AN INVESTIGATION INTO THE EFFECT OF MOBILE POETRY-BASED INSTRUCTION ON THE LITERACY LEVELS OF GRADE 8 ENGLISH FIRST ADDITIONAL LANGUAGE LEARNERS WITHIN THE SOUTH AFRICAN RURAL CONTEXT: A CASE STUDY

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work; that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Marianne M. Bezuidenhout

October 2012

It is a mistake for anyone to think he has lived too long in his old, unsatisfactory ways to make a great change. If you switch on the light in a dark room, it makes no difference how long it was dark, because the light will still shine. Be teachable. That is the whole secret.

Vernon Howard

ABSTRACT

This study is an addition to the growing body of research on the relevance of mobile assisted learning (MALL) or m-learning. Grounded in a sound theoretical framework and informed by practice, it identifies the importance of literacy as a liberating skill, as well as the ground-breaking impact and potential of mobile technologies to enhance literacy levels in developing countries. The ubiquity of mobile devices worldwide, and specifically in South Africa, coupled with the educational needs arising from overcrowded classrooms, and a dearth of resources and textbooks in rural South Africa, led to the conception of this study. The objective was to ascertain the viability of incorporating web- and mobile technology based instruction to enhance the English literacy levels of Grade 8 (Senior Phase) students within the South African rural context. The study showed that there was a significant improvement in the participants' reading comprehension, visual comprehension and writing skills. The encouraging results of this study indicate that web-based mobile instruction can indeed improve the literacy levels of learners from remote and disadvantaged communities. The implications of these findings for literacy development and emerging literacy development in rural communities are discussed in the final chapter of this thesis.

OPSOMMING

Hierdie studie lewer 'n bydrae tot die groeiende navorsingsliggaam oor die invloed en moontlikhede van web-en mobiele tegnologiegebaseerde instruksie op die Engelse geletterdheidsvlak van Graad 8 (Seniorfase) leerders in die Suid-Afrikaanse landelike konteks. Die teoretiese basis van die studie word aangevul deur die praktiese toepassing daarvan. Die toenemende beskikbaarheid van mobiele en sellulêre toestelle wêreldwyd en spesifiek in Suid-Afrika, tesame met die opvoedkundige behoeftes wat ontstaan as 'n uitvloeisel van oorvol klaskamers en die gebrek aan opvoedkundige hulpbronne en veral handboeke in landelike Suid-Afrika, het aan hierdie studie gestalte gegee. Die belangrikheid van geletterdheid as 'n bemagtigingsvaardigheid, en die baanbrekersimpak en potensiaal van mobiele tegnologie om die geletterdheidsvlak van mense in Afrika en spesifiek Suid-Afrika te verbeter, word bespreek.

Hierdie studie het bewys dat daar 'n beduidende verbetering in die begriplees-, visuele begriplees- en skryfvaardighede van die deelnemers teweeggebring is. Die inspirerende uitslae van hierdie studie dui aan dat web-gebaseerde, mobiele instruksie en intervensie beslis die geletterdheidsvlak van leerders kan verbeter wat hulle in afgeleë, landelike of benadeelde gemeenskappe of omstandighede bevind. Die omvang en implikasies wat hierdie bevindinge vir geletterdheidsontwikkeling –en verbetering, asook vir ontluikende geletterdheidsonderrig inhou, word in die slothoofstuk van hierdie tesis bespreek.

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- My Maker. Thank you, Lord, for your countless blessings, and for giving me the strength to continue.

Learning is the birthright of all African children, irrespective of their circumstances.

Africa Progress Report (2012:79)

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LIST OF ABBREVIATIONS USED IN THIS STUDY

ANA	Annual National Assessment
CALL	Computer Assisted Language Learning
CAPS	Curriculum Assessment Policy Statement
COL	Commonwealth of Learning
COP	Community of Practice
COPs	Communities of Practice
CSR	Corporate Social Responsibility
DBE	(South African) Department of Basic Education
DLC	Digital Learning Centre
DoE	(South African) Department of Education
EFA	Education for All
EFASA	Education for All South African Country Report
English FAL	English First Additional Language
ESL	English Second Language
FRAME	Framework for the Rational Analysis of Mobile Education
GER	Gross enrolment rate
GeSCI	Global e-Schools and Communities Initiative
GET	General Education and Training
GSMA	Groupe Spéciale Mobile Africa
GWF	The *Good Work Foundation*
ICDL	International Computer Driver's License
ICT /ICTs	Information and Communication Technology / Technologies
ICT4E	Information Communication Technologies for e-learning
IEB	Independent Examination Board
ITU	International Telecommunications Union
ITUD	International Telecommunication Union's ICT Indicators Database
L2	First Additional Language (within the South African Context)
LMS	Learning Management System
LOLT	Language of Learning and Teaching
M4Ed4Dev	Mobile for Education for Development
M4Lit	Maths For Literacy
MALL	Mobile Assisted Language Learning
MI	Multiple Intelligences
m-learning	Mobile Learning

NCS	National Curriculum Statement
NPO	Non-profit Organisation
OBE	Outcomes Based Education
OECD	Organisation for Economic Co-operation
PIRLS	Progress in International Literacy Study
RNCS	Revised National Curriculum Statement
TELL	Technology Enhanced Language Learning
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WBBL	Web-Based Language Learning
WELL	Web Enhanced Language Learning
WISE	World Innovation Summit for Education
ZDP	Zone of Proximal Development (Vygotsky)

CHAPTER 1
INTRODUCTION

Initially mobile operators based their predictions of cellphone use on the typical land-line user, someone with a bank account, a job and a fixed address [but now] mobile operators cannot put up towers fast enough, not just in established markets like South Africa, which is already home to about one in four African mobile subscribers, but also in nations that barely have electricity…"

LaFraniere (2005)

In this chapter the background to the study reported in this thesis **(Section 1.1)** is provided; the rationale and objectives are introduced **(Section 1.2)**; the hypothesis is stated, and related research questions are posed **(Section 1.3).** Thereafter, three realities of the digital age that informed the study are discussed **(Section 1.4)**; the research procedure is introduced **(Section 1.5)**, and finally, the organisation of the remainder of the thesis is set out **(Section 1.6)**.

1.1   Background

The Shuttleworth Foundation's Yoza mobile library site (on the MXit-platform) was a first attempt in South Africa at using a mobile platform to reach a wide audience for educational purposes. In 2011, the researcher had to conduct an investigation task to look into recent theoretical perspectives on the use of mobile technology to improve literacy, and to critically reflect on Yoza's claims of, inter alia, "creating good reading material, getting young people reading and writing [and] aiming to improve literacy levels in Africa" (Yoza Manifesto, 2010) led to the conception of this study.

The Yoza Library was launched on MXit in 2010 as a pilot project to explore whether South African teenagers would read stories on their mobile phones. Steve Vosloo, former Fellow for 21st Century-Learning at the Shuttleworth Foundation, together with the Mobile for Literacy (M4Lit) team, based their ideas on the success of m-novels in Japan. Vosloo (2009b:30) contends that "mobile phones are a viable distribution platform for longer form content and for enabling reader participation." The fact that nearly 28 000 South African teenagers (aged 11-

18) and 27 000 readers between the ages of 19-25 signed up to read the first Yoza library m-novel within the first month, should be proof that teens have certainly taken to reading m-novels, and that m-novels not only have the potential to complement conventional books, but could completely overshadow the print media. Walton (2010:iii) contends that "even successful South African titles sell [only] around 5000 copies". The question that arises is whether this apparent success is enough to attain the ideal of improving the literacy levels of young readers.

Having critically examined the Yoza website with its many commendable features and main aim of availing learners from previously disadvantaged communities with the opportunity of interacting with books in electronic format, the researcher identified two major pedagogical concerns that eventually served as impetus to this study.

These concerns were:

1. Despite the fact that the selection of Shakespearian plays and classic poems, and the wealth of Afrikaans, English and isiXhosa stories on the Yoza site are commendable features, there is no indication of the expected (and age or grade appropriate) target market for the different selections. Vosloo (2009b:82) states that the target group at which Yoza aimed, was the age group between 11 and 18 years (of which there were 28 000 subscribers on MXit), but that there was also an unexpected uptake of 27 000 in the 19 to 24 age group. From an educational point of view, and in terms of social-emotional adolescent development, different maturity and interest levels, different reading levels (not necessarily age-specific), text-readability factors, and with the goal of improving literacy and writing skills in mind, the target market (readers between 11 and 24 years of age) is too broad.

2. The stories available on the Yoza mobile site are not contextualised through discussions or explanations. Opinion polls serve as educational feedback on moral issues arising from different chapters of different stories, which begs the question whether (and how) reading a classic poem or story on a cellular phone would contribute to improving literacy, especially if it is the reader's first encounter with the language used in classic or traditional poetry. Vosloo (2010:84), however, does indicate that "the Foundation would like to see the Yoza site formalised in the education system in South Africa". Although this would be a step in the right direction, the viability of Vosloo's dream is debatable because of the financial, logistic and political constraints faced by the South African Department of Basic Education.

The Yoza manifesto (2010) argues that it is the responsibility of educators and related stakeholders to supply both printed and digital books if, according to them, we want our youth to read. The manifesto (2010) states that "every educator interested in the improvement of literacy levels of both adults and young people in South Africa should agree that much time is wasted as a result of the 'paper versus pixel-debate', and that in a country such as ours with a severe literacy problem, it is necessary to move beyond that and focus on reading and writing, whatever the medium." Vosloo is also cited by Dawes (2012) as saying that "unlike a book, mobile learning has the ability to provide a more interactive user experience, which is shown via the 47 000 comments that have been posted [on the Yoza site]", while Van Hees (2011) refers to the mobile phone as "the e-reader of Africa, a device onto which we can quickly and easily publish content to a wide audience, as well as through which young people are given a voice".

At first glance the above-mentioned statement by Van Hees creates a plethora of possibilities in the reader's mind. Proof for this is found in some Yoza stories that are written in standard English, introduce aspects such as the plot and characters in clear and challenging language, that encourages the target market (of mostly L2 English teenagers) to resort to the use of an online dictionary or thesaurus, and to discuss these stories through comments left on MXit. Such stories have the potential to develop critical reading skills and literacy, and support the statement in the Yoza manifesto (2010) that "… our reading material should play a role in promoting good, healthy, useful values to our youth".

However, upon reflection, and by using the Yoza stories as point of reference, one realises that these worthy aspirations are accompanied by huge responsibility towards young people. Exactly how meaningful and uplifting is this voice young people are given via their mobile phones? The researcher is of the opinion that it is impossible to fathom exactly how a practice that allows the use of non-standard language or texting, the implementation of the non-standard format for writing dialogue, and the use of foul language, can lead to improved literacy levels. Another statement made by the Yoza team in their manifesto (2010) is that good writing has the potential to make a difference to individuals and society as whole. The reality is that bad writing also has the potential and the power to make an unwelcome difference to individuals and society as a whole. The question is whether our young people are sophisticated enough to reflect critically on the prose of writers who are not trained in the art of meaningful written communication.

Rosen, Chang, Erwin, Carrier and Cheever (2009:420), and Lee (2011) warn that the use of technology, and specifically the cellular phone, may have a negative impact on learners' vocabulary and spelling as more and more users resort to text-speak (sms language), which is the use of non-standard language when messages are sent via mobile phones. In contrast with this view, Deumert, Vosloo & Walton (2009:2) argue against claims that have been made (according to them) "that text messaging (SMS or texting) deviates from formal usage to the extent of a supposedly deleterious effect on literacy and language use". They contend that "…mobile phones have entrenched new uses for literacy, notably the reading and writing practices associated with texting in interpersonal genres of interaction, but also the extensive uses of writing in mobile internet applications".

Strong's (2007) contribution to the txt-speak debate provides a humorous, yet very real summary: "The result of texting is an emotionally stunted, encrypted creole that has left language purists reaching for their smelling salts and linguistic adventurers salivating."

Looking at the impact of digital discourse on spoken and written language, Sauro (2010:19) refers to Baron (2008) who argues against "scape-goating text messaging for perceived shifts in writing norms and standards" but attributes these shifts to "an overarching change in attitude towards linguistic consistency, which itself stems from the changing function and presence of the written word, the growth in the literacy rate and the decreasing use of language as a social marker".

More and more students immerse themselves in this electronic language that ignores grammatical and syntactic conventions, and that, according to Vosloo (2009a), is emerging as a language in its own right. Marquez (2009) cites Teschner, professor of linguistics at the University of Texas, who is of the opinion that texting does affect teenagers' linguistic development [as] "there are certainly no benefits to spelling words incorrectly and shortening the language itself ".

This researcher started a conversation on LinkedIn with the World Innovation Summit for Education (WISE) group by asking the following question: If m-reading is an answer to literacy development in the developing world, should language teachers continue to instil sound writing skills - or are we swimming against the texting-tide? The responses that were received generally condemned texting, and pointed toward the creation of a brand new 'digital language divide': that between frustrated educators and parents who foresee the emergence of a new kind of illiteracy, and a generation of text-speak users who communicate freely, effortlessly and

creatively within their peer group – totally indifferent to the big commotion about language structure and correct spelling. Crystal (2008:2) states that "the primary purpose of the abbreviatory characteristics of texting is to save the sender's time and effort, but like any other code, it becomes an empowering badge of identity, distinguishing those in the know from those not (in particular teenagers from their parents and teachers)". McGuigan (2005:55) agrees and postulates that "the abbreviated language of text messaging is a new kind of shorthand which may have an impact on language generally, and it is also a medium of sub-cultural identification".

The response that the researcher received from Sarah Ojuandoe (Communications Coordinator at Aga Khan University, Tanzania Institute of Higher Education, Kenya, 2011) summarises the sentiments of the majority of those who responded. She states that "Texting 'language' has its place in the social media and mobile arena where everything is being shortened or turned into an acronym to avoid writing a full sentence. Unfortunately we see too much of it with children in school (elementary and high school) barely able to string a sentence together without using a txt short form, job applicants barely able to spell correctly, and increasingly graduates churned out of universities who can't tell the difference between the short and long form of a word! Is m-reading really the answer? Seems like a step back not forwards!"

One might argue that the LinkedIn conversation referred to above focused on m-reading and not on m-learning, and could thus be an invalid question with regards to this particular thesis. However, the point is that these very responses inform architects of mobile learning instruction of the pitfalls, challenges and responsibilities when replacing paper with pixel.

In a 2011 Edutech Debate article, entitled *There are no technology shortcuts to good teaching*, Toyama makes a valid point: "Low-cost technologies are not so low-cost when total cost of ownership is taken into account and put in the economic context of low-income schools." Toyama continues by saying that "Technology cannot fix broken educational systems; if teachers are absent or poorly trained, the only proper solution is to invest in better teachers, better training, and better administration… even if it's expensive". The South African educational reality (discussed in section 1.4.1 of this chapter), however, is that the solutions offered by Toyama are not viable, especially not in rural areas, unless approached in a novel way. A solution worth investigating is a structured programme of mobile instruction and teacher training.

This researcher concluded that the design of mobile instruction sessions should lead to educational opportunities that are transformed into goal-orientated and materialised knowledge, skills and values. Reading stories on a mobile phone does not necessarily or magically lead to improved literacy levels. The ability to interpret what one has read or seen, and being able to express one's interpretation articulately and prudently, can be called enhanced literacy and could change the world for the better.

It became clear to the researcher that the need for learner-expert interaction is very real if m-learning were to become a mode of improving the literacy levels of adolescent learners. The number of inappropriate (from an educational and ethical point of view) MXit comments left by teenage readers on the Yoza stories clearly indicated that South African learners need to be trained to manage digital literacy skills in order to make a meaningful difference to the future South African economic and societal landscape.

In this regard, Makoe's (2012:66) refererence to Vygotsky who contends that students' development is determined by social interaction through problem-solving under the guidance of a teacher or in collaboration with capable peers, is relevant. The researcher holds the opinion that the adolescent readers of the Yoza stories lack mediated interaction: the involvement, support and direction of a 'cyber teacher' who could instil values and assist them to make sense of the world, while forming their own schemata of knowledge and understanding. Makoe (2012:63) discusses the challenge of supporting tertiary students who are geographically isolated from their teachers, and cites Thorpe (2001) who argues that "Course materials prepared in advance of study, however learner-centred and interactive they may be, cannot respond to a known learner". If this statement is true for learners at tertiary level, it is even more relevant for secondary school learners who are supplied with reading texts on a platform such as MXit, and then left to their own devices to arrive at meaningful conclusions. Wilkinson and Silliman (2001) draw from Kamil et al. (2000) when they state that "secondary school students' interpretations of books are best enriched when they are supported in discussions including real questions about books (texts) that have been modeled by knowledgeable teachers". This is certainly true for every learner, inside and outside the classroom – regardless of whether the text is supplied in printed or electronic format.

The learner of the 21st century is a child born into the digital age. According to Joss (2012), there are approximately 6 billion cellphone users in the world today, of which 29 million are in South Africa. Furthermore, 2.48 million South Africans access the internet via cell phones alone,

while 6.2 million use computers, laptops or tablets. It would thus be fair to say that thousands of learners will have used computer technology or a mobile device before learning how to write by hand, rendering the transition from paper to pixel literally child's play.

It is therefore not surprising that mobile learning and literacy promotion have been researched through numerous projects during the last ten years, such as the BBC Bitesize Mobile Project where learners are provided with revision questions via mobile; small group learning projects in Chile and Norway where learners were taught via handheld devices; a project in India where learners were exposed to mobile games in informal afternoon sessions to improve numeracy and literacy skills; another Indian project that focused on combating illiteracy amongst young women in India and Afghanistan; the REFLECT project in El Salvador, Uganda and Bangladesh; the context-sensitive museum learning MOBIlearn European Project, and the M4Lit / Yoza project in South Africa (discussed above).

Against this backdrop, the main aim of this study is to investigate the effect of introducing web-based mobile ESL instruction to learners in rural South Africa as a mechanism for enhancing literacy levels.

1.2   Rationale: objectives of the study

This study aims to determine the effect of mobile poetry-based instruction on the literacy levels of Grade 8 ESL learners within the South African rural context, and serves three main objectives:

1.2.1   To utilise a web-based platform on which a multimedia sample could be developed, and accessed by learners via mobile phone in order to illustrate the use and potential of new technologies to improve literacy in a blended learning approach for learners in rural areas.

1.2.2   To determine, through empirical research, whether MALL (Mobile Assisted Language Learning) could be an effective substitute for CALL (Computer Assisted Language Learning) which is hampered by poor resource conditions and untrained teaching staff at rural schools.

1.2.3   To determine whether mobile poetry-based learning within a blended-learning approach could be instrumental in bringing about a (significant) difference in the

literacy levels of learners who are already capable of reading and speaking an additional language such as English.

1.3   Research questions and hypothesis

In the quest for bridging the gap between formal and informal learning, and for providing literacy education to learners from remote and previously disadvantaged communities, the following research questions and hypothesis serve as cornerstone of this study:

- Could mobile learning bridge the gap between formal and informal learning?
- Could mobile learning be instrumental in bringing about a significant difference in the literacy levels of learners that are already capable of reading and speaking an additional language?
- Could mobile intervention prove to be an effective way to foster an interactive learning culture?
- Could mobile learning be an effective substitute for e-learning which is hampered by poor resource conditions at rural schools.
- Would poetry be an effective mode of enhancing literacy levels (evident in the skills of comprehension, visual comprehension and writing) through mobile phone technology?

HYPOTHESIS:

"The mobile phone platform, within a poetry-based blended-learning approach, lends itself to enhancing the literacy levels of learners in rural South Africa".

The study was furthermore informed by three realities that impact on education in South Africa. These realities are discussed in sections 1.4.1 – 1.4.3 below.

1.4   Three realities impacting on South African education

1. The South African Department of Basic Education is a department-in-crisis, struggling to provide in the most basic needs of thousands of learners.
2. Literacy liberates people. It has the potential to liberate illiterate adults in remote areas, as well as inspire and inform young South Africans to become life-long learners and responsible economically productive citizens.
3. Africa has the fastest growing mobile market in the world (discussed in Section 1.4.3 of this chapter), and there is a world-wide availability of mobile networks which opens up educational opportunities for rural South Africa as the ubiquitous nature of the mobile phone enables a wide audience to be reached.

1.4.1   Reality 1: The South African Education System in Crisis

In South Africa the issues of multilingualism and digital literacy have become paramount in the quest to attain transformational goals and quality education for all at all levels, yet the South African Department of Basic Education is a department in crisis that struggles to provide in the most basic needs of thousands of learners.

The Minister of Basic Education, Angie Motshekga, is quoted by John (2011) in *Mail & Guardian Online*, as stating that the 2011 South African Annual National Assessment (ANA), written by six million learners in schools around the country, indicated that the national Grade 3 average performance in languages was at 35%, and declined to 30% in Grade 6. Gernetzky in *Business Day Online* (2012) shares the fact that ANA 2011 "saw 69% of Grade 3 learners not achieve, or only partially achieve, the required level of literacy for that age [and that] South Africa performed at or near the bottom of virtually every global and regional ranking of literacy in which it participated". Stofberg (2011:1) confirms this by stating that the 2006 Progress in International Literacy Study (PIRLS) indicated that the literacy levels of South African Grade 4 learners are the lowest of the 40 countries that participated in the study. In addition, the ANA report (RSA, DBE, 2011:8) states: "It is widely recognised that the country's schooling system performs well below its potential and that improving basic education outcomes is a prerequisite for the country's long-range developmental goals [and that] our children and youth need to be better prepared by their schools to read, write, think critically and solve numerical problems. These skills are the foundations on which further studies, job satisfaction, productivity and meaningful citizenship are based".

Since the inception of the first democratically elected government in South Africa in 1994, the country has embarked on an extensive programme of transformation in government, civil society, the economy and education. A report released by the Ministry of Education following a Ministerial Seminar on Education for Rural People in Africa (RSA, DoE, 2005:2) states that "Mathematics, Science and Technology have been identified as key development drivers for the country", while the White Paper on e-Education (Republic of South Africa, 2004:17) envisages, inter alia, the following e-Educational goal: "Every South African learner in the general and further education and training bands will be ICT capable (that is, 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."

In the Education Sector Study of the e-Transform Africa Executive Report prepared for the African Development Bank, the World Bank and the African Union, collaborators Souter, Adam, Butcher, Sibthorpe & Tusubira (2012:17) identify five thematic areas that form the core focus of a programme that recognises that the future development of Africa will be heavily influenced by how Africa manages to deliver quality education to its citizens. From the report it is clear that Africa is in need of affordable technologies, as well as appropriate technology models tailor-made for the African context. Although the report by Souter et.al. (2012:17) paints a positive picture of progress made in South Africa with regards to telecommunication infrastructure and connectivity, and by stating that "South Africa provides an example of a country which is at a comparatively advanced stage of implementing ICT in Education", Adam (2011:118) indicates the following South African reality: by 2009 only 23% of all public schools (5714 of 24 460) had a computer centre, and of these only 2449 (10%) had computer centres that were adequately equipped, i.e. "with an adequate number of computers and other technologies for classroom teaching and learning".

The Khanya Project attempted to empower educators in all Western Cape schools to use technology as a vehicle to deliver the curriculum to all learners, and has had moderate success, yet the rural areas of most of the other provinces in the country remain far off the technology targets envisaged in the White Paper on e-Education (Republic of South Africa, 2004:10) of "leapfrogging into the future [and having] the capacity to handle future developments". In fact, Conradie and Roodt (2011:1) contend that although the education authorities aim to have a PC in every school by 2013, in 2011 only 39,2% of the schools and 15,9% of the country's population over 16 years of age had access to a PC.

These reports on the dearth of resources experienced by South African schools are reiterated by *Equal Education*, a non-government organisation, in an online video entitled *Give us classrooms so we can learn* (2012): "More than 3 600 of South Africa's 25 000 schools do not have electricity supply; 11 450 still use pit latrine toilets; 2 400 lack water supply; more than 22 000 schools do not have adequate computer facilities; an even greater number (23 552) lack stocked science laboratories, and more than 90% do not have functional libraries."

These realities, aggravated by the failure to deliver textbooks for Grades 1-3 and Grade 10 learners at more than 5000 schools mainly in Limpopo Province, but also countrywide, (Nicholson, 2012) culminated in June 2012 in an epic public and political debacle, an *annus horribilis* for the South African Department of Basic Education. Nicholson (2012) states that "[i]t

is undisputed that more than 70 000 textbooks remain undelivered in Limpopo [and that] the Rights Group, Section 27 argues that the Department [of Basic Education] is in breach of two previous court orders stipulating conditions for a catch-up plan for affected students". It is evident that the ICT goals envisaged in the White Paper on e-Education (Republic of South Africa, 2004:10), and referred to above, will remain mere goals for the foreseeable future.

Brown (2008:17) cites Gottfredson who postulates that "There are five moments of learning needs in life: when learning for the first time, when wanting to learn more, when trying to remember, when things change, and when something goes wrong". Certainly the rapid changes that technology is bringing about today would qualify as "a moment of learning needs", while the needs arising from the text book debacle referred to above, can undoubtedly be classified as " a need arising from something that went wrong".

The essential question to be addressed now, in 2012, in a very practical sense, is: to what extent have the goals set out in the White Paper on e-Education come to fruition since 2004? It is time to revisit the White Paper on e-Education with its vision that "ICT, when successfully integrated into teaching and learning, can ensure the meaningful interaction of learners with information" (Republic of South Africa, 2004:15).

The Assessment Education and Training Resource Book of the Independent Examination Board (IEB) (2006:117) states: "South Africa has a particular interest in life-long learning because many people were in some way disadvantaged, notably through the apartheid years." Within the South African context where many teachers are still not adequately trained due to the effects of apartheid, combined with the current lack of educational resources and governmental corruption; and where thousands of learners grow up in townships or rural areas, facing adversity such as extreme poverty, HIV/Aids, malnourishment and lack of stimulation, it will become increasingly taxing to meet the level of proficiency required to study at tertiary / higher education level. The Education for All South African Country Report (RSA, 2010:12) provides alarming information as to the current state of educational affairs when it states that "[a]lthough the investment in education resulted in greatly improved access to education in South Africa over the past 15 years, it has not as yet delivered an improvement in outcomes [in fact...] the outcomes leave much to be desired". The following extract from the same document (2010:74) highlights the crisis, "Quality education remains elusive. The schools are deprived of resources, facilities and qualified teachers. It is extremely unimaginable to have efficiency, effectiveness and quality in education under these circumstances" (RSA, 2010:12).

Against this backdrop one has to examine the profile of the second language learner in the 21st century classroom. The EFASA Report (RSA, DBE, 2010:74) concludes that "this is the technologically advanced generation; learners interact via cell phones on a daily basis, even in rural areas; it is their primary source of communication, and cheaper and more widely available than computers and more available than books".

1.4.2   Reality 2: Literacy and new technologies liberate people

Literacy as a skill liberates people, and new technologies, such as the mobile phone, have the potential to liberate illiterate adults in remote areas, as well as inspire young South Africans to become life-long learners and responsible citizens. The 2011 EFA Global Monitoring Report (2011:4) summarises these possibilities by stating that literacy opens doors to better livelihoods, improved health and expanded opportunity, and that it empowers people to take an active role in their communities and to build more secure futures for their families.

World Bank Statistics (2007) revealed that South Africa had 4.7 million illiterate adults in 2007, and that there were 735 096 South African primary school learners out of school in 2009. Vosloo (2012) quotes figures supplied by the 2011 EFA Global Monitoring Report and states that in Sub-Saharan Africa, 10 million children drop out of school every year. It is clear that there is both a niche and a need for the development of contextually appropriate mobile educational content to reach more than one generation of illiterate learners.

The application of m-learning in South Africa as a developing country has become a necessity, a solution (and not a luxury) for a generation of learners whose parents survived apartheid and who all deserve the best educational opportunities the country has to offer.

In studies on new literacies conducted by Deumert, Vosloo and Walton (2009:3) on behalf of the Shuttleworth Foundation, the fact is stressed that there is worldwide consensus that those without computers and the Internet are stranded without a universally desirable technology, left behind on the other side of the [so called] "digital divide". The fact that thousands of learners in South Africa find themselves on the wrong side of this "digital divide", and that the situation could be addressed by focusing on m-learning, is highlighted by Vosloo (2009a) in his contention that the African and South African reality cannot be compared to that of North America or Europe where resources are freely available [as] "…research has shown that only 6%

of South African households own 40 books or more, let alone computers, while 90% of urban youth own cell phones".

The Brazilian educator Paulo Freire (1985) is cited by Archer and Cottingham (1996:15) as having said that "[l]earners need to gain a distance from their everyday lives so that they could see their situation in a new way". Mobile reading and learning in South Africa has the potential of bringing about exactly such social change through enhanced literacy levels; and of ridding the country of the social inequities of the past, provided that the material is selected wisely and focuses on varied target groups, and provided that students' rights, but also their responsibilities towards their personal upliftment and that of the communities in which they function, are stressed.

1.4.3   Reality 3: The need to shift the focus of educational energy to digital or ICT infrastructure and devices

Brown (2005:314) states that "m-learning has brought e-learning to rural communities in Africa - to learners that we never imagined as e-learning learners just a few years ago, [and continues that] Africa is actually leapfrogging from an unwired, non-existent e-learning infrastructure to a wireless e-learning infrastructure".

The Groupe Spéciale Mobile Africa (GSMA) unites approximately 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem. According to the GSMA Africa Mobile Observatory Report (2011), Africa is the world's second largest mobile market by connections, and the fastest growing mobile market in the world, with South Africa leading the way with a 6% broadband penetration.

An IBM Report (2012) cites the Africa Mobile Voice and Data Communications Statistics Report for 2011 which indicates that a new middle class is emerging in Africa, signalling new growth opportunities for several key industries, and that 90% of all phones in Africa are mobile phones. The IBM report (2012) also states that Bharti Airtel is working with IBM to deliver next-generation mobile phone services across 16 African countries, while Shapshak (2012) adds that "[i]n Africa, hundreds of millions of people will experience the internet for the first time - on a 2-inch cellphone screen".

The world-wide availability of mobile networks opens up m-learning opportunities for rural South Africa. The ubiquitous nature and affordability of the cellular phone enable a wide audience to be reached - especially learners who find themselves out of school for various

reasons, or who are subjected to a system of overcrowded classrooms, ill-equipped or unskilled teachers, and /or regular teacher absenteeism. Makoe (2012:64), draws from Rao's (2011) Mobile Africa Report and states that "over the last ten years, cell phone users in Africa have increased at an annual rate of 65% - twice the global average [and that] [i]n South Africa alone, the cell phone penetration is estimated at 98 percent".

These facts supply a clear picture of the necessity of moving the focus of educational energy to digital devices. The next era in education will inevitably take place in this landscape. Dawes (2012) cites Vosloo (2012) who states that "[w]ith the current education system under stress and under-resourced, the proliferation and affordability of mobile technology is providing anytime, anywhere opportunity to provide learning to a continent where there are now 620 million mobile subscriptions." The following key statistical highlights, released by the International Telecommunication Union's ICT Indicators Database (ITUD, 2011) underline the fact that m-learning in Africa, and especially rural South Africa, is a viable option:

- Cellular networks reach ninety percent of the world's population, and the number of mobile-cellular subscribers almost reached the 6 billion mark in 2011.

- Growth was driven by developing countries, which accounted for more than 80% of the 660 million new mobile-cellular subscriptions added in 2011.

- By end 2011, there were 105 countries with more mobile-cellular subscription than inhabitants, including African countries such as Botswana, Gabon, Namibia, Seychelles and South Africa.

- In 2011, 144 million mobile broadband subscriptions were added in BRICS (Brazil, the Russian Federation, India, China and South Africa) accounting for 45% of the world's total subscriptions added in 2011).

- Total international Internet bandwidth increased seven-fold over the last five years, [and] by end 2011, 70% of the total households in developed countries had Internet access, [as opposed to] only 20% of households in developing countries.

- Major differences in Internet bandwidth per Internet user persist between regions: on average, a user in Europe enjoys 25 times as much international Internet capacity as a user in Africa.

- Hutton (2011), Director of Telecoms Nielsen South Africa, contends that Africa is in the midst of a technological revolution, and that nothing illustrates this fact better than the proliferation of mobile phones. He continues by saying that "more Africans have access to mobile phones than to clean drinking water in South Africa [and that] mobile phone use [in South Africa] has gone from 17 percent of adults in 2000 to 76 percent in 2010." According to Hutton, 29 million South Africans own mobile phones, while only 6 million own personal computers. Hutton (2011) refers to a survey on consumers' usage of and attitude towards mobile phones, conducted by Nielsen in 2011 reveals the following significant data (Figure 1 – courtesy of Nielsen, Southern Africa, 2011):
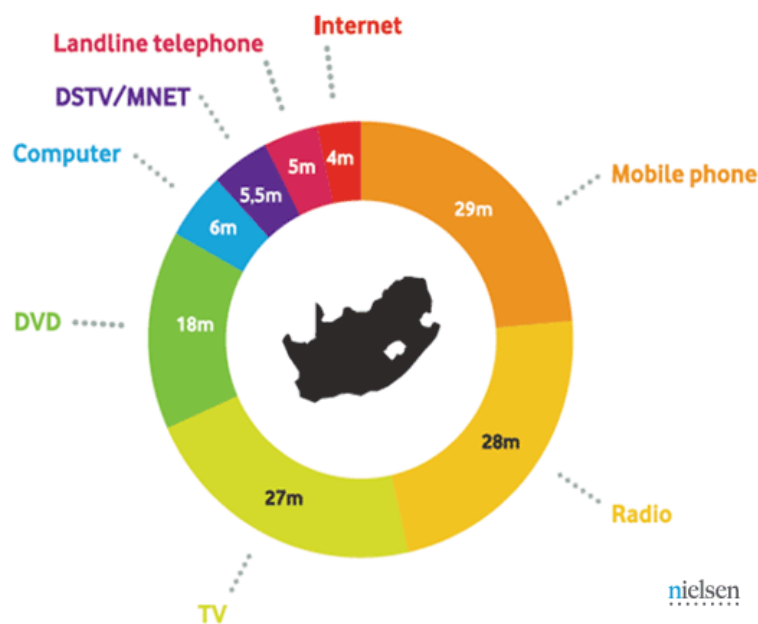
Figure 1: Nielsen: Technology Use in South Africa in 2010 (http://blog.nielsen.com/nielsenwire/global/mobile-phones-dominate-in-south-africa/)

- South Africa ranks fifth in the world for mobile data usage, ahead of the United States which ranks seventh.
- Pre-paid plans make up between 82 and 85 percent of the market.
- The mobile phone as an Internet device is on the rise – 11 percent of South Africans use their mobiles to go online, and MXit, a mobile instant messaging platform which is currently being merged with the web-service which was used as instruction platform for this study, is used by 61 percent of mobile owners.

- Joss (2012), content manager at *Xcellent Media*, indicates that 2,48 million South Africans access the internet via mobile phone only, and that MXit has over 10 million registered users and receives 40 000 new registrations every day.
- SMS text messaging is practically ubiquitous among South African mobile customers, and is used by almost 4.2 times more people than e-mail.

Hutton (2011) states that the above survey provides a comprehensive benchmark against which the changes occurring in the rapidly evolving telecom sector can be measured and argues that, "… when one considers that just three years ago there were no smartphones being used on the [African] continent, the pace of change is stunning".

This study proposes that mobile assisted language learning (MALL or m-learning) is a means for enhancing the English literacy levels of learners in rural areas, and that m-learning within a blended learning approach can maximise both the learning and the teaching experience. The implementation of new technologies such as m-learning will not only improve language literacy, but also digital literacy. The White Paper on e-Education (RSA, 2004:15) defines digital literacy as follows: "Digital literacy refers to the ability to appreciate the potential of ICTs to support innovation in industrial, business, learning and creative processes.

Learners need to have the confidence, skills and discrimination to adopt ICTs in appropriate ways. Digital literacy is seen as a 'life skill' in the same category as literacy and numeracy". Furthermore, the same document (RSA, 2004:15) states that in a transformed teaching and learning environment, there is a shift from teacher-centred, task-oriented, memory-based education (with technology at the periphery) to an inclusive and integrated practice where learners work collaboratively, develop shared practices, engage in meaningful contexts and develop creative thinking and problem-solving skills (RSA, 2004).

"Today, a growing body of evidence suggests that mobile devices – and mobile phones in particular – are used by students and teachers around the world to access information, streamline administration, and facilitate learning in new and innovative ways" (UNESCO *Policy Guidelines for Mobile Learning*, Version 2.1, Draft, 2012).

Could South African teachers and learners from geographically remote (and thus disadvantaged) communities benefit adequately and significantly from the possibilities offered by m-learning? Prinsloo (2002) examined various curriculum documents produced in South

Africa since 1994, and concluded that "university-based in-service courses for teacher orientation, training and support would need to change teachers' own literacy practices if we expect them to produce critically literate learners [and that] many schools in black townships and rural communities lack the basic material necessities for implementing the Revised Curriculum: classrooms and furniture, textbooks, reading books, computers, printers, and duplicating facilities; and experience an inadequate supply of paper and stationery".

A decade later in 2012 (in the wake of the third set of curriculum changes since 1994 to be phased in), and despite many honest efforts, this situation has hardly changed for the better due to poverty, corruption, theft, a lack of resources, overcrowded classrooms, a lack of skilfully trained or motivated teachers, teacher-absenteeism, and the absence of directed and focused school leadership. Certainly, against this background it would be worthwhile investigating the possibilities offered by mobile learning.

In developing countries, the mobile phone affords the possibility of safeguarding existing Information Communications Technologies for e-learning (ICT4E) best practices which emphasises teacher training and professional development, as well as the provision of locally relevant content. Swarts (2007:2) refers to the Global e-Schools and Communities Initiative (GeSCI) when she states that significant attention is being paid globally on how ICTs might be used in schools, colleges and universities to facilitate teaching and learning, as well as supporting continuing professional development and in-service teachers, teacher educators and lecturers in technology use. It would at this point be fitting to refer to Fotos & Browne (2004), cited by Evans (2006:21), who quote the familiar adage: "Technology will not replace teachers; teachers who use technology will replace those who don't".

As mobile devices become more powerful and also more affordable, their potential to afford learning to learners from remote and/or underprivileged communities should grow. Tirozzi (2011) contends that education should prepare students to be active, constructive participants in a global society, and that blocking technologies like smartphones and social networking sites takes education in the wrong direction.

Hutton's statement (2011) that "South Africa is the biggest market, but other countries on the continent are likely to catch up fast" has an ironic ring to it. It seems the South African Department of Basic Education will soon play catch-up to countries such as Kenya and Ghana that have embraced mobile learning by harnessing the educational power of the tool, when one considers the following. There has been no indication as yet from the Department of Basic

Education as to their intention to include the mobile phone as a tool for its thousands of learners without textbooks, to the contrary. Jones (2012) reports that in May 2012 The National Association of School Governing Bodies called for a ban on children using cell phones at school as, according to association secretary, Matakanye, "cell phones pollute childrens' thoughts and prevent them from learning anything [and] they are a distraction and this leads to the disintegration of the teaching environment." Hope Mokgatla, spokeswoman for the South African Minister of Basic Education is cited by Jones (2012) as saying that "[t]here is no policy at the moment. We have heard the call by the National Association of School Governing Bodies [and that] if the association can convince parents, teachers and learners to ban cellphones, they are welcome, because it will probably be a good thing".

The challenge is for the 21st century language teacher to communicate successfully, fulfilling the "iNeeds" of learners and reaching the goal of instilling a culture of life-long learning. An added challenge for the Department of Basic Education is that of bridging the gap between rural and urban schools with regards to the provision of resources and teacher training. The challenges to which South Africa will have to rise within the next decade are diverse and huge. The kind of learner that is envisaged by the RNCS (RSA, DoE, 2002:8) emphasises this challenge in no uncertain terms when it claims that "The curriculum aims to develop the full potential of each learner as a citizen of a democratic South Africa. It seeks to create a life-long learner who is confident and independent, literate, numerate and multi-skilled, compassionate, with a respect for the environment and the ability to participate in society as a critical and active citizen".

Mobile learning within a blended learning approach could become one of the solutions implemented to improve education for South Africa in particular, as culturally and locally relevant (and standardised) content can be made available by experts in the educational field, and accessed by both learners and educators in remote areas. Jones (2012) quotes David de Korte, provincial president of the SA Principal's Association as saying that "[a] ban on cell-phones at school would be a big mistake. The cellphone is merely a sophisticated technology that allows for instant communication and access to media".

Brown (2004:2) differentiates between two ideal target markets for m-learning: learners that are either without infrastructure and access (third world rural or remote area learners who have mobile phones); and learners that are continually on the move – first world learners who are the workforce on the move with state of the art mobile devices. South Africa, with its unique history of political and socio-economic discrepancies currently finds itself sharing both

the aforementioned target markets that form the two ends of the ever-evolving digital divide: that of the 'haves' of the developed world and the 'have-nots' of the developing world.

1.5 Research Procedure

1.5.1 Collaboration with the Good Work Foundation

The researcher worked in close collaboration with the *Good Work Foundation* (GWF), a non-profit organisation, actively involved in educational and social upliftment in the rural area of Justicia in Mpumalanga Province in South Africa, as well as with the headmaster of the high school where the pilot research project was conducted.

