2001b). *Multimodal Discourse.* New York: Oxford University Press.

Kubey, R. (1997). *Media literacy in the information age: current perspectives*. New Brunswick NJ: Transaction Publishers.

Kukulska-Hulme, A., & & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. doi:10.1017/S0958344008000335

Kvasny, L. (2006). The Role of the Habitus in Shaping Discourses about the Digital Divide. *Journal of Computer Mediated Communication*, *10*(2), 1–23.

Kyanka-Maggart, J. (2013). *iPads, Motivation, Self-Efficacy, Engagement in Upper Elementary School Mathematics*. Baker University.

Labuschagne, A. (2003). Qualitative research: Airy fairy or fundamental? *The Qualitative Report*, *8*(1). Retrieved from http://www.nova.edu/ssss/QR/QR8-

Lai, C. (2015). Modeling teachers' influence on learners' self-directed use of technology for language learning outside the classroom. *Computers & Education*, *82*, 74–83.

Lankshear, C., & Knobel, M. (2008). *Digital literacies : concepts, policies and practices*. *Names*. New York: Peter Lang, International Academic Publishers. Retrieved from http://sites.google.com/site/colinlankshear/DigitalLiteracies.pdf

Lantolf, J. P. (2000). *Introducing Sociocultural Theory. In Lantolf, J.P. and Appel, G. (Eds): Sociocultural Theory and Second Language Learning*. UK: Oxford University Press.

Lantolf, J. P. (2003). *Intrapersonal communication and internalization in the second language classroom. In A. Kozulin, V. S. Ageev, S. Miller and B. Gindis. (Eds.), Vygotsky's Educational Theory in Cultural Context*. Cambridge: Cambridge University Press.

Lantolf, J. P., & Thorne, S. L. (2002). Second Language Learning, 197–221.

Lantolf, J. P., & Pavlenko, A. (1995). Sociocultural theory and second language acquisition. *Annual Review of Applied Linguistics*, *15*, 108–124.

Lantolf, J. P., & Pavlenko, A. (2001). *(S)econd (L)anguage (A)ctivity: Understanding learners as people. In M. Breen.(Ed.), Learner contributions to language learning: New directions in research*. London: Pearson.

Lantolf, J. P., & Poehner, M. E. (2011). Dynamic assessment in the classroom: Vygotskian praxis for second language development. *Language Teaching Research*, *15*(1), 11–33.

Lantolf, J.P. & Poehner, M. E. (2008). *Sociocultural Theory and the Teaching of Second Languages*. London: Equinox Publishing Ltd.

Lefever-Davis, S., & Pearman, C. J. (2015). Reading, Writing and Relevancy: Integrating 3R's into STEM. *Open Communication Journal*, *9*(1), 61–64.

Li, S. C., Pow, J. W. C., Wong, E. M. L., & Fung, A. C. W. (2010). Empowering student learning through Tablet PCs: A case study. *Education and Information Technologies*, *15*(3), 171–180. doi:10.1007/s10639-009-9103-2

Lidz, S. C. (1991). *Practical Guide to Dynamic Assessment*. New York: The Guilford Press.

Lim, C. P. (2002a). A theoretical framework for the study of ICT in schools: A proposal. *British Journal of Educational Technology*, *34*(4), 411–421.

Lim, C. P. (2002b). Theoretical Framework for the study of ICT in schools: A proposal. *British Journal of Education Technology*, *33*(4), 415–426.

Lim, C. P. (2007). Effective integration of ICT in Singapore school: pedagogical and policy implications. *Educational Tech Research Dev*, *55*, 83–116.

Little, D. (1999). Developing learner autonomy in the foreign language classroom: a social-interactive view of learning and three fundamental pedagogical principles. *Revista Canaria de Estudios Ingleses*, *38*, 77–88.

Little, D. (2000a). Learner autonomy and human interdependence: some theoretical and practical consequences of a social-interactive view of cognition, learning and language. In B. Sinclair, I. McGrath and T. Lamb (eds), Learner Autonomy, Teacher Autonomy: Future Directions,. *Harlow: Longman/Pearson Education.* Retrieved June 13, 2015, from https://www.llas.ac.uk/resources/gpg/1409

Little, D. (2000b). Learner autonomy: why foreign languages should occupy a central role in the curriculum. In S. Green (ed.), New Perspectives on Teaching and Learning Modern Languages, 24-45. Clevedon: Multilingual Matters.

Littlejohn, A., Suckling, C., Campbell, L. & McNicol, D. (2002). The amazingly patient tutor: students' interactions with an online carbohydrate chemistry course. *British Journal of Educational Technology*, *33*(3), 313–321.

Loizos, P. (2000). *Video, film and photographs as research documents. In Martin W. Bauer & George Gaskell (Eds.), Qualitative researching with text, image and sound. A practical handbook*. London: Sage Publications.

Long, T., Liang, W., & Yu, S. (2013). A study of the tablet computer ' s application in K-12 schools in China Taotao Long The University of Tennessee Knoxville , USA Wenxin Liang Center for Distance Education , Beijing Institute of Education , China Shengquan Yu College of Educational Technol, *9*(3), 61–70.

Louw, P. (2015, August 29). Times Live. *Report Warns of Looming Teacher Shortage*. Johannesburg.

Lovelyn, A. E. (2004). The importance of language education in national development. *International Journal of Emotional Psychology and Sport Ethics*, *6*, 87–90.

Lundkvist, M. (2005). *Förskolans datorkultur i barn –och vexenperspektiv. (Doctoral dissertation)*. Finland.

Lys, F. (2013). The development of advanced learner oral proficiency using iPads. *Language Learning & Technology*, *17*(3), 94–116. Retrieved from http://www.llt.msu.edu/issues/october2013/v17n3.pdf#page=99

Makin, L. & Diaz, C. J. (2002). *Literacies in Childhood: Changing Views, Challenging Practice*. Sydney, London, Philadelphia: MacLennan Pty Ltd.

Marcelle G. (2000). Gender, Justice and ICTs. Retrieved June 12, 2015, from Http://www.un.org/womenwatch/daw/csw/marcelle.htm.

Marree, K. (2007). *First Steps in research.* Pretoria: Van Schalk Publishing.

Marsh, J. A. (2004). *Popular Culture, Media and Digital Literacies in Early Childhood*. London: Routledge.

Marshal, C. & Rossman, G. B. (2006). *Designing Qualitative Research* (4th ed.). London: Sage Publications.

Marshall, C. & Rossman, G. B. (2011). *Primary Data Collection Methods Designing Qualitative Research*. Los Angeles, CA: Sage Publications.

Mayer, R. E. (2004). Should there be a three-strikes role against pure discovery learning. The case for guided methods of instruction. *American Psychologist*, *59*, 14–19.

McCoy, B. (2013). *Digital Distractions in the Classroom : Student Classroom Use of Digital Devices for Non-Class Related Purposes*. USA.

Mcculloch, G. (2004). *Documentary Research: In Education, History and the Social Sciences*. London New York: Routledge Falmer.

McGhee G, Marland G,R. & Atkinson, A. (2007). Grounded theory research: literature reviewing and reflexivity. *J Adv Nurs*, *60*(3), 334–342.

McLeod, S. (2007). Lev vygotsky. *Simply Psychology*, 1–5. Retrieved from http://s3.amazonaws.com/edcanvas-uploads/123766/local/1384550695/Vygotsky.pdf

McLeod, S. (2009). Developmental Psychology. *Simply Psychology*. Retrieved November 6, 2015, from http://www.simplypsychology.org/piaget.html

McMillan, J. H. & Schumacher, S. (2010). *Research in Education: Evidence-Based Inquiry* (7th ed.). Boston, MA: Pearson.

McNamara, D. S. (2012). *Reading comprehension strategies: Theories, interventions, and technologies*. London New York: Psychology Press.

McNiff, J. and Whitehead, J. (2009). *All You Need to Know About: Action Research.* London: SAGE Publications.

McRae, J. (1991). *Literature with a small "l."* London: Macmillan.

Mehan, H. (1979). *Learning lessons: Social organization in the classroom*. Cambridge, MA: Harvard University Press.

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education: Revised and Expanded from Case Study Research in Education*. San Francisco: Jossey Bass Publishers.

Meurant, R. C. (2010). The iPad and EFL digital literacy. *Communications in Computer and Information Science*, *123 CCIS*, 224–234. doi:10.1007/978-3-642-17641-8_27

Mikre, F. (2011). The Roles of Information Communication Technologies in Education Review Article with Emphasis to the Computer and Internet. *African Journals Online*, *6*(2).

Miller, T. (2009). Formative computer-based assessment in higher education: The effectiveness of feedback in supporting student learning Education. *Assessment and Evaluation in Higher*, *34*(2), 181–192.

Miller, T. Mauthner, M.B. M. & Jessop, J. (2012). *Ethics in Qualitative Research* (2nd ed.). London: Sage Publications. Retrieved from https://www.google.co.za/search?tbo=p&tbm=bks&q=isbn:1446290913&gws_rd=ssl

Modisaotsile, B. M. (2012). The failing standard of basic education in South Africa. *Africa Institute of South Africa*, *72*.

Moody, A. K. (2010). Using Electronic Books in the Classroom to Enhance Emergent Literacy Skills in Young Children. *Journal of Literacy and Technology*, *11*(4), 22–52.

Mumtaz, S. (2000). Factors Affecting Teachers' Use of Information and Communications Technology: A review of the literature. Education,. *Journal of Information Technology for Teacher*, *9*, 319–341.

Mutemeri, J. (2013). School knowledge and everyday knowledge: Why the binary conceptualization. *The Journal of Pan African Studies*, *6*(6), 86–99.

Myers, M. D. (2009). *Qualitative Research in Business and Management*. Los Angels: SAGE Publication.

Nallaya, S. (2010). *The Impact of Multi-modal Texts on the Development of English Language Proficiency. Doctoral thesis,*. The University of Adelaide, Australia.

National College of Ireland. (2009). *Digital Literacy in Primary Schools (DLIPS) Report Digital Literacy : New Approaches to Par ticipation and Inquir y Lear ning to Foster Literacy Skills among*. Ireland.

Ndlovu, N. S., & & Lawrence, D. (2012). The quality of ICT use in South African classrooms. In *Towards Carnegie III* (p. 27). Cape Town: University of Cape Town.