1.5.2 The Experimental and Control Groups

The target population consisted of thirty Grade 8-learners of mixed gender and academic ability who were selected randomly to take part in the study. Permission was obtained for this research from the learners, their parents, the headmaster and the circuit manager of the Department of Basic Education. In addition, the participants each completed an Information Leaflet and Assent Form (supplied by Stellenbosch University) which was explained to them during an information session **(APPENDIX A)**. The rest of the Grade 8-class, consisting of 103 learners, formed the control population. The target population was divided into three groups of ten participants, each group having one session of mobile instruction for one hour per week.

1.5.3 The MOBIPAL web platform and mobile intervention sessions

Participants interacted on a weekly basis (approximatley one hour per week) for 8 weeks with a web-based platform, *Mobicanvas* (*www.mobicanvas.com*) and were referred to as 'MOBIPALs'. The procedure was to log on to the *Edusmart Mobipal Site* (*http://edusmart.mobicanvas.com*) **(Appendix H)** and to access poetry-based English additional language content, created by the researcher, via their Vodaphone 858 devices. The devices were sponsored by the *Good Work Foundation*, and a signal booster at the school was donated by Vodacom. **(NOTE: Due to the *mobicanvas* web platform undergoing major changes between August 2012 and March 2013, it is, at times, problematic to view the 48-page *Edusmart Mobipal Site* live. The full site is envisaged to be available in March 2013 again. Screen shots of the site are supplied as APPENDIX H).**

Sessions occurred after school at the GWF Digital Learning Centre (DLC) on the school premises. Early during the research period, three of the thirty participants withdrew due to personal circumstances or involvement with other extramural activities, while a fourth participant left school. Twenty six of the initial 30 participants in the target population (the experimental group) completed the pilot study.

Content varied from formal sessions on-screen, to video links, songs and lyrics that bonded learners in a community of practice, podcasts, comprehension exercises, a link to an online dictionary for vocabulary sessions, quizzes that formed part of the continuous assessment profile for each learner, as well as notes on dialogue writing, writing short paragraphs in order to communicate with the researcher, and informal MXit group chat sessions with one another and the facilitator. As part of the blended learning approach, participants were each supplied with a notebook in order to practise the skill of summarising and extracting important information from each session.

1.5.4   The facilitator

The researcher trained a GWF field worker as facilitator. Ms Sibuyi played a pivotal role in the week-to-week smooth running of the research operation. The facilitator acted as technical advisor to the participants, ensured that the batteries of the mobile devices were charged before every session, issued and collected the devices at the beginning and end of every session, and provided weekly feedback to the researcher with regards to data consumption, participants' experience of the session, as well as problems encountered, via a feedback-form designed by the researcher **(Appendix F1**).

1.5.5   MXit Group Chat Sessions

At the end of some of the intervention sessions (time permitting), participants entered into sessions of ten to fifteen minutes of MXit chat with the facilitator about the intervention session, as well as about their own interests. The facilitator invited the participants to the private group chat in order to ensure the safety of the participants on MXit, as well as to guide the session. Some of these group chat sessions were captured by the facilitator on her phone, as a member of the group chat, in order to provide feedback to the researcher with regards to the participants' enjoyment and understanding of the lesson content. The MXit feedback is supplied in **Appendix F2**.

1.5.6   The Assessments (quantitative data collection)

The quantitative data was obtained through a Baseline Assessment **(Appendix C)** written by both groups in March 2012, and after seven weeks of web-based mobile poetry instruction, a Control Assessment **(Appendix D)** was again written by both groups. The assessments were both set according to the outcomes, standards and exemplars of the RNCS Senior GET Phase (RSA, DoE, 2002).

1.5.7   The Surveys (formal qualitative data collection)

The empirical research for the study consists of two surveys:

Survey 1: Prior to the mobile intervention sessions, in order to determine the extent of the experimental group's contact with digital learning **(Appendix B).**

Survey 2: Seven mobile instruction sessions were followed by the experimental group. As part of session 7, the participants completed a reflective mobile survey to provide feedback regarding the mobile learning experience. **(Appendix G).** This mobile survey aimed to determine the participants':

- instruction preferences: mobile vs. formalised classroom instruction
- enjoyment / dislike of mobile poetry instruction
- thoughts on specific poems
- experience of vocabulary expansion as opposed to prior knowledge
- experience of vocabulary retention
- experience and preferences regarding paper vs. on-screen comprehension exercises
- preferences regarding formal grammar instruction.

1.5.8   Interview and continuous feedback-communication on MXit (informal qualitative data collection)

An informal interview (which was filmed) was conducted by the researcher with every participant prior to the study in order to determine participants' general command of English as their First Additional Language, as well as to reassure participants of the fact that the study would be voluntary and that they would be allowed to withdraw at any stage, without any consequences. Throughout the eight week project, participants were given the opportunity to

interact on MXit with one another, as well as with the facilitator in order to voice any concerns or questions.

1.6   Organisation of the remainder of the thesis

The literature review for the study reported in this thesis is presented in **Chapter 2** which deals with important concepts relating to m-learning. The chapter supplies an overview of research and current theory, including the theory of connectivism, which attempts to explain how learning happens in the digital world. **Chapter 3** describes the research methodology and design of the study, stressing the fact that the curriculum-based mobile learning programme aimed at improving literacy (and thus learning), and focusing on reaching rural learners, is long overdue. In this chapter the research procedure, participants, mobile instructional design model and connectivity model are described in detail. **Chapter 4** presents data and provides a detailed analysis and discussion thereof. In closing, **Chapter 5** offers reflections, recommendations and a conclusion on the research question whether there is statistically significant evidence that mobile intervention could improve the ESL literacy levels of rural learners and whether the mobile teaching model could be part of a solution for the lack of resources in South African rural schools.

CHAPTER 2
LITERATURE REVIEW

> *Mobile learning is fundamentally different from earlier models of e-learning because it employs hardware that is far more affordable and thus more easily self-procured and managed than tethered computers. [It] is not e-learning "gone for a walk", but something entirely new.*
>
> UNESCO Policy Guidelines for Mobile Learning, Version 2.1, Draft 2012

This chapter provides an overview of research and current theory on important concepts relating to m-learning. This study focuses on technology-based mobile instruction and intervention as a mode of improving English literacy levels, therefore brief summaries of Computer Assisted Language Learning (CALL) **(Section 2.1),** Mobile Assisted Language Learning (m-learning / MALL) **(Section 2.2)** and m-learning within a Blended Learning Approach **(Section 2.3)** are supplied to illustrate the supportive role of technology in language learning and literacy enhancement. Thereafter, a South African contextual perspective on m-learning is offered, focusing on illiteracy, as well as on the realities rural schools are facing **(Section 2.4)**. Recent literature is then reviewed to determine current theory and research with regards to m-learning globally, while the learning theories that informed the structural design of the mobile poetry instruction and intervention sessions of this study are discussed **(Section 2.5)**. Linked to learning theory is the instructional design of this study that was based on the Gerlach & Ely model of Instructional Design **(Section 2.6)**. As this study relies on a Baseline Assessment (Pre-test), and a Control Assessment (Post–test) to obtain quantitative data, Bloom's taxonomy is employed to compare the standard of the two assessments in a discussion of Bloom's Revised Taxonomy of Educational Objectives **(Section 2.7)**. As this study aims to enhance the literacy levels of rural adolescents, the term 'literacy' is defined, and, once the process and means of adolescent literacy development and measurement have been elucidated **(Section 2.8)**, the discussion is expanded to include the pertinence of literacy in a digital world **(Section 2.9)**. Finally, in order to ensure that texts used for mobile instruction and intervention (as a means of effecting improved literacy levels for rural adolescents in the South African Senior GET Phase)

are compatible with the reading standards set out in the National Curriculum Statement, two readability indices are examined **(Section 2.10)**.

2.1   Computer Assisted Language Learning (CALL)

According to Allessi & Trollip (2001:3) educators and educational architects proposed to implement computers in the classroom for the first time nearly five decades ago. Fifteen years ago, Levy (1997:1) defined CALL as "the search for and study of applications of the computer in language learning […] dependent on the level of development of computer technology".

CALL is a subsection of e-learning and, in its integrative and interactive format, many educationalists agree with Hubbard (2009:2) who states that "CALL can be defined as any use of computer and mobile technology in the domain of language learning". It consists of a wide variety of computer assisted language teaching and learning objectives such as teaching the four basic language skills (listening, speaking, reading and writing); assessment; online instruction, and an array of web-based educational games and activities. CALL thus includes educational measures that enhance language learning through multimedia systems and hypermedia such as microcomputers, laptops, computer tablets such as the iPad, and smartphones.

Modern-day CALL is also referred to as TELL (Technology Enhanced Language Learning) – a term which encompasses the full spectrum of technologies implemented to facilitate language learning. These forms of hypermedia can be stand-alone or web-based, and can facilitate the creation of applications that can link to files of any kind, thereby enabling CALL practitioners to address the basic language skills of listening, reading and writing. Speech recognition and processing that will enable educators to include the reproduction, analysis and understanding of speaking in instruction through hypermedia is still in its infancy, as natural speech processing is complex.

The Web is regarded as a valuable language learning and teaching resource by 21st century language practitioners who have access to it, as it offers a global database of materials that can enhance language learning and teaching. Utilising WELL (Web Enhanced Language Learning) or WBBL (Web-Based Language Learning) schools and universities are now able to offer their learners and students websites with web-based language learning lesson programmes, lesson plans for teachers, and various activities, such as pre-created programmes for enhancing reading, listening, vocabulary and grammatical skills; task-based activities such as book or film

reviews or news activities; and teacher-made web-activities such as quizzes, gap-fill exercises, crosswords, jumbled sentence exercises, ordering exercises and matching exercises. Learners can repeat these interactive exercises at their own pace, as many times as they deem necessary. Learners with different learning styles and preferences are thus accommodated. They gain self-confidence and the ability to achieve as they continue working at their own pace to achieve higher levels and set personal goals without anyone else in the class commenting, or being held back by someone working at a slower pace, for instance.

As far as teaching is concerned, CALL includes the use of computers and mobile technology to improve teacher productivity, training, and professional development, materials development, and language assessment in order to benefit learners in the teaching-learning process. Educators can, for example, capture, analyse and present data on learners' continued performance and progress electronically and professionally, and are able to provide immediate feedback on assessments and assignments. An invaluable pool of resources that can be used in the classroom consists of e-mail, moodle, skype, twitter, bbm, whatsApp, sms services, Facebook, Facetime or web-based, interactive exercises and games.

The body of research on CALL is vast, and to outline all its positive features for L2 language learning and teaching would be daunting. However, four distinct advantages that are applicable to mobile learning, adapted from Kelm (2010) and Dold (2010), and supplemented by this researcher, deserve mention:

- **Increased time and improved task focus:**

  CALL provides a way to minimize classroom limitations such as short or interrupted lessons, or a student-teacher ratio that could negatively impact on language learning and on the time a teacher could spend with individual learners. While the teacher as facilitator tends to the learning needs of individual learners, other learners could productively use programmes videos and applications pre-selected by the teacher. Society increasingly expresses itself through images and video, and there is an abundance of applications that can deliver high quality multimedia content to tablet PCs and cellular phones which allows for the integration of creative media into language learning activities. This is especially applicable to news events where fresh, sharp video footage and images are easily accessible and can spark valuable class discussion that could lead to writing reports and stories, drawing cartoons, making movies, sharpening interviewing skills, teaching tone, register (the use of contextually appropriate language) and appropriate diction, to name but a few. Touch

screen mobile devices are increasingly used in special education where the simplicity of the touch interface addresses the problems of learners with special needs in an inclusive classroom, such as learners who struggle to write due to fine motor difficulties, or learners who need extra visual or auditory support.

- **Exposure to authentic language**:

Through video, learners have access to authentic language produced by native speakers. These videos can be used for communicative exercises on a wide variety of topics, thereby serving as a resource for learners to experience "immersion" without having to travel. Not only do learners hear the language in use, thereby being able to model correct pronunciation, but the video material can be replayed and the interactive exercises repeated at their own pace. For formal classroom language instruction, the teacher could focus on language analysis of video transcripts to teach sentence structure, word order, parts of speech, concord, verbs and tenses. Scenes from videos can also be re-enacted or role-played, and learners could even produce their own video clips or podcasts to maximize the authentic learning experience and gain communicative confidence. In developing countries, such as South Africa, where learners do not have access to computers, electronic whiteboards and / or tablets, learning via the mobile phone could supply access to videos, podcasts, lyrics, music and a multitude of other online resources, such as online dictionaries and educational sites.

- **Contextualised Language Learning:**

Integrative CALL serves the purpose of combining hypermedia such as audio, video, images and texts to create learning environments that are contextualised. Dold (2010), argues that "When we are able to link a language to a context, we have a better chance of recalling the linguistic information to which we were exposed". Modern technologies bring sounds, sights, and social settings into the classroom, enabling L2 learners to experience language in context. Through CALL, in the form of virtual worlds such as *Second Life,* learners can be virtually immersed within a specific context that can support the acquisition of a second language. Other "contexts" that could support L2 learners on a daily basis to form associations and contextualize their language learning are e-mails, websites, mobile websites, PowerPoint presentations, YouTube-videos, music videos and word processing.

- **Additional input and intake for 'digital native' generation:**

According to Kelm (2010) research indicates that "*input* – the exposure to both spoken and written language, whether understood or not – is no longer enough for students, [and that] this input needs to be converted into *intake* - the comprehended input that helps to further develop students' linguistic systems". Dold (2010) presents a profile of the 21st century learner by referring to Prensky who coined the term "digital native" to refer to "a young person who was born during or after the general introduction of digital technology, and through interacting with digital technology from an early age, has a greater understanding of its concepts".

Although the concept of the "digital native" is highly controversial, it does indicate that the high school learner in the modern L2 classroom is no longer the learner our educational system was designed to teach. Young people cannot fathom their lives without computer games, social networks, cell phones, the internet, e-mail, iPods and tablets. Due to this interaction with hypermedia, our learners tend to think differently than previous generations and are susceptible to new forms of technology inside and outside of the classroom. Kelm (2010) contends that "it is here that technology provides a means of increasing language input and facilitates the process of converting input into intake; this process of consciously and purposefully sifting through web-based texts promotes the conversion of input to intake".

In contrast with Kelm's above-mentioned view, Carr(2010:107) argues in his book *The Shallows: how the Internet is changing the way we think, read and remember,* that our ability to read and think deeply has been sacrificed in our attempt to manage web-based texts, and that it has resulted in "information overload which has become a permanent affliction". Smedley (2005:80) focuses on the unique value proposition of e-learning by stating that "what makes e-learning unique, is that it removes the fixed classroom with its constraints of time and place and replaces it with a variety of study materials and activities that can be accessed without these constraints". However, the following warning by Smedley (2005:80) can be regarded as a precursor to Carr's aforesaid statement: "an advantage of e-learning is its ability to deliver huge amounts of information, but to be truly effective and successful, it must deliver a rich variety of content through an equally impressive variety of learning processes".

In mobile ESL activities learners can, for example, be taught how to select useful information on a certain topic for an oral presentation; how to connect to and purposefully make use of online

dictionaries; how to summarise vast amounts of text and construct their own schema of understanding and knowledge, how to record their own voices for feedback on reading of oral exercises, or how to use photos taken with their cellular phones to depict the realities of their environment for written or oral assignments.

This is precisely what language learning and teaching on a secondary and tertiary level should be: to facilitate intake; to promote life-long learning; and to encourage critical thinking, communication, collaboration, and creativity.

In the e-learning classroom learners are compelled to take charge of their own learning by being inter-actively and actively involved: they pace themselves within the parameters of the lesson time, read and re-read, discuss, listen to downloadable audio files and re-listen, and answer and submit quiz questions and self-assessments. Here Communities of Practice are formed – where groups of learners who share the same goals collaborate with one another, and where the teacher fulfils the role of facilitator of the learning process.

The next section takes a closer look at mobile learning and, with reference to this study, at the significance of Mobile Assisted Language Learning (MALL). The most commonly accepted advantage of MALL would be the fact that it is an individualised, technology-rich learning environment that opens up opportunities for blended learning.

2.2   Mobile-Assisted Language Learning

In order to examine the concept of mobile learning and look into the viability of m-learning in South Africa, one has to define the term "mobile". As starting point for this discussion the definition supplied by the mLearn 2005-4th World Conference on m-Learning (Cape Town), cited by Zuga et al. (2006:58), is used: "M-learning is any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies".

The possibility of m-learning radically changing the lives of learners who are subjected to overcrowded classrooms, a dearth of resources, and regular teacher-absenteeism is given in a summary of the main characteristics of m-learning offered by Miangah & Nezarat (2012:309) as "[t]he potential for the learning process to be personalized, spontaneous, informal and ubiquitous". Moreover, they continue by saying that "although learning through mobile phones may take longer compared to computers, the learner feels a greater sense of freedom of time and place, so that they can take advantage of spare time to learn … when and where they are".

In a broad sense, modern-day educators should realise that personal and wireless devices such as cellular phones and tablet PCs have radically changed the way in which knowledge is acquired, as well as the way in which users of these devices need to be taught in order to distinguish between useful knowledge and superfluous information. Sharples, Taylor and Vavoula (2005:147) agree with Traxler (2002:63) when they define learning through technology as: "… a labile process of coming to know through conversation in context, by which learners in cooperation with peers and teachers construct transiently stable interpretations of their world".

Early in the New Millennium, Crabtree et al. (2003:15) already proclaimed that "in this era of mobile technology, we may come to conceive of education as conversation in context, enabled by continual interaction through and with personal and mobile technology". Now, in 2012, nearly a decade after Crabtree's thesis, new methods of learning, new forms of art, new cultures and language, new industries and a new form of consumerism have resulted from the use of these devices. Gagnon (2010) justly contends that with an estimated one billion devices in the world having mobile broadband internet connections, the discussion of learning environments and mobile media grants educators an opportunity to adopt methods of situated, contextual, just-in-time, participatory and personalized learning. He continues by saying that "…it seems common sense that instruction should be performed in the most authentic context possible to practice and demonstrate useful learning, which mobile learning environments can facilitate".

Although many educators steadfastly are of the opinion that true learning can only take place within a formal, situated classroom set-up, it is true that learning has since Aristotelian times occurred in a variety of environments and forms — and still does. Some educationalists regard the mobile phone as a threat within the classroom, and instead of embracing its potential as a teaching tool, schools and other educational institutions ban mobile phones from their classrooms and lecture halls.

In support of not using the internet in the classroom, variations of the opinion expressed by Lourens (2007:101) that "a website ending on *.com* is a website that will … definitely be biased" have often been used. As learners will inevitably turn to the internet for information, educators ought to reflect on the acumen of the argument that "[f]or years, the conversation about mobile and social technology in schools has revolved around how to block it, but it's becoming increasingly clear that simply blocking such technologies does students a disservice; an

education that fails to account for the responsible use of mobile devices and social networks prepares students for our past, but not for their future" (Tirozzi,2011). Mobile learning uses technology as an instrument for meaningful enquiry in a relationship that is supportive, and provides opportunities for blended learning as it balances technology with a variety of individualised teaching and learning methods.

2.3   m-learning within a blended learning approach

For the purpose of this mobile instruction study and its proposed outcomes, the research design of a blended learning approach is largely based on Alessi and Trollip's (2001:24) view on e-learning: "Of course, learner activity in a multimedia environment does not have to be just between the learner and the computer [mobile device]; learner activities can be on paper, or with other people working collaboratively in the multimedia environment."

More importantly Alessi & Trollip (2001:24) not only summarise the concept of blended learning, but also provide a valid motivation for a blended learning approach by stating that, "choosing actions to facilitate learning goals should go beyond human-to-computer interactions and include human-to-human interactions, human-to-paper interactions, and human-to-equipment interactions". A balance is thus proposed: web-based (mobile) instruction should also expose learners to a variety of methods and strategies that would best suit the developmental and learning needs of individual learners, thereby optimising the learning experience and proposed outcomes. This stance is supported by Gray (2006) who contends that blended learning "combines e-learning with a variety of other delivery methods for a superior learning experience."

Elloway (2011) simplifies the six main blended learning models identified by researcher Michael B. Horn. In this study where the focus will be on enhancing the English literacy levels of Grade 8 rural learners, Horn's Rotation Model which allows for face-to-face contact with the teacher in the classroom, as well as a period of online (mobile) sessions in which learners can study after school or at home to supplement class material, should be an exact indicator of individual learning barriers, as well the aspects neglected within the formal classroom teaching-learning situation.

The power of mobile devices such as smartphones, laptops and iPads resides in their multi-functionality, incorporating a blend of learning experiences in one single piece of technology.

While Thorne (2003:16) summarised blended learning nearly a decade ago as "a mix of traditional forms of classroom training and one-on-one coaching" with, for instance, voicemail, e-mail, conference calls, different applications of multimedia technology, virtual classrooms and video streaming; now a single smartphone in a learners' pocket enables the learner to perform a multitude of tasks and to make use of a variety of functions and applications: e-mail, Skype, You-Tube, texting, word-processing, online dictionaries, picture and video recording, sound recording, text-messaging, group and individual chats via MXit or bbm or What's App, games, music, following links to podcasts and an array of informational sites, as well as GPS-functionality – to name but a few.

Although learning via a mobile device holds the possibility of being a blended-learning experience in itself, the data cost involved for learners in rural areas would hardly afford exclusive mobile learning to be a viable option. M-learning will thus always have to be used in conjunction with traditional classroom instruction in a blended-learning approach to optimize the acquisition of skills, knowledge and values.

2.4　A South African Perspective on M-Learning

Having considered the advantages of CALL and m-learning, one has to ask what the tipping point would be with regards to teaching in general, and more specifically secondary, rural school L2- language learning and teaching.

During the first decade of the 21st century researchers warned that if developing new literacy skills or improving general literacy were to be the aim, then educators, architects and designers of CALL should evaluate the time spent teaching meaningful use of the tool, as opposed to time spent developing literacy skills. Sharples (2002:505) warns that "learning to read is about curriculum and content development, not application development," and continues by saying that "[a]s with all technology, learning is first and technology must be integrated into an effective learning agenda."

In order to utilise mobile technology effectively to optimise the learning process, developers and educators have come to realise that appropriate interventions need to be implemented to address the different abilities, goals and situational circumstances of learners.

Although the target population in this study forms part of a community where The Good Work Foundation is instrumental in bringing about positive change through exposure to upliftment programmes in various spheres of community life, it was not a given that the participants

would all be familiar with the "tool" (the *Vodaphone 858*) that was used in this study. The concern was whether the premise that time should not be wasted "teaching the tool" be a limiting factor in utilising the mobile phone as a platform to improve the literacy levels of the rural experimental group. The Yoza Manifesto (2010) provided the confutation to address this plausible obstacle. "Our point of departure is that South Africa is a book-poor, but mobile phone-rich society. If teens don't read and write enough, but love their mobile phones, then that is what we have to work with. Go fishing where the fishes are!"

This view is supported by Jones *et al*. (in Sharples 2006:15) who report that the lack of confidence that users experience with static technologies do not apply as much to the use of mobile devices. In fact, they argue that affective factors play an important role in this regard, so that many learners find mobile devices to be particularly attractive and are motivated to use them.

A smartphone with its communication, learning and teaching capabilities, is regarded first and foremost as a bonding device within certain cultural, friendship and family groups. McGuigan (2005:53) refers to the bonding capability of the mobile phone when he states that "[This is] particularly so for young people: it overcomes shyness and facilitates sub-cultural formation through SMS (short text messaging) and shared use." Walton (2010:4) refers to Bosch (2008) who found that South African teenagers' use of MXit "shows many commonalities with adolescent uses of cell phones around the world." Walton (2010:4) continues to cite Bosch (2008) who also identified "the role that MXit played in youth emancipation from family constraints and its central role in constructing local teen identities – both in relation to gender and race in the South African context".

As discussed in Chapter 1 (section 1.4.3), the number of mobile phone owners in South Africa is increasing exponentially, thus people in remote areas, especially teachers and field workers could be trained to become facilitators of learning content that could be provided via MXit or mobile web-platforms such as *Mobicanvas,* the instructional vehicle used for this study. In 2009 Vosloo (2009b) indicated that Africa was the fastest growing mobile market in the world, quoting Meryl Ford (2009) who stated that "the cellphone is poised to become the PC of Africa".

Vodacom's September 2011 SA African Report indicates that of the 29 million cell phones in the country, there are 6.5 million Smartphones in use (i.e. mobile phones with applications that enable the user to connect to the internet, download content, send and receive e-mail,

compose and edit Office documents, and have a QWERTY keyboard). The same report also maintains that the number of smartphones has more than doubled within a year. With these figures in mind, it stands to reason that one should focus on Mobile Assisted Language Learning (MALL) as a means of addressing the educational needs of learners in rural South Africa, and of alleviating the stressful situation that has been caused by a lack of basic resources and especially of textbooks (as discussed in Chapter 1, Section 1.4.1).

In his blog entry *Three ideas for m-learning in Africa*, Vosloo (2009c) contends that "mobile phones may represent a way to alleviate the chronic shortage of books as they provide a viable distribution solution". Referring to the *Yoza Library's* cell phone stories on MXit, Vosloo (2009c), states that "[t]he pilot takes an expanded view of functional literacy, framing the consumption and creation of content as a social exercise that allows for audience participation, using the technology that is in the hands of the youth". Vosloo (2009c) moreover argues that it is highly unlikely that rural young people from poverty-stricken backgrounds who read the Yoza stories on their cellphone, will own e-readers, or that the Kindle will become the e-reader of Africa.

A smartphone has the capacity of bringing the most basic access to technology and the internet to rural areas, could help create learning communities and allow for the immediate transfer of new skills and knowledge. One argument against mobile learning in developing countries would be the cost involved in using the device. However, the World Telecommunications /ICT Development Report (2010:199) states that "The introduction of prepaid billing in 1996 brought mobile to the masses" [and that] "mobile equipment, both on the network infrastructure side as well as devices, has grown in sophistication while continuing to drop in price". The report continues (2010:199) with a reference to the rapid and ongoing emergence of Chinese equipment vendors such as Huawei and ZTE "that has driven competition in the infrastructure segment, dramatically reducing the cost of installing a mobile network".

In a Project Report for the Commonwealth of Learning (COL), the South African Institute for Distance Education (2008:4) summarises the data collected in a background study involving 11 Sub-Saharan African countries by stating that learners "drop out of school for a variety of reasons, including shortage of spaces in school, cultural practices, and the long distances to schools [and that] it was agreed that Open Schooling was a potential solution to the problems faced by out of school youth in developing countries [as it] can be conducted at scale and cost-effectively".

However, one has to ask what the downside of Open Schooling in a developing country such as South Africa would be. Although learning management systems like LAMS and MOODLE are freely available to teachers who want to create content and assignments that learners could complete on their mobile phones, and although such systems could alleviate the marking and administration load of teachers, very few are tailor-made for the African and South African rural market, and very few rural teachers are adequately trained to use these platforms functionally and meaningfully. More often than not, schools also lack the necessary digital resources and infrastructure to maintain such systems. Without involvement from government and the private sector, mobile phone data costs are also likely to jeopardize the sustainability of such projects, ironically mainly in communities where learners and teachers need these projects most.

According to *Tradingeconomics.com* (2012) the unemployment rate in South Africa was last reported at 24.9% in the second quarter of 2012, and from 2000 until 2012 the country had an unemployment rate average of 25.5%. These statistics, combined with the facts that between 2001 and 2011, nearly 18 million of the 44.8 million South Africans were living on less than R14 per day and 43% of the total population currently lives in rural areas, chances of access to mobile technology for these South Africans are slim, no matter how ubiquitous the device has become. On a more positive note, Flores-Araoz (2011) states that "companies are gradually taking a larger role by actively participating in social and community projects under the concept of Corporate Social Responsibility (CSR)". A concerted effort will have to be made by key stakeholders in, inter alia, the digital market (mobile network operators, telecommunication companies, the International Marketing Council of South Africa and the Southern African Digital Broadcasting Association), to honour their social responsibility and provide sponsorships or the necessary infrastructure and resources to rural schools.

In addition, the South African educational reality is that there are thousands of technologically illiterate teachers in the rural areas because of a lack of training and resources, and factors such as poverty, corruption and educational apathy that paralyse communities and schools. Where school textbooks traditionally contained standardised, curriculum-based information that served as an essential body of knowledge to be taught, many rural schools now suffer because of maladministration in the Department of Basic Education that led to textbooks being delivered late, or not at all.

The *City Press* (6 September 2012) reported that more than 200 new school textbooks were found dumped next to Polokwane's Magistrates Court in Limpopo on 5 September 2012. The *City Press* (13 September 2012) investigated the situation at eight schools in Limpopo Province, and reported that the schools were told by the Department of Basic Education that "they are not going to receive any of the other textbooks and they must use what they got". The same article (*City Press*, 13 September 2012) quotes Limpopo former chief financial officer, Solly Tshitangano, as saying that "It [the department] would never supply correct information about how many textbooks it had delivered."

The danger is that rural educators who do not receive relevant teaching and learning material timeously, either resort to apathy, or those who are technologically literate and do have access to digital resources, resort to the application of online content that is made freely available, yet which does not comply with the learning outcomes and/or standards envisaged by the current RNCS of the South African Department of Education (RSA, DoE, 2002). It is here that structured m-learning intervention could play a pivotal role as digital resource substitute to support both teachers and learners in rural education.

Sharples (2002:505) states that "[t]he mobile learning community may need the authority and credibility of some conceptual base [that] would provide the starting point for evaluation methodologies grounded in the unique attributes of mobile learning." Educators and their educational and funding partners must recognise that mobile learning is personal, contextual and situated (mostly out of the classroom). These very characteristics place mobile learning in opposition with formal learning where monitoring, observing, evaluating, and providing feedback are prerequisites in the process of facilitation, skills development and the formation of new schema. Sharples also (2002: 513) points out that there are concerns arising from these differences regarding "the nature of any large-scale and sustained deployment and the extent to which the unique attributes of mobile learning may be lost or compromised."

Although concerted efforts are made by UNESCO to standardise mobile learning worldwide, calling for input from all mobile learning stakeholders to assist by commenting on a draft worldwide policy for mobile learning, in the light of the above discussion, South Africa with its thousands of digitally illiterate teachers will certainly lag behind for years to come.

Having briefly discussed the benefits of a blended mobile learning approach, and of the South African m-learning perspective with its unique set of rules and circumstances, the next section

is a discussion of learning theory and the significance and influence of learning theories which inform instructional design for m-learning.

2.5 Learning Theory

2.5.1 The development of learning theory

Learning theory essentially intends to describe how learning takes place, and is linked to three basic domains of learning: cognitive, psychomotor and affective. Bloom's Revised Taxonomy of Educational Objectives (discussed in section 2.6 below) is based on these three domains. Mergel (1998) studied learning theories within a comparative framework. She simplifies the development of learning theory, comparing it to Atomic Theory Development, and focuses on the three most important theories that have impacted on instructional design during the last four decades: behaviourism, cognitivism and constructivism **(Figure 2)**.
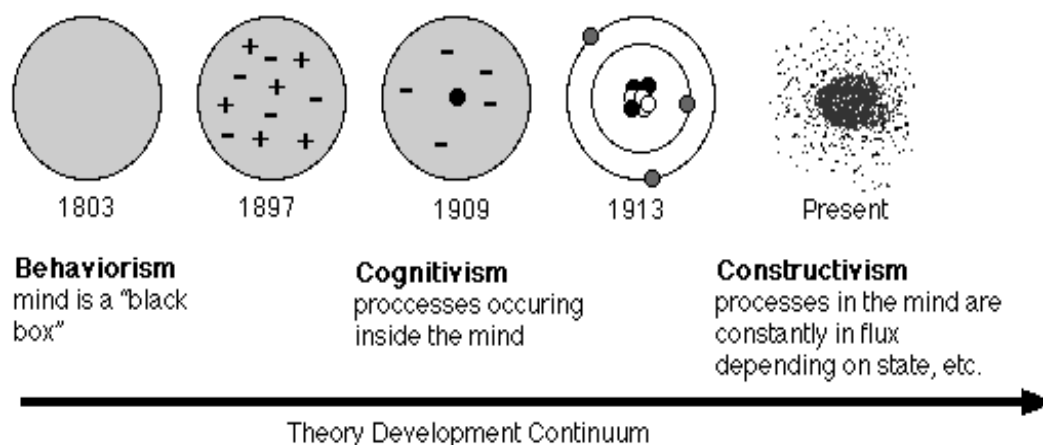
Figure 2: Mergel's Atomic and Learning Theory Comparison

The behaviourist learning theory centered around that which was observable, not considering that there was anything going on in the mind. Using overt behaviour as a starting point, people began to realize that there was something going on inside the organism that should be considered, since it seemed to affect the overt behaviour. Thus, the cognitive model of learning was born. Soon, however, theorists realized that the 'atom' is not stable; it is not so 'cut and dried.' Enter the constructivist learning theory which tells us that each organism [learner] is constantly in flux, and although the old models work to a certain degree, other factors must also be considered (Mergel, 1998).

2.5.2   How does learning theory impact on m-learning?

Bloome, Power, Morton, Otto and Shuart-Faris (2005:xvii) supply a possible answer to the above question when they state that "the separation of theory from methods results in researchers engaging in unreflected action and holding magical beliefs; that is, they conduct research without questioning why they do what they do, or how their actions are connected to understandings of knowledge, people or language". Taking the constant and rapid changes in education as reference, and multiplying those with the emergence of ICTs, the implications for the educator of the 21st century become clear: there is a need to examine and build upon questions posed, as well as possible answers supplied by previous generations in order to ask the right questions regarding best digital learning practice.

2.5.3   Constructivism and mobile (language) learning

As stated in section 2.5.1 above, pedagogical developments have, during the last four decades, steered away from behaviourism towards the constructivist, socio-cognitive and cooperative learning models where learning takes place in a social context.

Atherton (2011) distinguishes between "cognitive constructivism" which deals with how the individual learner understands concepts as a result of a specific learning style or during certain developmental stages, and "social constructivism" which stresses how meaning and understanding develop from our social encounters. This concept is linked to Vygotsky's view (1930/1987:90) that an essential feature of learning is the creation of the "Zone of Proximal Development" (ZDP).

Luckin *et al*. (2005:5) cite Vygotsky (1987) to describe the ZDP as follows:

> On the one hand it is a spatial metaphor for measuring a child's potential ability through articulation of the difference between what (s)he can achieve alone and what (s)he can achieve with assistance. On the other, it is a dynamic process that must be created through social interactions between the learner and others, using sign systems within a culture that are both a means of storing past and of forming future activity (Luckin et al., 2005:5).

With reference to the Vygotskian concept of the ZPD, Cook (2011:35) contends that with learning as the vehicle, various internal developmental processes are awakened that are able to operate only when the child is interacting with people in his environment and in cooperation

with his peers. Once these processes are internalized, they become part of the child's independent developmental achievement. Meyer (2004) concludes that, for Vygotsky, "… the development of language and articulation of ideas is central to learning and development".

Constructivism essentially holds that each learner is different, interacts differently and learns differently. The implications are that the role of the modern-day teacher who has to accommodate this diversity, has become hugely challenging. The teacher is no longer merely a source of knowledge, but acts as facilitator in the learning process of his or her learners. Considering that almost every classroom in rural South Africa is overcrowded and under-resourced, (with reference to the earlier discussion of the current demise of the South African Department of Basic Education, Chapter 1, Section 1.4), one shudders at the gargantuan task of teaching individual learners (each with different circumstances and unique learning, emotional, physical and social needs), and preparing these disadvantaged youth for the demands of future society. M-learning could potentially provide a source of expertise where the teacher is afforded the role of facilitator, while the learner becomes actively involved in the learning process through a mobile web-based platform, or online programmes and resources.

This researcher is in accordance with Atherton (2011) referred to above, who states that "[c]ontrary to criticisms by some (conservative / traditional) educators, constructivism does not dismiss the active role of the teacher, or the value of expert knowledge. Constructivism modifies that role, so that educators help students to construct knowledge, rather than merely reproducing a series of facts".

M-learning dovetails with the constructivist approach as it provides language learning programmes and interaction with social media that avail learners of the opportunity of experiential learning, e.g. extracting information from mobile texts and relating it to everyday life in order to form new schema of understanding; and as it encourages learners to evaluate not only their own learning, but also the learning process and its successes and / or shortfalls.

Social constructivism encourages learners to formulate hypotheses and test them and to build schemata of their surrounding world. Group work emphasises the social dimension to learning and through ICTs learners are supplied with authentic texts, and a variety of material that immerse them in real-life situations. ICTs in language learning provide a platform for the application of the constructivist learning theory: as the process of technology-based language learning moves away from CD-ROMs to web-based programmes learners start controlling the lesson content, as well as their own learning processes. The nature of the World Wide Web

allows learners to explore and find learning paths and learning content themselves, providing them with easy access to online resources such as computer-mediated communication tools and online libraries.

However, as learners are exposed to online authentic texts via their mobile phones, so the responsibility of the teacher increases. Since it is debatable whether learners are always able to judge the appropriateness and usability of electronic texts, pedagogically sound web-based mobile instruction sessions (as applied in this study) affords educators and content designers the perfect opportunity of steering the m-learner in the appropriate direction until such discerning knowledge and skills have been developed.

Learners are also provided opportunities to address their individual needs, gain independence from a single (and therefore limiting) source of information, become part of the global world and increase their global understanding, as well as accept responsibility for their own learning so that they can grow to become life-long learners. In the language classroom learners are exposed to authentic texts and contextualised learning, and can improve dictionary skills and word power by using online dictionaries.

Online material such as podcasts, videos, MXit (cell phone stories, poems and Shakespearian classics, discussed in Chapter 1) and other media provide the opportunity for students to review material at their leisure, thus spending increased amounts of time on language learning tasks and activities. Videos and podcasts are ideally suitable for second language learning in the secondary phase where learners have already acquired a basic vocabulary and sentence structure, and are skilled users of ICT in its various forms. Within the rural context where there is a scarcity of digital resources and a lack of infrastructure, the mobile phone could become the gateway to online learning.

Many current educationalists are of the opinion that the traditional constructivist approach has been replaced by social constructivism which has, at its core, the formation of Communities of Practice (COPs). Modern-day learners realise that sharing and conversing with peers and educators is a powerful way of addressing their own preconceptions (or misunderstanding of concepts), thereby empowering them to restructure their own cognitive schemas and to produce new knowledge. In this regard, Taylor (2003:2) cites Wenger *et al*. (2002) who state that "[b]y facilitating the rapid access to other users at any time/any place, sharing content, knowledge, experience and gossip, learners can develop Communities of Practice, as well as informal discussion groups, as and when needed, to optimise their learning processes".

According to Wenger (2011) the three crucial elements of a Community of Practice are the domain, the community, and the practice, where the community:

> has an identity defined by a shared domain of interest; members engage in joint activities and discussions, help each other and share information [and] build relationships that enable them to learn from each other; and members share a practice, that is, they develop a shared repertoire of resources: experiences, stories, tools, [and] ways of addressing recurring problems (Wenger, 2011).

Thus, in essence, COPs are formed by groups of people who share a passion for something and who interact regularly to learn how to manage it better (such as a group of educators sharing their passion to teach a foreign language or, within the context of this study, a group of teenagers who learn individually, but also collaboratively, all using their cell phones to access web-based mobile instruction, and who share a passion to communicate via MXit). Brown (2005:300) states that "Communities of Practice (COPs) are evolving and beginning to play a significant role in teaching and learning environments [where] the focus is on the effective and productive use of existing social and natural resources for learning [and where] the real expert is not the lecturer or any other person for that matter, but the COP".

Referring to the constructivist and socio-constructivist models, Taylor (2003:1) states that "…these models place the active learner at the heart of activities", reiterating that social, collaborative learning environments are best suited for improving language ability. One only has to think of social media such as Twitter, Facebook, MXit, YouTube; sms services and the rise of a whole new language (texting); and the way in which people interact with and through these social networks and devices, to realise the veracity of the constructivist theory for language learning.

Within modern day constructivism, ICTs improve the interaction between teachers and their colleagues, and afford learners opportunities of becoming part of a community of learners who share the same goals and aspirations. Learning is fun and interactive: learners learn through interaction and thus experience decreased stress and anxiety in the classroom, thereby increasing their confidence and motivation in the acquisition of a second language.

2.5.4   Activity Theory

Impedovo (2011:106) contends that "[t]he theoretical framework of the activity theory is widely recognised internationally and is extensively applied in connection with the theme of mobile learning". The origin of the activity theory can be attributed to the early twentieth century work of Vygotsky and Leont'ev, based on the pinnacle concept of mediation. Impedovo (2011:106) refers to Logorio (2010) who states that "human activity is always mediated from the artefact, and never direct in its relationship with reality".

Crucial to understanding the concept of the activity theory, some key elements of this theory need to be defined. The following elements of this theory are summarised from Impedovo (2011: 105-107):

Artifact/ Artefact: Vygotsky defined artifacts as 'instrument' materials that people use to carry out their activities, while Impevedo (2011:106) explains that Engeström (1987:140) saw artefacts as 'crystallized tasks.' Within mobile learning, primary artefacts are any hand held device or laptop that guarantees the possibility of using textual and multimedia content.

Agency: Impedovo (2011:106 & 107) refers to the term "agency" as "the ability of people to act as agents, or rather to react in a transformative way in their environment" and, citing Hayes *et al*. (2005), maintains that "considering that by its very nature, mobile learning has a social-constructivist personality, [it] enables active forms of agency, allowing the student to be in a central position in the learning process […] where the ability to act and intervene creatively in reality becomes dominant".

Promoting mobile learning thus affords learners as "agents" the opportunity to align themselves with the needs of a society that is in a constant process of evolvement and transformation. In this regard Impedovo (2011:107) states that "[t]he challenge of education for a global networked society is surpassed by developing individual skills that can autonomously be acquired through technological means".

Uden (2007:1) emphasises the importance of an operational understanding of the environment "to develop user interfaces and flexible benefits" and thus agrees with Impedovo (2011:6) who states that "…the system components integrated in a social and cultural, motivational and intentional prospective, make it possible to design a high–quality and personalized environment to take full advantage of mobile learning for the user". Of particular importance is Rossi's (2009) statement regarding mobile learning, cited by Impedovo (2011:107), that "[It]

allows the individual to be a creator of contexts, educational opportunities and independent learning by customizing learning paths; therefore the evolution of technology, which made possible mobile learning, [is] actively building new worlds of learning".

2.5.5 The Brain-based Learning Theory, the Learning Styles Theory and the Theory of Multiple Intelligences

Gardner (1983), Given (2002), Smith (2003), and Willis (2006) indicate the compatibility, but also different focus, of three learning theories: brain-based, learning styles and multiple intelligences.

The brain-based learning theory and its learning programmes are closely connected to the learning styles theory, as it focuses on the structure and functioning of the brain. The learning styles theory acknowledges the fact that every learner perceives and processes information differently, resulting from genetics, background and environmental factors. Both the above mentioned theories can be linked to Gardner's Theory of multiple intelligences, formulated in 1983.

The brain-based theory maintains that learning will occur, provided that the brain is not prohibited from fulfilling its normal processes. This theory focuses on accelerated learning or brain-based learning programmes. It is founded on the belief that every brain is unique, that we have two types of memory (spatial and rote) and that we understand and learn best when facts are implanted in our spatial memory. This theory would be of importance when introducing participants to a brand new learning mode, such as m-learning, as one of the pillars of this theory states that "the learning process is enhanced by challenge and inhibited by situations of threat or anxiety". This concept is closely linked to Krashen's Affective Filter Hypothesis which, in Mason's words (2004) "suggests that input must be experienced under conditions that decrease anxiety and increase the motivation and self-image of the learner".

The learning styles theory proposes that the amount of transfer that will take place, in other words: how much the learner will learn, largely depends on the extent to which the educational experience allows for individual learning styles. Learners are classified according to the manner in which they absorb (perceive) information: concrete or abstract perceivers; and according to the manner in which they process the information: active or reflective.

Gardner's theory of multiple intelligences (MI) maintains that people perceive and understand their environment and the world in different ways, which he labels as intelligences. Gardner (1999:47) states that he has added three kinds of intelligences to his original list, namely a naturalist intelligence, a spiritual intelligence, and an existential intelligence.

Each of these "intelligences" is seen as a set of skills or abilities which enables every person/learner to find and resolve real-world problems they face, and each has distinct characteristics, such as autonomy from other human abilities, a basic set of operations for processing information, and a unique development history. The theory explains the extent of learners' different modes of perception and how they, as a result thereof, understand, learn, remember and achieve differently. In a nutshell, MI states that we make sense of the world through individualised systems that include language; logical-mathematical analysis; spatial representation; musical thinking; the use of the body to solve problems or to make things; an understanding of other individuals; an understanding of ourselves and our existence; a naturalistic understanding, and a spiritual understanding. (Gardner, 1999; Mason, 2004).

The implication for both classroom practice and mobile teaching and learning, is that learners should be encouraged to work collaboratively (interpersonal intelligence), but also individually (intrapersonal intelligence), and that content should be taught through different activities and using different resources. Armstrong's (in Gardner,1999:51) reference to Abraham Maslow is relevant for instructional designers of mobile learning: "If the only tool you have is a hammer, everything around you looks like a nail." To clarify his implementation of this quote, Armstrong (in Gardner,1999:51) states that "…MI theory suggests that no one set of teaching strategies will work best for all students at all times. All children have different proclivities in the [different] intelligences, so any particular strategy is likely to be highly successful with one group of students and less successful with other groups".

Mobile learning with its hypermedia functionality that allows the learner to become actively involved, and to set an individual pace for learning, lends itself, within a blended learning approach, to accommodating different learning styles and multiple intelligences.

2.5.6 The Theory of Connectivism

2.5.6.1 Defining Connectivism

The term "connectivism" was coined by George Siemens in 2004 to describe learning networks. Downs (2012:9) states that "It is the thesis that knowledge is distributed across a network of connections, and therefore learning consists of the ability to construct and traverse those networks". Siemens (2004:4) defines Connectivism as "the integration of principles explored by chaos, network, complexity and self-organization theories". According to Siemens "learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, [and] the connections that enable us to learn more, are more important than our current state of knowing [as] new information is continually being acquired".

2.5.6.2 Making the connection: knowledge and learning

Downes (2012:40) the co-creator of the theory of Connectivism, maintains that knowledge is literally the set of connections between entities; in humans, this knowledge consists of connections between neurons and in societies it consists of connections between humans and artefacts. "Knowledge has many authors, knowledge has many facets, it looks different to each different person, and it changes moment to moment; a piece of knowledge isn't a description of something; it is a way of relating to something". In this regard Downes (2012:41) contends that "Metadata is the knowledge we have of an object – specifically the profile – but this varies from moment to moment, from perspective to perspective".

Within the framework of connectivism, Siemens (2004:2) and Downes (2012:9) regard learning as the creation and removal of connections between entities, or the adjustment of the strengths of those connections. In their view, a learning theory is, literally, a theory "describing how these connections are created or adjusted. Siemens (2004:2) cites Driscoll (2000:11) who defines learning as "a persisting change in human performance or performance potential [which] must come about as a result of the learner's experience and interaction with the world." Siemens holds the view that the above definition encompasses many of the attributes commonly associated with behaviourism, cognitivism and constructivism – namely learning as a lasting changed state (emotional, physiological, i.e. skills) brought about as a result of the experiences and interactions with content or other people" (2004:2).

Connectivism focuses on the fact that informal learning has become a significant aspect of the modern day learning experience, and that formal learning "no longer comprises the majority of our learning [as] learning now occurs in a variety of ways – through Communities of Practice, personal networks, and through completion of work-related tasks (Siemens, 2004:1).

Perhaps the most distinguishing characteristic of connectivism is captured in Siemens's view (2004:1) that many of the processes previously managed by learning theory (especially in cognitive information processing) "can now be off-loaded to, or supported by technology; *know-how* and *know-what* is being supplemented with *know-where* (the understanding of where to find knowledge needed)". Siemens (2004:4 &5) summarizes connectivism by stating that "currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities [and that] the amplification of learning, knowledge and understanding through the extension of a personal network is the epitome of connectivism."

According to Siemens (2004:4) the basic principles of connectivism are the following:

- Learning and knowledge rest in diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances / devices.
- The capacity to know more is more critical than what is currently known.
- Nurturing and maintaining connections is needed to facilitate continual learning.
- The ability to see connections between ideas / concepts is a core skill.
- Decision-making is a learning process.

2.5.6.3 Connectivism and its critics

Connectivism has not been received favourably in the academic-scientific world. Many critics are of the opinion that connectivism cannot even be regarded as learning theory, i.a. "because it has not been critiqued by all peer scientists". The question is: which other learning theory can claim that it "has been critiqued by all peer scientists"? De Waard (2010), a proponent of connectivism, contends:

> Connectivism is natural, organic learning. It is a concept that fits contemporary learning which moves forward at an increasing speed. Thus, a theory can be put forward much quicker and be critiqued by the people following it. Whether or not connectivism is a lasting theory is not the point, but thanks to the idea that it could be regarded as a theory, things started happening, people started learning, networking and collaborating. Learning is all about networking, exchanging ideas, searching for what fits my learning, my goals, and as such helps me understand what type of learning works for me (De Waard, 2010).

Downes (2012:107) supports this point when he states that "within connectivism it is about personal growth, your experience that develops as a consequence of your interactions with the rest of the (learning) community".

2.5.6.4 Connectivism and m-learning

Siemens (2004:1) contextualises his theory in his statement that behaviourism, cognitivism and constructivism are the three learning theories most often utilised in the creation of instructional environments, but that they were constructed in a time when learning was not impacted upon by technology. He continues by saying that technology has, during the last two decades, re-organised how we live, how we communicate and how we learn [and that] "learning needs and theories that describe learning principles and processes should be reflective of underlying social environments". Kesim & Ozan (2011:21) agree with Siemens: "The theories of behaviourism, cognitivism and constructivism provide and effective view of learning in many environments, however, learning is moving into an informal, networked, technology-enabled arena".

Siemens (2004:2) reflects on the fact that a central tenet of most learning theories is that learning occurs inside a person. He argues that even social constructivist views "which hold that

learning is a socially enacted process, promote the principality of the individual in learning [and that] these theories do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology)".

Siemens (2004:6) is of the opinion that connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital era.

> Including technology and connection-making as learning activities, begins to move learning theories into the digital age. Connectivism presents a model of learning that acknowledges the tectonic shifts in society where learning is no longer an internal, individualistic activity; how people work and function is altered when new tools are utilized, but the field of education has been slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn (Siemens, 2004:6).

As this study focuses on m-learning through a mobile web based platform, the researcher found the following opinion (Downes,2012:47) that deals with instructional design for online and mobile learning insightful: "The designer [should] stay connected to the end-user, the student, [because] what makes e-learning effective, is in the eye of the beholder; following guidelines for e-learning might capture a CEO's artistic eye, but not the attention and interests of students".

Downes (2012:47-49) continues:

> E-learning has to provide for interaction – the capacity to communicate with other people interested in the same topic or using the same (online or m-learning) source. Interaction distinguishes online learning from old computer-based training because it fosters the understanding that there are people out there that we aren't merely communicating with a machine, [as] there is nothing more frustrating than speaking to a device that cannot hear or understand you (Downes, 2012, 47-49).

From the connectivist perspective, Downes (2012:50-52) provides reason for the failure of formal learning in the digital age when he argues that "…more than human contact, interaction fosters the development of human content [for] learners should get what they want, when they want it, where and how they want it [and that] it is in this regard that formal learning fails, because it addresses no specific need and consequently provides a range of learning content on

a just in case-basis". In answering educators and instructional designers who would be of the opinion that the above statement is a gross generalisation and against all principles of pedagogic theory and good lesson design, Downes (2012:52) contends that "[a]lthough scaffolding, learning objectives and outcomes are important, by ensuring that e-learning is effective, i.e. interactive, usable, and relevant, a designer can be virtually sure that the e-learning outcome will be a success".

A final principle of connectivism that links it with the learning theories of behaviourism, cognitivism, and constructivism, but also with brain-based learning (discussed in section 2.5.2.3 of this chapter) is the view of the creators of this learning theory that immersion and practice are paramount. This principle is explained by Downes (2012:105):

> Learning to become a geographer, philosopher, whatever, occurs not by presenting people with a set of facts, but by [students] immersing themselves in the discipline. Students need to obtain appropriate personal knowledge which becomes evident by their performance overall in a community, in a network. We evaluate whether a person has developed an appropriate neural network. (Downes, 2012:105).

Downes (2012:105) concludes this point with a vivid analogy: "You don't just give a pilot a quiz and then believe that he can fly an aeroplane". This point is of significance when related to rural ESL learners who, through m-learning, can be immersed in the language and its culture, and also practice the language and the appropriate use thereof via a mobile device.

2.6   Learning Theory and instructional design for m-learning

The following section first examines instructional design for m-learning, and then briefly discusses the learning theories that informed the instructional design of this mobile learning study.

2.6.1   What is instructional design (ISD)?

The quest for successful instruction and facilitation is imperative if the goal of enhancing literacy levels is to be reached. Instructional design experts and researchers (Healy 1989; Moore 1989; Moore & Kearsley 1996; Holum & Gahala 2001 & Culatta 2011) indicate that instructional design is the process by which instruction is improved through the analysis of

learning needs and systematic development of learning materials, and that instructional designers often use technology and multimedia as tools to enhance instruction.

2.6.2 How does mobile technology impact on instructional design?

Although Culatta (2011) is a proponent of m-learning, he identifies two main pitfalls:

- CBT-viewer syndrome: which is "what happens when static content is pushed to a mobile device with limited interaction [as this] looks like the traditional linear computer-based training (CBT), but on a smaller screen", and
- Sexy Device Syndrome: which is "the tendency to be more interested in the coolness factor of the device, than the quality of the learning experience".

Citing Moore (1989:1-6), Culatta (2011) indicates that four types of interaction are necessary for successful mobile instructional design in order to render the m-learning experience meaningful:

1. Learner X Content
2. Learner X Expert
3. Learner X Learner
4. Learner X Context

Culatta (2011) continues that "[w]hile not all interactions need to be used for all learning experiences, a healthy mix of interactions should be included in an effective mobile learning programme". However, in a YouTube-video embedded on his *Innovative Learning website*, he does insist that Content X Learner-interaction is normally "afforded the biggest slice of the pie," and warns his audience that such an approach to mobile instruction leads to the learners "not being in a good place" and that the emphasis should be on the two social types of interaction: that between learner and expert, and learner and learner.

Traditional education is often (and justly so) criticised for a systematic encouragement of learners to become dependent upon the educator for interpretation, instead of taking charge of their own learning process. Culatta continues that educational mobile content developers agree that creating mobile learning material is a challenge as it is not a question of simply pushing traditional web content onto a mobile device. "The instructional designer should look at the affordances of the device and build to them, whilst keeping the target market and goals

in mind, instead of simply replicating the traditional educational model on a mobile device" (Culatta, 2011).

A document jointly published by the ITU and the Organisation for Economic Co-operation (OECD) (2011:14) states that "Mobile technologies … allow the delivery of educational content to students who would normally have limited access to public education [and] is improving the quality of life of many individuals who were previously digitally excluded".

Although Open Source Courseware (free publications of text, audio and video course material, usually accessible through the Web and published under a creative commons license) is an invaluable resource for teachers and learners, researchers warn that learners who are not continuously monitored in their use of technology might not share in the intended literacy benefits. Holum & Gahala (2001) state that learners "need continued challenges and connections with the teacher to ensure that they are attaining higher-order thinking skills" and cite Healy (1998:48) who warns that "the activities offered on software programmes often require only shallow processing and do not contribute to children's real learning [and] the act of watching a screen and making selections from limited options is a pallid substitute for real mental activity".

Holum & Gahala (2001) continue by citing Healy (1998:152) who refers to text on screen as opposed to printed text in his contention that "[r]eading from a screen is slower, more fatiguing, less accurate, and more subject to information overload than standard reading. In several studies, students tested for comprehension after reading from a screen demonstrated less understanding and poorer memory than those getting the same information from a book".

The challenge, thus, for the developer of mobile learning content on a mobile site intended for rural learners (with limited financial resources to buy data time), would be to avoid the said "shallow processing" despite the fact that assessment is mostly limited to the participants "making selections from limited options". It is important that the design of the mobile poetry-based instruction sessions include some form of interaction with the participants, and requires them to expand their knowledge, ask questions, interact in a Community of Practice where they can communicate ideas, and create some kind of original representation about what they are learning.

Holum & Gahala (2001) distinguish between a traditional approach towards the use of technology (skills reinforcement, e.g. for learners who need additional practice in reading), and

an authentic approach (using a digital device to accomplish a complex task, such as learners using the Internet for research). M-learning provides for a blend of these approaches in order to improve both literacy and digital literacy skills of learners. In this regard Becker & Dwyer (1994) are cited by Holum & Gahala (2001):

> The use of hypermedia to improve student comprehension of text is related to its ability to respond to the needs of an individual learner for information, which results in an increased sense of control over the learning environment and higher levels of intrinsic motivation. The interactive features of hypermedia and the users' control of their direction within these information environments may explain some of the learning gains in comprehension (Holum &Gahala,2001).

2.6.3   *The Gerlach & Ely Model of Instructional Design*

According to Grabowski (2003:10), the Gerlach & Ely Model of Instructional Design adopts a systematic approach to teaching and learning, and was designed with the teacher and learners in the classroom in mind. Grabowski (2003:10) states that the phenomenological and philosophical origins of this model can be accredited to communication and learning theory and cites Griffen (1991) who states that "[the communication theory] is a careful, systematic and self-conscious discussion and analysis of communication phenomena".

Grabowski (2003:10) continues that "communication is key in the design, development and implementation of the products this model produces, while learning theory is intended to describe how learning takes place".

> This model is suitable for all levels of usage, shows the relationship between one component and another, and offers a sequential pattern that can be developed into a strategy for good teaching and learning. As this is a procedural model, it is intended to support the 'how', and not the 'why' of reaching goals, thus emphasizes teaching towards the average students in the class, encouraging them to meet their goals within the learning experience. (Grabowski, 2003:10)

Edmonds (1994) is cited by Grabowski (2003:8) as saying that "[This] model describes how a learning environment can be altered or constructed in order to affect the variables in a certain way, or bring about the desired outcome", although this model focuses first on the learner and

then on the outcome. In a systems approach the emphasis would have been on the outcome first.

The following adapted table summarises Gerlach's 1980 outline of the Gerlach & Ely Model of Instructional Design, cited by Grabowski (2003:4-5):

Table 1: The Ten Elements of the Gerlach & Ely Model of Instructional Design

1	Specify content – the teacher / instructional designer selects content and decides what will be taught when. These decisions can be based on curriculum standards, intended outcomes, personal experience long-term goals, or previous outcomes not reached.
2	Specify objectives – the specific skills that the learner should be able to display under defined conditions at a designated time. Ideally objectives should be set before content is selected, although content and objectives are normally simultaneous and interconnected. The objectives can assist with element 5 (organising the groups).
3	Assess learners' entering behaviours – every learner will enter the learning situation with different prior knowledge. The fundamental question that must be answered prior to formal instruction is to what extent has the student learned the terms, concepts and skills which are part of this course? This could happen in a variety of ways – including a pre-test or baseline test.
	Steps 4 to 8 are dependent on one another. Any decision made in one of these steps will influence the range of decisions available in the others. These decisions are simultaneous and interactive.
4	Determine the strategy – the choice here can range from the expository, more traditional approach of the teacher presenting all the information, to the inquiry approach where the teacher is the facilitator helping students discover and create their own schema of understanding. Each approach is valid and has its own place in the learning experience.
5	Organise the groups – determine whether instruction should be self-study, involve small groups, the entire class, or another alternative form. Use the objectives (element 2) to select the most appropriate group size by answering the following questions: Which objectives can be reached by the learners on their own? Which objectives can be achieved through interaction among the learners themselves? Which objectives can be achieved through formal presentation and through interaction between the teacher/ facilitator and the learner?
6	Allocate time – time constitutes various teaching strategies; the length of a lesson (time constraints) or the time it takes to find and set up resources.
7	Allocate space – closely linked to element 5 (organising the groups). Will students study individually, or in small or large groups? Will the learning happen outside the classroom?
8	Select resources. Locate obtain and adapt or supplement appropriate instructional materials to suit the needs of the learning experience. Within this model resources are selected, rather than developed due to the time constraints on the classroom setting. (This completes the group of simultaneous actions in the instructional design process.
9	Evaluate the performance– how will the students be measured on achievement and attitude towards the content and instruction? What was the overall effectiveness and efficiency of this lesson?
10	Analyse the feedback. Review all the previous steps.

2.6.4   How does learning theory impact on instructional design?

The design of mobile instruction will necessarily be informed by one or more theoretical approaches. Shiffman (1995) cited in Mergel (1998) argues:

> A solid foundation in learning theory is an essential element in the preparation of instructional design, because it permeates all dimensions. The instructional designer must understand the strengths and weaknesses of each learning theory to optimize their use in appropriate instructional design strategy. Whether we realize it or not, the best design decisions are most certainly based on our knowledge of learning theories (Shiffman, 1995, cited by Mergel, 1998).

Although the mobile phone lends itself to a socio-constructivist approach with activities that promote authentic, social, collaborative and informal learning detached from a dedicated learning environment, the fact that learners can download podcasts and videos that can be listened to or watched repeatedly in order to come to full understanding, reverts back to behaviourism in its deepest sense – the focus being on transmitting, receiving, repeating and practising information, thus promoting learning as a change in observable actions.

Linking learning theory to instructional design, Mergel (1998) cites Ertmer & Newby (1993) who suggest two basic directional questions for instructional designers:

- What basic assumptions / principles of this theory are relevant to instructional design?

- How should your instruction be structured to facilitate learning?

(Mergel,1998) indicates that instructional designers agree that, within the behaviourist and cognitive models, the main aim is that knowledge be transferred to the learner by breaking down tasks into steps, by organising content from simple to complex, by analysing learner performance to determine whether the criteria for the objectives have been met, and by repeating specific concepts in order to shape a learners' behaviour. Mergel, (1998) states that constructivism, however, promotes a more 'open-ended' learning experience where the methods and results of learning are not easily measured and may not be the same for every learner". Mergel (1998) continues:

> Constructivism builds upon behaviorism and cognitivism in the sense that it accepts multiple perspectives and maintains that learning is a personal

interpretation of the world, and that there is a place for each learning theory within the practice of instructional design, depending upon the situation and the environment (Mergel, 1998).

Jonassen (1991:5-14) is cited by Mergel (1998) in his explanation that "objective (behaviourist) instructional design has a predetermined outcome and intervenes in the learning process to map a pre-determined concept of reality into the learner's mind, while constructivism maintains that because learning outcomes are not always predictable, instruction should foster, not control".

Although technological developments have enabled instructional designers to move towards constructivism, using hypertext and hypermedia with its branched, rather than linear design, Schwier (1995) cited by Mergel (1998) warns that "[w]e must allow circumstances surrounding the learning situation to help us decide which approach to learning is most appropriate [and that] it is necessary to realise that some learning problems require highly prescriptive solutions, whereas others are more suited to learner control of the environment". Clearly, and in accordance with the theory of connectivism (discussed in Section 2.6 above), technological advancement is forcing instructional designers to focus on the individual within a spider-web of linked activities, ideas, concepts, situations and fellow users, thus ruling out the definitive concentration on one single learning theory as basis for the learning process (Mergel,1998).

Koole (2006, in Ally 2009:25) proposes the FRAME-model: a Framework for the Rational Analysis of Mobile Education which describes mobile learning as "a process resulting from the convergence of mobile technologies, human learning capacities, and social interaction". Koole (2006, in Ally 2009:26) states that the FRAME model is a useful guide for the development of learning materials on mobile devices, and the design of teaching and learning strategies for mobile education [and that this model] "highlights the role of technology beyond simply [being] an artifact of 'cultural-historic' development". Koole (2006, in Ally 2009:25) cites Smith & Reagan (1999) to explain that the word "rational" in the anagram refers to the "belief that reason is the primary source of knowledge and that reality is constructed, rather than discovered". The FRAME model thus places emphasis on constructivism, as mobile learners collectively and individually create and consume information.

Researchers Kesim & Ozan (2011) who are proponents of the theory of connectivism, emphasise that "the ability to see connections, recognize patterns and make sense between fields, ideas and concepts, is the core skill for individuals today [and that] in this changing

learning environment, learning support (scaffolding) should be reviewed". They refer to Vygotsky (1978) who maintained that scaffolding facilitates the learners' ability to build on prior knowledge and internalise new information. Kesim & Ozan (2011) distinguish between four types of scaffolding for learners who use mobile applications for learning:

- instructional scaffolding to help learners *learn in a network* (e.g. through podcasting, blogging or taking part in mobile forums or groups to share information and experiences, and through a Wiki to foster collaborative writing);

- social scaffolding to help students who *exist in a network* to promote relationships in a community of practice in order to work together (e.g. through mobile social networking, such as WhatsApp, bbm, social messaging and tagging on Facebook, or reflecting and communicating through MXit);

- administrative scaffolding to allow learners to *manage their own learning* in a connected environment (e.g. using checklists or completing quizzes);

- technical scaffolding to ensure that learners are *comfortable using the system* (e.g. explaining "how the system works through Mobile Learning Management Systems, podcasting or vodcasting (Kesim & Ozan, 2011:21-26).

Kesim & Ozan (2011:22) cite Kebaetse (2010) who summarises scaffolding as follows: "Scaffolding is an instructional strategy in which the external support is provided to the learner in person [face-to-face, by an instructor or a peer], or through artefacts [e.g. course material via a mobile phone or tablet computer] to enable achievement of learning goals and tasks within the zone of proximal development – until the learner can independently perform the task". Jacobs (2001), cited by Kesim & Ozan (2011:22), simplifies the definition by stating that scaffolding is an umbrella term to describe "the way that teachers or peers supply students with the tools they need in order to learn". Scaffolding seen in the context of Vygotsky's ZDP (as discussed in section 2.5.3) thus implies that the teacher as facilitator, or the artefact (mobile instrument) as vehicle of the learning process should allow learners to complete as much of a task as possible on their own. In this regard, Buchem & Camacho (2011:127) contend that "student errors should be embraced as part of learning and feedback should be provided where necessary", while Kesim & Ozan (2011:21) state that "when a student is at the ZPD for a task or concept, providing the appropriate scaffolding will give the student enough of a 'boost' to

achieve the task [and] once the student has mastered the task or concept, the scaffolding is removed and the student will then be able to complete the task on their own".

2.7   Bloom's revised taxonomy

This study relies on a Baseline Assessment (Pre-test), and a Control Assessment (Post–test), to obtain statistically valid quantitative data. Bloom's Revised Taxonomy of Educational Objectives will be used to compare the standard of the two assessments in the Reading and Viewing section (comprehension, visual comprehension and poetry). (See Chapter 4, Section 4.1.1.2, & Figure 13). The following section therefore explores this taxonomy.

> Emerging from the 1948 Convention of the American Psychological Association, a framework of classification for thinking behaviours (believed to be important in the process of learning), was developed. Eventually, a taxonomy or framework of three domains was constructed: Cognitive (knowledge-based), Affective (attitudinal-based) and Psychomotor (skills-based) (Forehand, 2005:1).

Bloom proposed his taxonomy in 1956, his focus being on the cognitive domain. Anderson & Sosniak (1994:1) proclaim that "[u]nexpectedly, it has been used by curriculum planners, administrators, researchers, and classroom teachers at all levels of education". Although many other educational models, taxonomies and hierarchical systems have been developed, Forehand (2005:2) emphasises that "it is Bloom's taxonomy which remains the *de facto* standard – even after half a century". The six levels of this taxonomy offer a distinct theoretical means of categorising questions and learners' related cognitive processes, ranging from least complex to most complex.

Bloom's Cognitive Taxonomy was revised in 2001 by Anderson, a former student of his, and renamed "Bloom's Revised Taxonomy of Educational Objectives". Anderson & Krathwohl (2001: xxvii) state that "even the original group [of researchers working with Bloom] always considered the framework a work in progress, neither finished, nor final, [and] the objective was to update the taxonomy in order to add relevance for students of the twenty first century; […] this time representatives of three groups [were present]: cognitive psychologists, curriculum theorists with instructional researchers, and testing and assessment specialists". Adaptations occurred in three broad categories, namely structure, terminology and emphasis. The former noun categories, indicating the different higher order thinking skills, were changed to verbs or actions to indicate the required learner input in the cognitive process. Bailey (*2002*)

cites Anderson *et al.* (2001) stating that this revised taxonomy "is designed to represent qualitatively different levels of cognition, [and that] it is used to help teachers plan for the quality thinking that they would like specific learning experiences to engender".

Bailey (*2002*) also emphasises the fact that while this taxonomy was not designed to be hierarchical, "it does seem to be the case that the lower two levels of 'remember' and 'understand' are foundational to any of the higher level objectives, and that these higher level objectives lead to deeper cognitive processing and therefore tend to be the most educationally powerful". In comparing the standards of the Pre-and Post tests used in this study, the analysis is based on a distinction between two categories: lower and higher order thinking skills, derived from Bloom. (The comparative analysis is presented in Chapter 4, Section 4.1.1.2).

With reference to Bloom's cognitive framework, Buchem & Camacho (2011:128) cite Frohberg *et al.* who contend that "[o]ne of the guiding principles for 21st century learning is to provide learning opportunities for students [in order to] acquire the skills necessary for working and living in a dynamically changing, networked information society [and] therefore mobile learning should aim at empowering students to develop lifelong learning skills, supporting application, analysis, synthesis, reflection and evaluation of knowledge".

Buchem & Camacho (2011:128) continue by stating that the development of higher order thinking skills through m-learning may include designing situated tasks to encourage knowledge-application and collaborative problem solving; facilitating learners' capacity to learn continuously, including using mobile technology to support learning; by supporting the ability to think creatively, reason and interpret (e.g. by using mobile tools for investigation and exploration); by facilitating deeper thinking (through, for instance, documenting reflections of real-life situations), and by encouraging students to observe and modify their own thinking (e.g. by keeping logs of learning steps through mobile blogging). Some of these concepts are integrated during the instructional design process of this study. Bloom's Revised Taxonomy of Educational Objectives, adapted from Forehand (2005:3), is set out in **Figure 3** below.
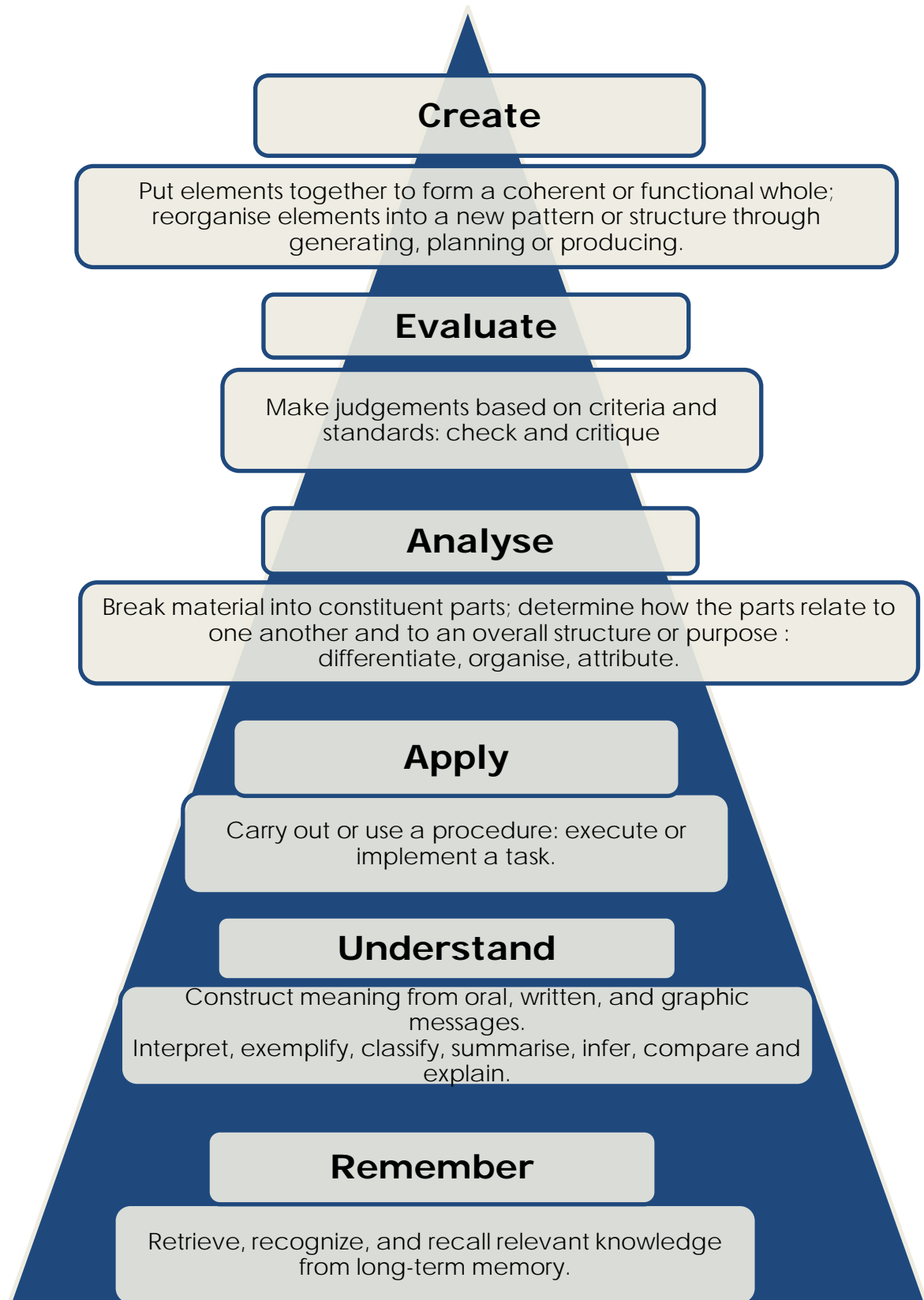
Figure 3: Bloom's Revised Taxonomy of Educational Objectives

2.8   Defining, developing and measuring literacy

2.8.1   Defining Literacy

Hughes (2007) states that "[t]raditional notions of literacy were once related more or less exclusively to competence in reading and writing [but today] we have expanded these notions to include usage and comprehension skills in speaking, listening, viewing, and representing", while researchers such as Barton & Hamilton (1998) and Deumert, Walton & Vosloo (2009:3) state that "literacy is not only a technique (thus the ability to read and write) but a social practice which always takes place within specific contexts, and which is implicated in relations of power and identity".

A strong base consisting of vocabulary, sound recognition, listening skills, grammar and understanding the spoken additional language needs to be built in the Foundation Phase (Gr. R-3) so that learners who start reading and writing in the new language can form an emergent literacy. The term "emergent literacy" is explained in the RNCS (RSA, DoE, 2002:9) as "when the learner is able to observe signs in the environment and understand that they signify something; using rhymes that play with language and develop awareness of the phonics of the language; and trying to read and write in the new language".

The RNCS (RSA, DoE, 2002:4) states that the curriculum starts by developing learners' ability to understand and speak the language, and that it builds literacy on this foundation. "Learners are able to transfer the literacies they have acquired in their home language to their first additional language [and] by the end of Grade 9, these learners should be able to use their home language and first additional language effectively and with confidence for a variety of purposes, including learning" (RSA, DoE, 2002). Literacy today is thus far more than merely reading and writing, but includes reading with comprehension, and successfully fulfilling academic literacy tasks such as interpreting and responding to reading texts; being able to decode and relay messages; offer fluent presentations; discuss the content, recurring themes, motives, message, style, register and writer's intention with a text; writing interpretive responses, and creating presentations.

Various sources define the term 'literacy' as a person's ability to read and write at a specific level of proficiency that is necessary for meaningful communication. Vygotsky's social constructivist theory, with its view that all learning is socially based and integrated, played a major role in shaping research literacy, and is regarded by researchers such as Williams (1977),

De Certau (1984/1997) and Robinson (1987) as the starting point for research on classroom language and its relationship to literacy learning.

During the last few decades, literacy has evolved into specific categories. Komoski (2007), Wu & Wang (2009), and Peele (2011) indicate the literacy revolution as a move from classic and numerical literacy (reading, writing, counting and understanding); to audio-visual literacy (understanding the use electronic media); to digital / information literacy / consumer literacy (understanding and using computers and digital devices); to, more recently, new media literacy or prosumer literacy (utilising the internet to create media content, and understanding digital coding). The term 'prosumer literacy' or 'prosumerism' refers to the needs of young people worldwide to have their say in a dynamically changing world. In the social and academic spheres, role players have come to infer that increased new media literacy will lead to the improvement of peoples' lives and will especially develop and transform societies within the developing world (Komoski, 2007; Peele, 2011).

Bloome, Power, Morton, Otto & Shuart-Faris (2005:xv) describe a micro-ethnographic approach to the discourse analysis of classroom language and literacy, that is, a "socio-linguistic / socio-interactional approach" as it "combines attention to how learners use language and other forms of communication in constructing language and literacy events in the classroom, with attention to social, cultural and political processes". With reference to such a micro-ethnographic analysis of classroom language and literacy, Bloome *et al*. (2005:xvi) state that "any use of language (spoken, written, electronic etc.) involves complex social, cultural, political, cognitive and linguistic processes and contexts – all of which are part of the meaning and significance of reading, writing, and using language".

Smith (2002) cites Freire (1984) (see also Chapter 1, Section 1.4.2) who linked literacy to social change: "Literacy is one of the concrete expressions of an unjust social reality; it is political; it is a process of search and creation [which must] develop students' consciousness of their rights". Galli (2004) writes in a review of Freire's book, *The Politics of Education (1984),* that Freire believed that the dominant conceptions of illiteracy are naïve for considering it as a disease and not a manifestation of social inequity. According to Galli (2004), Freire was of the opinion that education can never be neutral, but that it is either geared towards the liberation or the domestication of learners and that illiteracy is not the original obstacle for people, but a result of other social, economic and political problems, and therefore literacy should be taught to

promote critical thinking so that learners can analyse and affect changes in their socio-political realities.

In the light of Freire's (1984) viewpoint, with which the researcher is in accord, it is especially ironic that the World Literacy Summit held in the UK in April 2012 had, according to *Business Day* reporter, Gernetzky (2012), as its secondary focus the theme of "Refocusing illiteracy as a disease, given its socio-economic effects" and that "leading education experts cannot explain how South Africa's education system is less successful than those of many developing countries, despite well-crafted policies and enviable resources". Having thoroughly discussed (Chapter 1, Section 1.4) the current crisis in which the Department of Basic Education finds itself due to a lack of strong leadership and commitment, the researcher finds the explanation obvious: apartheid as master creator of social inequity in the previous dispensation has been replaced by maladministration, a lack of accountability and teacher apathy, exacerbated by corruption. Learners from rural communities, who are not supplied with the most basic educational resources, remain the victims of role players within an education system that is certainly not geared towards their liberation.

Against the background of ever-evolving literacy demands, Meltzer & Hamann (2005:18) pose the following valid questions:

- What should teachers be doing in classrooms on a regular basis to ensure content learning and literacy development of students who struggle with at least some types of text?
- How can students [who are] achieving below grade level get up to grade level?
- How can average students who fall behind over time without support, or above average students who do not yet have strategies for facing the more advanced academic literacy challenges they will encounter [later in life], be given the explicit training they need?

Holum and Gahala (2001) refer to Leu (2000) who states that [t]he challenge is how to continue teaching traditional literacy skills while simultaneously learning new technologies and instructing students in those technologies". In a book review Throne (2003:46) cites Valmont (2003) as having said that "[t]he changing nature of literacy necessitates effective listening, writing, speaking, reading of print and electronic format, and comprehension of nonverbal systems". Sharing stories and experiences might just be the beginning of a revolution outside the classroom that could eventually lead to transformation inside the classroom. Throne (2003:46) also stresses the need that literacy teaching should "help our students express their thoughts in an articulate and prudent manner".

Finally, since the focus of this study is directed towards the improvement of the literacy skills of rural South African adolescents in the GET band (Senior Phase), the discussion should include the definition of literacy, as put forward in RNCS Assessment Guidelines for GET, Intermediate and Senior Phases, Languages (RSA, DoE, 2002a:75) that states that "[l]iteracy is the ability to read and use written information, and to write for different purposes; it is part of a general ability to make sense of one's world". Furthermore, the same document (RSA, DoE, 2002a:75) clarifies the term 'literacies' as follows: "There are various kinds of literacy: reading and writing; cultural literacy (understanding the cultural, social and ideological values that shape our reading of texts); critical literacy (the ability to respond critically to the messages in texts); visual literacy (the reading / writing of images, signs, pictures, etc.), and media literacy (the reading of newspapers, magazines, television and film as cultural messages)" (RSA, DoE, 2002).

In the next section the general development of adolescent literacy is investigated in order to remain focused on the educational developmental needs of the target group of this study, as indicated above.

2.8.2   *Developing Adolescent Literacy*

Within the context of improving the literacy levels of adolescents, Meltzer & Hamann (2005:12) stress the importance of assisting all learners to develop "a sophisticated set of literacy habits and skills for the demands of employment, higher education, and personal success in the 21st century". Meltzer & Hamann (2005:12) cite Langer (2002:2) who contends:

> Secondary students must develop 'high literacy' which is the ability to use language, content, and reasoning in ways that are appropriate for particular situations and disciplines. High literacy entails learning to read and interpret social cues, meanings, rules, structures, and the linguistic and cognitive routines to make things work in the real world of English language use (Langer, 2002:2).

Mohan (1990:113), similar to Langer, stresses the fact that "the integration of language and content should relate language learning, content learning, and the development of thinking, and should aim to find systematic connections among them".

The following section focuses on the development of literacy skills, based on the core language skills and outcomes envisaged in the RNCS (RSA, DoE, 2002) as set out in Section 2.8.1 above.

2.8.2.1 *Reading and viewing through comprehension*

Literacy skills and reading strategies should consciously be taught and applied in the context of reading, writing, comprehending, learning, thinking and reasoning within a community of practice, rather than being practiced in isolation, as the transfer of skills is jeopardised when the latter strategy is followed. Meltzer & Hamann (2005:23) report that "[t]here is ample evidence that a number of literacy strategies, when explicitly taught, modeled, and practiced in context, enhance the ability of secondary school students to use reading and writing skills to learn throughout the content areas [and that] research emphasizes that reading comprehension can be greatly improved through regular use of certain strategies such as questioning, clarifying, visualization, predicting and summarizing in context - before, during and after reading." Experience has taught the researcher that using reading comprehension or visual comprehension as vehicle for literacy enhancement implies that the adolescent learner should, progressively, be able to construct meaning from a text by applying specific reading strategies such as:

- focusing on the title as the key to the world of the text,
- focusing on prior knowledge related to the text,
- getting an overview of the text,
- being able to identify main ideas and related ideas,
- focusing on and being able to interpret visual clues,
- being able to paraphrase certain sections in order to clarify and simplify the text,
- interacting with the text by asking the "Who Where What Why and How" questions,
- finding the purpose of reading the specific text,
- discerning the target group and related register of the text,
- clarifying ideas and vocabulary by focusing on contextual clues,
- making notes and summaries in order to be able to recall important facts, concepts and ideas,
- measuring and justifying their personal point of view in relation to that of the writer,
- interpreting and evaluating the text,
- being able to create their own schema of understanding of the text and
- being able to place the text contextually within a connected framework.