NEEDU. (2012). *National Report 2012 Summary*. Pretoria. Retrieved from http://www.saqa.org.za/docs/papers/2013/needu.pdf

Neuliep, J. W. (2014). *Intercultural communication: A contextual approach* (6th ed.). London New York: Sage Publications.

Norris, C., Hossain, A. & Soloway, E. (2012). "Under what conditions does computer use positively impact student achievement? Supplemental vs. essential use." Vol. 2012. No. 1. 2012. In *Society for Information Technology & Teacher Education. International Conference.* (Vol. 1, pp. 2021–2028). Texas, USA: Association for the Advancement of Computing in Education (AACE).

Nunan, D. (1992). *Research Methods in Language Learning*. UK: Cambridge University Press.

Nunan, D. (1995). Closing the gap between learning and instruction. *TESOL Quarterly*, *29*, 133–157.

O'Leary, Z. (2004). *The essential guide to doing research. Sage.* Sage Publications.

O'Mahony, C., & Siegel, S. (2008). Designing classroom spaces to maximize social studies learning. . *Social Studies and the Young Learner*, *21*(2), 20–24.

O'Neill, G. & Jennings, D. (2012). The use of posters for assessment: A guide for staff. *University College Dublin*, 1–28. Retrieved from http://www.ucd.ie/t4cms/UCDTLA0039.pdf

Oakley, G., Pegrum, M., Faulker, R. & Striepe, M. (2012). *Exploring the pedagogical applications of mobile technologies for teaching literacy*. Perth: University of Western Australia and AISWA.

Oladunjoye, O. K. (2013). iPad and computer devices in preschool : A tool for literacy development among teachers and children in preschool iPad and computer devices in preschool : A tool for literacy development among teachers and children in preschool.

Oliver, R. M., & Reschly, D. J. (2007). *Effective Classroom Management: Teacher Preparation and Professional Development. TQ Connection Issue Paper*. *National Comprehensive Center for Teacher Quality*. Washington DC.

Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. In Forum Qualitative Sozialforschung/Forum. *Qualitative Social Research*, *7*(4).

Ortega, L. (2014). *Understanding second language acquisition*. London New York: Routledge.

Ortega-Llebaria, M., & Colantoni, L. (2014). L2 ENGLISH INTONATION. *Studies in Second Language Acquisition*, *36*(2), 331–353.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2013). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 533–544.

Papert, S. (1999). *What is Logo? And who needs it? Introduction to Logo Philosophy and Implementation.* Highgate Springs, Vermont: Logo Computer System Inc.

Patton, M. Q. (2002). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage Publications.

Pellerin, M. (2012a). Digital documentation: Using digital technologies to promote language assessment for the 21st century. *OLBI Working Papers/Les Cashiers de l'ILOB*, *4*, 19–36.

Pellerin, M. (2012b). Mobile technologies put language learning into young second language learners's hands. In. In *EuroCALL 2012 Proceedings*.

Pellerin, M. (2014). Language Tasks Using Touch Screen and Mobile Technologies: Reconceptualising Task-Based CALL for Young Language Learners. *Canadian Journal of Learning and Technology*, *40*(1), 2–17.

Philip, L. J. (1998). Combining quantitative and qualitative approaches to social research in human geography - an impossible mixture? *Environment and Planning A*, *30*(2), 261–276. Retrieved from http://www.envplan.com/abstract.cgi?id=a300261

Piaget, J. (1972). *The psychology of the child*. New York: Basic books.

Pickett, S. J. (2012). Literacy Instruction Enriched Through Technology Grant Proposal. Stout: Doctoral dissertation, University of Wisconsin.

PISA. (2006). *Assessing scientific, reading and mathematical literacy: A framework for PISA 2006.* Paris: OECD Publications.

Platt, J. (1981). Evidence and proof in documentary research: 1: Some specific problems of documentary research. *The Sociological Review*, *29*(1), 31–52.

Plowman, L. & Stephen, C. (2003). A "benign addition"? Research on ICT and pre-school children. *Journal of Computer Assisted Learning*, *19*, 149–164.

Poehner, M. E., & Lantolf, J. P. (2005). Dynamic assessment in the language classroom. *Language Teaching Research*, *9*(3), 233–265.

Polit, D.F. & Hungler, B. P. (1999). *Nursing research: Principles and methods* (6th ed.). Philadelphia: JB Lippincott.

Polit, DF & Hungler, B. (1991). *Nursing research: principles and methods* (4th ed.). Philadelphia: Lippincott.

Polit, DF, Beck, CT & Hungler, B. (2001). *Essentials of nursing research* (5th ed.). Philadelphia: Lippincott, Williams & Wilkins.

Polkinghorne, D. E. (1988). *Narrative knowing and the human sciences*. Albany: State University of New York Press.

Polkinghorne, D. E. (1991). Narrative and self-concept. *Journal of Narrative and Life History*, *2 & 3*, 135–153.

Porter, T. B. (2005). Identity subtexts in the discursive construction of sustainability. *Electronic Journal of Radical Organisation Theory*, *9*(1), 102.

Pouezevana, S. (2012). Mobiles for teaching and learning: Translating theory into practice. Retrieved June 18, 2015, from https://edutechdebate.org./mobile-teaching/mobiles-for-teaching-and-learning-translating-theory-into-practice/

Prensky, M. (n.d.). *Digital games-based learning*. New York: McGraw-Hill.