However simple the above reading strategies might look on paper, every language educator knows that mastering these strategies is no small feat. It takes years of practice and is influenced by the contextual background (rural or urban; advantaged or disadvantaged) of the individual learner as reader. Becoming literate implies being able to relate existing knowledge to new knowledge, yet existing (prior) knowledge is dependent upon life experience, exposure, stimulation and influenced by culture and socio-economic circumstances. In this regard Stofberg (2011:15) aptly cites Matjila & Pretorius who postulate that educational background and socio-economic status are often inter-related and "if learners come from a community where neither their home nor their school contexts provide sufficient practice in reading skills and exposure to books, then [they] may find both learning to read and reading to learn difficult".

2.8.2.2   Reading and Viewing: Poetry instruction

This study concentrates on the question whether mobile poetry-based instruction can be utilised to effect improvement of the literacy levels of high school ESL learners within a rural context.

In the rural areas of developing countries such as South Africa, mobile devices are often the only source of internet connectivity because of the existence of established mobile networks. This study will not only attempt to prove that poetry-based teaching is an answer to improving literacy levels of adolescent ESL learners, but also that the distinct typography and conciseness of this form of communication could successfully overcome the limitations of character real estate on a mobile phone.

The opinions of researchers such as Block (2001), Alvermann (2002) and Kress (2003) are in accord with Hughes (2007:1) who believes that an encompassing definition of literacy in the 21st century should include traditional notions of literacy (related to competence in reading and writing), but also be expanded to include usage and comprehension skills in speaking, listening, viewing and representing. Hughes (2007:1) poses a question of particular interest for this study: "In a time when the focus is on improving literacy, what role might poetry, a genre that is often marginalized in the English language and arts classroom, play in literacy development?" Hughes argues that "poetry's conciseness, its brevity, and its power to convey so much in such a limited space, is its appeal". Hughes (2007:1) continues, citing Peacock (1999:13) who calls poetry "the screen-size art" that provides a "quick dive in a deep pool, offering depth in a moment, using

the depth of the moment". A point of particular relevance to this study that focuses on improving literacy levels is made by Hughes (2007:1) who links the study of poetry with Bloom's higher order cognitive skills of analysing, evaluating and creating (discussed in Section 2.7 above). Hughes (2007:1) states that "[p]oetry should have a central place, not only for the aesthetic pleasure it affords, but also for its ability to awaken our senses, to connect us with ourselves and others, to lead us to think in synthesizing ways as required by its use of the language of metaphor, [and] to transform the way we see the commonplace through new perspectives".

Bucher & Manning (2006:39) set out considerations for selecting poetry for young adults, inter alia, that the reader should be able to relate to the topic, setting, theme or emotion being conveyed; that the poem should elicit rich sensory images which young adults could appreciate and understand; that it should allow adolescents to experience the power of words; that vivid imagery and vibrant language should be used; and that the poem will provide pleasure.

Two other vital considerations would be the fact that the poem should inspire the reader to interact with the additional language and should take the young adults' developmental stage into account. Thus, the instructional designer of poetry sessions on the mobile platform has to be mindful of these considerations, tapping into the power of poetry which encourages precision of words, phrases and images, and an economy of language use which can skillfully be transferred to intervention in all other aspects of ESL acquisition.

Hadaway, Vardell & Young (2001) cited in Meltzer & Hamann (2005:22) describe the effectiveness of using poetry to scaffold language development and serve as an entry to content learning for ESL learners. The importance of the teacher as model of academic English is stressed. Teacher modeling is of great importance in providing examples of the kind of texts ESL learners are expected to produce, regardless of the instructional goal, e.g. oral interpretation, poetry analysis, vocabulary learning, comprehension, the writing of poetry "or use of poetry as bridge between prior knowledge and experience, and new content learning" (Meltzer and Hamann, 2005:22).

In the case of mobile or online learning, the use of hypermedia such as vodcasts, videos and podcasts to scaffold language development, is valuable. Hughes (2007:2) stresses this important aspect when she states that "the use of new media adds multiple layers of meaning and interpretation of a poem in ways that are not available with a conventional textual format." Hughes continues that a focus on oral language development through the reading and

performing of poetry acknowledges that sound is meaning, and reiterates that learners who hear the sounds of the words in a poem read aloud, gain a better understanding of the meaning of the writing. "This kind of attention to the language and rhythms of a poem serves to expand oral and written vocabulary" (Hughes,2007:2). This important point underlines the powerful functionality of the mobile phone as a medium of accessing hypermedia, and as a sound recorder and playback device for learners in rural areas where a lack of resources and proper modeling with regards to correct English pronunciation, tone and diction is common.

2.8.2.3 Language: Building Vocabulary

Stofberg (2011:21) refers to Sedita (2005) who makes a clear distinction between receptive vocabulary (the vocabulary that a person can understand when presented in text, e.g. comprehension texts and literature), and productive vocabulary (oral vocabulary used in writing). Teaching receptive vocabulary is an essential, yet complex, part of the process of learners becoming literate, focusing on learners' prior knowledge and building upon it. The complexity of the relationship between vocabulary knowledge and reading comprehension is stressed by researchers such as Alderson (2000), and Nel, Dreyer & Klopper (2004). Alderson (2000:99) contends that although there is a strong positive correlation between vocabulary knowledge and reading comprehension, it is more likely that comprehension results from prior knowledge that the reader brings to the text, rather than vocabulary knowledge alone. Being able to construct meaning of a text thus implies having existing knowledge about the topic, text structure and related vocabulary of a text.

Stofberg (2011) indicates that, as far as vocabulary teaching is concerned, researchers such as Harris & Sipay (1990), and Burns et. al (1991) agree that vocabulary should be taught directly and indirectly. Stofberg cites Sedita (2005) to explain the difference between direct vocabulary enhancement (e.g. teaching specific words and testing vocabulary prior to, and after a reading text), and indirect vocabulary enrichment (e.g. by exposing learners to new words in different texts and contexts and encouraging learners to read as much as possible).

2.8.2.4 Speaking and Writing: Academic language learning

Learners who are exposed to formal education should continuously be empowered to reach a level of literacy that facilitates the use of language for academic purposes. Van Rooyen & Jordaan (2009:271) state the important fact that language competence and proficiency are central to educational success, qualifying that "this involves more than the ability to communicate in everyday conversational contexts, but is specifically related to the use of language for academic purposes". Cummins (2000) is cited by the above mentioned writers, as stating that "the academic language register therefore encompasses both oral and written modes of communication". However, referring to the current South African educational context, Van Rooyen & Jordaan (2009:271) cite Uys et al. (2007) who highlight the existence of evidence that suggests "that teachers … are unaware of their responsibility to meet the language-related needs of learners and also lack the training of specific methodological skills to promote effective learning of academic language".

Reading and writing are both language-based activities, thus Cummins (2000), cited by Van Rooyen and Jordaan (2009:272) stresses the challenge of teaching learners good writing skills "as the linguistic demands become more challenging through the grades requiring the processing of decontextualised language which is devoid of contextual and interpersonal cues such as gesture, facial expressions and intonation".

2.8.3   Measuring literacy levels

It stands to reason that measuring literacy would be related to differing definitions of literacy, which immediately leads to a maze of complexity. The South African EFA of 2010 (RSA, DoE, 2010:31) states that "[l]iterature shows that the measurement of literacy is complex; therefore, it is commonly undertaken using proxy measures [and] for the purposes of this report, 'no formal education' is taken as a proxy measure for total illiteracy, while the proxy measure for functional literacy is the completion of primary school, which, in South Africa, is the attainment of a Grade 7 level of education". Against the backdrop of the current state of educational affairs in South Africa, and bearing the abysmal results of the 2011 ANA in mind (discussed in Chapter 1, Section 1.4.1), the statement could be made that attaining a Grade 7 level of education is no guarantee for being literate. Far from it. As educators and researchers such as Bashir, Conte & Heerde (1998), and Hoff (2005) agree that language competence and proficiency are central to

educational success, the lack of such competence reflected in the ANA results, can only lead to educational failure.

In order to retain focus on rural South African adolescents , it seems best practice to turn to the RNCS (RSA, DoE, 2002:5) that refers to the main purpose of learning a language in the statement that "[l]anguages are central to our lives; we communicate and understand our world through language [and] language thus shapes our identity and knowledge". The RNCS (RSA, DoE, 2002:5) continues listing a variety of purposes for language learning, which, when read together, form a clear definition of academic literacy in 21st century (RSA, DoE, 2002).

For the objective of this study, i.e. to measure the extent to which mobile poetry-based instruction could enhance the English literacy levels of rural learners, it would be a logical next step to focus on the RNCS (RSA, DoE, 2002:5-6) educational purposes listed below:

- Personal – to sustain, develop and transform identities and sustain relationships;
- Communicative – to communicate appropriately and effectively in a variety of social contexts;
- Educational – to develop reading and writing, the foundation for other important literacies; to develop tools for thinking and reasoning; to provide access to information and to serve as medium for much of the other learning within a curriculum;
- Aesthetic – to create, interpret and play imaginatively with oral, visual and written texts;
- Cultural – to understand and appreciate language and cultures, and the heritage they carry;
- Political – to assert oneself and challenge others; to persuade others of a particular point of view;
- Critical – to understand relationships between language, power and identity; and to challenge uses of these where necessary; to understand the dynamic nature of culture; to resist persuasion and positioning where necessary; and to develop the critical tools necessary to become responsible citizens (RSA, DoE, 2002).

2.9   Digital literacy in a global world

Guité (*2011*) links m-learning to digital literacy with his view of m-learning as "the acquistion of any knowledge and skill through using mobile technology anywhere, anytime, that results in an alteration of behaviour", while Hague & Payton (2010:15) stress the fact that literacy, numeracy and ICT-capabilities are essential skills "that should be embedded across all areas of learning". Hague & Payton (2010:15) contend:

> Digital literacy is an important entitlement for all young people in an increasingly digital culture. It furnishes children and young people with the skills, knowledge and understanding that will help them to take a full and active part in social, cultural, economic, civic and intellectual life now and in the future (Hague & Payton (2010:15).

Hague & Payton (2010:15) also refer to the National Curriculum for secondary schools in England, Wales and Northern Ireland with its emphasis on skills development, such as being able to work as part of a team, thinking creatively and being able to self-manage. Of special significance for this study, is the focus of the above-mentioned curriculum on functional skills, cited by Hague & Payton (2010:15).

> Functional skills are those core elements of English, Mathematics and ICT that provide individuals with the skills and abilities they need to operate confidently, effectively and independently in life, their communities and work…individuals possessing these skills are able to progress in education, training and employment and make a positive contribution to the communities in which they live and work (Hague & Payton, 2010:15).

Although Hague & Payton (2010:15) focus on a curriculum far removed, both economically and in terms of resource capacity, from the African continent and its unique set of realities, these principles and goals are both valid and essential for education in South Africa, and for the upliftment of communities where growth has been stunted by apartheid, and where progress is currently stifled and the situation exacerbated by a lack of educational leadership, consistency and accountability. Summerfield (2012) reflects on the importance of global digital literacy and underlines the importance of digital literacy as an essential skill when he contends that "[r]ight now, too many people in too many places are lagging behind in these [digital] critical competencies [and that] this gap in digital literacy needs to be addressed by educators and IT

pros with a strong sense of social responsibility". Summerfield (2012) continues and emphasises the fact that expanding digital literacy is more than just a "nice-sounding concept", but rather "serves the global economy by bringing more skilled professionals into the national workforce, whether they end up going into a technical field or not."

Leach (*2011*) makes a valid point in stating that "digital literacy has led to great increase in information that can be conveniently and quickly accessed and facilitates the collaboration and sharing of knowledge [and...] we are also seeing an increasing reliance on digital modes of communication". Leach (2011) cites Gutierrez & Gamboa (2008) who list significant factors that contribute to the digital divide or inequity with regards to access to ICTs. These factors include "physical location (rural vs. urban); remoteness of area and whether the individuals are located in a developed or developing country". Leach continues by stating that "the experts seem to agree that the main factors determining whether individuals are likely to use ITCs, is wealth and education", and cites For (2008) who stated that we should care about the fact that there is an ever-widening digital divide because "ICTs are having ever greater impact on global economies and social processes".

As discussed in Chapter 1 of this thesis (Section 1.4.2), the worldwide availability of mobile networks and the proliferation of the mobile phone avail educators, developers and entrepreneurs of the opportunity of utilising mobile phones to promote global literacy and to reach a wide audience, including learners who find themselves out of school. A speaker at a USAID Mobile for Education for Development (M4Ed4Dev) Conference held in Washington in August 2011 quoted the EFA Global Monitoring Report of 2007, stating that over 73 million children in developing countries are out of school.

As indicated in Section 1.4.2 of this thesis, 735 096 of these learners referred to, are primary school learners in South Africa. With these facts in mind, and considering the situation of overcrowded rural South African classrooms, (and the fact that annually literally hundreds of rural learners drop out of school or just don't attend), the mobile phone with its educational capacities becomes a necessity for sharing knowledge. Leach (2011) concludes: "All of this knowledge, available at your fingertips, knowledge is power, and to access knowledge you need to be digitally literate, … with this in mind, would we not be doing our learners a great disservice if we did not prepare them to be digitally literate in this new environment?"

2.10 The readability and age-appropriateness of texts

2.10.1 Reading Vocabulary and the RNCS (2002)

The RNCS (RSA, DoE, 2002:101) indicates that a Grade 8 learner should demonstrate a reading vocabulary of between 5000 and 6000 words and that by the end of Grade 9, "these learners should be able to use their home language and first additional language effectively and with confidence for a variety of purposes, including learning, and should read at an appropriate reading and language level" (RSA, DoE, 2002:4). Furthermore the document indicates that knowledge of language and texts includes knowledge about context, text structure (for example poetic form), grammar, sounds and vocabulary of the language, and writing and spelling in written texts (RSA, DoE, 2002:7).

2.10.2 Readability Indices and the South African Context

In order to ascertain that texts used for mobile instruction and intervention are compatible with the reading standards set out in the RNCS (RSA, DoE, 2002) as indicated in Section 2.10.1 above, and taking the target population into account, the readability and age-appropriateness of texts were verified through indices, such as the *Flesch-Kincaid Grade Level Indicator* and the *SMOG Readability Formula* (discussed in sections 2.10.2.2 and 2.10.2.3 below, respectively). While readability indices are helpful in verifying the standard of reading texts for each grade, and while the requirements set out in the RNCS (RSA, DoE, 2002:4) referred to in Section 2.10.1 above should be adhered to, the South African context should remain the focus when selecting texts for mobile English intervention (RSA, DoE, 2002). Due to circumstances discussed below, South African learners from disadvantaged urban, as well as remote rural communities, often find themselves out-of-school for periods of time. Those who are fortunate enough to return to the schooling system often find themselves in a grade far below their biological age, and lacking the basic ESL reading skills and vocabulary expected of a learner in that grade, which consequently impact on the total learning experience – regardless whether the learner's home language or English is the LOLT.

The following information is extracted from the South African Education for All Country Report of 2010 (RSA, DBE, 2010), which will be referred to as EFASA in the following discussion:

EFASA (RSA, DBE, 2010:10) states that in terms of the South African Schools Act (Republic of South Africa, Act no. 84 of 1996), education is compulsory for learners turning 7, until the age of 15 or Grade 9 (whichever comes first), and that "the government encourages learners to enrol beyond Grade 9, and *no learner who wishes to continue to Grade 12 is denied access to schooling*". Thus, as far as schools in disadvantaged urban areas and rural communities are concerned, it is nothing out of the ordinary to find sixteen or seventeen year old learners in a Grade 8 class together with twelve and thirteen year olds.

Although South Africa has a Gross Enrolment Rate (GER) of 85% in secondary schools, participation rates cannot be regarded as a measure of real education access (RSA, DBE, 2010:26). Badat (2009) is cited in EFASA (RSA, DBE, 2010:16) as saying that "As has been noted, the simple reality is that enrolment is not the same as attendance, and attendance does not imply learning". Due to personal and socio-economic circumstances such as extreme poverty, teenage pregnancy, and HIV / Aids that force young learners to take charge of a household at a very young age, thousands of learners annually find themselves out-of-school. EFASA (RSA, DBE, 2010:21-24) indicates that the number of orphans increased from 3% in 2002, to 6% in 2009. According to EFASA (RSA, DBE, 2010:21-24) the number of out- of- school learners in 2009 between the age of 14 to 18 years was 363 049, decreasing to 317 204 between 16 to 18 years. This decrease can be attributed to the fact that many learners return to the schooling system after two or three years in attempt to complete their school careers, resulting in classes being overcrowded with learners who are much older than their grade peers. EFASA (RSA, DBE, 2010:25) furthermore reiterates that rural, informal areas carry the biggest burden with regard to orphanhood, with an estimate of one in every five children (20,0%), amongst children who are 18 years old and younger.

2.10.2.1 The Online Comparative Readability Measurement Tool

An online readability tool that automatically calculates the readability of texts according to, inter alia, the Flesch-Kincaid Grade Level and the SMOG Readability Formula, was used to determine the readability of texts used in this study. This readability calculator is designed primarily for English texts and calculates readability by providing basic statistics, such as the number of characters, words, sentences, average number of characters per word, syllables per word and words per sentence, and compares the readability figures of the Coleman Lieu Index, Flesch-Kincaid Grade Level Indicator, The Flesch Reading Ease Level, the Automated Readability

Index, and the SMOG Readability Formula. The measure of readability used by the calculator indicates the number of years of education a learner needs to be able to understand the text easily on the first.

The Flesch-Kincaid Grade Level Indicator and the Smog Readability Indicator are briefly discussed below.

2.10.2.2 The Flesch-Kincaid Grade Level Indicator

The Flesch-Kincaid Level Indicator is a readability score analysis and rates text on a U.S. grade-school level, based on the average number of syllables per word and words per sentence.

Microsoft Word consists of a built-in tool that displays the Flesch-Kincaid score for texts in the last language that was checked in the last processed paragraph of a document. A score of 8 indicates that an eighth-grader should understand the text. Thus, when giving reading texts to seventh to eighth grade learners, one should aim for a Flesch-Kincaid score between 7.0 and 8.0.

This score makes it easier for teachers, parents, librarians, and others to judge the readability level of various books and texts for the students. Theoretically, the lowest grade level score could be -3.4, but since there are no real passages that have every sentence consisting of a one-syllable word, it is a highly improbable result in practice.

2.10.2.3 The SMOG Readability Formula

The SMOG Readability Formula was designed by Harry McLaughlin, and is an acronym for the lovely term "Simple Measure Of Gobbledygook". McLaughlin introduced this readability formula through an article in the *Journal of Reading* in 1969, SMOG Grading –A New Readability Formula, as an attempt to improve on existing readability formulas. The SMOG Readability Formula estimates the years of education a person needs in order to understand a piece of writing and is considered appropriate for readers from 4th grade to college level.

For the purpose of this study, all the reading texts of the Pre- and Post Assessments, as well as all the poetry and reading comprehension texts that were used in the mobile intervention sessions, were assessed online for readability, as indicated in 2.10.2.1 above, and reflected in **Appendix E**.

However, these indices are considered as supplying an *indication* of the grade readability of texts at the first reading. Thus, a text of which the readability is indicated on Grade 10 level by the online calculator, might still be appropriate to use for instruction and intervention purposes for a lower grade level, and vice versa, depending on the mode of application. The final choice of texts used in this m-learning study, was thus determined by keeping the following factors in mind:

1. rural contextual factors (referred to in Section 2.10.2 of this chapter);
2. the outcomes envisaged for learners of Grade 8 ESL in the RNCS (RSA, DoE, 2002), discussed in Section 2.10.1; and
3. current Grade 8 learning and teaching material, and the Thutong Language Assessment Bank for Grade 8 English First Additional Language (RSA, DBE,2010).

With the above factors in mind, the research methodology and design of this study are discussed in the next chapter.

CHAPTER 3
RESEARCH METHODOLOGY AND DESIGN

We must prepare our students and teachers for the world of today, not the classrooms of yesterday. Additionally, teachers need to experience and understand the educational value, and be comfortable with technology tools before using them to enhance teaching and learning.

Nielsen, L. 2008

In this chapter the research methodology and the design of this study are put forward. First, the nature and aims of the study are explained, with emphasis on the importance of Additional Language teaching and raising literacy levels in South Africa **(Section 3.1)**. Thereafter, a comprehensive account of the implementation of the instructional design of the study, primarily adapted from the Gerlach & Ely Model for Instructional Design, is given **(Section 3.2)**. In the next section the time frame and instructional tool of the study are presented **(Section 3.3)**. **Section 3.4** gives an explanation and graphic representations of the connectivity model used in this study, after which the following two sections introduce the experimental group **(Section 3.5)** and the control group **(Section 3.6)**. Finally, **Section 3.7** describes the ethical considerations that were taken into account, as well as the qualitative and quantitative data collection and procedures that were observed.

The complete data presentation and analysis follow in Chapter 4.

3.1   Nature of the Study

The study was conducted as a case study within both the qualitative and quantitative paradigms, with specific focus on the theory of connectivism that describes how learning happens in a digital environment. The study aimed to explore a way in which to deliver education, and specifically to improve literacy levels for rural adolescents in the South African GET phase, through web-based mobile poetry intervention.

The Intermediate Phase Systemic Evaluation Report (RSA, DoE, 2005) on the impact of the Language of Learning and Teaching on learner achievement levels, specifically highlights the importance for Additional Language Teaching in South Africa. According to the report (RSA, DoE, 2005:2), "[l]earners whose home language was the same as the language of learning and teaching (LOLT) obtained significantly higher scores in all the learning areas than learners whose home language was different from the LOLT and consequently wrote the test in their second or third language". Of significance is the fact that "this trend was observed in all the provinces" (RSA, DoE, 2005:2).

The former Director-General of the Department of Education commented in the report that language is a major factor in children's learning and that it is imperative to strengthen programmes that could help improve low levels of learner achievement – especially with regards to language ability – for both home language and the language of learning and teaching (RSA, DoE, 2005:v). A curriculum-based mobile learning programme aimed at improving literacy (and thus learning), and focusing on reaching rural learners at the fraction of the cost of training and retraining teachers, and certainly for less than printing and delivering textbooks, is therefore long overdue.

The definition of m-learning provided by Elias (2010:143) who cites Kukulska-Hulme (2007:1) & Traxler (2005:1) served as inspiration: "…a personal, unobtrusive and spontaneous, 'anytime', 'anywhere' way to learn and to access educational tools and material that enlarges access to education for all." Although the mobile devices used in this study had to be supplied to the participants, the digital survey completed by the experimental group (from a poverty stricken community) revealed that 15 of the final 26 participants had their own cellphones, and that another 8 participants had access to a cellphone at home, and would thus be able to learn anytime, anywhere. A mobile website, tailor-made for the grade for each school subject could, therefore, potentially have a considerable impact on their access to education.

3.2   Instructional design of the study

The instructional design of this study is based primarily on Gerlach & Ely's Instructional Design Model that was discussed in Chapter 2 (Section 2.6.3) of this thesis. The researcher as instructional designer was also informed by the FRAME Model and the principle of scaffolding related to Vygotsky's ZPD (as discussed in Chapter 2, Section 2.6.4) as a guide for the

development of the mobile learning content that was used, and for the design of teaching and learning strategies that were implemented.

This study focuses on mobile learning in South Africa: a third world developing country, and therefore not comparable with the developed world with its abundant resources and opportunities. The target population, (in this thesis referred to as the experimental group) consists of rural learners between twelve and seventeen years of age with little prior exposure to mobile technology as an educational or social tool in the form of a smartphone. These learners are caught in the restrictive paradigm of communities paralysed by a history of debilitating apartheid, intense poverty and a Department of Basic Education that fails to keep its promises of providing basic resources.

The Gerlach & Ely Model, although not originally designed for digital learning and instruction, offered a framework of instructional design that could be adapted to suit the context and purpose of this study. Mergel's statement (1998) that "there is a place for each learning theory within the practice of instructional design depending upon the situation and the environment", was advantageous to the choice of content and mode of interaction employed in this study. The study constitutes a mixture of empirical 'trial and error' type investigation. Research was, qualitatively based, on the one hand, on participants' note making strategies; interaction with the mobile devices and mobile delivered content; communication with each other on MXit; and continuous assessment results. On the other hand, a quantitative approach was followed to evaluate the participants' literacy levels prior to, during, and after the intervention sessions. The instructional design thus had to allow for a behaviourist and cognitive evaluation in order to meet specific objectives; and also for a more qualitative evaluation of the participants' interaction with the device and the digital learning process, linked to the theory of connectivism.

Instructional Design of the MOBIPAL Poetry-based and Intervention Sessions

The instructional design of this study was adapted from and primarily based on the Gerlach & Ely Model discussed in Chapter 2 (2.6.3).

STEP 1:   SELECT CONTENT IN RELATION TO OBJECTIVES

The decision was made to use poetry as a contextual base, as this medium does not only overcome the dilemma of limited real estate on the cell phone screen, but also allows for integration of the outcomes of Reading & Viewing (dealing with literature, comprehension & visual comprehension), Language Use (vocabulary building & language in action), and Writing, as stipulated in the RNCS (RSA, DoE, 2002). Four poems were chosen: *Fog (*Carl Sandberg), *A love poem for my country* (Sandile Dikeni), *Snake* (Ian Mudie), and *Four Men and an Elephant* (which is based on a traditional story from India, author unknown, adapted from a reading text in *Get Going with English* (Boulle, Comrie, Lague & Loebenstein, 2006:147-148). A series of activities and skills-based tasks, focusing on unity, citizenship and appreciation of our country, South Africa, were designed around Dikeni's poem *A love poem for my country*. A reading text, relating to the above mentioned poem, was adapted from a South African website, called *Info Please* (2012).

In addition, participants were directed via a link to an online Oxford dictionary site (2011) to find the meanings of words from the poem. They were also prompted to click on links to music and videos relating to some of the poems, and could listen to the pronunciation of every poem via links to podcasts. They could also practice their own pronunciation by replaying the downloaded podcasts, reading the poem to one another, and discussing the meanings of unknown words and phrases in a community of practice. Based on the required outcomes and standards set out in the RNCS (RSA, DoE, 2002), aspects of poetry, such as imagery, figures of speech (distinguishing between a metaphor, simile and personification), and different poetic devices were addressed; and aspects of paragraph and dialogue writing, as well as reading and visual comprehension strategies were dealt with. Grammatical features, informed by the context of the poem, such as the difference between adverbs and adjectives, were taught by means of a podcast in which participants could follow the text on screen and listen to the voice of a teacher explaining these concepts. Every component of the different outcomes that were taught was evaluated by a quiz in order to direct the participants' attention.

STEP 2:   LINK OBJECTIVES AND CONTENT

The main objective was to investigate whether mobile poetry instruction outside the context of the classroom could bring about significant change in the English literacy levels of rural L2 learners in the Senior Phase. Bearing in mind that this specific model of instructional design is procedural, the learner remained the focus all along, and not the outcome(s). Participants

received the intervention sessions once a week for approximately one hour after school at a digital centre, run by an NPO on the school's premises. The first objective was to train the participants to master the tool – the *Vodaphone 858 smartphone.* As these learners grow up in a rural setting, it was not a *fait accompli* that they would find handling the instrument a simple task.

However, the participants needed only one hour of training to be able to log successfully onto the Mobipal Mobile Site (2012) and intuitively navigate through the first intervention session. The sessions were designed around the RNCS (RSA, DoE, 2002) and its envisaged outcomes (discussed in section 4.1), but also based on the following objectives: The utilisation of a web-based platform on which a multimedia sample could be developed and accessed by rural learners via mobile phone in a blended learning approach; and the verification of whether m-learning could be an effective substitute for CALL (Computer Assisted Language Learning, discussed in Chapter 2, Section 2.1) which is hampered by poor resources and/or untrained teaching staff at rural schools. Within the intervention programme, the main objectives were to develop digital communicative and writing skills to prepare the participants to collaborate interactively within a Community of Practice.

STEP 3:   ASSESS LEARNERS' ENTERING BEHAVIOURS

This procedural model is intended to support the 'how', and not the 'why' of reaching goals, and emphasises teaching for the average student in the class, while encouraging them to meet their goals within the learning experience (Grabowski 2003:10). As the model is constructed based on the premise that every learner will enter the learning situation with different prior knowledge, the participants' entering levels (with regards to their command of spoken English) were assessed by means of personal interviews. Participants also completed a survey adapted from the *NEPAD e-Schools Project for Learners Baseline Survey* **(Appendix B)** in order to determine prior knowledge, exposure to or experience with technology. Thereafter a baseline test **(Appendix C)** was written by the Grade 8 population at the school in order to determine to what extent individual Grade 8 learners (from 3 different primary schools in the community) had learnt the skills, concepts and terminology to deal with the demands, outcomes and assessment standards of the Senior Phase. The assessment focused on comprehension, visual comprehension, grammar, poetry and writing. These components essentially deal with the skill of reading and viewing, and would (post intervention) be tested through a control assessment in order to give statistical proof of the hypothesis that mobile poetry-based intervention could

bring about significant change in the literacy levels of the participants. The results and general trend derived from the Pre-test and surveys, informed the researcher of concepts, skills and terminology on which to focus during the intervention sessions.

STEP 4:   DETERMINE THE TEACHING AND LEARNING STRATEGY

Mobile teaching and learning lends itself to a mix of learning theories and strategies that can be followed in order to reach the goal of enhancing literacy. In Chapter 2 of this thesis (Section 2.6.2) four types of important interaction as prerequisites for successful mobile instructional design, as proposed by Moore (1989:1-6) and cited by Culatta (2011), were discussed. These were learner X content interaction; learner X expert interaction; learner X learner interaction, and learner X context interaction. Culatta (2011) indicates that a healthy mix of interactions should be included in an effective m-learning programme. In designing the interactive digital learning material and teaching and learning strategy for the mobile intervention sessions of this study, the researcher followed an approach based on Holmberg (1983), Moore (1993), and Moore & Kearsley (1996), and summarised by Makoe (2012:69) as a "pedagogical focus of theories of interaction". The following summary distinguishes between different theoretical frameworks, of which *guided didactic conversation* and *transactional distance* were relevant to determine the teaching and learning strategy of this study.

The characteristics of the pedagogical focus for each of these frameworks, based on a section of Makoe's summary (2012:69), are as follows:

- Guided didactic conversation entails that the study material should be written in a personal style, should be easily accessible, offer explicit advice and suggestions, and invite exchange of views. Here mediated conversation "facilitates the development of learning relationships between the lecturer and the student" – which was made possible in this study via MXit, and a "Teentalk" page where participants were encouraged to write and make contact with their "cyber teacher" – the researcher. This study did not focus on the use communication via sms.

- Transactional distance entails interaction via the following modes: learner to teacher (an organised curriculum is provided by the teacher to support students in mastering the content); learner to learner (learners form peer support groups); and learner to content (learners interact with inanimate learning resources – in this study, for example, links to downloadable podcasts and videos). Although peer to peer support was not the main focus of this study, participants did interact with their peers in support of one another in

practicing their English pronunciation after having listened to podcasts of the poems; by sharing summaries made of each lesson; interacting on MXit and sharing devices – one would download the lyrics while the other downloaded the music to a song, for instance.

Sessions started with an expository, traditional approach in which the cyber teacher (the MOBIPAL site) presented information in a structured and organised manner. Lessons would follow a specific pattern of participants being greeted, prompted to log on, and looking at a brief description of the session, and / or feedback on, or repetition of (certain sections of) the previous session. This was done in accordance with Traxler's (2009:4) notion that, for behaviourist-type mobile activitity, it is the quick feedback or reinforcement element that is most notable. This would be followed by a "Tooltalk" page that would focus participants on the theoretical aspects of the material to be considered. The content would be presented in the form of a poem, pictures, notes pages, theory, informative texts or formal lectures, while urging participants within the blended learning model to practice the skills of note-taking and summarising. In order to avoid merely replicating classroom content in a linear fashion, participants would be led to explore the multi-model, non-linear literacies that are available in the digital environment: links to podcasts, videos, lyrics, music, an online dictionary, other cautiously selected, relevant websites and quizzes. Participants were also encouraged to interact with the mobile site by scrolling up and down the screen to read texts in non-chronologic, multisensory ways, to navigate backwards and forwards through the session; and to practice pronunciation and vocabulary in order to develop creativity, collaboration and critical thinking skills (in line with Bloom's framework of cognitive development, constructivism and connectivism – the pillars of this design). In this manner participants were steered by the "cyber teacher" as facilitator to discover and create their own schema of understanding, while tapping into prior knowledge and experiences.

STEP 5: ORGANISE THE GROUPS

The initial group, consisting of 30 participants, was divided in groups of 10 each, as initially only 10 cellular phones were available for research. Another 5 devices were made available during the research period in order to overcome technical problems and to ensure the continuation of participants' sessions - should technical problems arise. Group size was thus determined by the availability of the devices, but also by the objectives of developing reading and writing skills as foundation for other forms of literacy, and of developing learners' thinking and reasoning skills via their individual interaction with the web-based lesson, but also within the context of a

smaller group where they would feel comfortable in interacting with their peers. The reality of contextual factors, such as participants who missed certain sessions because of essential afternoon chores for the family also impacted on group size.

Four participants left the study (reasons are discussed in Section 3.5) to bring the total number of participants to 26. The same session was conducted 3 times per week – one for each group. Participants who had missed a session, could, with the permission of the facilitator, attend another session. Each participant would log on to the website, start the session individually, and, within the blended learning approach, start summarising important aspects of the lesson in a notebook provided to them. Although working as individuals, participants were free to interact with one another, especially in using the online dictionary and downloading, viewing and listening to podcasts, music and videos that formed part of the session.

STEP 6:   ALLOCATE TIME

As the intervention programme was conducted outside of school hours in a rural area where learners have to walk long distances and often have afternoon chores, participants were divided into three groups and instructional time was limited to a session of one hour per week (per participant), plus 15-20 minutes to distribute the devices, to solve technical problems, and/or complete other administrative tasks, and for participants to log in.

STEP 7:   ALLOCATE SPACE

The *Good Work Foundation* (GWF) currently utilise two classrooms at the high school where the study was conducted as a Digital Learning Centre (DLC). One of the venues has been equipped with computers by the GWF and the other is used to offer afternoon English classes. This venue was used to conduct the pilot project. Participants registered here for every session and were issued with the devices and their notebooks by the facilitator. Depending on the different sections of the mobile sessions, students would work individually, or in pairs, or in groups of 4. As the venue is also occupied by other grades who receive afternoon English lessons, some lessons had to be conducted outside, which brought a different dimension of freedom and enjoyment to the participants.

The fact that the participants could continue their mobile instruction session under a tree on the school premises, supports, in a very real sense, the unique characteristics of m-learning as defined by both Traxler (2005:1) and Kukulska-Hulme (2007:1) (quoted as introduction to Section 3.1, and aptly named "the *nature* of the study") when they refer to m-learning as "[a]

personal, unobtrusive and spontaneous, 'anytime', 'anywhere' way to learn and to access educational tools and material that enlarges access to education for all."

STEP 8:   SELECT RESOURCES

As the nature of the study is web-based, the researcher had to design the mobile poetry-based website, using an online web-platform. The instructional instrument, the *Vodaphone 858* was sourced by comparing its features and functionality, as well as the size of the screen to facilitate the learning process, and its affordability with that of other similar available products. Instructional material was created by the researcher, based on the prescribed outcomes and assessment standards indicated by the RNCS (RSA, DoE, 2002), and the Thutong Languages Assessment Bank for English First Additional Language, Grade 8 (RSA, DBE, 2010). Various textbooks and online resources (such as videos, music, lyrics, informative texts and pictures; and poetry, comprehension, writing and language guidelines) were also consulted in order to make the mobile learning experience meaningful. Graphics were sourced online and from the researcher's personal resource bank to enhance learners' understanding of concepts and ideas in the different poems. The researcher created vodcasts / podcasts, in association with a drama teacher, so that participants could download and listen to the correct pronunciation, tone, modulation and interpretation of the different poems, while links to YouTube videos, e.g. of two World Cup 2010 songs, served to enhance the enjoyment of vocabulary learning, linked to the poem "A love poem for my country," and thus the theme of nation-building and pride.

The mobile website as instructional interface was in this way supplemented with tailor-made, standardised, goal-orientated instructional material to enhance the mobile learning experience. Within an ordinary teaching and learning situation, resources are traditionally pre-selected by the educator who has to plan, prepare, execute and assess both the lesson and learners' work. Within the web-based m-learning model, however, resources could be developed in advance, but also adapted on a weekly basis to suit the needs of the experimental group by providing regular feedback, remediation and adapting instructional material in order to keep the objective of enhancing literacy levels in focus.

STEP 9:   EVALUATE THE PERFORMANCE

Continuous assessment was conducted during the 8 week intervention period through regular quizzes. Participants submitted their answers and the researcher could access and assess these answers via Excel. An ongoing process of teaching and assessment was thus enabled. The researcher could get a clear picture of the progress of individual learners, as well as of the

experimental group as a whole. The overall performance of individual learners could thus be measured weekly, and instant feedback or remediation could be provided in the next session to the group as a whole. Learners with special needs were identified and reported to the class teacher.

Participants also provided feedback via specific pages designed for feedback as part of the intervention sessions, as well as via MXit in a closed group chat session, recorded by the facilitator. Feedback related to the participants' experience with the mobile device, as well as to their attitude towards and learning experience with the mobile mode of instruction.

Participants were also assessed at the end of the 8 week period through a control assessment, and these results were compared with those of the baseline assessment in order to provide statistical evidence of the impact of mobile poetry-based intervention on the literacy levels of the participants.

STEP 10:   ANALYSE FEEDBACK AND REVIEW STEPS TAKEN

Participant's feedback (as evident in weekly quizzes) served as diagnostic assessment, informing the researcher-designer of new mobile teaching strategies to be followed, for example having to repeat certain sections, or adding podcasts, music or video links in order to clarify concepts not understood in previous sessions. The process of continuous assessment and addressing problematic content delivery forced the researcher to continuously review all the steps taken in the lesson and research design.

3.3   Time frame and instructional tool of the study

The research was done in 2012 between Term 1 and Term 2 (From 15 March – 2 June) a period of 9 weeks of mobile instruction, including revision. Provision was made for the April holidays between 30 March and 10 April and lesson 5 had to be postponed due to participants going on a school tour without prior warning to the researcher **(Table 2).** Thus, although 8 weeks were used to formally complete the intervention sessions, there were 7 sessions to be completed by the participants.

Table 2: Time Frame of the Study

February	March	April May June		July	August
Planning	Data	Design of Mobile Instruction			September
Logistics	collection	Literature Review		Data	October
Proposal	Introduction			analysis	
Literature	2 Surveys &			Literature	Final analysis and interpretation
Review	Interviews			Review	Integrating results and report writing.
	Baseline Assessment				
	Literature Review				
	Intervention started on 20 March 2012.	Weekly Intervention			
		Continuous weekly collection of quantitative data and preliminary analysis			
		Final reflective mobile survey.			
		Control Assessment, written on 13 June 2012.			

The baseline assessment was written on 5 March and on 15, 16 and 17 March 2012 the researcher met the participants (randomly selected to form the three different groups) at the DLC. Interviews were conducted as an informal assessment of the participants' ability to converse in English as their first additional language; and a questionnaire was completed by each participant in order to ascertain the participant's previous exposure to technology, and more specifically to the mobile phone. Thereafter participants were given a technical training session by the researcher in collaboration with the ITC staff at the Centre to acquaint themselves with the instructional tool. For the purpose of this study the *Vodaphone 858* (funded by The *Good Work Foundation*) was used. This mobile device is a smartphone with a 2.8" TFT-capacitive touch screen. It is equipped with Wi-Fi, GPS and Bluetooth capabilities **(Figure 4).** During the week of 20-23 March participants followed the introductory poetry session via the mobile devices, followed by a session each week between 26 March and 8 June. The control assessment was written on 13 June.