Prensky, M. (2010). What I learned recently in NYC classroms. Retrieved May 5, 2015, from http://www.marcprensky.com/writing/Prensky-What_I_Learned_in_NYC_Classrooms-final.pdf

Prinsloo, M., & Bloch, C. (1999). Children's Early Literacy Learning: The Mismatch Between Policy Intention and Teacher Know-How'. *Critical Perspectives in South African Education: Reconstituting the Educational Realm, Cape Town: Maskew Millar,* 15–27.

Purdie, N., Reid, K., & Buckley, S. (2011). Literacy learning: what works for young indigenous students?: Lessons from the longitudinal literacy and numeracy study for indigenous students. *Literacy Learning: The Middle Years*, *19*(3), 51.

Purg, P. (2011). Open versus closed forms of knowledge assessment in a blended learning ecosystem. *Journal of Teacher Education for Sustainability*, *13*(1), 19–28.

Reed, J. (1995). Practitioner knowledge in practitioner research. In *Practitioner Research in Health Care* (pp. 46–61). New York: Springer US.

Richards, J. C. (2010). *English Language Teaching Materials: Theory and Practice*. New York: Cambridge University Press.

Ritchhart, R., Church, M., & Morrison, K. (2011). *Making thinking visible: How to promote engagement, understanding, and independence for all learners.* San Francisco, CA: John Wiley & Sons.

Robert K. Yin. (2014). *Case Study Research Design and Methods* (5th ed.). Thousand Oaks, CA: Sage Publications.

Rodgers, T.S., & Richards, J. C. (2014). *Approaches and Methods in Language Teaching*. (3rd, Ed.). UK: Cambridge University Press.

Rodrigues, S., Marks, A., & Steel, P. (2003). Developing science and ICT pedagogical content knowledge: A model of continuing professional development. *Innovations in Education and Teaching International*, *40*(4), 386 – 394.

Rodriguez F. and Wilson, E. (2000). *"Are Poor Countries Losing the Information Revolution?", infoDev Working Paper,*. Washington DC:

Roller, M.R. & Lavrakas, P. J. (2015). *Applied Qualitative Research Design: A Total Quality Framework Approach*. New York: The Guilford Press.

Roth, W. M. (2009). *Epistemic mediation: Video data as filters for the objectification of teaching by teachers, in Goldman, R., Pea,R, Barron and Derry (2006) Video Research in the learning sciences*. New York: Routledge.

Sandvik, M., Smørdal, O., & Østerud, S. (2012). Exploring iPads in practitioners' repertoires for language learning and literacy practices in kindergarten. *Nordic Journal of Digital Literacy*, *7*(3), 204–221.

Sawyer, R. K. (2006). *The Cambridge Handbook of the Learning Sciences.* New York: Cambridge University Press.

Scott, J. (1990). *A Matter of Record: Documentary Sources in Social Research*. Cambridge, UK: Polity Press.

Sebeok, T. A. (1994). *Signs : An Introduction to Semiotics*. Buffalo, London: University of Toronto Press.

Selber, S. A. (2004). *Multiliteracies for a Digital Age*. USA: Southern Illinois University Press.

Selfe, C. (2007). *Multimodal Compositions: Resource for Teachers*. USA: Hampton Press Inc.

Shallcross, T. & Robinson, J. (1999). A model of participation in continuing professional development and evaluation through action research in educating for sustainability. *Journal of In-Service Education, 25*(3), 403–22.

Shandu, N. (2011). *Digital Literacy: ICT Integration in English Grade 10 First Aditional Language Teaching TAL LIT LISH FI ll thesis s TERAC IRST AD submitted M Unive F D Super Y: ICT I DDITION Nonh d in fulfil MASTER ersity of t Faculty o Decembe rvisor: D INTEGR NAL LA By*. University of the Western Cape.

Sharp, J. G. (2012). *Success with your Education Research Project: Study Skills in Education*. London, New York: Sage Publications.

Sharples, M., Taylor, J., & Vavoula, G. (2005). Towards a Theory of Mobile Learning. *Proceedings of mLearn*, *1*, 1–9. doi:citeulike-article-id:6652555

Shelly, G., Gunter, G., & Gunter, R. (2012). *Teachers Discovering Computers: Integrating Technology in a Connected World* (7th ed.). USA: GEX Publishing Services.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. . *Education for Information*, *22*(2), 63–75.

Shepard, C. L. (2008). Multimodal Approaches to Teaching Reading in Hong Kong Primary Classrooms, 2005–2009.

Shield, G. (2000). A critical appraisal of learning technology using information and communication technologies. *Journal of Technology Studies*, *26*(1), 71–79.

Silverman, D. (2011). *Qualitative Research*. London: Sage Publications.

Smits, J., Huisman, J., & Kruijff, K. (2009). Home language and education in the developing world. *Background Paper for the EFA Global Monitoring Report Overcoming Inequality: Why Governance Matters. UNESCO*, 1–88.

Stake, R. E. (2010). *Qualitative Research: Studying How Things Work*. New York: Guilford Publications.

Stein, P. (2008). *Multimodal pedagogies in diverse classrooms: representation, rights and resources.* New York: Routledge.

Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, *20*, 365–383.

Strause, A. & Corbin, J. (1998). *Basics of Qualitative Research* (3rd ed.). London: Sage Publications.

Street, B. (2003). What's "new" in New Literacy Studies? Critical approaches to literacy in theory and practice, *5*(2), 77–91.

Street, B. V. (2006). Autonomous and ideological models of literacy: Approaches from New Literacy Studies. *Media Anthropology Network*, *17*. Retrieved from http://www.philbu.net/media-anthropology/street_newliteracy.pdf

Sutherland, R., Armstrong, V., Barnes, S., Brawn, R., Breeze, N., Gall, M., ... & John, P. (2004). Transforming teaching and learning: embedding ICT into everyday classroom practices. *Journal of Computer Assisted Learning*, *20*(6), 413–425.

Swarts, L., de la Rey, C., Duncan, N., & Townsend, L. (2008). *Psychology: An Introduction* (2nd ed.). South Africa: Oxford University Press.

Tapscott, D. (2009). *Grown Up Digital. How the Net Generation is Changing Your World.* New York: McGraw Hill.

Tashakkori, A., & Teddlie, C. (2003). *The Past and Future of Mixed Methods Research: From Data Triangulation to Mixed Model Designs. In A. Tashakkori & C. Teddlie (Vol. Ed.). Handbook of Mixed Methods in Social & Behavioral Research (pp. 671- 701)*. Thousand Oaks, CA: Sage Publications.

Tashakkori, A., & Teddlie, C. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. Thousand Oaks, CA: Sage Publications.

Tatet, E. S. (1999). Teaching in under-resourced schools: The teach for America example. *Theory into Practice*, *38*(1), 37–45.

Taylor, S. (2012). How does socio-economic status impact on educational outcomes in South Africa? *Education Matters, UNISA*. Retrieved January 17, 2015, from http://www.unisa.ac.za/cedu/news/index.php/2012/09/how-does-socio-economic-status-impact-on-educational-outcomes-in-south-africa/

Tharp, R. G., and Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context.* Cambridge, England: Cambridge University Press.

The World Bank. (2012). ICT for Greater Development Impact: Information and Communication Technology Sector Strategy. *World Bank Group-Sector Strategy*, 79.

Thomas, G. (2011). *How to do your Case Study: A Guide for Students and Researchers*. Thousand Oaks, CA: Sage Publications.

Thompson, I. (2013). The mediation of learning in the zone of proximal development through a co-constructed writing activity. *Research in the Teaching of English*, *47*(3), 247–276.

Thorne, S. L., Sauro, S., & Smith, B. (2015). Technologies, Identities, and Expressive Activity. *Annual Review of Applied Linguistics*, *35*, 215–233.

Tinio, V. L. (2002). ICT in Education. *United Nations Development Programme*, 34. Retrieved from http://akgul.bilkent.edu.tr/egitim/eprimer-edu.pdf

Tjale, A & De Villiers, L. (2004). *Cultural issues in health and health care.* (1st ed.). Cape Town: Juta.

Tondeur, J., van Keer, H., van Braak, J., & Valcke, M. (2008). ICT integration in the classroom : Challenging the potential of a school policy. *Computers and Education*, *51*, 212–223.

Toomey, R. (2001). Information and communication technology for teaching and learning. Schooling issues digest, 2, 1-6. Canberra, AU: Commonwealth Department of Education, Science and Training.

Turuk, M. C. (2008). The relevance and implications of Vygotsky's sociocultural theory in the second language classroom. *Arecls*, *5*, 244–262.

UNESCO. (2002a). INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION.

UNESCO. (2002b). *Information and communication technology: A curriculum for schools and programme teacher development.* Paris: Division of Higher Education.

UNESCO. (2005). *Integrating ICTs into the curriculum: Analytical Catelogue of key publications*. Bangkok: UNESCO Bangkok.

UNESCO. (2014). *Education Strategy 2014-2021*. Paris, France. Retrieved from http://unesdoc.unesco.org/images/0023/002312/231288e.pdf

UNESCO Institute for Statistics. (2008). *International literacy statistics: A review of concepts, methodology, and current data.* Montreal, Canada:

Unesco, U. N. E. S. and C. O. (2004). *Building Capacity of Teachers/Facilitators in Technology-Pedagogy Integration for Improved Teaching and Learning Building Capacity of Teachers / Facilitators in Technology-Pedagogy Integration for Improved Teaching and Learning Final Report*.

United Nations. (2013). Youth and ICTs. *United Nations Publications*, 1–7. Retrieved from http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-icts.pdf 16/06/2015

United Nations Development Programme. (2015). Post-2015 Development Agenda: Sustainable Development Goals (SDGs). *UNDP*. Retrieved November 5, 2015, from http://www.undp.org/content/undp/en/home/mdgoverview/post-2015-development-agenda.html

United Nations Educational Scientific and Cultural Organization. (2006). *Literacy for Life: Education for All Global Monitoring Report 2006*. *Gender and Education*. Retrieved from http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/efareport/reports/2006-literacy/

Unsworth, L. (2008). *Multimodal Semiotics: Functional Analysis in Contexts of Education.* London: Continuum International Publishing Group.

Urguhart, A. H., & Weir, C. J. (2014). *Reading in a second language: Process, product and practice*. New York: Routledge.