Figure 4: The instructional Tool - The Vodaphone 858

3.4   Connectivity

3.4.1   Connectivity Model used in this study

As the preferred model of connectivity (discussed in Section 3.4.2 below) was not an option at this specific rural school, the connectivity model used in this study is that each smartphone connects directly to the internet through its GPRS, EDGE, WIMAX or 3G-capability. In this specific area (Justicia in the Mpumalanga Province, South Africa) only GPRS and EDGE connectivity protocols were available through the VODACOM-network (a South African Mobile Network Operator) which covers the area. The VODACOM connectivity map **(Figure 5)** indicates the poor coverage in the village of Justicia, thus also in the vicinity of the high school where the study was conducted. A Vodacom signal booster was installed, courtesy of Vodacom, in order for the mobile learning study to progress

(http://www.vodacom.co.za/personal/internet/coveragemaps/).
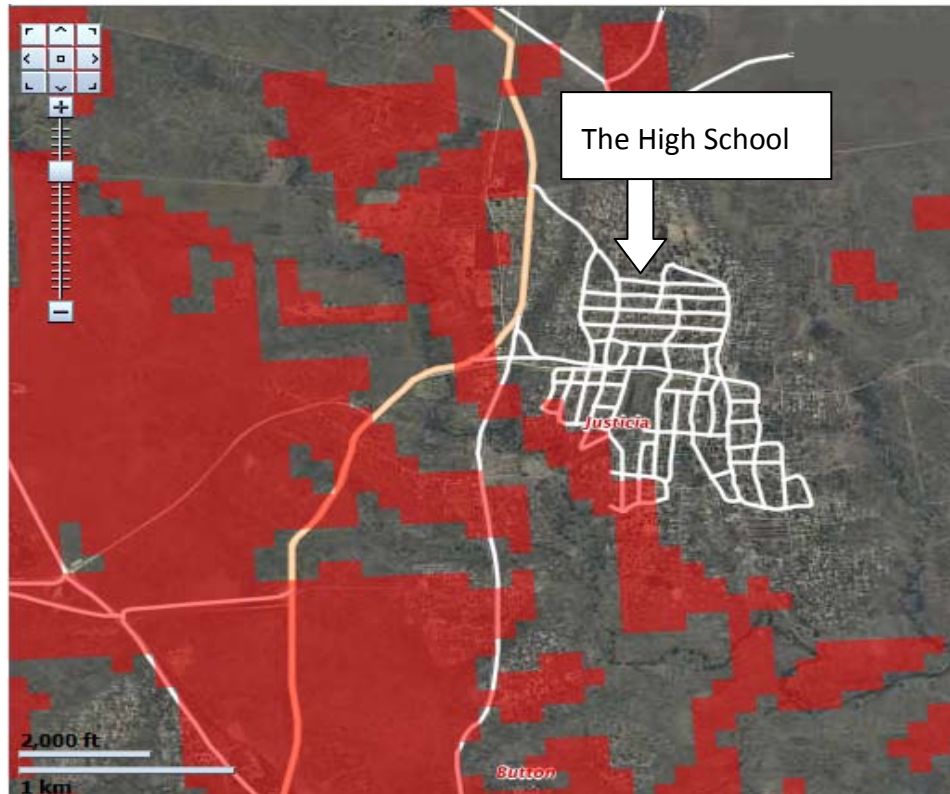
Figure 5: Mobile Network Coverage for Justicia, Bushbuckridge in Rural Mpumalaga, South Africa, indicating the poor network coverage in the vicinity of the school where the study was conducted.

The mobile device (smartphone) automatically connected to the fastest available connectivity protocol – in this case, EDGE **(Figure 6).** In the long run this proved not to be the most cost effective connectivity model, because of the expensive data costs of small bundles, but certainly the easiest to roll out (Vodacom, 2012).
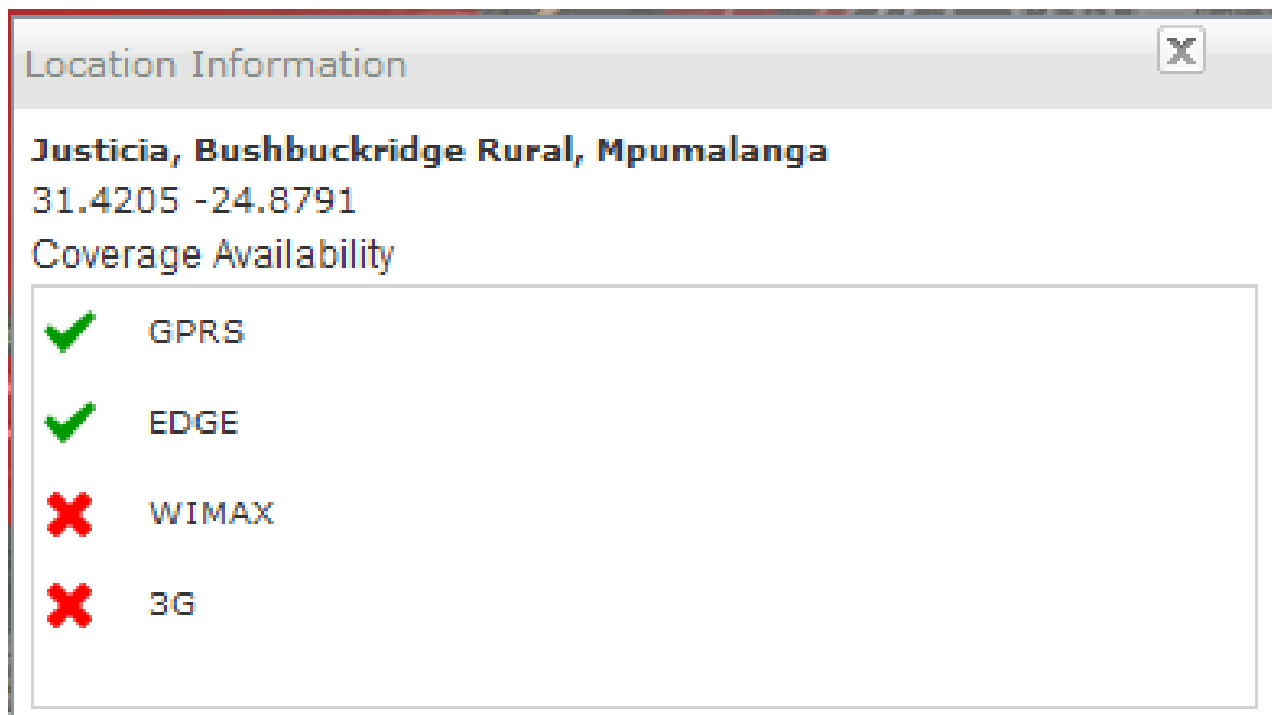
Figure 6: Vodacom Connectivity Protocol available for the community of Justicia, Mpumalanga, where the study was conducted

3.4.2   The preferred / suggested model of connectivity for mobile instruction and learning in remote areas

The preferred connectivity model would be that of a centralised wireless router that is connected to the internet (via ADSL, e.g. Telkom, wireless connectivity service providers like iBurst or Neotel, or large mobile data-bundle packages which are more data cost-effective) essentially creating what is generally known as a "Hotspot". Each mobile phone in the vicinity connects to the wireless router (and thus the internet) through the WiFi connection of the device. This is the recommended option for schools that have the necessary infrastructure, such as electricity and telecommunication lines. A school such as the high school where the study was conducted, would, in future, benefit from having an ADSL connection through a router, thereby creating a Hotspot for the school community. The smartphone automatically connects to a WiFi connection that has been set up on the phone if the connection is available. If the WiFi connection is out of range, the mobile phone will connect through any of the available mobile connectivity protocols in that area like GPRS, EDGE, WIMAX or 3G. In the preferred model this connectivity acts as backup to the WiFi connection.
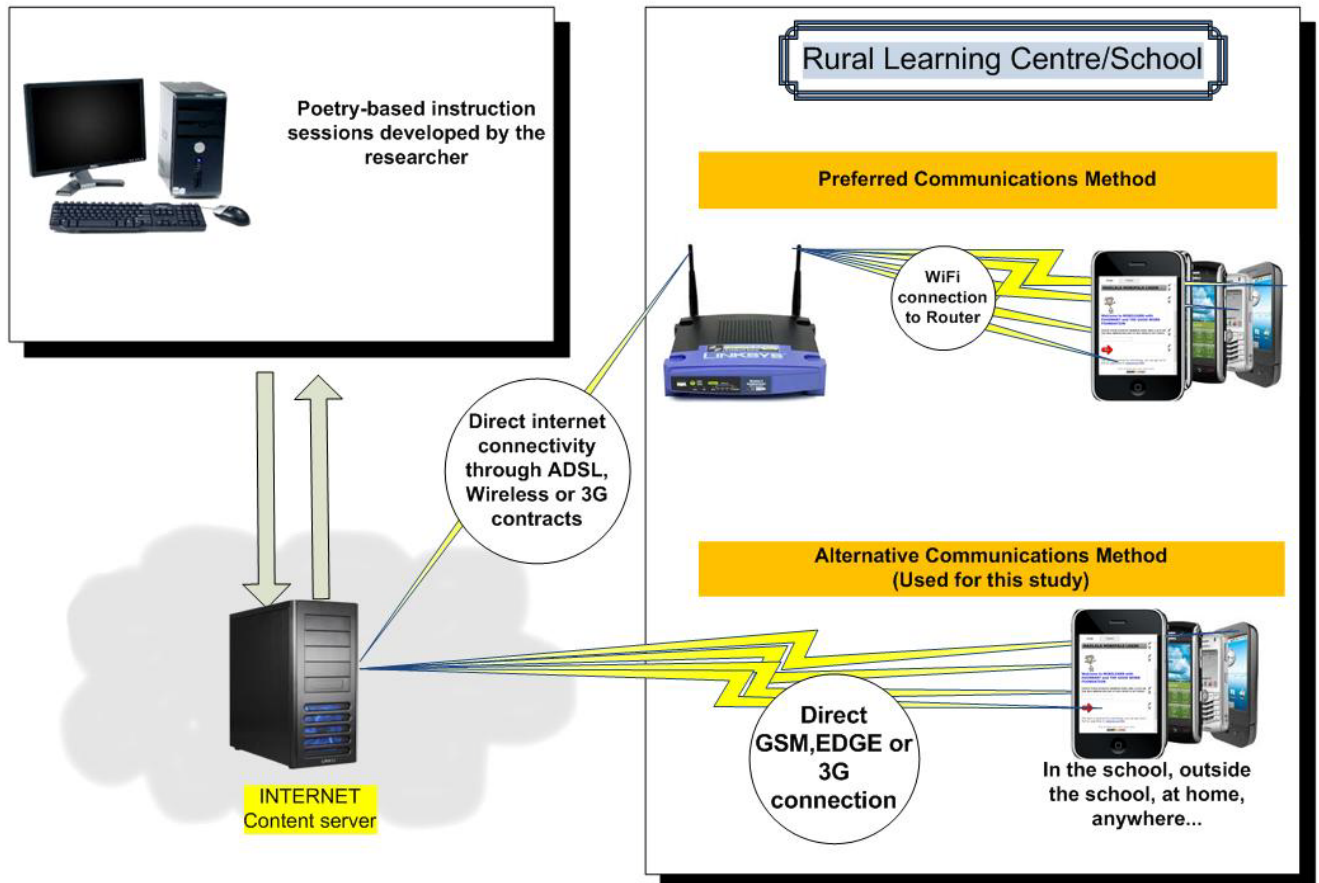
Figure 7: Mobile Connectivity Options and the model employed in this study

3.5 The experimental group or target population

The target population consisted of thirty (30) Grade 8 ESL learners at a rural high school in Justicia between Hazyview and Skukuza in Mpumalanga. Twenty six (26) participants completed the full course of voluntary afternoon extension classes at the Digital Learning Centre, run by *The Good Work Foundation* in collaboration with the school. The participants vary with regards to their ESL ability, intellectual ability and technological literacy level. The Centre is situated on the school premises. The participants start their high school career at different levels of ESL proficiency and varied technological literacy levels, as they hail from (mostly) three different local primary schools.

As the mobile intervention sessions were offered as afternoon classes, four participants left the study between Week 2 and Week 3 for personal reasons: two participants had to collect firewood or water for the family after school and had to fetch younger siblings from their

respective schools; one participant lost interest and wanted to socialise with her friends during the afternoon, and one participant dropped out of school. Of note is that the two last mentioned participants who left the study were both already 16 years of age, thus 3 years older than the average age expected for the grade.

3.6   The Control Population

The remaining Grade 8 learners at the high school who do not attend afternoon classes, but are exposed to the normal grade 8 ESL programme in the classroom, formed the control group of 103 learners. This group wrote both the baseline assessment and the control assessment with the target population **(Figure 8)**.

Figure 8: Writing the Baseline Assessment (Pre-test)

3.7   Data Collection and Procedures Followed

3.7.1   Ethical considerations

Permission was obtained from the Headmaster of the school where the study was conducted, as well as from the Circuit Manager of the Department of Basic Education, to engage the participants in the study. The parents of all the participants were contacted via a letter of explanation, and, where possible, signed reply slips were obtained. Participants were thoroughly informed of the purpose and process of the study. The fact that they would be free to terminate their participation at any given point was reiterated. The participants then completed an official Participant Information Leaflet and Assent form supplied by the Ethics Committee of Stellenbosch University **(Appendix A)**. Permission was obtained from parents, learners and the facilitators at the school, through the *Good Work Foundation,* to use photos of the participants and facilitators who were involved in this study in this thesis and other publications.

3.7.2   Qualitative data collection

Qualitative data collection comprised of informal interviews with the participants conducted by the researcher who visited the *Good Work Foundation's* Digital Learning Centre and the high school between 14 and 27 March 2012. An individual questionnaire, adapted from *the Nepad E-schools Baseline Survey for Learners* **(Appendix B)** was completed by the participants **(Figure 9)** to determine each participant's familiarity with ICTs in general and mobile phone technology in particular.

Figure 9: Participants completing the Digital Literacy Survey

During the researcher's visit, the participants were trained to use the tool (the *Vodaphone 858*) in order to ascertain that using the tool would not impede on the learning process. Participants were taught how to access content by logging onto the Edusmart MOBIPAL website (http://edusmart.*mobicanvas*.com) **(Appendix H)**, as well as how to use MXit as a social "Communities of Practice" platform for informal communication regarding the day's session. Short entries made by participants on the *TEENTALK* page of the MOBIPAL website throughout the study, as well as participants' communication with the facilitator on MXit, **(Appendix F1)** and the final mobile survey at the end of session 7, **(Appendix G)** serve as artefacts that document their experiences with mobile learning and express how they have come to understand both the content matter and the learning process. During the research period certain sessions of the participants' interaction with the mobile website were also photographed by the facilitator who is a field worker of *The Good Work Foundation.*

3.7.3   Quantitative data collection

Quantitative data collection and methodology comprise the following:

3.7.3.1   Baseline assessment of the control population

The ESL proficiency levels of the population of Grade 8 learners at the high School in Justicia, Hazyview was determined through a baseline assessment during the first week of March 2012 **(Appendix C).** The assessment was compiled and marked by the researcher. In order to maintain the standard, validity and fairness of the assessment and results delivered, the assessment was based on adapted texts and questions retrieved from the Languages Assessment Bank (English First Additional Language Grade 8) provided by Thutong, the Educational Portal of the South African Department of Basic Education (RSA, DBE, 2010) and is therefore in accordance with outcomes and standards prescribed in the RNCS (RSA, DoE, 2002). These learners will only be introduced to the new National Curriculum and Assessment Policy Statement (CAPS) in 2014 (RSA, DBE, 2011).

3.7.3.2   Continuous assessment of the target population

Participants in the experimental group received ESL poetry-based instruction in an attempt to improve their literacy and language skills via mobile phone. The population was divided into 3 groups (10 each) and accessed the texts, discussions, linked audio and video files, as well as the

link to an online dictionary, and quiz-questions via a custom designed "Edusmart MOBIPALs" mobile website once a week for 60 minute sessions each *(http://edusmart.mobicanvas.com).* The site was built by the researcher using an online mobile site builder (*mobicanvas.com*). Learners logged in, each using their unique username assigned to them for weekly intervention sessions.

Figure 10: Mobile Learning within a Blended Learning Approach

Mobile instruction occurred in the form of weekly poetry-based discussions. Participants followed the discussions in groups of 10, thus forming a Community of Practice, yet each having used a mobile phone to answer multiple-choice questions individually during each session. At the end of each lesson, participants also communicated with one another and the facilitator on MXit, a social network accessed via mobile phone at minimal cost. The sessions were supervised by a local fieldworker of *The Good Work Foundation* who acted as facilitator **(Figure 11)**. The facilitator is fluent in English; a native speaker of the participants' home language; and an International Computer Driver's License (ICDL) trainer. She is not a trained teacher and her participation was restricted to providing technical support. Instruction sessions varied in content and consisted of poetry discussions, vocabulary building, podcasts, videos, lyrics, songs, quizzes, comprehension and short writing exercises.

Figure 11: The facilitator assisting a participant with a technical problem

The content of every session, as well as multiple choice assessment questions were set by the researcher, utilising the *mobicanvas* web-platform. Assessment of the participants' understanding of the sessions provided empirical data on a weekly basis. This was achieved by the submission of multiple-choice answers on the mobile web platform, from where it could be accessed by the researcher and exported to Excel for continuous assessment purposes. Participants' answers were marked and results documented by the researcher on a continuous basis. Results are expressed as percentages in order to facilitate the analysis of the data-set. Each poetry session was enhanced with remediation or "action/repeat" sessions during the following weeks, focusing on specific concepts that could also be assessed in multiple-choice format and in the form of sentence writing, and then exported, marked and documented in order to further refine the data-set. This action was informed by and done in accordance with the RNCS (RSA, DoE, 2001:21) which states, "listening and speaking; reading and viewing; writing; thinking and reasoning; and the knowledge of sounds, words and grammar, although presented as separate outcomes, should be integrated in teaching and assessment" (RSA, DoE, 2002).

The readability and grade appropriateness of the reading texts used (poetry and comprehension) were verified using an online readability calculator. Although the readability calculator focuses on comparing several readability indices, the researcher focused on the *Flesh Kincaid Grade Level Index* and on the *SMOG Readability Formula*. The online Readability

Calculator **(Appendix E)** was used to compare the two indices listed above. This calculator proved to be a valuable resource in the choice of texts used in the design of the mobile intervention sessions for this particular study – especially in the light of the rural target population where a participant's age does not necessarily correlate with school grade in which the learner finds him/ herself. One of the participants in the target population is, for instance, already 17 years of age, yet in Grade 8 of the South African Education System, instead of in Grade 11 with his peers, for a multitude of socio-economic reasons. For a complete discussion on factors impacting on learners in rural South Africa, and thus on the selection of reading texts used in this study, refer to Chapter 2 (Section 2.10.2 and 2.10.2.1.), as well as Section 3.2.1 of this chapter.

3.7.3.3   Control assessment

A Control Assessment **(APPENDIX D)** (of the same nature and set according to the same standards and requirements applicable to the Baseline Assessment) was written by both the experimental and the control populations on 13 June. The results of the two groups were compared and analysed to determine whether any significant improvement had occurred within the experimental group as a result of the English poetry-based mobile instruction. Since the research is based on a hypothesis, the data was processed to determine whether the hypothesis has statistical significance.

The next chapter offers a presentation of the process of assessment standardisation, and an analysis of quantitative data in order to reach a conclusion regarding the statistical significance of the hypothesis referred to above.

CHAPTER 4
DATA PRESENTATION AND ANALYSIS

In this chapter the guidelines and standards for compiling both the Baseline Assessment (Pre-test) and Control Assessment (Post-test) are discussed briefly, and resources used in the process of standardisation are indicated, while retaining focus on validity and reliability **(Section 4.1)**. In the next section, quantitative data will be analysed first in order to reach a conclusion regarding the impact of web-based mobile poetry intervention on the English literacy levels of rural adolescents in the Senior Phase **(Sections 4.2** and **4.3)**, and then qualitative will be presented **(Section 4.4)**.

4.1 Guidelines, Standards and Resources Used for the compilation of Assessments used in this study

The RNCS for Grades R-9, (RSA, DoE, 2002:13) clearly states in its incremental approach to multi-linguism, that it is important for learners to reach high levels of proficiency in at least two languages, in order for them to be able to communicate in other languages. In order to prepare learners whose home language is not their language of instruction to make the transition to an additional language for learning and teaching (LOLT), the outcomes and skills of Reading & Viewing, Writing, Thinking & Reasoning, and Language Structure & Use are assessed in formative assignments and assessments, while the skills of Listening and Speaking are assessed on a continuous basis in the classroom. However, as stated in Chapter 3 (Section 3.7.3.2), the RNCS (RSA, DoE, 2002:21) clearly states that "Listening and speaking; reading and viewing; writing; thinking and reasoning; and the knowledge of sounds, words and grammar, although presented as separate outcomes, should be integrated in teaching and assessment". Although the Language of Learning and Teaching (LOLT) of the participants of both the experimental and the control groups of this study is their Home Language, the ideal is that these learners should be prepared at senior school level to pursue Higher Education studies (tertiary studies) where English will be the LOLT.

4.1.1   Validity, reliability and standardisation of assessments

4.1.1.1   When are assessments reliable and valid?

Stofberg (2011:49) cites Harris & Sipay (1990:181) who describe a *valid* test as one that "measures what it purports to measure", while a *reliable* test is "consistent, dependable and stable", and they state that "reliability is higher when test scores are spread over a range of abilities". In compiling both the Baseline and Control Assessments, care was taken to ascertain that both tests comprise a range of test item types (ranging from one-word answers to open-ended questions), and level of difficulty (ranging from lower order questions to higher order questions in accordance with Bloom's Revised Taxonomy of Educational Objectives discussed in Chapter 2, Section 2.7). A comparison of the two assessments based on Bloom's Revised Taxonomy is presented in Section 4.1.1.2 of this chapter **(Figure 13)**.

Alderson (2000:86-87) argues that, as prerequisite for declaring an assessment "reliable", the language of the questions should be easy to understand, and the questions of a [reliable] reading comprehension test should include textually explicit and implicit questions, as well scripturally implicit questions. For clarification on this statement, one could consult Pearson and Johnson (1987, in Afflerbach 2007:54) who proposed that the above mentioned three broad categories of questions are linked to the types of thinking and answering learners are required to master to comply with the outcomes of Reading and Viewing. In their view, textually implicit questions require of learners to find information from at least two different parts of the text in order to answer correctly; textually explicit questions require of learners to find the exact wording in the reading text as an answer to the question; and scripturally implicit questions require of learners to tap into prior knowledge and to integrate information from the text in order to arrive at a correct answer.

The validity of a test, as stated above, refers to the extent to which it measures what it intends to measure. The implication is that tests are only valid for a specific purpose, which, in the case of this study, was to measure the difference in the results of the experimental and the control groups (from Pre-to Post-test) pertaining to the outcomes and skills of Reading and Viewing (comprehension, visual comprehension and poetry); Language Use & Thinking and Reasoning; and Writing, in order to determine the effect of mobile intervention on the English literacy levels of the rural experimental group.

Since the mobile intervention sessions of this study were poetry-based (thus text-based), and since the Reading and Viewing components of comprehension, visual comprehension and poetry (together with writing) were relied upon as barometers to determine the extent of change effected in the literacy levels of the rural target population, the following warning made by (Stofberg, 2011:50) is relevant: "It is important to bear in mind that it is not only question difficulty that plays a role in the reliability of reading tests; text difficulty also has to be taken into consideration [and] the difficulty of a text depends on how much prior knowledge of the topic and text type a reader has, the language of the text, and the length of the text." The reading comprehension texts, as well as the poems selected for the Pre- and Post-tests respectively, are compared in **Table 3** below, using the Flesch-Kincaid Grade Level Indicator, and the SMOG Readability Index. The Readability Indicators are discussed in detail in Chapter 2, Section 2.10, and a comparison of all the texts used in this study is attached as **Appendix E.** A *grade level* is equivalent to the number of years of education a person should have had to understand the text *at a first reading*. Within the South African education system (Grade R – 12), a learner in Grade 8 should thus be in the 9th year of study. A suitable text for the Grade 8 target group of this study would thus be at a maximum readability level of 9, bearing in mind that the readability of a text is one of many indicative factors as to the suitability of a text (as explained above).

Although the readability factor of the Pre-test comprehension seems at a much lower level than that of the Post-test (see Table 3 below), the questions set were in accordance with the Reading and Viewing outcomes and assessment standards of the RNCS (RSA, DoE, 2002), and retrieved from the standardised Assessment Item Bank for Grade 8 English First Additional Language, supplied by Thutong, the National Educational Portal of the South African Department of Basic Education. (RSA, DBE, 2011).

Table 3: A comparison of the Grade Readability of texts used in the Grade 8 Pre-and Post-tests of this study

TEXT	FLESCH-KINCAID GRADE LEVEL INDICATOR	SMOG READABILITY INDEX because SMOG uses the criterion of 100 percent comprehension, it generally predicts levels at least two grades higher than Flesch-Kincaid	GRADE LEVEL READABILITY AVERAGE TARGET = GRADE 8 LEVEL
Pre-test Comprehension	3.6	3.9	**3.75**
Post –test Comprehension	6	6	**6**
Pre-test Poem *A newly born calf* by Oswald Mbuyiseni Mtshali (Thutong, RSA, 2010)	7.7	8.3	**8**
Post-test Poem *Nightsong:City* by Dennis Brutus (Thutong, RSA, 2010)	10.6	8.3	**9.45**

Stofberg (2011:50) contends that a reader who is unfamiliar with the language and vocabulary of a text will perceive the text as difficult. This reality was evident in the Pre-test results achieved by both the experimental and control groups in the Reading and Viewing components (reflected in **Table 4** below), and was corroborated by the **decline** of 6.1 percentage points for Comprehension (from 22.3% to 16.2%) and 7 percentage points in the Poetry section (from 19% to 12%) experienced by the control group from the Pre-test to the Post-test, while the experimental group **improved** significantly (7.6 percentage points in the Comprehension section, and 15.6 percentage points in the Poetry section).

Table 4: A comparison of the Pre-& Post-test Reading and Viewing Results

Reading & Viewing Component:	Experimental group Pre-test	Experimental group Post-test	Control Group Pre-test	Control Group Post-test
Comprehension	32.2% *Elementary achievement	39.8% *Elementary achievement	22.3% *Not achieved	16.2% *Not achieved
Visual Comprehension	20.1% *Not achieved	58.8% *Adequate achievement	20.2% *Not achieved	11.8% *Not achieved
Unseen poetry	13.1% *Not achieved	28.7% *Not achieved	19% *Not achieved	12% *Not achieved

* (See Table 5: Rating Code for Assessment in accordance with the RNCS (2002a).

4.1.1.2 How do the Baseline and Control Assessments of this study compare?

One might argue that the significantly different results obtained by the experimental group and the control groups respectively for the Post-test, would be enough proof of the effect of the mobile intervention programme. (The final Pre- and Post Test results for both groups are reflected in **Figure 12a** & **Figure 12b** below, and are discussed in detail in Sections 4.2.2 and 4.2.3). However, a more structured comparison of the two assessments (based on Bloom's Revised Taxonomy) was done in order to reach a conclusion in terms of the standard of the two assessments.

Material for both assessments was obtained and adapted from the Grade 8 English Additional Language Question Bank, provided on *Thutong,* the official Educational Portal of the Department of Basic Education (RSA, DBE, 2010), as well as from various Grade 8 textbooks set according to the standards of the RNCS (RSA, DoE, 2002) that will be replaced by the National Curriculum and Assessment Policy Statement (CAPS) in 2013 (RSA, DBE, 2011). The assessments are based on the requirements for outcomes and assessment standards indicated in the RNCS (RSA, DoE, 2002:83) that emphatically states that Grade 7-9 learners are preparing for Further Education and Training, and for life and work in the adult world and "therefore they should demonstrate high levels of competence in listening, speaking, writing and thinking". Learners would demonstrate these skills, amongst others, by being able to reason independently

through language, by being informed about career and further learning opportunities, by being informed about their rights and responsibilities as citizens in a democratic, multicultural society, and by being able to take a critical approach to texts and information.

Post-test results

	Comp rehen sion	Visual Comp rehen sion	Langu age	Poetr y	Writin g	TOTA L:
EXPERIMENTAL GROUP	39.8	58.8	47.1	28.7	46	44.1
CONTROL GROUP	16.2	32	32	12	23	23

Figure 12B - Overall Post-test results for both groups

Pre-test results

	Com prehe nsion	Visua l Com prehe nsion	Lang uage	Poetr y	Writi ng	TOTA L:
EXPERIMENTAL GROUP	32.2	20.1	51.9	13.1	25.4	28.5
CONTROL GROUP	22.3	20.2	49	19	17	25.5

Figure 12A - Overall Pre-test results for both groups

Both the Pre- **(APPENDIX C)** and Post-tests **(APPENDIX D)** comprise the following components:

- Reading and Viewing/Thinking and Reasoning: Long Comprehension and Visual Comprehension (cartoons, photos, pictures);

- Reading and Viewing/Thinking and Reasoning: Literature (Poetry)

- Language: Formal grammar questions;

- Writing: A short creative/transactional writing piece.

A visual representation of the comparison of the Baseline (PRE-) and Control (POST-) tests, that focuses on a balanced number of questions assigned to the different levels of Bloom's Revised taxonomy (as discussed in Chapter 2, section 2.7) for the three Reading and Viewing components combined (Comprehension, Visual Comprehension and Poetry) is supplied in **Figure 13** below. Questions were analysed individually per component, and jointly categorised as Lower Order Questions (Levels 1-3: Remember, Understand & Apply), and Higher Order Questions (Levels 4-6: Analyse, Evaluate & Create).

Results reflected the 4.3 percentage points more lower order questions in the 3 categories of the Pre-test combined; thus the Pre-test required more lower order thinking and reasoning skills than the Post-test and could be perceived as easier. This is confirmed by an analysis of the three components combined for the Post-test. This test (written in June) consisted of 4.27 percentage points more higher order questions than the Pre-test (written in March), and therefore the Post-test was slightly more difficult than the Pre-test in terms of Thinking and Reasoning. There were also more questions in the language section of the Post-test, resulting in a decline of the results for both groups from the Pre-test to the Post-test (discussed in Section 4.5.5).

However, the increased number of questions on language use, as well as more higher order questioning that require increased thinking and reasoning skills from March to June, is in line with the vision of the RNCS (RSA, DoE, 2002b:21) of learners achieving high levels of proficiency in at least two languages (as discussed in Section 4.1). Moreover, the objectives in the RNCS Guidelines for GET (Intermediate and Senior Phases: Languages) stipulate that teaching should (RSA, DoE, 2002a:1) "***develop*** learners' knowledge, skills and values; teachers should use summative assessment (DoE, 2002a:2) as a means of supplying information of learners' ***progress*** at a given time [of the year], ensure that the assessment concerns itself with learners' language and literacy ***development*** (RSA, DoE, 2002a:7) [and that it] provides learners with an

opportunity to **demonstrate their acquired competencies** in various language levels" (RSA, DoE, 2002a:14).

	PRE-TEST	POST-TEST
LOWER ORDER	45.3	41.03
HIGHER ORDER	54.7	58.97
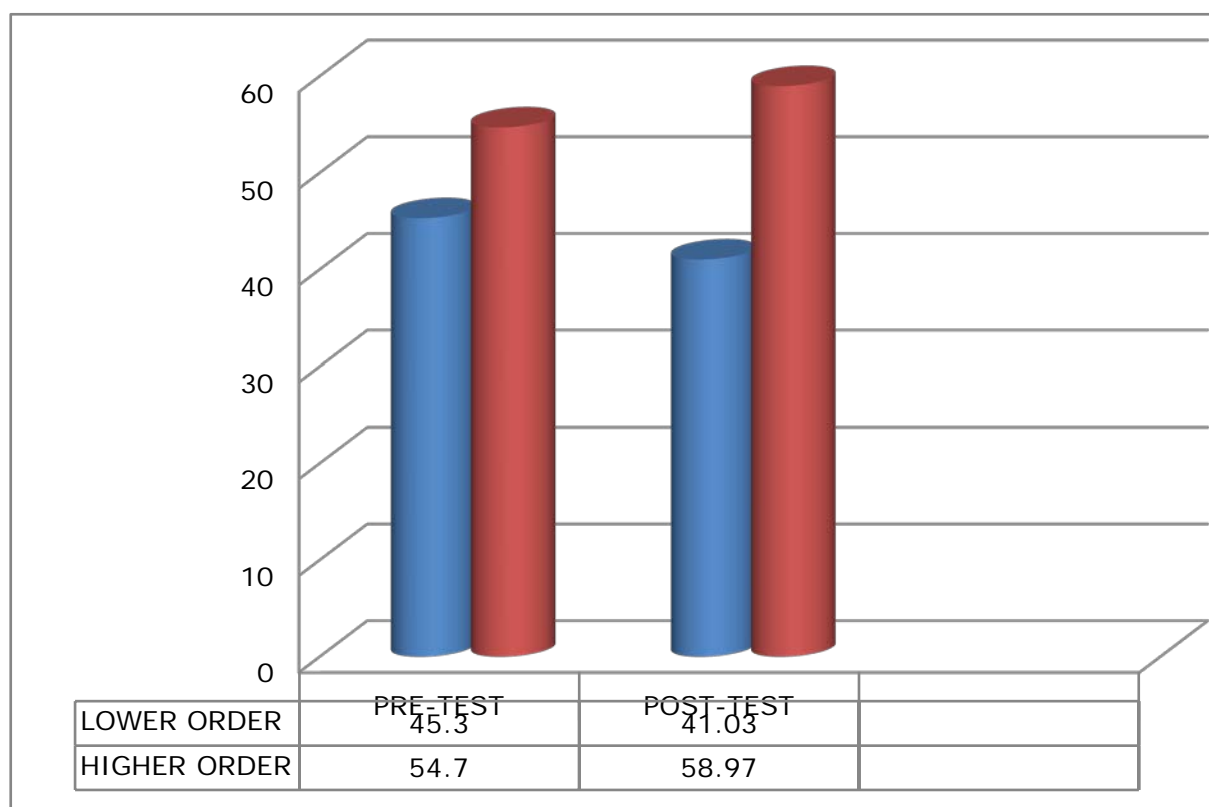
Figure 13: A Comparison of the questions of the 3 Reading & Viewing Components of the Baseline and Control Tests, based on Bloom's Revised Taxonomy of Educational Objectives

4.2 Quantitative Data presentation and analysis

At this point it would be judicious to reiterate that this study set out to investigate to which extent web-based mobile poetry instruction, within a blended learning approach, could enhance the literacy levels of rural adolescents in the Senior Phase of the GET band, as well as bear in mind the research questions that gave direction to the study (See Chapter 1, Section 1.3).

Descriptive statistics (means, ranges, gender, standard deviations, sample sizes and group-time interaction) for each of the components considered in the analysis of the data-set, were calculated and verified by the Department of Statistics at Stellenbosch University in order to reach a verifiable conclusion regarding the extent to which poetry-based mobile intervention could improve literacy levels. In the following section, the continuous assessment results of the mobile intervention sessions are reported first **(Section 4.2.1).** Next the sample sizes and

overall achievements according to the RNCS (RSA, DoE, 2002) are described **(Section 4.3.2)**; thereafter specific results for the different components of English FAL that were evaluated, namely Comprehension, Visual Comprehension, Language, Poetry and Writing are presented and discussed **(Section 4.4)** together with a graphic presentation and discussion of the final Pre- and Post-Test results.

Graphic representation and discussion of the final results overall, and for the individual components from the pre- to the post-test.

4.2.1   Continuous Assessment

Continuous assessment results during the eight weeks of mobile intervention, as well as the results for the baseline assessment (Pre-test) and control assessment (Post-test) are expressed as percentages in **Table 6**. The percentages are categorised in accordance with the provincial and national assessment guidelines indicated in the RNCS Assessment Guidelines for GET, Intermediate and Senior Phase: Languages (2002a:21) and set out in **Table 5** below (RSA, 2002a).

Table 5: Rating Code for Assessment in accordance with the NCS Assessment Guidelines, RSA, DoE, 2002a.

RATING CODE	DESCRIPTION OF COMPETENCE	PERCENTAGE
7	Outstanding achievement	80 -100
6	Meritorious achievement	70-79
5	Substantial achievement	60-69
4	Adequate achievement	50-59
3	Moderate achievement	40-49
2	Elementary achievement	30-39
1	Not achieved	0-29

"Continuous assessment is the main method by which assessment takes place. It ensures that assessment takes place over a period of time, is ongoing, supports the growth and development of learners, and allows for summative assessment, thus providing an overall picture of a learner's progress at a given time" (RSA, DoE, 2002a:7).

To these same purposes and for these same reasons, continuous assessment was conducted during the 8-week intervention period by means of regular quizzes that reflect the process of teaching, assessing, feedback and re-teaching that was followed. The quiz results were accessed by the researcher on a weekly basis via the web-platform in the form of Excel

spreadsheets. Although the web-platform does not offer the functionality of a complete Learning Management System (LMS), its functionality was sufficient for the purposes of this study and the researcher was able to obtain adequate data showing the progress, or lack thereof, of both individual learners, and the experimental group as a whole.

The advantage of such a system is that participants' individual results, as well as the results of the group as a whole could be analysed after every session to inform the researcher of concepts that were misunderstood, or that needed clarification, and this could then be addressed in the next session. Individual learners who demonstrated the presence of barriers to learning could immediately be identified and brought to the attention of their class teacher and /or fieldworker / head of the digital centre where participants receive afternoon classes.