Van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Norwell, MA: Kluwer.

Vanderlinde, R. & van Braak, J. (2011). A new ICT curriculum for primary education in Flanders: Defining and predicting teachers' perceptions of innovation attributes. *Educational Technology and Society*, *14*(2), 124–35.

VanderScoter J, Ellis D, & Railsback, J. . (2001). *Technology in early childhood education: Finding the balance*. Portland, OR: Northwest Regional Educational Laboratory.

Vaughn, K. A. (2012). *Teacher Dispositions and Student Achievement*. THE CLAREMONT GRADUATE UNIVERSITY.

Vierra, A. & Pollock, J. (1998). *Collecting Qualitative Data. In Reading Educational Research.* Gorsuch Scarisbrick: Scottsdale.

Voogt, J. (2012). *Policy Brief: ICTs for Curriculum Change*. Russia: UNESCO, IITE.

Vrasidas, C., & Glass, G. V. (2005). *Preparing teachers to teach with technology.* Greenwich, CT: Information Age Publishing.

Vygosky, L. S. (1978). *Mind and language*. Cambrodge, MA: Harvard University Press.

Vygosky, L. S. (1986). *Thought and Language (A.Kozulin, trans)*. Cambridge, MA: MIT Press.

Vygosky, L. S. (1987). *Culture, Communication and Cognition: Vygoskian Pespectives*. Cambridge: Cambridge University Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wallace, S. (2013). *Doing Research in Further Education and Training*. London: Sage Publications.

Walsh, M. (2005). "Reading visual and multimodal texts: how is 'reading' different?" in Conference Proceedings, Multiliteracies and English Teaching K-12 in the Age of Information and Communications Technology ALEA Conference 2004,. University of New England.: England.

Walsh, M. (2010). Multimodal literacy: What does it mean for classroom practice?. *Australian Journal of Language and Leteracy*, *33*(3), 211–239.

Wang, F., Kinzie, M.B., McGuire, P., & Pan, E. (2009). Applying technology to inquiry-based learning in early childhood education. *Early Childhood Education Journal*, *37*, 381–389. doi:10.1007/s10643-009-0364-6

Warschauer, M. (2000). The changing global economy and the future of English teaching. *Tesol Quarterly*, 511–535.

Watson, D. M. (2001). Pedagogy before Technology: Re-thinking the Relationship between ICT and Teaching. *Education and Information Technologies*, *6*(4), 251–266.

Watson, D. M., Cox, M. & Johnson, D. (1993). *The ImpacT Report*. London: Kings College.

Watts, M. T. (1975). *Reading the landscape of America*. New York, NY: MacMillan Books.

WCED. (2012). Khanya Project. Retrieved May 6, 2015, from http://impumelelo.org.za/media/publications/khanya-project

Wellington, J. (2015). *Educational Research: Contemporary Issues and Practical Approaches* (2nd ed.). London New York: Bloomsbury Publishing Plc.

Wertsch, J. . (1998). *Mind as action*. New York: Oxford University Press.

Wheeler, S. (2001). Information and communication technologies and the changing role of the teacher. *Journal of Educational Media*, *26*(1), 7–17.

Wolf, S & Flewitt, R. (2010). New Technologies, New Multimodal Literacy Practices and Young Children's Metacognitive Development. *Cambridge Journal of Education*, *40*(4), 387–399.

Wong, L. H. (2012). A learner-centric view of mobile seamless learning. *British Journal of Educational Technology*, *43*(1), E19–E23.

Woodward, R. (2004). *Military Geographies*. UK: Blackwell Publishing.

Woodward, R. (2013). Military landscapes Agendas and approaches for future research. . *Progress in Human Geography, 0309132513493219.*

World Youth Report. (2003). Youth and Information and Communication Technologies (ICT). *United Nations Publications*, 310–333.

Yelland, N. J. (2007). *Shift to the future: Rethinking learning with new technologies in education*. New York: Routledge.

Yin, K. (1994). *Case Study Research: Design and Methods*. (2nd ed.). London: Sage Publications.

Yin, K. (2003). *Case Study Research: Design and Methods*. London: Sage Publications.

Yin, R. K. (2014). *Case study research: Design and methods*. London: Sage Publications.

Zhai, S., Milgram, P., and Buxton, W. (1996). The influence of muscle groups on performance of multiple degree of-freedom input (pp. 308–315). CHI: 96 Conference Proceedings.

Zonzi, A., Barkham, M., Hardy, G. E., Llewelyn, S. P., Stiles, W. B., & Leiman, M. (2014). Zone of proximal development (ZPD) as an ability to play in psychotherapy: A theory-building case study of very brief therapy. *Psychology and Psychotherapy: Theory, Research and Practice*, *87*(4), 447–464.