Figure 14 reflects the continuous assessment results of the experimental group. **Table 6** on the next page supplies a detailed discussion of the nature of each of the intervention sessions and related quizzes, and is an explication of Figure 14.
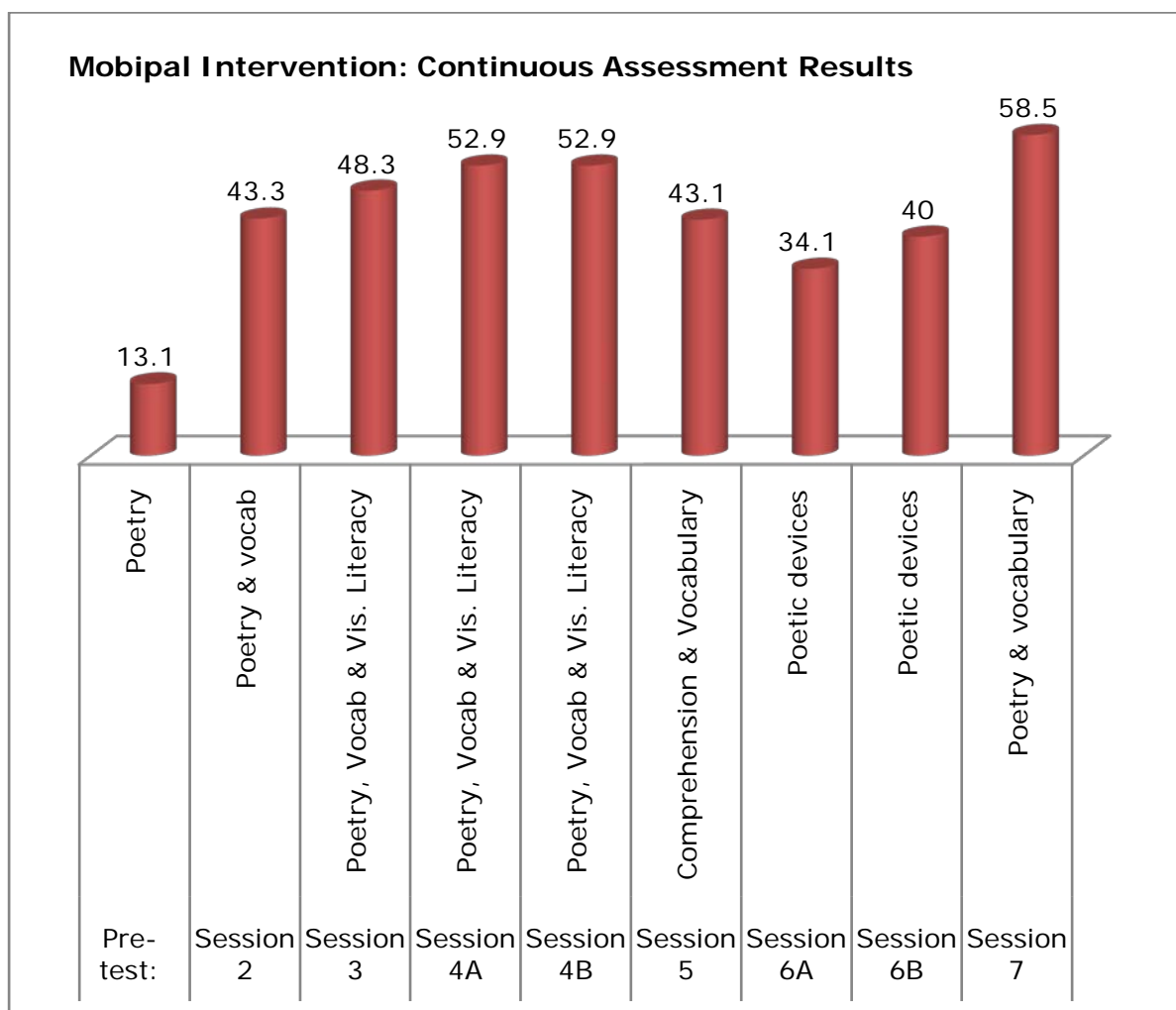
Figure 14: Mobile Intervention Continuous Assessment Profile of the Experimental Group

Table 6: Details of the Mobile Instruction Sessions and Continuous Assessment Profile

	Week & Component	Result (%)	Comment
	Pre-test Poetry *A newly born calf* by Oswald Mbuyiseni Mtshali	**13.1%**	The group average for Poetry in the Pre-test was used as starting point in order to track the improvement of the experimental group during the 8 weeks of mobile poetry-based instruction.
1	**Session 1: Poetry** *Fog* by Carl Sandburg Theme: Every problem has a solution	**34,5%** **NOT REFLECTED ON FIG. 14**	The results are not reflected in Figure 14, as the session was used to acquaint the participants with the technical process of re-entering their student numbers, and answering and submitting their answers to a mobile quiz. The session introduced the concepts of metaphoric language and the theme of a poem. Learners listened to a podcast with the correct pronunciation of the poem, after which they read the poem to each other and practiced their own pronunciation.
2	**Session 2:** **(no. 2 in Figure 14)** **Poetry and vocabulary** *Fog* by Carl Sandburg *A love poem for my country* by Sandile Dikeni Theme: Celebrating our country	**43.3%**	The session focused on vocabulary acquisition using picture associations, and using an online dictionary. The poetry focus was on metaphoric language, message and meaning. Elements of the poem, Fog, were revised as participants found it challenging to decode abstract / metaphoric language. Participants could listen to a vodcast of the poem A love poem for my country. A vocabulary quiz, based on visual connections with the poem, was completed.
3	**Session 3** **Poetry, Vocabulary &** **Visual Literacy** *A love poem for my country* by Sandile Dikeni	**48.3%**	From the previous session it was clear that the participants struggled to identify personification in a poem. Metaphoric language was revised, focusing on personification. The format of a dialogue was explained and an example was given in the form of an interview (dialogue) with the poet. The dialogue served to explain the poem. Participants wrote one or two sentences each to indicate their response to the poem and completed a quiz to indicate understanding of the different figures of speech, with special focus on personification.
4A	**Session 4:** **(Repetition of Quiz 2)** **Poetry, Vocabulary &** **Visual Literacy** *A love poem for my country* by Sandile Dikeni	**52.9%**	Feedback was given on participants' responses to the poem. A detailed analysis of the poem, illustrated with graphics, followed. Participants downloaded a World Cup 2010 song, learnt the lyrics and sang the song. The vocabulary quiz of Session 2 was repeated in order to evaluate participants' understanding of the poem, focusing on vocabulary, poetic devices and visual literacy.
4B	**Session 4 REPEATED**	**52.9%**	A school camp of which the researcher was not

7	**(Repetition of Quiz 2)** **Poetry, Vocabulary &** **Visual Literacy**		previously informed involved some of the participants in the study. Furthermore, a strike in the community disrupted the session and forced the researcher to postpone the next session. A decision was made to repeat Session 4 and to give the attending participants an opportunity to redo Quiz 2 and to revise the summaries they had made. It was interesting that the average result for the quiz was exactly the same as during the previous week, even though there were only 6 of the 26 participants present. This session proved the valuable place of m-learning within the formalised education setting. Despite the ongoing community strike, that lead to teachers being absent, the six remaining participants could continue learning and revising using their cellphones.
5	**Session 5** **Comprehension &** **Vocabulary** *Our country, South Africa.* An adapted factual text.	**43.1%**	A method was proposed to deal with an informative comprehension text, participants made notes, completed and informal general knowledge quiz as pre-reading exercise, and completed a comprehension quiz with a variety of questions ranging from one-word answers, to multiple choice, to sentence writing and quoting, across the range of lower order and higher order questioning.
6A	**Session 6** **Poetic devices** *Snake* by Ian Mudie	**34.1%**	Participants watched a video celebration of their country, repeated the general knowledge quiz as a fun exercise in a community of practice, and learnt the words of another World Cup song. Thereafter participants downloaded a vodcast of the poem Snake. The session focused on poetic devices, such as alliteration, assonance, consonance & onomatopoeia. The concept of irony was explained, and the intervention focused on the use of figures of speech, once again. It was clear from the results of the poetry quiz in this session that these concepts (except figures of speech) were all new to the participants. Participants' MXit chat sessions with the facilitator also revealed the fact that they found the concepts and the session challenging. The lesson was thus repeated the following week.
6B	**Session 6 REPEATED** **Poetic Devices** *Snake* by Ian Mudie	**40.1%**	Repetition of Session 6. Participants were urged to consult their own summaries and to scroll back to the discussion of new concepts (poetic devices) before attempting the Sneaky Snake Quiz once again. The improvement in the group result from 6A to 6B show the value of mobile learning within a blended learning approach.
7	**Session 7A** **Language, Poetry &**	**58.5%**	Participants downloaded a podcast dealing with adjectives and adverbials, and completed an informal

| | Vocabulary
Six Blind Men and an Elephant (An adapted story from India.) | | quiz in a community of practice. These results are not reflected in Figure 14. Participants then downloaded a podcast of the poem Six Blind Men and an Elephant to view the text and listen to the pronunciation. Although Grade 8 learners would generally not be assessed on unseen poetry, the participants were left to make their own notes and to answer the quiz questions dealing with content, own interpretation, imagery, irony, figures of speech and the message of the poem. This was done in preparation to the Post-test in which participants from both the experimental and the control group would answer questions on an unseen poem in order for the assessment to be fair. |
| 8 | **Session 7B** | | REVISION. Participants were afforded the opportunity to revise any of the previous sessions in order to ascertain that their summaries were complete. The final survey in which participants were encouraged to reflect on the MOBIPAL project was completed and submitted (Appendix F). |

4.2.2   A comparison of the overall results for the Pre- and Post-tests of the experimental and control groups according to the RNCS National Rating Code

From this point in the discussion, the Baseline Assessment written in mid- March 2012 will be referred to as the **Pre-test**, and the Control Test written in early June 2012 will be referred to as the **Post-test**.

The 30 initial participants (final group of 26) in the experimental group were randomly selected from the two Grade 8 classes at the selected rural high school in Mpumalanga. The results reflected in **Table 7** are those of the 26 participants who completed the pilot project. The control group consisted of 103 Grade 8 learners at the high school. There were 14 learners absent when the Pre-test was written. The Post-test results of these 14 absentees were also not taken into account for the purposes of this study. Results reflected in **Table 8** account for 103 learners who constituted the control group of this study.

Table 7: Results for the Experimental Group according to the National Rating Code

Pre-test total results of the Experimental group Number of participants (26)	Code	Post-test total results of the Experimental group Number of participants (26)

14	**Between 0 -29%** Not achieved	3
9	**Between 30-39%** Elementary achievement	7
0	**Between 40-49%** Moderate achievement	10
1	**Between 50-59%** Adequate achievement	4
1	**Between 60-69%** Substantial achievement	0
1	**Between 70-79%** Meritorious achievement	1
0	**Between 80-89%** Outstanding achievement	1

Pre-test total averages for the 26 individual participants in the experimental group varied between 8% and 76%. **Table 7** shows that 14 of the 26 participants (53.8%) did not achieve in the Pre-test. Due to the marks of the learners having increased in 4 of the 5 components assessed in the Post-test, the average for this group increased from 28.5% (Pre-test) to 44,1% (Post-test) - an increase of 15.6 percentage points. This increase is reflected in **Table 7**: only 3 participants (of the original 14) (11,5%) did not achieve overall in the **Post-test.** This is an improvement of 42.3 percentage points for the experimental group. Averages for individual participants in this group were raised to levels between 19% and 80% in the Post-test.

Table 8: Results for the Control Group according to the National Rating Code

Pre-test total results of the Control Group Number of participants (103)	Code	Post-test total results of the Control Group Number of participants (103)
81	**Between 0 -29%** Not achieved	84
12	**Between 30-39%** Elementary achievement	11
5	**Between 40-49%** Moderate achievement	3
2	**Between 50-59%** Adequate achievement	5
3	**Between 60-69%** Substantial achievement	0

0	**Between 70-79%** Meritorious achievement	0
0	**Between 80-89%** Outstanding achievement	0

Learners in the Control group have English lessons every day at school. Pre-test total averages of this group varied between 15% and 63%. **Table 8** shows that, of the 103 learners who wrote the Pre-test, 81 (78,7%) did not achieve. As the marks of the learners decreased in 3 of the 5 components assessed in the Post-test, the total group average for this group decreased from 25.5% to 23%. The consequence was an increase from 81 to 84 learners not achieving in the Post-test (81,6%), and not one learner attaining results in the *Substantial, Meritorious* or *Outstanding* categories. Not one learner out of a group of 103 attained above 59%. Averages for individual participants in this group decreased to levels between 4% and 57% in the Post-test. The fact that this group improved slightly in the *Adequate Achievement* category needs to be mentioned. This improvement in learner achievement from March to June is the expected trend for Grade 8 learners who have adapted to the high school environment after 6 months, and who receive daily classroom instruction.

Pre-test total averages, as well as averages for the individual components indicate that the experimental group (of 26 participants) and control group (of 103 participants) are significantly comparable **(Table 9)**. Results are expressed as percentages. A more detailed discussion follows in Sections 4.4 and 4.5 of this chapter.

Table 9: Pre-test averages indicate that the two groups are significantly comparable prior to the commencement of the mobile intervention sessions

	EXPERIMENTAL GROUP	**CONTROL GROUP**
COMPREHENSION	32.2	22.3
VISUAL COMPREHENSION	20.1	20.2
LANGUAGE	51.9	49
POETRY	13.1	19
WRITING	25.4	17
TOTAL:	**29%**	**25.5%**

4.2.3   Comparison of the Final Pre- and Post-Test results

Table 10 reflects the final results, and the results of the individual components of both the Pre- and Post tests that are discussed in Section 4.5. The Probability value (P-value) indicates the rejection or acceptance of the Group-Time hypothesis which is as follows: *The difference from Pre- to Post-test is the same for both groups.* A value bigger than 0.05 would indicate that the null hypothesis can be accepted, while a P-value smaller than 0.05 indicates that the null hypothesis can be rejected. As indicated in Table 10 below, the P-value for each of the individual components, as well as for the final overall result, is less than 0.05.

Table 10 An overview of the final Pre-and Post-test results per group and per assessment component

COMPONENT	CONTROL GROUP		EXPERIMENTAL GROUP		CONTROL GROUP	EXPERIMENTAL GROUP	Group-Time Interaction
	Pre-test %	Post-test %	Pre-Test %	Post-test %	Percentage point increase / decrease	Percentage point increase / decrease	Values < 0.05 rejects the null hypothesis
COMPREHENSION	22.3	16.2	32.2	39.8	6.1 ↓	7.6 ↑	0.00045
VISUAL COMPREHENSION	20.2	32	20.1	58.8	11.8 ↑	38.7 ↑	0.00000
LANGUAGE	49	32	51.9	47.1	17 ↓	4.8 ↓	0.00015
POETRY	19	12	13.1	28.7	7 ↓	15.6 ↑	0.00000
WRITING	17	23	25.4	46	6 ↑	20.6 ↑	0.00057
TOTAL:	25,5%	23,0%	28,5%	44.1%	2.5 ↓	15.6 ↑	0.00000

From these statistics, it is fair to conclude that the change from Pre-to Post-test is not the same for both groups, and that improved results were obtained by the experimental group as a result of mobile intervention.

4.2.3.1   The Control Group

Table 10 shows that the decrease per component of the control group from the **Pre-test to the Post-test** was as follows indicated in percentage points: comprehension (6.1); language (17) and poetry (7). The increase of 11.8 percentage points in the visual comprehension section seems encouraging, yet should be measured relative to the 38.4 percentage point increase attained by the experimental group for the same section. The same principle should be applied when looking at an increase of 6 percentage points for the writing section, as opposed to the 20.6 percentage point increase achieved by the experimental group for the same section.

4.2.3.2   The Experimental Group

Table 10 indicates the percentage point increase in 4 of the 5 components of the Post-test achieved by the experimental group: comprehension (7,6); visual comprehension (38.7); poetry (15.6), and writing (20.6).

The gain was calculated by how much more the experimental group increased relative to the control group. Taking the improved performance of the control group who attend daily English lessons with the experimental group at school as benchmark, the actual improvement for the experimental group was:

- 26.9 percentage points for visual comprehension (38.7% -11.8%)
- 14.6 percentage points for writing (20.6% - 6%).

Taking the decline of the control group for comprehension (6.1 percentage points) and poetry (7 percentage points) as benchmark, the actual improvement of the experimental group in these components was as follows:

- 7.6 percentage points (experimental group) + 6.1 percentage points (control group) = 13.7 percentage points improvement for comprehension.
- 15.6 percentage points (experimental group) + 7 percentage points (control group) = 22.6 percentage points improvement for poetry.

The results thus confirm the statistically significant positive impact of mobile intervention.

The fact that both the Experimental and the Control group obtained lower results in the grammar component of the Post–test (compared to Pre-test results) is discussed in section 4.5.5 of this chapter.

4.2.3.3 Graphic comparison and discussion of the final overall results, and of the individual components for both tests per group

Descriptive statistics were calculated for each of the components considered in the analysis of the data-set, with special focus on Group–Time interaction in order to determine whether the increase / decrease in results was the same for both groups from the Pre- to the Post-test. Third order interaction was performed in the process of data-analysis and verification in order to determine the effect of gender on the mobile intervention sessions. As all third order interaction measurements indicated that gender did not play a significant role in improved results, this report will not focus on gender.

As indicated above, reporting will be directed at Group-Time interaction for each of the different components assessed through the Pre-test (**Appendix C**) and the Post-test (**Appendix D**). "Time" referred to here, constitutes a period of 11 weeks, starting with the Pre-test written in Week 1, followed by eight weeks of mobile poetry-based intervention, one week of consolidation and completing the final (mobile) survey (**Appendix G**), and concluded with both groups writing the Post-test in Week 11. "Group" refers to the experimental group (indicated in blue) who had 8 effective weeks of mobile intervention (1 hour per week after school), and the control group (indicated in red) who, together with the participants of the experimental group, received daily classroom instruction during the 8 week period.

Probability values (P-values) reflected in the figures that follow, are indicative of a significant increase or decrease within each group, or within a set of results, and are indicated by means of the alphabet letters a,b,c, and d. Where a letter is repeated, there is no significant difference between the groups or results, while the lack of a repeated letter indicates a significant difference.

A   Final overall results:

group*time; LS Means
Current effect: F(1, 125)=92.122, p=.00000
Type III decomposition
Vertical bars denote 0.95 confidence intervals
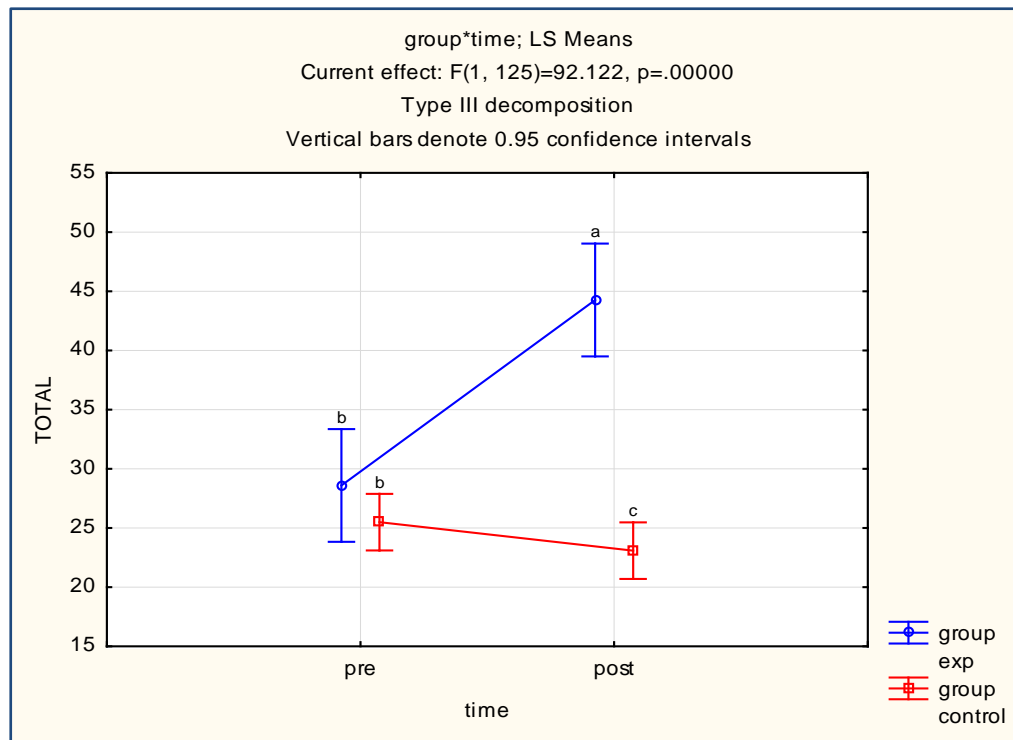
Figure 15: Overall Results for both groups

Figure 15 above indicates that both groups obtained a total ranking of NOT ACHIEVED in the **Pre-test**. The repeated letter **b** on the vertical bars on the left indicate that there was no significant difference between the total Pre-test results of the two groups, and that they are thus statistically comparable (as also indicated in **Table 9**. The Fixed Effect Test indicates a P-value of .00000 which rejects the Time-Group null hypothesis that *the difference from Pre- to Post-test is the same for both groups.* Vertical bar **a** indicates a significant increase for the experimental group from the **Pre-test** (28.5%) to the **Post-test** (44.1%), while vertical bar **c** indicates the decrease of 2.5 percentage points (from 25.5% to a final group total of 23%) for the control group. Final results obtained thus still reflect a *NOT ACHIEVED* for the Control group according to the National Rating Code (RSA, DoE, 2002a), while the experimental group improved from *NOT ACHIEVED* to *MODERATE ACHIEVEMENT* within 8 weeks of mobile web-based poetry instruction (RSA, DoE, 2002).

B   The Comprehension Component
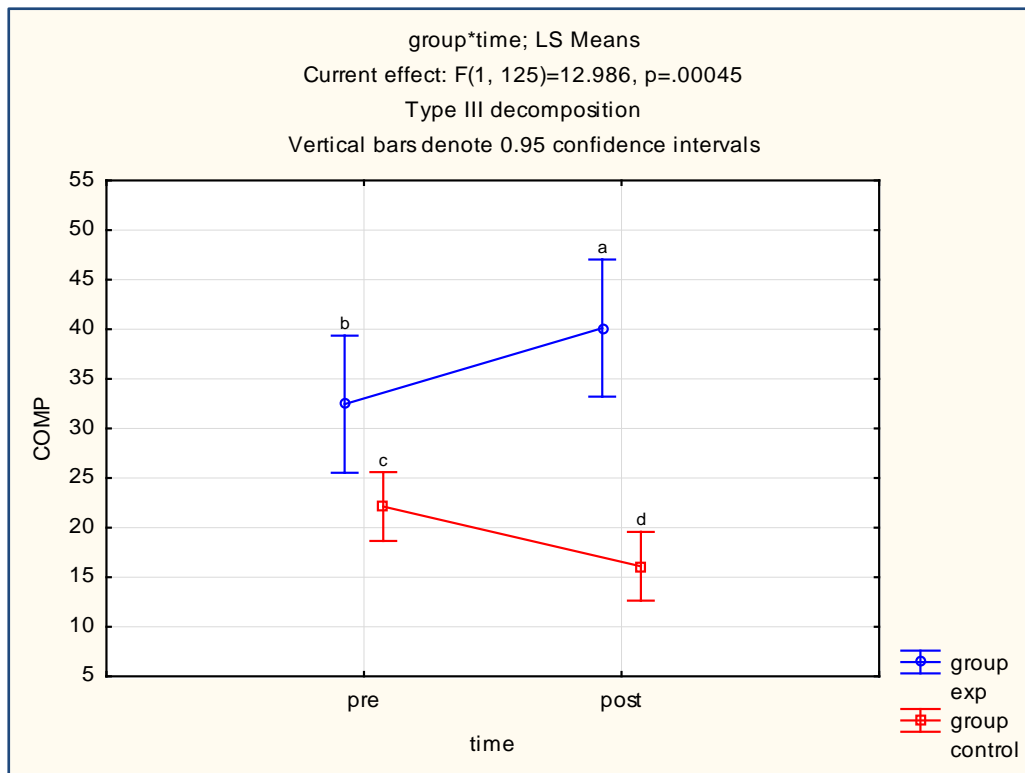
Figure 16: Comprehension Results for both groups

The vertical bars **(**marked **b** and **c)** in **Figure 16** on the left indicate that the experimental group obtained significantly better results for the comprehension component than the control group in the **Pre-test** (32.2% as opposed to 22.3%). Therefore, in order to prove that the Post-test improvement of the experimental group was indeed a result of the programme of mobile intervention (and not caused by other factors, e.g. classroom instruction), the results of the **Post-test** should be compared: The Fixed Effect Test shows a P-value of .00045, thus the null hypothesis that *the difference from Pre- to Post-test is the same for both groups,* is rejected. The experimental group improved with 7.6 percentage points (to 39.8%) in the **Post-test**, **(vertical bar a)** while the control group decreased with 6.1 percentage points to 16.2% **(vertical bar d)**.

C   The Visual Comprehension Component
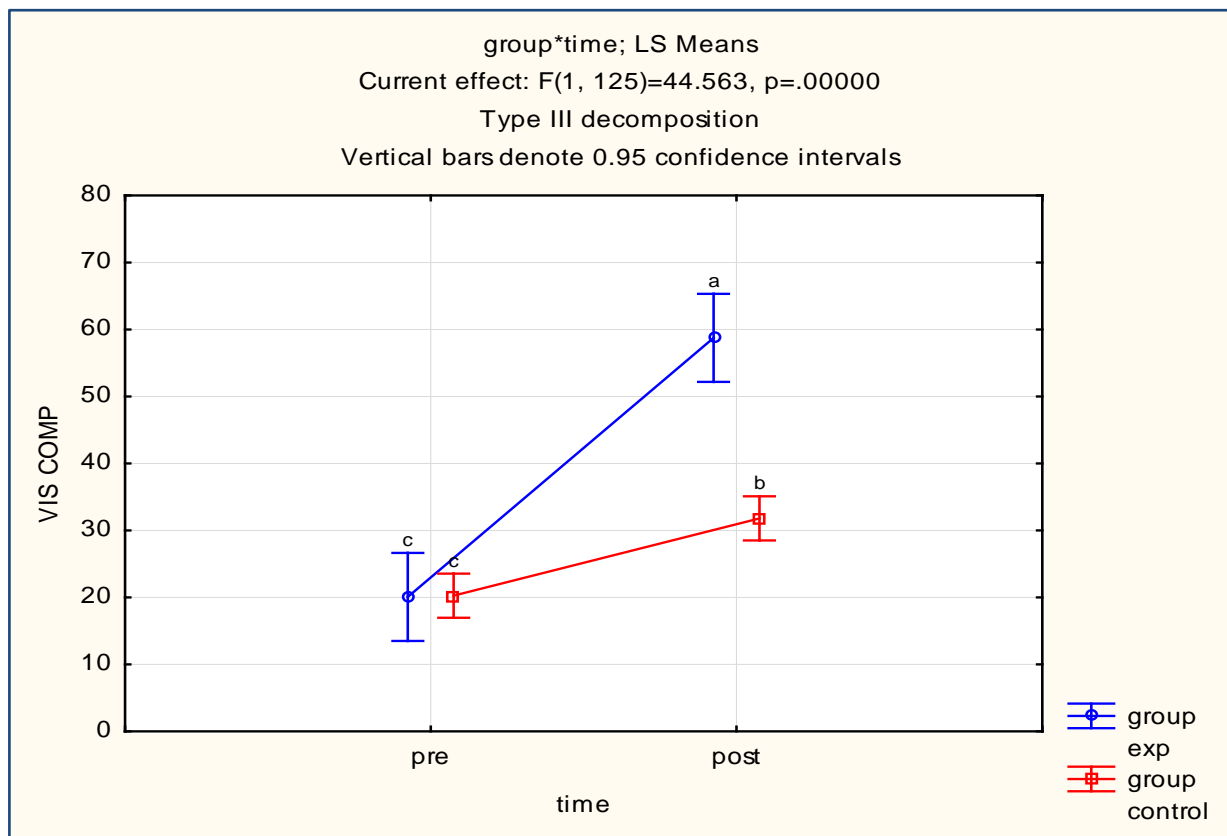
Figure 17: Visual Comprehension Results for both groups

The **repeated letter c** on the vertical bars on the left in **Figure 17** indicate that there is no statistically significant difference between the Pre-test results of the two groups and that the groups are, to a large extent, comparable. Although both groups improved in this section, the improvement for the experimental group (38 percentage points) outweighs that of the control group (11.8 percentage points) by far. The Fixed Effect Test shows a P-value of .0000, thus the Time-Group null hypothesis that *the difference from Pre- to Post-test is the same for both groups,* is rejected. As indicated in Section 4.2.3.2, the actual improvement in this section that can be assigned to mobile intervention is 26.9 percentage points (38,7 - 11.8 =26.9).

D   The Poetry Component
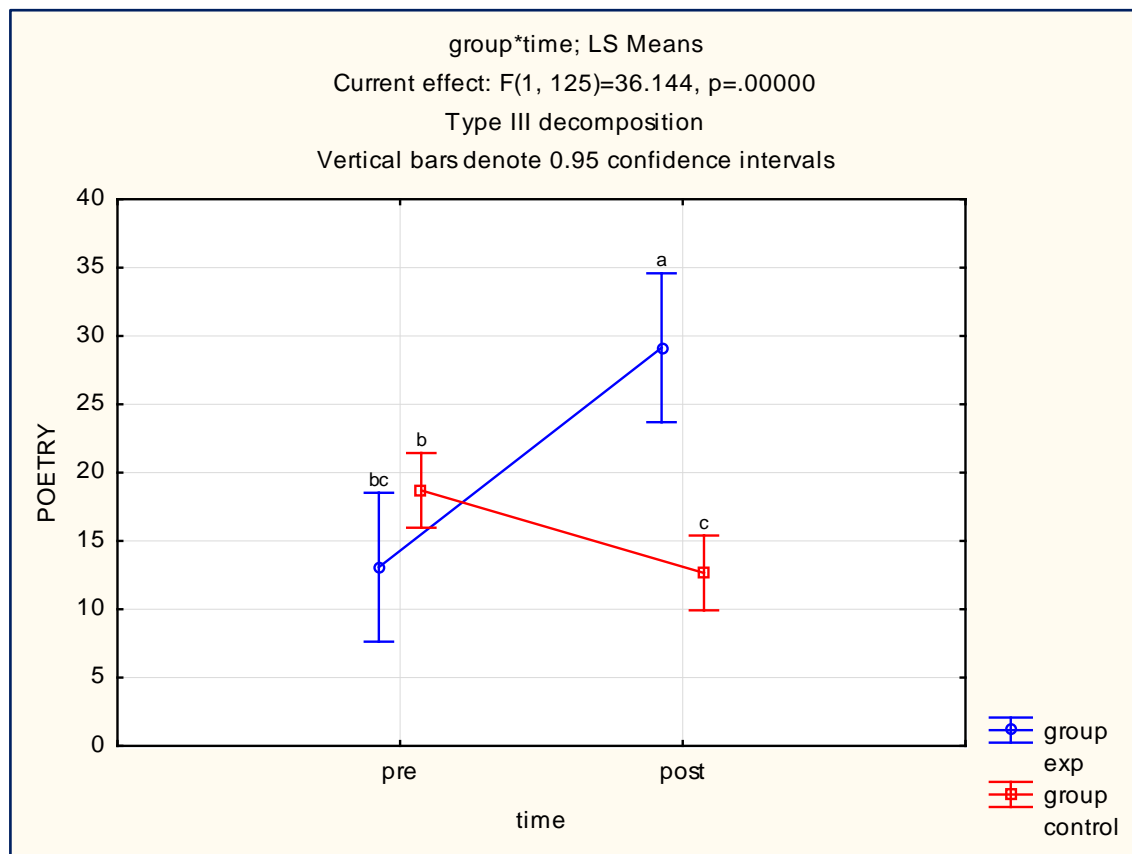
Figure 18: Poetry Results for both groups

The final Pre-test poetry results of the experimental group (13.1%) were 5.9 percentage points lower than that of the Control population (19%). The repeated letter **b** on the vertical bars on the left **(**of **Figure 18** above) indicates that the difference between the two groups prior to intervention is not statistically significant. Seeing that the design of the mobile intervention sessions of this study is poetry–based, the results achieved by the two groups for the poetry section in the Post-test would be of particular importance to determine the extent to which mobile intervention could positively effect change in the literacy levels of the experimental group. It is noteworthy that the final **Pre-test** results of the experimental group for the poetry section was significantly lower compared to that of the control group, thus rendering the increase achieved by the experimental group statistically significant.

A P-value of .00000 rejects the Time-Group null hypothesis that *the difference from Pre- to Post-test is the same for both groups.* The repetition of the **letter c** in **Figure 18** on the vertical bars to the left (denoting the experimental group), and to the right (denoting the control

group), show the decreasing final poetry result of the control group, and underlines the fact that the **control group** regressed to a point lower than the initial starting point of the **experimental group.** The letter **a** indicates a significant improvement of 15.6 percentage points in the poetry section for the experimental group.

Despite both groups having been exposed to classroom poetry discussions, the Control group results decreased with 7 percentage points to a total of 12%. The experimental group, however, attained a 15.6 percentage point increase in the poetry section to achieve an overall result of 28.7%. As indicated in Section 4.2.3.2, the actual improvement of the experimental group, relative to the Control group, is thus 15.6 +7 = 22.6 percentage points for poetry. Although the experimental group result for poetry is still classified as 'NOT ACHIEVED' according to the National Rating Code for Assessment (2002), the improvement is statistically significant and bodes well for future mobile intervention programmes that are implemented over a longer period of time, and indicates that mobile poetry intervention indeed increases adolescent literacy levels (RSA, DoE, 2002).

The advantages of poetry instruction to enhance the literacy levels of adolescents, as well as ways of measuring literacy levels are discussed in the literature review of this paper (Chapter 2, Sections 2.8.2 and 2.8.3 respectively).

E   The Language Component
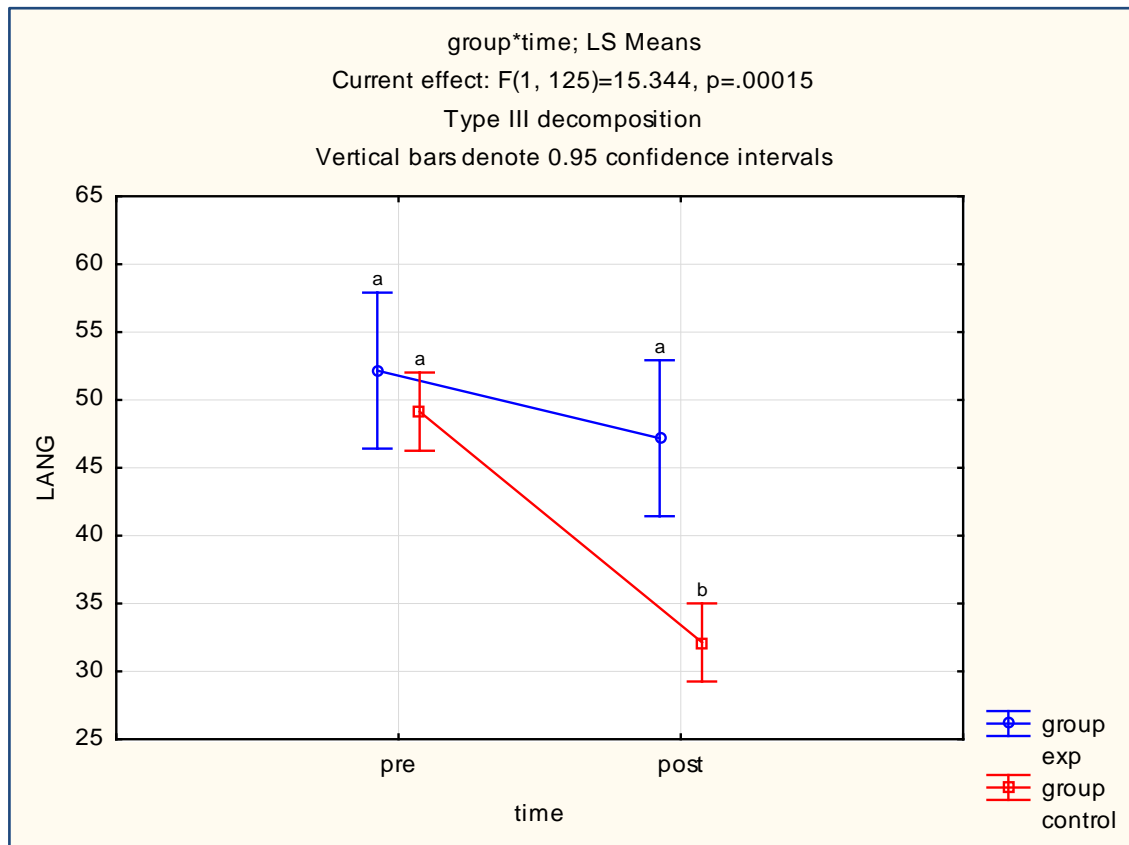
Figure 19: Language Use Results for both groups

Results show that the Control group found the formal grammar section of the Post-test in June challenging. **Figure 19** indicates that results for this group decreased with 17 percentage points from the Pre-test to the Post-test, most likely due to the increased number of questions and more demanding grammatical skills required from learners since the Pre-test in March. This could also be symptomatic of learners being subjected to overcrowded classrooms and the possible neglect of formal classroom grammar teaching.

The above statement is derived from the fact that the experimental group (who have normal English FAL classroom instruction together with the control group) also showed a decrease. The experimental group showed a decline from 51% to 47.1% (thus 3.9 percentage points) in the grammar section of the Post-test. Of significance is the fact that this group received only one formal grammar session in the course of the 8 weeks of mobile intervention, and decreased with 3.9 percentage points in the Language section, in comparison to the 17 percentage point

decrease of the control group for the same section. A P-value of .00015 rejects the Time-Group null hypothesis that *the difference from Pre- to Post-test is the same for both groups.*

Van Rooyen & Jordaan (2009:271) highlight a point relevant to the result in this component evident in this graph when they state that "[t]he South African context poses a challenge to the development of language for academic purposes when learners must accomplish [the understanding of syntactically complex sentences] in a second language". The results for this component pose an exciting challenge for mobile learning: While only one of the 7 mobile intervention sessions focused on formal grammar, the overall decline in the results of the experimental group, relative to that of the control group, was significantly less, which indicates the positive influence of mobile instruction.

In accordance with the aims of OBE, explicit language teaching was included in the RNCS (RSA, DoE, 2002). The results portrayed , however, provide a reason for concern in the light of the changes currently proposed by the National Curriculum and Assessment Policy Statement (RSA, DBE,2011) being phased in for Senior Phase learners in the GET band (the focus group of this study) in 2013. CAPS (RSA, DBE, 2011:7) explicitly states that of the 8 hours allocated every two weeks for the First Additional Language, two hours should be spent on speaking, four hours should be spent on reading comprehension and literary texts, and two hours should be spent on writing, [and that "[t]he approaches to teaching language is text-based, communicative and process-orientated". The steep decline in results for the formal grammar section of the Post-test (RSA, DBE, 2011:8) reflected in **Figure 19** above, emphasises the pitfalls that an approach supporting the idea that "language learning should be a natural, informal process carried over into the classroom where literacy skills […] are learned in a natural way" could have.

F   The Writing Component

group*time; LS Means
Current effect: F(1, 125)=12.523, p=.00057
Type III decomposition
Vertical bars denote 0.95 confidence intervals
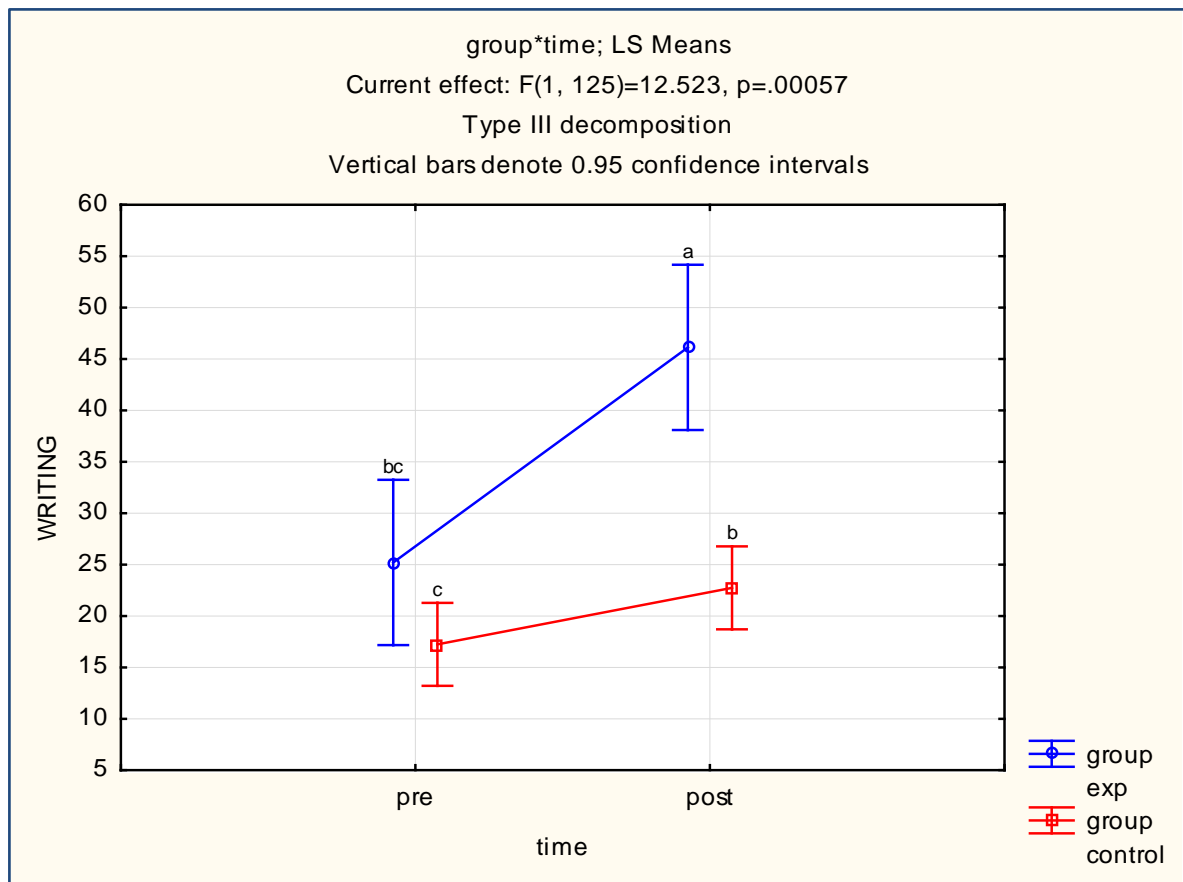
Figure 20: Writing Results for both groups

As indicated in Chapter 2 (Section 2.8.2.4) learners who are exposed to formal education should continuously be empowered to reach a level of literacy that facilitates the use of spoken and written language for academic purposes. The ability to express oneself in writing, to be able to interpret the writing of others, and to respond appropriately is an increasingly important skill in the digital arena of the 21st century. It is therefore essential to turn to the results obtained by both groups in the Writing component as an indicator of the extent to which mobile poetry intervention effected change in the literacy levels of the participants.

The **repeated letter c** on the vertical bars on the left indicate that there is no statistically significant difference between the **Pre-test** results of the two groups and that the groups are, therefore, to a large extent, comparable.

The difference between the two groups is 8.4 percentage points prior to mobile intervention, with the experimental group obtaining 25,4%, as opposed to the 17% of the Control group. The

repeated letter **b** indicates that there is no significant statistical difference between the **Pre-test result** of the experimental group and the **Post-test result** of the Control group. Thus, although the Control group improved with 6 percentage points from the Pre-test to the Post-test, the improvement is not statistically significant when compared to the significant improvement of 20.6 percentage points achieved by the experimental group. Taking the 6 percentage points improvement of the Control group as benchmark, the total improvement for writing obtained by the experimental group is 14.6 percentage points (20.6-6= 14.6). The P-value indicated by the Fixed Effect Test is .00057 which rejects the Time-Group null hypothesis that *the difference from Pre-to Post-test is the same for both groups,* as confirmed by the relevant data presented in Figure 20 above.

4.3   Qualitative Data Presentation

4.3.1   *The Baseline Survey on participants' individual use of, and familiarity with, ICTs (APPENDIX B)*

This survey was completed by each of the participants in the experimental group prior to the mobile instruction and intervention sessions of this study. As stated in Chapter 1 (Section 1.5.7) the aim was to determine the extent of the experimental population's previous contact with digital learning. The survey was adapted from the *NEPAD e-schools Project Learner Baseline Survey*, and is attached as **Appendix B**. The following discussion serves as summary of the findings relevant to this study.

4.3.1.1 *Gender and average age of participants*

Of the 26 participants who completed the study, 14 were male and 12 female. Although the expected average age of learners for this grade (Grade 8) is 13-14 years of age, **Table 11** below indicates averages between 12 and 17 in the Grade 8 experimental group. Possible reasons for the broad age range, and the social, emotional and academic impact on learners from disadvantaged urban and rural communities, have been discussed in Chapter 2 (Section 2.10.2).

Table 11: Age Division of the Experimental Group

Age	Total	Male	Female
12	2	2	0
13	12	8	4
14	6	0	6
15	2	1	1
16	2	1	1
17	2	2	0

4.3.1.2 Knowledge of, and access to ICTs

With regards to the rural participants' contact with, or use of computers, nineteen of the twenty six respondents indicated their computer experience as less than two years; three as between two and four years, and four (thus 15.4%) as more than six years. The group indicated that five of them (19.2%) were self-taught computer users; fourteen (53,8%) had been taught by their primary school teachers; five (19.2%) had been taught by family members, and two (7.7%) received training out of school. None of the participants gained computer experience through online courses or online help desks. Participants indicated that their favourite computer activities were to find and search for information, to create word documents, and to draw and paint. These activities take place out of school, as the school does not have a computer lab or a library. There is no computer training or ICT integration into the curriculum during school hours. Four participants, however, spend three hours per week after school at the *GWF Digital Centre* on the school premises for computer study; nineteen participants do not spend any time studying with the aid of computers, two spend 1-2 hours per week studying using a computer, and one participant has a laptop and internet access at home, thus spends more than three hours per week using a computer for study purposes.

The 13-17 year old participants indicated that four of them felt they had no computer expertise; nine are fairly comfortable in using three Microsoft applications (mostly basic Word and Excel, and to a lesser degree PowerPoint), twelve indicated that they are confident with the above three applications, one participant (who previously attended an urban school and recently moved to the rural school) classified his computer skills as *very good.*

4.3.1.3 Mobile phones and Social Media Use

Nineteen of the twenty six participants indicated that they do not have computers at home. However, seventeen of the twenty six participants own mobile phones, of which fourteen are smart phones. Thirteen participants regularly communicate via *MXit*, and six via *Facebook*. Only one participant has an e-mail address and sends and receives e-mail a few times per week from home. No-one owns an iPad or any other tablet computer.

If the experimental group is a microcosm of the rural community of which they are part, and one considers the fact that these participants have **no access** to ICT at school (except the 4 participants who receive afternoon computer training at the Digital Learning Centre), and one compares that figure to **53.8%** of the participants who do have access to the internet via their cell phones, it would be fair to say that m-learning as applied in this study, is a viable option in delivering education to thousands of South African learners who share the same circumstances.

4.3.2   The Mobile Reflective Survey (APPENDIX G)

Section 1.5.7 of Chapter 1 pointed out that the experimental group completed seven mobile poetry-based English L2 instruction sessions. During the final session of the mobile instruction and intervention sessions, participants were asked to complete a mobile survey with reflective questions which serves as artefact that documents their experiences with mobile learning, and their understanding of both the content and the learning process. This mobile survey aimed to determine the participants' instructional preferences (mobile vs. formalised classroom instruction); enjoyment/dislike of mobile poetry instruction; thoughts on specific poems; experience of vocabulary expansion as opposed to prior knowledge; experience of vocabulary retention; experience and preferences regarding paper vs. on-screen comprehension, and preferences regarding formal grammar instruction. A summary of the survey is supplied as **Appendix G.**

4.3.3   Participant and Facilitator Feedback (APPENDICES F 1-3)

Feedback regarding the participants' experience with the mobile learning platform was received through:

- weekly written communication between the researcher and the facilitator **(Appendix F1)**

- regular group chats on MXit between participants in the experimental group with each other and the facilitator (captured by the facilitator through MXit) **(Appendix F2)** and

- communication between the researcher and the participants in the experimental group through the TEENTALK-page of the MOBIPAL mobile website **(Appendix F3)**.

CHAPTER 5
REFLECTIONS ON M-LEARNING WITHIN THE SOUTH AFRICAN CONTEXT

> *"If we do not teach how banned and filtered technologies can be used, then we are not empowering students to operate in safe, appropriate and acceptable ways, with or without technology – whether inside or outside the classroom."*
>
> Nielsen, L. 2008

This chapter offers reflections on m-learning within the South African context **(Section 5.1)**, and then considers the practicalities of this study (connectivity, data, costs involved, problems and possible solutions) **(Section 5.2)**. Thereafter, recommendations for m-learning in South Africa are proposed **(Section 5.3)**, and, finally, a conclusion is reached with regards to the research question whether there is statistically significant evidence that mobile intervention could improve the ESL literacy levels of rural learners, and whether the mobile teaching model could be a solution for the dearth of resources in South African public and, especially, rural schools **(Section 5.4)**.

5.1   Reflections on M-Learning in South Africa

This study has shown that a smart-phone could bring access to technology and the internet to rural areas, and that the capabilities of mobile phones could help create learning communities, and allow for the immediate transfer of new skills and knowledge. The total decrease of 2.5 percentage points in the group average of the control group is reason for concern because these learners receive English classroom tuition in line with the time allocated to the FAL by the RNCS (RSA, DoE, 2002). The desperate situation in which rural learners find themselves, and the history and causes thereof, have been discussed extensively in the course of this thesis. These results underline the fact that the increase in school attendance figures reported annually by the Department of Basic Education is no guarantee for quality education. By comparing these results with the positive results yielded by the experimental group (a total increase of 15.6 percentage points from Pre-test to Post-test), it ought to be evident that both rural learners and teachers can benefit extensively from mobile instruction and intervention.

Herrington & Herrington (2007:2) cite Naismith et al. (2004:36) by saying that "[t]he challenge for the educators and technology developers of the future will be to find a way to ensure that this new learning is highly situated, personal, collaborative and long term; in other words, truly learner-centred learning". In 2012, this statement still rings true for countries such as South Africa. Although the theoretical explication of learning has changed over the past four decades from behaviourism, to cognitivism, to constructivism, and to connectivism, and although one would attempt to design mobile learning intervention solely within the social-constructivist dimension, Africa enables its own pace and methodology, dictating that the development of mobile intervention still rely on certain behaviouristic approaches.

The White Paper on e-Education (RSA, 2004), subtitled *Transforming Learning and Teaching through Information and Communication Technologies,* deserves attention. In the foreword to this White Paper (RSA, 2004:6) the former Minister of Education, Naledi Pandor, spells out that the responsibility to "turn our schools into centres of quality learning and teaching for the twenty-first century" is a joint venture between the public and the private sectors. She continues that "the challenge of providing modern technologies to schools in order to enhance the quality of learning and teaching will require a significant investment". Given the recession experienced by world economies, and the crisis management mode in which the Department of Basic Education currently operates, one realises that this vision and these goals will probably be put in abeyance (Republic of South Africa, 2004).

Vosloo (2009a) states that this is the era of Innovation, and the fact that learners are mobile should be considered an advantage, as "learning can be interwoven with activities outside the classroom". As use of electronic media become commonplace, and while the majority of South African schools are a far cry from being electronically equipped, the challenges that face digital teaching and learning multiply. The role of the language teacher in the 21st century is of necessity completely different. As a result of Communicative Language Teaching (CLT), the use of authentic texts, CALL, MALL / m-learning and use of social networks such as Facebook and Twitter, language teachers tend to be more and more involved with the social issues in their learners' lives. Modern-day learners share their views on social, socio-political and health issues far more freely than the learners of a decade or two ago. In this way teachers become involved caregivers of their learners, both inside and outside the classroom. Larsen-Freeman (20011:99) elaborates that some teachers […] are assuming the role of advocates, not only advocates on behalf of their disempowered students, but also advocates on such topics as environmental

issues, ethical issues concerning globalization, social issues such as AIDS education and international education issues such as the universal need for world peace education". These are all issues that are generally discussed in the modern language classroom and teachers will need support and proper training to deal with these challenges.

The researcher is of the opinion that the Mobipal m-learning project of this study, which was conducted on a small scale with rural learners during afternoon sessions, can be extended to bring standardised, quality educational activity back into the classroom where it belongs. Although much has been said about the ubiquity of the mobile phone that opens up opportunities for informal learning, the structured model of mobile poetry-based intervention used successfully in this study, indicate the possibility of formalising m-learning within the South African classroom.

The importance of the findings of this mobile learning study is given prominence by the lack of instructional material in South Africa which culminated in the textbook debacle referred to numerous times in this thesis. Howie et al. (2007:46), report on the findings of the 2006 PIRLS report and supply startling figures when they state that only 57% of [South African] teachers reported using textbooks daily, and only 12% use a variety of children's books for reading instruction; and those that do report using textbooks regularly, admit that the use of this resource is mostly restricted to the teacher reading to the learners. Although Van Staden & Howie (2006:9) warn that the PIRLS report (2006) does not indicate a clear relationship between hours of reading instruction and achievement (since time spent on reading instruction is not necessarily a reliable indicator of quality instruction) from the above data it is fair to derive that the time afforded to reading instruction is teacher-centred, rather than learner-centred.

ESL educators should be encouraged to embrace m-learning by discussing, for instance, the MXit Yoza-stories with learners in the classroom. The Yoza library material can be adapted to suit the needs of different target groups and of learners with different learning styles. Having recently witnessed an English class at a semi-private institution where seven learners were huddled around one text book trying to follow a Shakespearian play being read by the teacher, the Yoza Library and its possibilities came to mind. Each of those learners was the owner of a mobile phone that could have been fruitfully utilised in creating a meaningful lesson with enhanced learning experiences by simply logging on to the Yoza library site.

Brown (2008:23) draws on information received by Ambient Insight's 2008 – 2013 Mobile Learning Market Research and maintains that "the market creation phase of m-learning is over and the demand is now mainstream". In South Africa some publishing houses are selling content in mobile format, and the smaller publishers will have to follow suit in order to survive the porting of new content that is happening at an accelerated rate by overseas publishers.

5.2   Reflecting on the practicalities of the study

5.2.1   Connectivity and cost

As discussed in Chapter 3 (Section 3.4), each smartphone connects directly to the internet through its GPRS, EDGE, WIMAX or 3G-capability. In Justicia, Mpumalanga Province where the study was conducted, only GPRS and EDGE protocols were available through the Mobile Network Operator, Vodacom, and therefore poor coverage necessitated a Vodacom signal booster (at a cost of R5000 and donated by Vodacom) to be installed in order for the m-learning study to continue. The installation of the Vodacom signal booster proved that rural schools could, and should, be supported by the industry in order to offer uncompromised opportunities to learners in rural areas. **[SIGNAL BOOSTER COST =R 5000]**

5.2.2   Data costs and consumption

Fifteen cellular phones were bought, each equipped with a data card @ R1.00 each (thus R15.00). The data card does not allow the user of the device to make calls, but allowed participants in the study to connect to the mobile website, download podcasts and videos, and follow links, e.g. to an online dictionary and MXit for controlled group chats with the facilitator. The total cost for the 15 devices was R 13 485, donated by the *Good Work Foundation.* **[TOTAL COST FOR DEVICES AND DATA CARDS: R 13 500].**

Data bundles of 50MB each were bought per device at a cost of R49 each (thus R735 for 15 devices per month) prior to the study commencing in March. At the end of March, April and May, 30MB of free data was received per device as part of a VODACOM special offer, with unused data being lost at the end of every month. Each device was used for three one-hour sessions per week (one hour per group, downloading a video or podcasts or vodcasts or music, or linking to an online site per lesson. No extra data was bought throughout the study. **[TOTAL DATA COSTS FOR 3 MONTHS = R49 PER DEVICE = R735].**

5.2.3   Problems encountered and possible solutions

- As indicated in 5.2.1 above, the biggest stumbling block was the poor signal at the school which was resolved by installing a signal booster. Some of the devices also displayed connectivity problems throughout the project. It is thus always recommended to have one or two devices as back-up.

- Having the support of an organisation such as the *Good Work Foundation* is imperative. When one embarks on a research journey such as this study within a rural community, the support and infrastructure supplied by the organisation and its local fieldworkers and/or facilitators are invaluable.

- Despite thorough written communication with the school, one has to be flexible with regards to changing school programmes such as participants that attend school camps or outings, or extra-mural activities without any prior notice or planning. Continuous communication with the fieldworkers, teachers and participants shows goodwill, respect, and understanding for the community and its people, and is key to the success of such a project.

- Political and socio-economic factors have to be considered. A week-long strike in the community disrupted the normal functioning of the school and necessitated a session to be repeated. The encouraging fact is that the mobile learning sessions could, in the absence of a teacher, continue - albeit with only 6 of the 26 participants who arrived at school. Had the participants all been equipped with a mobile phone at home, every participant would have been able to access the lesson on the device from home.

5.3   Recommendations for M-Learning in SA

1. Rural community leaders, headmasters and educators should be identified and encouraged to supply reading and learning material for a mobile Community of Practice where knowledge is built by, and shared amongst the community. There is nothing like mother tongue learning to support and uphold the diversity of language, culture and traditions. The number of cellular phone owners in South Africa is increasing rapidly, thus people could be trained to become facilitators of learning content that is provided via MXit (or via tailor-made mobile sites such as the site created for this study).

2. Those who harbour the thought that mobile reading by itself can enhance the standard of literacy in South Africa need to rethink such a model. Technology is not a solution in itself, and needs good teachers who act as facilitators of learning. The importance of motivating educators to develop digital literacy within their different subjects should be a priority for those involved in teacher training. Although young people are often being referred to as 'digital natives', it is not a given – and certainly not in rural areas – that they possess all the skills, knowledge, values and understanding to make sense of this rapidly changing means of communication.

3. South Africa needs to reflect on its educational system and its culture of non-delivery. In order for the system to set the right examples, it should discourage bad practice, such as corruption, apathy and teacher-absenteeism.

4. The publication of mobile learning content should always be followed up with an educational intervention strategy within a blended learning approach, where matters such as the value of the genre, message, use of language and moral issues can be discussed within a safe environment to add value and depth, and to create moral citizens. Educators need to ensure that learners are both digitally competent and digitally literate , i.e. that they have the ability to judge the reliability and validity of an array of sources available to them, and that they can interpret and interact meaningfully with the sourced content, both cognitively and emotionally. Furthermore, educators need to plan web-based mobile content carefully by taking the appropriate target market, goals, outcomes, and learning strategies into account – not only to provide content, but also to stimulate ideas and engender discussions by the Community of Practice within the connected network, inside and outside the classroom.

5. Parents and teachers should empower themselves by investigating the capabilities of the mobile phone that is virtually an extension of teenagers' lives, and in this way open communication channels, and schools should be encouraged to communicate with parents and learners via mobile devices, thus utilising the communication applications afforded by mobile technologies.

6. Most mobile learning initiatives are conducted as small scale pilot projects such as this study. In order to justify the advantages and possible opportunities arising from mobile learning to change the South African and African educational system; in order to sustain or integrate a mobile learning model such as the *MOBIPAL* Project into the South African schooling system; and in order to produce reliable results (i.e. dependable results that will yield the same outcome) a research project such as this study should be conducted on a much larger scale, and should focus on the effect of m-learning on the literacy **and** numeracy levels of disadvantaged South African learners.

5.4   Conclusion

Swarts (2007:5) warns that developing countries often find themselves pressurised to acquire and adopt new technologies because of the claims of what these technologies could do to aid their development, without really understanding the potential and reach of the technologies, or without having analysed their environments and contexts for appropriateness, applicability and impact.

In the light of this warning, the fact that one can answer 'yes' to each of the research questions asked at the outset of this thesis, renders this study and its outcomes worthy of careful attention. For the purpose of these concluding remarks, the research questions are reiterated:

- **Could mobile learning be instrumental in bringing about a (significant) difference in the literacy levels of learners that are already capable of reading and speaking an additional language, and would poetry be an effective mode of enhancing literacy levels (evident in the skills of comprehension, visual comprehension, and writing) through mobile phone technology?**

   Yes, quantitative data showed an improvement of 15.6 percentage points overall for the experimental group, and a decline of 2.3 percentage points for the control group. In the light of the positive results of this study, the validity of the hypothesis that the mobile phone platform within a blended-learning, poetry-based approach, lends itself to enhancing the literacy levels of learners in rural South Africa, can be unequivocally supported.

- **Could mobile learning bridge the gap between formal and informal learning, prove to be an effective way to foster an interactive learning culture, and be an effective substitute for e-learning which is hampered by poor resource conditions at rural schools?**

   Yes, the quantitative evidence presented in this thesis subsequent to mobile poetry-based afternoon instruction in a rural setting, should lead one to conclude that m-learning indeed has the potential for bridging the gap between formal and informal learning. Educators and learners should be encouraged to regard smartphones as a source of, and tool for learning, and to use these devices for the purpose of interactive learning. The Mobipal sessions of this study were conducted during afternoon sessions at school in a formalised manner. Learners accessed the English poetry lessons via cellphones in groups of ten with a facilitator in charge – thereby forming a Community of Practice. Rural educators could organise their classes of 70 to 80 learners per class in COPs, accessing curriculum-based, standardised content via their smartphones from a mobile site such as the Mobipal Site

used in this study, allowing the educator to become a facilitator of knowledge and skills, and allowing goal-orientated learning to take place.

In developing web-based learning material for the future classroom, educators will have to find a balance between the 'what', the 'how' and the 'where' of a lesson, in other words, between the content, the lesson material and the location of learning. Language learning material should be differentiated as learners have various ways of accessing the material, as well as various ways of interacting with the material. Lessons should be thoroughly planned and executed in order to lead learners skilfully to become life-long learners who will, one hopes, initiate positive change in the world around them.

The societal and political challenges that language teachers in South Africa face should be thoroughly investigated as life-long learning is essential in our rapidly changing world. The RNCS, Grades R – 9 (RSA, DoE, 2002:1) stipulates policy on curriculum and assessment in the schooling sector and is based on the principles of social transformation (equal educational opportunities for all sections of our population); an active and critical approach to learning; high knowledge and high skills achievement; progression of context and content per grade; human rights (displaying sensitivity towards diversity issues such as race, gender, language, age, disability, social and environmental justice); valuing indigenous knowledge systems and providing an education that can compare favourably to those of other countries (RSA, DoE, 2002).

Although the RNCS (RSA, DoE, 2002) referred to above, is currently in the process of being replaced by CAPS (RSA, DBE, 2011), the successful and meaningful implementation of the above-mentioned social-transformational principles remain essential, and will require proper training of teachers on a large scale. Implementation of CAPS (RSA, DBE, 2011) commenced in 2012 with the Foundation Phase and Grade 10; followed by the Intermediate Phase, Senior Phase and Grade 11 in 2013, and completed with the inclusion of Grade 12 in 2014 (RSA, DBE, 2011). In South Africa, there is a whole generation of rural learners waiting anxiously to be afforded the equal opportunities they were promised 18 years ago. These learners regard the acquisition of English as additional language as a gateway to academic opportunities and economic empowerment, and the termination of a lifestyle of poverty and academic isolation. The solution may lie in harnessing the powerful educational possibilities of the mobile phone in their pockets.

Hubbard (2009:14) states that "[a]s the field of CALL keeps evolving and more of what astounds us today becomes commonplace, it is hoped that the articles [in his book] will continue to capture valuable insights about where we have come from to help provide a foundation for understanding where to go next." The researcher believes that this is the crucial question to be posed to the South African Department of Basic Education: "Where do we go from here?"

Although more expert feedback from peer reviewed publications will be necessary, this study indicates that the South African Department of Basic Education and its key role-players had best acknowledge the possibilities of m-learning for teacher training and learner development. The time to act is now.

> *For to be free, is not merely to cast off one's own chains, but to live in a way that respects and enhances the freedom of others.*
>
> Nelson Mandela

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APPENDIX A:
PARTICIPANT INFORMATION LEAFLET AND ASSENT FORM

	STELLENBOSCH UNIVERSITY
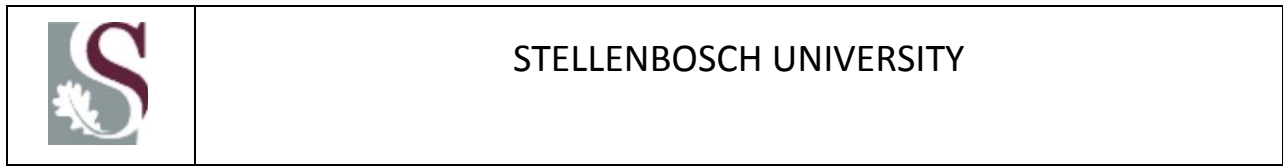
TITLE OF THE RESEARCH PROJECT:
The effect of mobile poetry-based instruction on the literacy levels of Grade 8 English L2-learners in rural South Africa.

RESEARCHER'S NAME: _____

CONTACT ADDRESS: _____

What is RESEARCH?

What is this research project all about?

Who is doing the research?

What will happen to me in this study?

Can anything bad happen to me?

Can anything good happen to me?

 Will anyone know I am in the study?

Who can I talk to about the study?

What if I do not want to do this?

Even though your parents have agreed to your participation in this project, you can refuse to do it, or you can stop at any time during the project without getting into trouble.

Do you understand this research study and are you willing to take part in it?

YES		NO

Has the researcher answered all your questions?

YES		NO

Do you understand that you can pull out of the study at any time?

YES		NO

_____   15 March 2012

Signature of Child   Date

APPENDIX B:
BASELINE SURVEY ON PARTICIPANTS' INDIVIDUAL USE OF AND FAMILIARITY WITH ICT (SURVEY 1)

MOBIPAL PROJECT ICT BASELINE SURVEY

Adapted from: NEPAD e-Schools Project for Learners Baseline Survey

1.   **Country:**   **South Africa**

2.   **Name of School:**   **Madlala Digital Learning Centre**

3.   **What is your name and surname?**   ....

4.   **What is your gender?**

☐   Female

☐   Male

5.   **What is your age?**   ....

6.   **What is your grade level?**   **Grade 8**

7.   **How many years have you been using computers?**

☐   Less than one year

☐   1-2 years

☐   More than 2 years but less than 4 years

☐   4-6 years

☐   More than 6 years

8.   **Who taught you about computers?**

☐   I taught myself

☐   My teachers

☐   My friends

☐   My family

☐   Other students

☐   Took training outside of schools

☐   Took online courses or used helpdesk

☐   Other, please specify: ....

9. **What are your favourite activities for using computers? (Please check all that apply)**

    ☐ Find and research information

    ☐ E-mail

    ☐ Chat

    ☐ Download music

    ☐ Play games

    ☐ Surf the Internet

    ☐ Use educational software

    ☐ Write papers

    ☐ Write computer programmes

    ☐ Draw and paint

    ☐ Make presentations using PowerPoint

    ☐ Access to Health education (information)

    ☐ Other, please specify: ....

10. **If you are using computers and related information communication technologies (ICTs), how many hours on average per week are you able to use these computers and related ICTs to do your studies?**

11. **Where else can you have access and use of these ICT tools and facilities outside of your normal school hours?**

    ☐ At home

    ☐ In commercial places (cyber café)

    ☐ At friends/ relatives houses

    ☐ In ICT training courses

    ☐ Other, please specify: ....

12. **Do you have access to the Internet at home?**

    ☐ Yes

    ☐ No

13. **How often do you use the Internet for surfing websites while at school?**

    ☐ Never

    ☐ Once a month

    ☐ Once a week

    ☐ Several times a week

☐ Daily

14. Where do you use computers in school?

☐ In a classroom

☐ In a computer laboratory

☐ In both classrooms and laboratory

☐ In the library

☐ I do not use computers in schools

☐ Other, please specify: ....

15. How would you rate your overall level of expertise in computer use?

☐ No expertise

☐ Fair – able to operate basic computer functions and a word processing application

☐ Good – able to operate at least three MS Office applications (MS Word, Excel, PowerPoint) and use these for school assignments

☐ Very Good – all of the above skills used for school including the regular use of e-mail and Internet resources

☐ Excellent – all of the above including use of e-mail, Internet surfing and searching; development of web pages; participation in e-learning and online classes

16. More specifically, how would you rate your level of skill in the use of each of the following computer applications? (Please check one box per row).

	Excellen	Very	Good	Fair	No
Word processing –prepare papers					
Spreadsheets					
Presentation tools (PowerPoint)					
Basic E-mailing					
Basic Internet browsing					
Graphics					
Web page designing					
Use of chatting platform					

17. **How frequently do you use ICTs for your schoolwork related to each of the following purposes?**

Purpose	**Very Often** Every day	**Often** Twice or more a week	**Seldom** Few times each month	**Never**
Informative: to find, acquire and use information.				
Functional: to use and manipulate existing information for educational purposes such as compiling lists of books, abstracting and summarizing books and materials, using accessed information to prepare homework, and so on.				
Creating – to compose, compile or produce new information (write papers, draw, programme, make PowerPoint presentations, give oral presentations, prepare newsletter, create own website, etc.)				
Communication – to exchange and transmit information with other students, teachers or others using email or Internet; to join discussion forums and chats				

18. **In your school, are you able to use the relevant information communication technologies (ICTs) tools and facilities that you need in doing your subject schoolwork?**

☐ Yes - ICTs are available

☐ No - access to ICTs is limited

☐ No - there are no ICTs

19. In which classes or subjects do you use computers and related ICTs?

☐ Computer class

☐ Mathematics

☐ Science

☐ Social sciences

☐ Home language or additional language

☐ English

☐ Art

☐ Music

☐ Health

☐ Other, please specify: ....

20.   Please tick if you have any of the following.

☐ Mobile phone

☐ iPad or any other tablet

☐ Email address

21.   How often do you use and send email?

☐ Many times every day

☐ A few times every day

☐ A few times every week

☐ A few times every month

☐ A few times every year

☐ Never

22.   Please tick if you are on any of the following.

☐ MXit

☐ What's App

☐ Facebook

☐ Twitter

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

APPENDIX C:
BASELINE ASSESSMENT (PRE-TEST)

ENGLISH FAL

GRADE 8:

BASELINE ASSESSMENT AND MEMORANDUM:

MARCH 2012

TIME: 1 h 30 minutes TOTAL: [60]

Source: DEPARTMENT OF BASIC EDUCATION, adapted from: http:// www.thutong.doe.gov.za

/assesmentitembank

Q	QUESTION TYPE	LEARNING OUTCOME	ASS. STANDARD	POSSIBLE MARK
1	Comprehension	*3: Reading and Viewing* 5*:* Thinking & Reasoning	**Reads a text** (fiction or non-fiction): with fiction, demonstrates an understanding of character, plot and setting. Uses language for thinking.	[15]
2	Visual Comprehension	*3: Reading and Viewing* 5*:* Thinking & Reasoning	Reads a text (fiction or non-fiction). Uses language for thinking, investigating, exploring and reflecting; thinks creatively.	[8]
3	Language	6: Language Structure & Use 5: Thinking & Reasoning	Uses language to think and reason, as well as to access, process and use information for learning.	[19]
4	Poetry	*3: Reading and Viewing* 5*:* Thinking & Reasoning	Understands some elements of poetry (e.g. figures of speech, such as simile & metaphor) and understands some of the terms used to describe this language.	[8]
5	Creative Writing	*4: Writing* 5: Thinking and Reasoning	Writes creatively: Shows development in the ability to write stories, poems and play-scripts. Uses language for thinking, investigating, exploring and reflecting; thinks creatively.	[10] TOTAL: [60]

Question 1:   Comprehension

Learning Outcome 3: Reading and Viewing *The learner will be able to read and view for information and enjoyment, and respond critically to the aesthetic, cultural and emotional values in texts.*

Assessment Standards *We know this when the learner:*
Reads a text (fiction or non-fiction): • with fiction, demonstrates an understanding of character, plot and setting.

Learning Outcome 5: Thinking and Reasoning *the learner will be able to use language to think and reason, as well as to access, process and use information for learning*

Assessment Standards *We know this when the learner:*
Uses language for thinking.

Read the passage below and answer the questions that follow in short, but full sentences:

Themba took off his jersey, and rolled up his shirtsleeves. He stuffed his jersey into his bag next to "Classroom Mathematics 8." As he walked past the iron railings, he thought what a good noise he could make. He looked around him for a stick. He found something better. He picked it up and banged it against one of the iron bars of the railings. It made a suitable ringing noise, like that of a bell. Satisfied, he walked along slowly. The sounds echoed around him. In the distance, behind the railings, he could see people standing in a circle. Nearby was a heap of soil. The man at the top of the circle held a book, and everyone bowed their heads. Some of the men patted their foreheads and one of the women fanned herself with her hat. A woman from the group came over to Themba. "You are selfish and inconsiderate! Stop that noise!" she ordered.

	QUESTION 1	ANSWER	
1.1	**Describe the weather in this passage in your own words.**	It is hot / very hot / the sun is scorching /. ✔	(1)
1.2	**Write down three details from the passage to support your answer.**	Themba takes off his jersey. ✔ He rolls up his sleeves. ✔ Some of the men are mopping sweat off their foreheads. ✔ One woman fans herself with her hat. ✔ **Any THREE**	(3)
1.3.1	**Where has Themba been all day?**	Themba has been at school. ✔	(1)
1.3.2	**How do you know that? Give one reason.**	He has his bag with him and in it is his Maths text book. ✔	(1)
1.4.1	**Themba was looking for a stick, but found something better. What, do you think, he found that was "better?"**	He found a metal bar / a piece of metal. ✔	(1)
1.4.2	**Give ONE reason for you answer.**	It makes a ringing noise against the iron railings, so it, too, must be made of metal. / It clangs like a bell. / Makes a louder noise than a stick would. ✔	(1)
1.5.1	**What is the place "behind the railings" that Themba passes?**	Themba is passing a cemetery/graveyard.✔	(1)
1.5.2	**Give two details to support your answer.**	A group of people are standing at a mound/heap of soil. ✔ Their heads are bowed in prayer or sorrow. ✔	(2)
1.6.1	**In what way does the woman speak to Themba? Write one word of your own as answer.**	Harshly/crossly/angrily. ✔ (ONLY ONE WORD)	(1)
1.6.2	**How do you know that she speaks in this way? Give ONE reason.**	She uses words like "selfish" and "inconsiderate".✔ / There are exclamation marks. ✔ / The word "ordered" is used (one does not order in a gentle manner). **Any ONE**	(2)
	Do you think she was right to speak to Themba in this way? Give a reason for your answer.	Own opinion. The mark is given for the reason, not yes/no. SUGGESTION: Yes, he could see them and he was supposed to know that he should respect the funeral-goers. ✔OR: No, he didn't mean to disturb anyone / he was just playing a game or being a typical boy. ✔	(1) **[15]**

Question 2: Visual Comprehension

Learning Outcome 3: Reading and Viewing
> *The learner will be able to read and view for information and enjoyment, and respond critically to the aesthetic, cultural and emotional values in texts.*

Assessment Standards
> *We know this when the learner:*
> *Reads a text (fiction or non-fiction):*
>
> > *with fiction, demonstrates an understanding of character, plot and setting;*
> > *Reads spontaneously and often for pleasure and information across the range of texts studied; analyses techniques to create particular effects in visual, written and multimedia texts;*
> > *Responds critically to texts.*

Learning Outcome 5: Thinking and Reasoning
> *The learner will be able to use language to think and reason, as well as to access, process and use information for learning.*

Assessment Standards
> *We know this when the learner: Uses language for thinking; uses language to investigate and explore; thinks creatively; uses language to reflect.*

Carefully examine the cartoon below, and then answer the questions that follow:

Cartoon from: *The Star*
http://gallery.iol.co.za/v/cartoons/mamastaxi/ca+MT+1089+superhuman.jpg.html

	Question		Answer
2.1	**Who, do you think, are the two men in the cartoon?**	(1)	The two men are Metro Police / traffic officers. ✓
2.2	**Look at frames 1 & 2: Describe how the man on the left is feeling. Look at his body language and facial expression to support your answer.**	(3)	The man is feeling happy and confident. ✓ He is smiling ✓ his hands are behind his back. ✓ **Description + TWO reasons.**
2.3	**The man on the right does not feel the same. Which word in the speech bubble in frame 2 tells us how the man feels right now? Write down only the <u>one word.</u>**	(1)	"intimidated" ✓
2.4 2.4.1	**Look at frame 3.**	(1)	Describe how the taxi drivers are driving. Write one short full sentence. They are driving recklessly✓ / weaving in and out of the traffic. ✓ **Any ONE SIMILAR ANSWER**
2.4.2	**Write down two ways in which the drawings show you this.**	(2) [8]	There are skid marks✓; the driver's head turns rapidly from one side to the other as he tries to watch what the other drivers are doing✓ ; there are exclamation marks above the heads of pedestrians and drivers suggesting how shocked and horrified they are✓; there are even exclamation marks above the robots, as if they, too, are shocked at being ignored✓. **Any TWO**

Question 3: Language

Learning Outcome 6: Language Structure and Use The learner will know and be able
   to use the sounds, words and grammar of the language to create and interpret
   texts.

Assessment Standards We know this when the learner: distinguishes between verbs
   that can and cannot take the progressive (e.g."I have a problem." NOT: I am
   having a problem."; undernds and uses prepositions (e.g. at, to,
   in);distinguishes between verbs, nouns, adjectives and adverbs in context.

Learning Outcome 5: Thinking and Reasoning The learner will be able to use
   language to think and reason, as well as to access, process and use information
   for learning.

Assessment Standards We know this when the learner:
   Uses language for thinking.

Choose the correct form of the word(s) in brackets for each of the following by circling your answer on the answer sheet.

3.1	At the moment I **(write)** to my cousins to invite them to visit us during the holidays. WRITE / AM WRITING	(1)	am writing✓
3.2	Because the children **(have)** a problem in Maths now, they need the teacher to explain. HAVE / HAS / HAD	(1)	have✓
3.3	At school we **(write)** this exam all morning and now we are tired. HAVE BEEN WRITING / ARE WRITING	(1)	have been writing ✓
3.4	The coach **(work)** at this club for two years and he has been very successful. IS WORKING / HAS BEEN WORKING	(1)	has been working✓
3.5	The singer **(want)** to end the session early so he can attend his grandmother's birthday party. WANTS / WANT	(1)	wants✓
3.6	The farmers **(not like)** the new cattle feed very much. DON'T LIKE / ARE NOT LIKING	(1)	don't like ✓
3.7	The baby **(see)** his mother and starts to smile. SEES / SEEING	(1)	sees ✓
3.8	The patient **(see)** the dentist yesterday. SEEN / SAW	(1)	saw ✓
3.9 **3.10**	Last Saturday Gina **(wash)** the dishes while her sister **(mop)** the floor. WASHED / WAS WASHING WERE MOPPING / WAS MOPPING	(2)	washed ✓ mopped ✓ /(was mopping) ✓
3.11	Generally our brother never **(do)** any housework. It makes us so	(1)	does ✓

	cross. DOES / DO		
3.12	Water always **(run)** downhill. RUNS / IS RUNNING	(1)	runs ✓
3.13	The gogo told many **(story)** to her grandchildren. STORIES / STORYS	(1)	stories✓
3.14	The bride looked **(beauty)** as she walked into the church. BEAUTIFUL / BEAUTIFULLY	(1)	beautiful ✓
3.15	The toddler laughed **(happy)** as he pushed his truck in the sand. HAPPY / HAPPILY	(1) **[15]**	happily✓

Each of the sentences below needs a preposition. Write the correct answer on your answer sheet.

3.16	Please fetch the plate ..... the table and	on ✓
3.17	put it ..... the kitchen.	in✓
3.18	Look .... the chair to see if I left my book there.	under / on / behind✓
3.19	The cook put the pan .... the stove	on✓
3.20	and turned … the gas.	on✓
3.21	Do you see that bush … the house?	behind / next to✓
3.22	We were attacked …. a mad man with a knife.	by✓
3.23	The fire …. the shack caused a lot of smoke and the people were coughing.	in / outside / next to / behind✓ [8 x1/2 = **[4]**

Question 4: Poetry

> *Learning Outcome 4: Writing* *The learner will be able to write different kinds of factual and imaginative texts for a wide range of purposes*
>
> *Assessment Standards* *We know this when the learner:*
>   *Writes creatively;*
>   *shows development in the ability to write stories, poems and play-scripts.*
>
> *Learning Outcome 5: Thinking and Reasoning* *The learner will be able to use language to think and reason, as well as to access, process and use information for learning.*
>
> *Assessment Standards* *We know this when the learner: Uses language for thinking; uses language to investigate and explore; thinks creatively; uses language to reflect; asks and answers more complex questions (e.g. What would happen if…?)*

Read the following poem and then answer the questions:

A newly-born calf

A newly-born calf
is like oven-baked bread
steaming under a cellophane cover.
The cow cuts
the shiny coat   5
as a child would
lick a toffee
with a tongue as pink as
the sole of a foot.
The calf sways on its legs   10
filled with jelly and custard
 instead of bones and marrow;
and it totters
to suck the teats
of its mother's udder.   15

Oswald Mbuyiseni Mtshali

4.1	**Do you think the speaker likes the sight of the newly-born calf?** **Why do you say this?** Yes / no. ✓ It is most likely that he does. He describes the calf and the mother with affection, appreciation, and sympathy. / He compares the newborn calf to fresh oven-baked bread which carries positive values.✓ 1 m = yes/no. 1 mark for reasons.	(2)
4.2	**Which figure of speech does the poet use to describe the newly-born calf in lines 2 & 3?** **Choose one of the following:** • **Metaphor** • **Simile (comparison)** ✓ • **Personification**	(1)
4.3	**The poet uses a metaphor in lines 3 & 4. Explain in your own words what the "shiny coat" could be and how it is possible for the cow to "cut" it.** The metaphor describes the sight of the calf **under the membrane**✓ ("shiny coat") as it comes from the cow's body. The cow "cuts" it by licking✓ it and peeling it away from the calf.	(2)
4.4	**In what way is the cow licking the calf the same as a child licking a** **toffee? Look at lines 8 and 9 to help you.** When the cow licks the calf her pink tongue✓ is revealed, just as one can see the pink tongue of a child enjoying a toffee.✓	(2)
4.5	**How do we know that the calf is not steady on its feet yet? Quote a phrase from the** **poem.** "legs filled with jelly and custard" or "jelly and custard instead of bones and marrow." "totters" "sways" 1 mark for quotation marks if quote is correct and 1 mark for correct quote. ✓✓	(2) **[8]**

Question 5: Creative Writing

The poem in Question 4 speaks of a baby calf being born. Write a story or short description of 180 - 200 words on the following topic:

MY UNUSUAL BABY

The pet can be anything or any kind of pet. Remember: Here the word "unusual" means different or weird or strange - or not an ordinary pet.

- Here are some ideas for your story or description. You could add your own ideas.
- Where did you get this unusual baby pet? What breed is this pet?
- What is the pet's name? What does it look like?
- Where does it sleep? Which strange habits does the pet have? (Does it do tricks?)
- What does it eat and drink? What does it like or dislike?
- How do you feel about your pet?

[10]

Indicate the number of words you used in brackets at the end of your paragraph.

Rubric for assessing a paragraph: First Additional Language (50 marks ÷ 5 = 10)

	Code 7: Outstanding 80-100%	Code 6: Meritorious 70-79%	Code 5: Substantial 60-69%	Code 4: Adequate 50-59%	Code 3: Moderate 40-49%	Code 2: Elementary 30-39%	Code 1: Not achieved 0-29%
Content & planning	**26-32** -Content shows impressive insight into topic. -Ideas thought-provoking, mature. -Planning &/or drafting has produced a virtually flawless, presentable paragraph.	**22½-25½** -Content shows thorough interpretation of topic. -Ideas imaginative, interesting. - Planning &/or drafting has produced a well-crafted & presentable paragraph.	**19½-22** -Content shows a sound interpretation of the topic. -Ideas interesting, convincing. - Planning &/or drafting has produced a presentable & very good paragraph.	**16-19** -Content an adequate interpretation of topic. -Ideas ordinary, lacking depth. - Planning &/or drafting has produced a satisfactorily presented paragraph.	**13-15½** -Content ordinary. Gaps in coherence. -Ideas mostly relevant. Repetitive. - Planning &/or drafting has produced a moderately presentable & coherent paragraph.	**10-12½** -Content not always clear, lacks coherence. -Few ideas, often repetitive. -Inadequate evidence of planning/drafting. Paragraph not well presented.	**0-9½** -Content irrelevant. No coherence. -Ideas repetitive. -Non-existent planning/drafting. Poorly presented paragraph.
Language, style & editing	**10-12** -Critical awareness of impact of language. -Language, punctuation effectively used. Uses figurative language. -Choice of words highly appropriate. -Style, tone, register highly suited to topic. -Virtually error-free following proof-reading & editing.	**8½-9½** -Critical awareness of impact of language. -Language, punctuation correct; able to include figurative language correctly. -Choice of words varied & correctly used. -Style, tone, register appropriately suited to topic. -Largely error-free following proof-reading, editing.	**7½-8** -Critical awareness of language evident. -Language & punctuation mostly correct. -Choice of words suited to text. -Style, tone, register suited to topic in most of the paragraph. -By and large error-free following proof-reading, editing.	**6-7** -Some awareness of impact of language. -Language simplistic, punctuation adequate. -Choice of words adequate. -Style, tone, register generally consistent with topic requirements. -Still contains errors following proof-reading, editing.	**5-5½** -Limited critical language awareness. -Language ordinary & punctuation often inaccurately used. -Choice of words basic. -Style, tone register lacking in coherence. -Contains several errors following proof-reading, editing.	**4-4½** -Language & punctuation flawed. -Choice of words limited. -Style, tone, register inappropriate. -Error-ridden despite proof-reading, editing.	**0-3½** -Language & punctuation seriously flawed. -Choice of words inappropriate. -Style, tone, register flawed in all aspects. -Error-ridden & confused following proof-reading, editing.
Structure	**5-6** -Coherent development of topic. Vivid detail. -Sentences, paragraph coherently constructed. -Length in accordance with requirements of topic.	**4½** -Logical development of details. Coherent. -Sentences, paragraph logical, varied. -Length correct.	**4** -Several relevant details developed. -Sentences, paragraph well constructed. -Length almost correct.	**3-3½** -Some points, necessary details developed. -Sentences, paragraphing might be faulty in places but paragraph still makes sense. -Length correct.	**2½** -Some necessary points evident. -Sentences, paragraph faulty but ideas can be understood. -Length - too long/short.	**2** -Sometimes off topic. General line of thought difficult to follow. -Sentences, paragraph constructed at an elementary level. -Length - too long/short.	**0-1½** -Off topic. -Sentences, paragraph muddled, inconsistent. Length - far too long/short.