Appendix 1: Research Authorisation from WCED

Western Cape Government
Education

Directorate: Research

Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20150713-1176
ENQUIRIES: Dr A T Wyngaard

Mr Kelvin Chabinga
Hector Petersen Residence UWC
Block F105
Bellville
7535

Dear Mr Kelvin Chabinga

RESEARCH PROPOSAL: INVESTIGATING THE INTEGRATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) IN GRADE 6 ENGLISH HOME LANGUAGE LITERACY: A CASE STUDY OF ONE PRIMARY SCHOOL IN THE WESTERN CAPE

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **20 July 2015 till 30 September 2015**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 14 July 2015

Appendix 2: Information Sheet for the Participants

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

27/07/2015

Background information sheet

Dear Sir/Madam,

My name is **Chabinga Kelvin**, a Masters student in the Language Education Department of the Faculty of Education at the University of the Western Cape. I am conducting research on the integration of the Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy practices. The aim of the study is investigate how teachers make use of ICTs i.e. tablets to enhance Grade 6 learners' literacy skills in English Home Language on the title hereunder.

Research Title: Investigating the Integration of Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy: A Case Study of one Primary School in Western Cape.

Data collection will be in the form of observations, document analysis, and recording the literacy practices in the Grade 6 classroom and interviews.

The research will not interfere in any way with the functioning of the school or with teaching and learning in the classroom. In addition, participation will be voluntary and so participants will be free to withdraw at any time without giving reasons should they feel uncomfortable with the research. Your participation and that of the learners in the study will remain anonymous. Information received as part of the study will be used for research purposes only. It will not be used in any public platform for any purposes other than to understand how the use of tablets enhances literacy development skills in Grade 6 classroom.

Should you wish to find out more about the research, you are welcome to contact my supervisor, Professor Nomlomo, whose contact details are provided below or indeed me.

Yours sincerely

Researcher: Mr. Chabinga Kelvin
Contact number: 071 848 8038
Email: 2353500@myuwc.ac.za

Supervisor: Prof. Vuyokazi Nomlomo
Tel. 021-9592650/2442
Email: vnomlomo@uwc.ac.za

Signature of the researcher: …….. Date:……

Appendix 3: Letter of Permission to the Principal

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

PERMISSION LETTER

THE PRINCIPAL X PRIMARY SCHOOL

27/07/2015

[Address removed for anonymity purposes]

Dear Sir/Madam,

Re: Permission to conduct research in your School

My name is **Chabinga Kelvin** a Masters student in the Language Education Department of the Faculty of Education at the University of the Western Cape. I am conducting research on the integration of the Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy in order to explore how teachers make use of ICTs i.e. tablets to enhance Grade 6 classroom literacy skills in English Home Language. The target group will be Grade 6 English Home Language class teacher/s and learners.

I would like to request your permission to observe Grade 6 teacher and learner's interaction in the English Home Language literacy practices as they use tablets for literacy development. With the help of the Grade 6 HL teacher, I would like to have an interview with selected Grade 6 HL learner at some stage in the study. Furthermore, I request you as the Principal of the school and the Intermediate Phase Head of Department and the Grade 6 HL teacher to participate in the interviews.

Yours sincerely,

Researcher: Mr. Chabinga Kelvin
Contact number: 071 848 8038
Email: 2353500@myuwc.ac.za

Appendix 4: Letter of Permission to the Head of Department intermediate Phase

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

PERMISSION LETTER

THE INTERMEDIATE HEAD OF DEPARTMENT

27/07/2015

[Address removed for anonymity purposes]

Dear Sir/Madam,

Re: Participation in the research interview

My name is **Chabinga Kelvin** a Masters student in the Language Education Department of the Faculty of Education at the University of the Western Cape. I am conducting research on the integration of the Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy in order to explore how teachers make use of ICTs i.e. tablets to enhance Grade 6 classroom literacy skills in English Home Language. The target group will be Grade 6 English Home Language class teacher/s and learners.

I would like to request your participation in the research through an interview as Head of Department of the Intermediate Phase.

I will appreciate any rendered assistance during this study.

Yours sincerely,

Researcher: Mr. Chabinga Kelvin
Contact number: 071 848 8038
Email: 2353500@myuwc.ac.za

Appendix 5: Letter of Permission to the Grade six Intermediate Phase Teacher

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

THE INTERMEDIATE GRADE 6 TEACHER(S)

27/07/2015

[Address removed for anonymity purposes]

Dear Sir/Madam,

Re: Permission to conduct research in your Grade 6 English Home Language classroom

My name is **Chabinga Kelvin** a Masters student in the Language Education Department of the Faculty of Education at the University of the Western Cape. I am conducting research on the integration of the Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy in order to explore how teachers make use of ICTs i.e. tablets to enhance Grade 6 classroom literacy skills in English Home Language. The target group will be Grade 6 English Home Language class teacher/s and learners.

I would like to request your permission to observe you and your learners during the English Home Language literacy lessons in order to understand how you and your learners make use of tablets for literacy development. I also request you to participate in the interview at some stage.

Any assistance during this study will be appreciated.

Yours sincerely,

Researcher: Mr. Chabinga Kelvin
Contact number: 071 848 8038
Email: 2353500@myuwc.ac.za

Appendix 6: Letter to the Parents

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

THE PARENTS

27/07/2015

[Address removed for anonymity purposes]

Dear Sir/Madam,

Re: Permission to seat in your child's classroom activities for a research in the Grade 6 English Home Language classroom

My name is **Chabinga Kelvin** a Masters student in the Language Education Department of the Faculty of Education at the University of the Western Cape. I am conducting research on the integration of the Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy in order to explore how teachers make use of ICTs i.e. tablets to enhance Grade 6 classroom literacy skills in English Home Language. The target group will be Grade 6 English Home Language class teacher/s and learners.

I would like to request your permission to seat, observe through video recording as well as access your child's written materials for the purposes of my research to understand how iPads are used in their learning of English as a home language. Some of the learners will requested to participate in a group interview as well. Their work will be kept confidential and parents on request can access results. Their learning activities will not be disrupted nor will I force them to participate in a group interview.

Any assistance during this study will be appreciated.

Yours sincerely,

Researcher: Mr. Chabinga Kelvin
Contact number: 071 848 8038
Email: 2353500@myuwc.ac.za

Appendix 7: Participants Consent Form

University of the Western Cape

Faculty of Education, Private Bag X17, Bellville, South Africa

Participants' Informed Consent form:

I agree to be part of the study and I am aware that my participation in this study is voluntary. If, for any reason, I wish to stop being part of the study, I may do so without having to give an explanation. I understand the intent and purpose of this study.

I am aware the data will be used for a Master's thesis presentation. I have the right to review, comment on, and/or withdraw information prior to the paper's submission. The data gathered in this study is confidential and anonymous with respect to my personal identity, unless I specify or indicate otherwise. In the case of classroom observations and interviews, I have been assured that my personal identity and that of the school will be protected, and that the researcher will not disrupt my duties.

I have read and understood the above information. I give my consent to participate in the study.

_____	_____	_____
Participant's signature	Designation	Date

_____ _____

Researcher's signature Date

Interview Schedule: Chabinga Kelvin

Study Title: Investigating the integration of Information and Communication Technologies (ICTs) in Grade 6 English Home Language Literacy: A Case Study of one Primary School in the Western Cape.

Appendix 8: Interview with the School Principal

1.1 Personal Profile

1. How many years have you been principal?
2. Briefly tell me about your academic and professional journey?

1.2 Interview Questions

1. What is your understanding of literacy in relation to language teaching?
2. What is your personal experience and belief on the use of Information and Communication Technologies (ICTs) as tools to enhance English Home Language learning?
3. What guidelines are there from WCED regarding ICT integration in language and literacy teaching and learning?
4. In your opinion, does the WCED adhere to the guidelines regarding ICT integration in the intermediate phase?
5. Does the school have ICT policy or regulation?
6. How do you monitor ICT integration in teaching and learning, particularly with regard to literacy development?
7. What measures have you taken to support teachers on the use of digital resources i.e. the tablets?
8. What has the performance been like in terms of language?
9. Would you attribute this performance to the use of tablets and related devices?
10. What specific software does your school use for teaching and learning?
11. If yes, what have you put in place to make it conform to the English Home Language curriculum standards?
12. How do you describe the impact of tablets on literacy development and and results?

Appendix 9: Interview with the Head of Department (English)

2.1 Personal Profile

1. Tell me a bit about your role as head of department intermediate phase.
2. What subjects do you teach and which one is your major?
3. How long have you been head of head of department?
4. Tell me a bit about your academic and professional journey?

1.3 Interview Questions

1. What is your understanding of literacy in terms of language.

2. What is your understanding of ICT integration in education especially in relation to literacy development?

3. Do you think the use of ICTs i.e. tablets enhances literacy development?

4. What sort of help do you give to language teachers in their use of tablets for literacy development?

5. What challenges if any do they bring concerning the use of tablet devices for literacy development?

6. What policy guidelines are there from WCED regarding ICTs integration in language and literacy teaching and learning?

7. How do you monitor ICT integration in teaching and learning, particularly with regard to literacy development?

8. How do you describe the impact of tablets on literacy development and and results?

9. What are your perceptions about ICTs i.e. tablet use in education?

10. Do you think tablet devices enhance reading and writing?

Appendix 10: Interview with the Grade 6 English Home Language Teacher

1.1 Personal Profile

1. How many years have you taught English as a Language
2. What other subjects do you teach apart from English?
3. Up to what level did you do English as a subject?

1.2 Interview Questions

1. What is your understanding of literacy development?

2. How long have you been using tablets as a tool for language and literacy teaching and learning?

3. What is your belief about using tablets language and literacy?

4. How often do you use tablets with learners in teaching English Home Language?

5. What sort of training did you receive or have in the use of ICTs for language teaching and learning?

6. How comfortable are you in using tablets to teach language and literacy with your Grade 6 class?
7. What sort of activities do you engage your learners in to make use of tablets for language and literacy development?
8. In your experience, do you think tablets improves literacy development of the learners?
9. What approaches or methods are you comfortable with when using tablets for literacy development?
10. What does the Curriculum Assessment Policy Statement (CAPS) say about ICTs and Literacy development?
11. What are some of the challenges do you come across while teaching English Home Language literacy?
12. How would you describe the impact of tablets on language and literacy development?

13. What support do you get regarding the use of tablets for language and literacy teaching and learning?

Appendix 11: Interviews with learners (Grade 6)

1. What digital devices do you have at home?
2. Do you have access to tablets at home?
3. What do you use them for?
4. What do you use tablets for in class?
5. How often do you learn English Home language using tablets?
6. Do you think tablets increase your reading and writing skills?
7. What activities or tasks have been used in your class with tablet technology to improve your reading and writing skills?
8. What problems do you experience in using tablets for English Home Language?
9. How do the tablets improve your reading and writing skills?