APPENDIX D:
CONTROL ASSESSMENT (POST TEST)

ENGLISH FAL

   GRADE 8: CONTROL ASSESSMENT AND MEMORANDUM:

JUNE 20102

TIME: 1 h 30 minutes TOTAL: [90]

Source: DEPARTMENT OF BASIC EDUCATION, adapted from: http:// www.thutong.doe.gov.za /assesmentitembank

Q	QUESTION TYPE	LEARNING OUTCOME	ASS. STANDARD	POSSIBLE MARK
1	Comprehension	*3: Reading and Viewing* 5*:* Thinking & Reasoning	Reads a text (fiction or non-fiction): with fiction, demonstrates an understanding of character, plot and setting. Uses language for thinking.	[20]
2	Visual Comprehension	*3: Reading and Viewing* 5*:* Thinking & Reasoning	Reads a text (fiction or non-fiction). Uses language for thinking, investigating, exploring and reflecting; thinks creatively.	[10]
3	Language	6: Language Structure & Use 5: Thinking & Reasoning	Uses language to think and reason, as well as to access, process and use information for learning.	[20]
4	Poetry	*3: Reading and Viewing* 5*:* Thinking & Reasoning	Understands some elements of poetry (e.g. figures of speech, such as simile & metaphor) and understands some of the terms used to describe this language.	[20]
5	Creative Writing	*4: Writing* 5: Thinking and Reasoning	Writes creatively: Shows development in the ability to write stories, poems and play-scripts. Uses language for thinking, investigating, exploring and reflecting; thinks creatively.	[20] TOTAL [90]

Question 1: Comprehension

Read the magazine letter below and answer the questions that follow in short, but full sentences, unless stated otherwise.

Q: Feelin' like a failure

I'm a 20-year old guy who's been thinking a lot about the future lately. I am very scared of failing. All my friends seem so happy and carefree! I am the last of four children – my sister is a social worker; my brother is a programmer and my other brother runs a construction company. I feel like they expect too much of me, even though I'm doing my best. Is it normal for one to be this scared of failing and not living up to peoples' expectations? What can I do to keep myself motivated?   TM

A: Dear TM

 It's completely normal to be scared of failing to achieve. It's also very normal to feel that you just don't measure up. However, the important thing is, "What will make YOU happy?" You need to follow your own dreams and make your own moves.

Don't put yourself under pressure when it comes to what your siblings have achieved; focus instead on what you want to achieve for yourself. Remember that you are a unique individual – think about your interests, talents and abilities. By figuring out you own goals and where you want to go in life, will set your motivation in motion. Soon you will feel on top of the world and not as if you've been hit by a boulder! As they say," Shoot for the moon, even if you miss, you will still land amongst the stars."

1.1 **Why has TM written to the advice column? Give four reasons.** (4)
TM feels like a failure. ✓
He wants some help in dealing with his situation. ✓
He is worried about his future. ✓
He feels inferior compared to his siblings. ✓
He feels pressurised by the expectations of his family✓
He seeks advice to stay motivated. ✓
He seeks reassurance that it is normal to feel scared and insecure. ✓ **Any FOUR**

1.2 **What is TM's biggest personal challenge?**   Keeping himself motivated. ✓ (1)

1.3. **Look at the title. Explain why an apostrophe is used at the end of the word feelin'.** (1)
The apostrophe indicates that a letter has been omitted / The correct word is FEELING. ✓

1.4 **What is TM's position in his family-line?** He is the youngest child / the last-born.✓ (1)

1.5.1 **What advice does the editor give TM about his brothers and sisters?** (2)
TM must not focus on what his siblings have achieved, but rather on what he wants to do with his life / on his interests, talents and abilities. ✓✓

1.5.2 **What advice does the editor give TM about self-motivation?** (2)
Motivation comes from deciding on your goals ✓ and the purpose of your life. ✓

1.6 **Do you think the last piece of advice from the editor:** (2)
"Shoot for the moon, even if you miss, you will still land amongst the stars?"
is good advice in this case? Give a reason why you say yes or no. Own opinion. The mark is given for the reason, not yes/no. The answer has to prove an understanding of the quote "Shoot for the moon, even if you miss, you will still land amongst the stars" in this specific context. ✓✓

1.7 **Give a synonym of your own <u>for each</u> of the following underlined words to explain the meaning.**   *(Answer could be one word or an explanation).

1.7.1 "Soon you will feel on top of the world and not as if you've been hit by a **<u>boulder</u>**!" rock ✓ (1)

1.7.2 …"will set your motivation in **<u>motion</u>".**   action / movement. ✓ (1)

1.7.3 Remember that you are a unique **<u>individual.</u>** Person / human / youngster / man / teenager / boy.✓ (1)

1.8 **<u>Quote</u> a phrase (NOT a full sentence) from the text to prove that TM tries to work hard.** "…even though I'm doing my best." ✓ (2)

1.9   **Write down <u>your direct words</u> for the following two questions. What advice would you give the young man if you were:**

1.9.1   **his friend?** Own opinion. ✓ The mark is given for appropriate advice a caring friend would give   (1)

1.9.2   **his sister?** Own opinion. ✓ The mark is given for appropriate advice an older, caring sister would give.   (1)

TOTAL FOR COMPREHENSION   [20]

Question 2: Visual Comprehension

Carefully examine each of the pictures below, and then answer the questions that follow:

Learning Outcome 3: Reading and Viewing
The learner will be able to read and view for information and enjoyment, and respond critically to the aesthetic,
cultural and emotional values in texts.

Assessment Standards
We know this when the learner:Reads a text (fiction or non-fiction):
• notices the role played by visual images in constructing meaning.
Reads spontaneously and often for pleasure and information across the range of texts studied; analyses techniques to create particular effects in visual, written and multimedia texts; analyses photographs in texts and identifies the subject, context, audience and message of the photo.
Responds critically to texts.

Learning Outcome 5: Thinking and Reasoning
The learner will be able to use language to think and reason, as well as to access, process and use information for learning.

Assessment Standards
We know this when the learner: Uses language for thinking; uses language to investigate and explore; thinks creatively; uses language to reflect.

PICTURE 1   **PICTURE 2**   **PICTURE 3**

2.1   **PICTURE 1:**

2.1.1   **Which sport do these fans support?** Soccer. ✓   (1)

2.1.2   **Give a reason for your answer**. The answer has to be a full sentence and relate to the Soccer World Cup, e.g. they are happy because Bafana Bafana won their first match / because SA had won the bid. ✓   (1)

2.1.3   Circle the word that best describes the body language of these supporters: (1)
         (playing / celebrating✓ / grieving / insecure)

2.1.4   Give **ONE** reason for your choice above: (1)
The man has a flag wrapped around him / his fist is in the air as a sign of celebration /
victory / he has a broad smile. The girl is smiling / happy / holds the soccer ball up in the
air as a sign of victory. ✓

2.2   **PICTURE 2: Circle the correct option for the next 2 questions:**

2.2.1   **This picture is traditionally a symbol of (peace✓ / piece / love / war). (Spelling counts)**   (1)

2.2.2   **The picture refers to (a traditional African folk tale / the Bible✓ / a fairy tale).**

(1)

2.3   **PICTURE 3:**

2.3.1   **Circle the nation whose traditional breakfast this is:**   (1)
(The French / The English✓ / The Chinese)

2.3.2   **Give a reason for your choice above**: Any acceptable motivation written in a full   (2)
sentence. The candidate has to refer to the food on the plate.

TOTAL FOR VISUAL COMPREHENSION   **[10]**

Question 3: Language

> *Learning Outcome 6: Language Structure and Use* *The learner will know and be able to use the sounds, words and grammar of the language to create and interpret texts.*
>
> *Assessment Standards* *We know this when the learner:*
>   *distinguishes between verbs that can and cannot take the progressive (e.g."I have a problem." NOT: I am having a problem" ;*
>   *Understands and uses prepositions (e.g. at, to, in);distinguishes between verbs, nouns, adjectives and adverbs in context.*
>
> *Learning Outcome 5: Thinking and Reasoning* *The learner will be able to use language to think and reason, as well as to access, process and use information for learning.*
>
> *Assessment Standards* *We know this when the learner:*
>   *Uses language for thinking.*

3.1   **Choose 5 words from the box below to complete the following   sentences so that they make sense.**
Each word may only be used once.

dangerous	**dangerously**	**light**	**lightly**	**pride**
proud	**proudly**	**beautiful**	**beautifully**	

3.1.1 We are all **proudly** South African. ✓   (1)

3.1.2 I am **proud** of my country, South Africa.✓   (1)

3.1.3 I feel **pride** my country when I look at our flag.✓   (1)

3.1.4 We have high mountains and cliffs that are **dangerous / beautiful**, but they can ✓also be
3.1.5 **beautiful / dangerous**. (correct combination of 3.1.4 and 3.1.5).✓   (2)

                                                                                                                                        [5]

3.2   **Choose the correct form of the word(s) in brackets for each of the following by circling your answer.**

3.2.1   While I **(was having** ✓ **/ had)** lunch, the bell rang and I had to go back to class.   (1)

3.2.2   It **(rained / was raining** ✓**)** hard when I woke up this morning.   (1)

3.2.3   Ntando **(wrote** ✓**/ was writing)** a letter to her friend in the English examination.   (1)

3.2.4   When I was younger I always **(preferred** ✓ **/ was preferring)** *Corn Flakes* for breakfast.   (1)

3.2.5   The GWF **(took ✓ / was taking)** the learners to Nelspruit to watch a movie last month.   (1)

[5]

3.3   **Each of the sentences below needs a preposition. Write the correct preposition for each sentence in the spaces provided.**

3.3.1   We are writing the test tomorrow   **at ✓** nine o'clock in Mr Khoza's room.   (1)

3.3.2   Please turn **up ✓** on time. (around)   (1)

3.3.3   We have been walking for an hour now; let's turn **around ✓** and go home.   (1)

3.3.4   In a fairytale you can kiss a frog and it will turn **into ✓** a prince.   (1)

3.3.5   Rejoice is a successful businessman. He used to be the black sheep of our family, but he turned **out ✓** quite well.   (1)

[5]

3.4   **Complete the paragraph by giving the correct form of each of the verbs in brackets. Remember we are telling a story that happened in the <u>past.</u>**

Last night

Mother Nature (sleeps) 3.4.1 **slept ✓** peacefully. The soft breath of the wind
(does not) 3.4.**2 did not / didn't** wake her until early morning.
In the middle of the night the wind (blows) 3.4.3 **blew ✓** a soft lullaby over her
sleepy head. After she (fall) 3.4.4 **had fallen ✓** asleep, the moon quietly
(keep) 3.4.5 **<u>kept</u> ✓** watch.   **[5]**

TOTAL FOR LANGUAGE: 20

Question 4: Poetry

> *Learning Outcome 3: Reading and Viewing*
> > *The learner will able to read and view for information and enjoyment, and respond critically to the aesthetic, cultural en emotional values in texts.*
>
> *Assessment Standards We know this when the learner:*
> > *Understands some elements of poetry (e.g. simile, personification, metaphor, rhythm, rhyme, alliteration, assononance, stanza, onomatopoeia), and understands some of the terms used to describe this language (e.g. simile).*
>
> *Learning Outcome 5: Thinking and Reasoning*
> > *The learner will be able to use language to think and reason, as well as to access, process and use information for learning.*
>
> *Assessment Standards*
> > *We know this when the learner:*
> > *Uses language for thinking.*

There are many reasons to enjoy living in a city, but cities often have a darker side.

Read how the poet, Dennis Brutus, describes a shanty town at night, and then answer the following questions:

Nightsong: City

Sleep well, my love, sleep well:

the harbour lights glisten over restless docks,

police cars cockroach through the tunnel streets;

from the shanties creaking iron-sheets

violence is tossed like a bug-infested plastic bag   5

filled with rotten food.

Fear is imminent as sound in the wind-swung bell;

the long day's anger pants like a tiger;

but for this breathing beautiful night   10

at least,

my land, my love, sleep well.

4.1   **Quote a word from the poem that means the same as each of the following: 1 mark for quotation marks if quote is correct and 1 mark for correct quote.**

4.1.1   shine (a verb): "Glisten".✓✓   (2)

4.1.2   a horrible dark brown insect: "Cockroach."✓✓   (2)

4.1.3   to be thrown away: (2)

    "Tossed." ✔✔

4.1.4   full of insects: "Bug-infested."✔✔   (2)

Which figure of speech (metaphor, simile, personification) is used in each the
4.2   **following quotes?**

4.2.1   "the harbour lights glisten over **restless docks**."   Personification. ✔   (1)

4.2.2   "violence is tossed **like** a bug-infested plastic bag"   Simile.✔   (1)

4.2.3   "**police cars cockroach** through the tunnel streets." Metaphor.✔   (1)

4.3   The poet says the police cars move through **tunnel streets**. Explain what these streets
    look like in your own words. The streets are narrow ✔ and dark.✔   (2)

4.4   **Look at line 10: "this breathing night…"**

4.4.1   What figure of speech is this? Personification.✔   (1)

4.4.2   What does the speaker mean with these words?   "bu̲t for this breathing beautiful
    night…"
    The city is alive at night, as though it is breathing / as though it is a person."✔   (1)

4.5.   Is the following phrase an example of assonance? Just answer YES or NO.…."a̲nger
    p̲ants from s̲and."   YES. ✔To the speaker the city is a living, person whom he loves. /
    he sings a̲ lullaby to the city at night.✔
    "Sleep well, my love, sleep well" or: "my land, my love, sleep well".✔
    1 mark = yes. 1 mark for reason. 1 mark for appropriate quote.   (1)

4.6   Write down an example of alliteration in the last stanza._   (1)

4.7   Do you think the speaker likes the city? Give a reason for your answer and quote a line
    from the poem.   (2)

TOTAL FOR POETRY   **[20]**

Question 5: A dialogue

Complete the following dialogue by filling in the blank lines. The marks on the right indicate how many sentences you have to write in every blank space.

> *Learning Outcome 4: Writing*
>   *The learner will be able to write different kinds of factual and imaginative texts for a wide range of purposes.*
>
> *Assessment Standards*
>   *We know this when the learner: Uses developing knowledge of language structure and use: • shows an understanding of style and register; adopts a point of view*
>
> *Learning Outcome 5: Thinking and Reasoning*
>   *The learner will be able to use language to think and reason, as well as to access, process and use information for learning.*
>
> *Assessment Standards We know this when the learner:*
>   *Uses language for thinking; uses language to investigate and explore; thinks creatively; uses language to reflect; asks and answers more complex questions (e.g. What would happen if…?)*

Vuyelwa:	Good evening from me, Vuyelwa, and welcome to The Talk Show. With me today in the studio is Khanya Sibuye, a 16 year old young lady who is making a name for herself as a presenter of the SABC 1 show, **Big YO.** Welcome, Khanya!	
Khanya:	Thank you, Vuyelwa! It is …	(1)
Vuyelwa:	Tell us a bit about yourself and your family and home-life, Khanya.	
Khanya:	I grew up …	(3)
Vuyelwa:	Did you always dream of becoming a TV-presenter, Khanya?	
Khanya:	Oh, yes! When I was a little girl, I used to …	(2)
Vuyelwa:	I believe you are in Grade 10 this year and that you are doing very well at school, Khanya? How do you manage your school work and being a TV-presenter? What is your secret?	
Khanya:		(2)
Vuyelwa:	Khanya, what is your advice for younger teenagers that have dreams of making a success of their lives like you?	
Khanya:	I would advise young people to …	(2)
TOTAL FOR TRANSACTIONAL WRITING (10 X2)		**[20]**

Rubric for longer transactional writing:

	Code 7: Outstanding 80-100%	Code 6: Meritorious 70-79%	Code 5: Substantial 60-69%	Code 4: Adequate 50-59%	Code 3: Moderate 40-49%	Code 2: Elementary 30-39%	Code 1: Not achieved 0-29%
Content, planning & format	**11½-14** -Very good knowledge of requirements of the text. -Learner maintains focus on topic, no digression. -Content and ideas coherent, text has details supporting the topic. -Evidence of planning and/or drafting has produced a very presentable text.	**10-11** -Good knowledge of requirements of text. -Learner maintains focus, hardly any digressions -Text is fairly coherent in content and ideas, and topic has details supporting the text. -Evidence of planning and/or drafting has produced a fairly presentable and coherent text. -Has applied the necessary rules of format well.	**8½-9½** -Fair knowledge of requirements of text. -Learner maintains focus with minor digressions. -Text is reasonably coherent in content and ideas. Evidence of planning and/or drafting has produced a reasonably presentable and coherent text. -Has applied most of the necessary rules of format.	**7-8** -Adequate knowledge of requirements of text. -Writing – learner digresses but does not impede overall meaning. -Adequately coherent in content & ideas, some details support topic. -Evidence of planning and/or drafting has produced an acceptable text for SAL. -Has adequately applied the necessary rules of format.	**6-6½** -Moderate knowledge of requirements of text. Response to writing task reveals a narrow focus. -Writing – learner digresses, meaning vague in places. -Moderately coherent in content & ideas, some details support topic. -Evidence of planning and/or drafting has produced a moderately presentably text for SAL. -Has a moderate idea of requirements of format – some obvious oversights.	**4½-5½** -Elementary knowledge of requirements of text. Response to writing task reveals a limited focus. -Writing – learner digresses, meaning obscure in many places. -Not always coherent in content & ideas, has few details which support topic. -Limited evidence of planning and/or drafting. Text not well presented. -Has vaguely applied necessary rules of format – some critical oversights.	**0-4** -No knowledge of requirements of text. -Writing – digresses, meaning obscure in most places. -Not coherent in content & ideas, has very few details which support topic. -Inadequate planning and/or drafting. Very poorly presented text. -Has not applied necessary rules of format.
Language, style & editing	**5-6** - Has applied all the necessary rules of format. - Text is mostly grammatically accurate and well constructed. - Vocabulary mostly appropriate to purpose, audience and context. - Style mostly appropriate.- Text mostly error free following proof reading and editing. - Length is correct	**4½** -Well constructed & fairly accurate. -Vocabulary is fairly appropriate to purpose, audience & context. - Style mostly appropriate. -Text fairly error-free following proof-reading & editing. -Length correct.	**4** -Well constructed & reasonable accurate. -Vocabulary reasonably appropriate to purpose, audience & context. -Style reasonably appropriate. -Reasonably error-free following proof-reading & editing. -Length correct.	**3-3½** -Adequately constructed. Errors do not impede flow. -Vocabulary adequate for purpose, audience & context. -Style, fairly appropriate. -Still contains a fair number of errors following proof-reading & editing. -Length almost correct.	**2½** -Basically constructed. Several errors. -Vocabulary limited & not very suitable for purpose, audience & context. -Lapses in style. -Text contains a number of errors following proof-reading & editing. -Length – too long/short.	**2** -Poorly constructed & difficult to follow. -Vocabulary requires some remediation & not suitable for purpose, audience & context. -Style hardly corresponds with topic -Mostly error-ridden despite proof-reading, editing. -Length – too long/short.	**0-1½** -Poorly constructed & very difficult to follow. -Vocabulary requires serious remediation & not suitable for purpose. -Style does not correspond with topic -Error-ridden and very confusing following proof-reading, editing. -Length – far too long/short.

APPENDIX E:
READABILITY OF TEXTS USED IN THE STUDY

Refer to Chapter 2, Sections 2.10.2 and 2.10.2.1 for a discussion on the readability indicators and factors that determined the selection of texts for assessments and mobile intervention sessions.

http://www.online-utility.org/english/readability_test_and_improve.jsp &
http://www.harrymclaughlin.com/SMOG.htm

TEXT	FLESCH-KINCAID GRADE LEVEL INDICATOR	SMOG READABILITY INDEX	Grade readability average Text target = Grade 8/9
	A grade level is equivalent to the number of years of education a person should have had to understand the text at first reading.	According to McGuigan, creator of the SMOG readability index, SMOG uses the criterion of 100% comprehension.	The South African Education System starts with Grade R (Reception year) and ends with Grade 12. A learner in Grade 8, should therefore be able to understand texts up to level 9 (at first reading). Although some of the texts indicated below seem far off the Grade 8 /9 target, a series of factors discussed in Chapter 2 explain the selection of these texts.
Pre-test Comprehension	3.6	3.9	**3.75**
Post –test Comprehension	6	6	**6**
Intervention Comprehension	12	11.7	**11.8**
Pre-test poem *A newly born calf* by Oswald Mbuyiseni Mtshali	7.7	8.3	**8**
Post-test poem *Nightsong: City* by Dennis Brutus	10.6	8.3	**9.45**
Intervention Poem 1: *Fog* by Carl Sandburg	4.8	6	**5.4**
Intervention Poem 2: *A love poem for my country* by Sandile Dikeni	19	10.1	**14.55**
Intervention Poem 3: *Snake* by Ian Mudie	10.29	12.08	**11.1**
Intervention Poem 4: *Six blind men and an elephant – an adapted story from India – author unknown*	6.38	9.21	**7.8**

APPENDIX F1:
COMMUNICATION BETWEEN THE RESEARCHER AND THE FACILITATOR

MOBIPALS WEEKLY REPORT				
GROUP 3			**SESSION 3**	
TO: Marianne B. FROM: G. Sibuye – Facilitator			Weekly Report 13 April 2012	
	🙂	😛	🙁	**Comment**
PARTICIPANT 9				
Interaction with mobisite	X			
Note taking		X		BETTER THAN PREVIOUS LESSON.
Time management	X			GOOD.
PARTICIPANT 10				
Interaction with mobisite	X			VERY GOOD.
Note taking		X		
Time management	X			
PARTICIPANT 14				
Interaction with mobisite	X			
Note taking			X	ONLY DID NOTES ON ONLINE DICTIONARY INSTRUCTION. HAD TO ENCOURAGE THE LEARNER TO SUMMARISE. THE LEARNER ENJOYS READING ON SCREEN.
Time management	X			
PARTICIPANT 15				
Interaction with mobisite	X			
Note taking			X	DID NOT TAKE NOTES ABOUT ONLINE DICTIONARY BUT COULD COPE WITH THE ONLINE WEBSITE
Time management	X			
PARTICIPANT 16				
Interaction with mobisite				PARENTS REFUSE THAT LEARNER CONTINUES. HAS TO HELP AT HOME IN THE AFTERNOON.
Note taking				
Time management				
PARTICIPANT 19				
Interaction with mobisite	X			LOVED THE DICTIONARY. WANTED TO LOOK FOR MORE WORDS AND FORGOT TO MANAGE TIME.
Note taking		X		IMPROVING.
Time management	X			
PARTICIPANT 20				
Interaction with mobisite	X			
Note taking		X		GOOD SKILLS

Time management	X			
PARTICIPANT 22				
Interaction with mobisite				ABSENT
Note taking				
Time management				
PARTICIPANT 29				
Interaction with mobisite	X			ENJOYS THE LESSONS.
Note taking	X			
Time management	X			
PARTICIPANT 30				
Interaction with mobisite	X			REALLY FOCUSES WELL AND ENJOYS THE MOBILE SITE
Note taking	X			
Time management	X			
GENERAL COMMENT				LESSON TOOK A BIT MORE THAN AN HOUR BECAUSE OF CONNECTIVITY PROBLEMS IN THE BEGINNING. NO PROBLEM ONCE WE ALL GOT STARTED.
LEARNER 9 PN 12 CONNECTIVITY PROBLEM FIXED BY REFRESHING THE WEBPAGE.				
LEARNER 19 PN 5 CONNECTIVITY PROBLEM. CHANGED PHONE.				
LEARNER 15 PN 6 CONNECTIVITY PROBLEM. MESSAGE:YOU HAVE REACHED THE				
OPEN WAVE NGP PROXY SERVER.				
PN 9 OXFORD WEBPAGE CAN'T DISPLAY. HAD TO REFRESH.				
OTHERWISE: ALL WENT WELL. THE LEARNERS ENJOYED FINDING THE WORDS ONLINE.				
G. SIBUYI				

APPENDIX F2:
EXAMPLES OF PARTICIPANTS' FEEDBACK ON MXIT

MXit FILE GROUP 1		SESSION 2 11/04/2012
STD	**DEVICE**	**MESSAGE**
3	12	*Today the lesson was fun I found words on the internet.*
6	15	*Today I learn a lot and love it*
7	9	*Our lessen it was very nice*
23	1	*It has been a wonderful day. I love to learn this way. The online dictionary was fun.*
13	3	*The lessen was long but it was nice. I learn to find internet words*
17	13	*the lesson was great.*
18	2	*today was very nice*
4	10	*I just want to say the lesson of today it was great and i loved it to find words online*

MXit FILE GROUP 2		13/04/2012
STD	**DEVICE**	**MESSAGE**
11	13	*How are you my teacher? edusmart the lesson was nice*
1	6	*I have enjoyed my leson and it was very intresting and it was not boring I enjoyed a lot*
5	8	*Hello my good teacher this lesson today was good. The poem showed me to love my country.*
8	3	*How are you? The lesson was nice. I will do the lesson again on my uncles phone to show my mom*
24	2	*Hi edusmart teacher - how was your easter holiday?*
25	10	*Hi mam I just wanna tell you that the lesson was so much fun. I will use my phone now to find words.*

28	15	*Hi mam the lessen was nice. I learn to find internet dictiniry.*
21	6	*Hi edusmart I enjoyed today lesson a lot.*

MXit FILE
GROUP 2   18/04/2012

STD	DEVICE	MESSAGE
1	15	*The leson was very intresting today. I made a summery so I can learn agen.*
21	6	*Hi edusmart todays lesson was quite a lesson thank you*
12	13	*It was so very nice. I like the mobipal lessons. I want to learn more on a phone.*
28	8	*The lessen was very nice*
8	1	*The lesson was very nice. I love the phone lesson. I can learn after school.*
25	**7**	*Hi mam I just wanna tell you that the lesson was very cool. Take care of yourself we will meet again next week.*
24	2	*Hello mam today I have learn a lot.*
27	10	*Hi edusmart the lesson of today I enjoy it more than all lesson that I met with them in my life. thanx mam enjoy the day.*

MXIT GROUP CHAT
GROUP 2   21/05/2012

STD 8	PN 1	Data 22.41-22.23MB

This project make me feel good because our edusmart teacher teach us good she don't blame us. This project make me feel very good because our teacher teach us good and I do very well in this project I love this project very very much because the lesson that is given to us is not difficult and it is very easy to do it very well. I will never forget this project.

STD 1	PN 2	Data 22.05-21.99 MB

Hi the lesson was very intresting but the work it was difficult because some questions were very long and difficult.

STD 27	PN 2	Data 21.99-21.86 MB

HI edusmart all the lessons was very nice but just one lesson was very difficult the one which talk about the city of gold oh it takes me long time to answer that difficult comprehensin question. Our teacher helps us when the phone has problems. She takes good care of us like taking care of her real child.

STD 11	PN 3	Data 14.04-13.84MB

Hi Mam. All the lessons is very nice and some difficult but we have learnt much more. Mam I injoye the

day but I miss you good bye. Here sister Gay is friendly she help us with the phone problems.		
STD 24	**PN 13**	**Data 52.39-51.98MB**
I love this project because I learn many things in this project☺thanks for giving us this time may God be with you I learnt many new words and I understand a metafor and personification		
STD 28	**PN 12**	**Data 52.94-52.87MB**
I like this project because I lern on the phone about poems and now I now how to use MXit think you for showing me how to use MXit iddedent now because I don't heva money to buy a phone		
STD 12	**PN 4**	**Data 3.71-3.53MB**
I love this lessen because I learnt how to live like a human and to respect others even in my school work. It helps me to do the mobipal lesson because we learn something that help us in life.		
STD 25	**PN 15**	**Data 52.94-52.6MB**
Mam I just wanna tell you that the lesson was very interesting and I learned a lot. I just wanna say I learned so much ohh the lessons are very nice.		

APPENDIX F3:
EXAMPLE OF TEENTALK FEEDBACK ON THE MOBIPALS MOBILE WEBSITE

Timestamp	PLEASE SELECT YOUR NUMBER AGAIN!	Mobipals, let's talk… **I LOVE MY COUNTRY BECAUSE…**
2012/04/18 14:57	1	i love my country because it has beautifull people and i love all the languages that are spoken in there.
2012/04/17 14:59	2	it has so many beatiful things and people.
2012/04/17 15:21	3	its for love and peace
2012/04/17 15:17	4	it is my country south Africa. It teach me everything I can love of my country south Africa
2012/04/18 15:24	5	It is beautiful and have rivers and many churches. im proud for my country.
2012/04/17 15:11	6	It is beautiful and full of love.
2012/04/17 15:07	7	is for love and peace
2012/04/18 14:56	8	i love my country because its so beatiful.
2012/04/19 15:25	9	is for love and peace
2012/04/18 15:16	11	there is a joy. I love my country.
2012/04/18 15:14	12	my county ls like a beautyfull clty
2012/04/17 15:01	13	There are soccer players and Table mountain
2012/04/19 15:16	14	here we have beatiful things and we live a healthy life
2012/04/19 15:10	15	it is so beautiful like the lily of sharon.
2012/04/19 15:53	16	beuty ilands greit mountains many beuty birds.
2012/04/17 15:28	17	Is for love peace joy and also for unity
2012/04/17 15:28	18	we have lot of things like school and animals some people like to visit our country.
2012/04/19 15:42	19	we have animals like lion baboon and we have mountains valleys and birds.
2012/04/19 15:47	20	we have mountains birds animals and beutifull people.
2012/04/18 15:02	21	It is my home and home is where the heart is.
2012/04/19 15:44	22	we have freedom.

2012/04/17 15:03	23	*It is a Rainbow land, and it has green grass.*
2012/04/18 15:17	24	*it teach me everything i need and im proud of my country south africa.*
2012/04/18 15:20	25	*it is a democratic republic and has a rainbow nation.*
2012/04/18 15:13	28	*when i read about my country I love my country*
2012/04/19 15:44	30	*of good people and animals.*

APPENDIX G:
REFLECTIVE MOBILE SURVEY (SURVEY 2)

QUESTION	26 participants (The Experimental group)				
On a scale of 1-5, how much did you like the Mobipal mobile lessons?	1	2	3	4	5
	Not at all	It was ok, but not special	It was average	I liked it quite a bit	I loved it
	1	1	2	1	21

Which poem did you like best? Why did you like the poem?	*A love poem for my country – Sandile Dikeni.*	20	Interesting responses:
			It makes me feel proud of my country; It taught me to love my country; I learnt many things about my country and I could see a picture of the cliffs and the sea; I Learnt many new words in this poem; Because the way it speaks about my country I want to be president of there!
	Six blind men and an elephant (An adapted story from India)	4	*I could understand it well. Because it teaches you that if you can sense well, you can see."*
	Snake – Ian Mudie	2	*I liked the personification; I could hear the snake.*

Which poem did you NOT like at all?	I liked all the poems =10 ; *Snake* = 6; *A love poem for my country* = 3; *Fog* = 4; *Six blind men and an elephant* =2		
Do you think the Mobipal lessons could work in the classroom if everybody has a cellphone?	NO, NOT AT ALL	MAYBE	OF COURSE
	8	8	10
Please tell me why you say so?	*There are too many learners; I am not sure how you will do it with 70 learners; many times we are more than 70 in the class; some learners will not have order; because some people know nothing about the technology; the children in the class are too disobedient.*	*Where will you get the money to buy a lot of phones? ; I don't know that much; too many children in the classroom are disobedient, but not all are; because we are 70, maybe if you find space for all of us to work of if we sit outside. Because we all like phones.*	*It will teach each and everyone to communicate with a phone and with each other; because it is interesting and it has different concepts; because plenty people are still wishing to learn with us; we can share those phones to learn; because all learners want to learn and we are 70 in our class; because we can find a lot of information and we can learn proper English.*

			Sometimes we are 70 in the library and another class and I don't know what the teacher is saying so it will be better to learn with my cellphone and my own notes.
Which of the following did you learn for the first time in the Mobipal lessons? If you have learnt any of these before at school, don't tick the box.	How to use a online dictionary		16
	Metaphor		4
	Onomatopoeia		6
	Simile		2
	Personification		0
	The difference between a Metaphor & Personification and a Simile		8
	Alliteration & Assonance & Consonance		18
	How to write a dialogue		8
	The difference between a paragraph and a stanza		13
	The difference between a line and a stanza		9
	The difference between a speaker and a narrator		12
	The difference between adverbs and adjectives		7
	How to quote correctly		24
	Irony		7

There are 21 words from the poetry lessons here. How many of them would you be able to explain to me now that we have completed our course. Be honest.	**There was general consensus about the following words as newly acquired vocabulary:** stanza , quote, quotation marks, glistening , fog, haunches, slithers, portrays, gracefully, adorn, boulder, caress, conveys a message, proud, pride, ancient, celebrate, elegant, motion, oppression.																		
	1	2	3	4	5	6	7	8	9	10	11	15	16	17	18	19	20	21
	1	**0**	**1**	**4**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**3**	**2**	**2**	**2**	**0**

Would you have like more Mobipal language lessons?	**Yes = 24 No = 4**

Did you find doing a comprehension exercise on your cellphone harder than writing comprehension answers in your book in clas?	Yes, I found it harder to type answers than to write them down in my book. **12 participants**
	No, I like answering the questions on my cellphone: **14 participants**

What did you NOT like about the Mobipal cellphone lessons?	*A phone that doesn't want to connect; there being no network some days; it is better to write in a book; it disturbs me; some lessons were too long because I am tired after school; there was nothing I did not like;* (18 participants); *I liked everything because I can do the lesson again at home* (1 participant).

Through which method of mobile learning did you learn more?	I preferred reading the lesson on screen and making my own notes and discussing them with my friends. **23 participants**
	I preferred the podcast or video lesson where I could hear the teacher's explanation and I could see the text on my screen **3 participants**
I prefer learning…	In class with my teacher and friends and without technology **8 participants**
	Via mobile phone **18 participants**
What did you like about the Mobipal cellphone lessons. Please be specific.	*Learning; learning different things; to communicate with others in the lesson; to learn things that I didn't know because I can use a dictionary online now; that I don't get shouted at by the teacher when everyone else is talking anyway because we are 70 in the class; when we work hard we can chat on MXit; all the poems; because I have learnt proper English and all about my beautiful (beutyful) country; it was easy to go to previous pages and look at the work again; it was easy to press the arrow to go back and find the answer; I learnt how to make my own notes; I learnt how to chat on MXit ; It (teach us) taught us to spell words and use a dictionary; I liked the songs and reading the words of the song; because it is my first time to touch a screen; I love a cellphone; I can learn and communicate; it is peaceful and no-one is shouting so I am really learning; I loved the pictures with the poems; I learnt a lot of things (I heve leaning lot of things).*

APPENDIX H:
THE MOBIPAL INTERACTIVE MOBILE SITE

IMPORTANT NOTICE:

- The Mobipal interactive site was designed using the web-builder, MOBICANVAS, which is currently undergoing major changes and in the process of being merged with MXit.

- As a result, the sessions are not always available to be viewed live.

- The site should be up and running again in May 2013.

- When logging on, please use student number 50.

- The following figures are screen shots of the first section of every page, in order to supply the reader with an idea of the concept that was used as intervention in this study.

http://edusmart.mobicanvas.com

HOME PAGE MADLALA MOBIPALS

LOGIN

Good afternoon, Mobipals!

Welcome to MOBILEARN with EDUSMART and THE GOOD WORK FOUNDATION.

PLEASE ENTER YOUR NAME AND STUDENT NUMBER BELOW

ENTER YOUR NAME AND STUDENT NUMBER HERE AND CLICK ON THE RED ARROW BELOW TO GET STARTED! ✖

PAGE 2: WHAT'S UP TODAY?

Introduction to poetry

What do you think of my sentence below?

My . . . .

Did you not understand fully what I was trying to tell you??

That's because I TALKED TO YOU IN PICTURES! Sometimes reading poetry is like this, so we don't understand anything!

Poetry uses images or mind pictures to talk to us. So - all we need is someone to explain a bit and show us how to look at the word pictures ... AND THEN... WE UNDERSTAND!

What I said above was... My number 1 (favourite) sport is soccer.

Ah, that's better! Now you understand!

Before we speak about THE WONDERWORLD OF POEMS, I want to thank you for helping me with this project.

My name is Marianne and I am your mobi-teacher. I will discuss a few poems and explain some language rules to you every week until you go on HOLIDAY in June.

Soon you will be a champion poetry reader!

HOW SMART IS THAT!

Next   **Previous**

PAGE 3 LET'S GET STARTED 1! FOG

TOOL-TALK FOR TODAY

RULE # 1:

THE RIGHT TOOLS FOR EVERY JOB!

- If we want to eat our food, we need a knife and a fork or a spoon - or sometimes our hands.
- If we want to plant mealies or flowers we first have to prepare the soil with a rake and fertiliser, or dig a hole with a spade.
- If we want to send an e-mail message to someone, we need a computer and the internet and we need to know how to send the e-mail. THINK ABOUT THIS:
- Would you have great success if you tried to dig a hole for planting a tree with a teaspoon?
- Would you manage to cut your meat with a garden spade or a rake?
- OF COURSE NOT, WHAT SILLY QUESTIONS !!!
- So, we need the right tools to have success with every job in life!

IT'S THE SAME WITH POETRY!

Before we can understand the poems we are going to read, we need to to have the right tools and know how they work.

SO LET'S LOOK AT SOME OF THE TOOLS THAT A POET USES TO TELL US A STORY. CLICK ON THE RED ARROWS BELOW TO GO TO THE NEXT PAGE OR TO GO BACK.

Next   **Previous**

PAGE 4 ELEMENTS OF A POEM 1: FOG BY CARL SANDBURG

IMAGERY

The poet uses descriptive words and phrases to create a mental picture (image) in your mind when you read the poem. It focuses on your senses – what you … see, touch, hear, smell, taste or feel.

Now read the poem called FOG by Carl Sandburg. After this session, you can chat to your friends on MXit about what you feel, see and hear in this poem.

The fog comes

on little cat feet.

It sits looking

over harbor and city

on silent haunches

and then moves on.

WHAT DOES A CAT HAVE TO DO WITH FOG? (If you don't have the foggiest idea, click on the red arrow that says NEXT to find out). If you want to go back, click on the red arrow that says PREVIOUS.

How easy is that!

Next

PAGE 5 ELEMENTS OF A POEM 2: IMAGERY

ELEMENTS OF A POEM 2: IMAGERY

Remember we said that we have to interpret word pictures in order to understand poetry. Think of these PICTURES AGAIN:

Yes, we were talking through pictures.

A poet writes a poem to tell us a story, but he or she uses a special language called metaphoric language or figures of speech to give us the message. We just have to look carefully at the word pictures to understand the message.

1. A simile: Two things that don't have anything to do with each other are compared. Look for the following words: LIKE, AS, or THAN. "My love is like a red, red rose."

2. A metaphor: Two things that (SO IT SEEMS) don't have anything to do with each other are compared DIRECTLY without the words LIKE, AS, or THAN. "My love is a red, red rose."

2. Personification: Something that is not human, gets human qualities. The red rose cries. Can the moon talk? Can a spider sing? Can a giraffe dance? YES. In poetry they can – and we call it PERSONIFICATION.

Next

Previous

PAGE 8 TEENTALK 1 – YOUR TURN!

PLEASE SELECT YOUR NUMBER BEFORE YOU START *

Select an Option... ▶

I am so happy that you are part of this project! I am pleased to meet you. Please tell me a bit about yourself and your family. Click on the RED NEXT BUTTON BELOW to send your answer to me. *

Next

PAGE 9 QUIZTIME 1!

What is your student number? ※

[Select an Option... ▶]

1. The line "the fog comes on little cat feet" means... ※

- ○ A. There is a big cat tiptoeing in the fog.
- ○ B. There is a small kitten walking in the fog.
- ○ C. The fog moves in quietly and slowly.
- ○ D. The fog looks like a small kitten.

2. Which word does not fit? If you are looking for a simile, you will look for the follow[ing] words... ※

- ○ A. as
- ○ B. because
- ○ C. like
- ○ D. than

3. The fog is used to describe ... ※

- ○ A. people
- ○ B. problems
- ○ C. cats
- ○ D. floods

4. One of the messages of this poem is that... ※

- ○ A. there is always fog at the harbour.
- ○ B. nature is cruel.
- ○ C. man is stronger than nature.
- ○ D. nature is stronger than man.

5. The 3 moments in the poem are... ※

- ○ A. The fog moves in over the harbour, lingers and then quickly moves to the city.
- ○ B. The fog moves in over the harbour and city, lingers and slowly clears.
- ○ C. The fog moves in over the harbour, moves to the city and then quickly clears.
- ○ D. The fog moves in over the harbour, moves to the city, and then slowly clears.

PAGE10 GO GO ON AND HAVE FUN ON

MXit

Next

LET'S GO ON TO MXit!

CONGRATULATIONS!

You have successfully completed today's session.

You can now leave this site and join your group members for a MXit chat. Please tell the group what you have learnt today and what you liked or

Session 2

CLICK on the LINK at the bottom of the page to listen to the poem

LISTEN CAREFULLY TO THE PRONUNCIATION OF THE WORDS. When you have listened enough, you can sit with a friend and read the poem to each other to practice the correct way to pronounce the words.

A LOVE POEM FOR MY COUNTRY. To listen, click here.

PAGE 11: WHAT'S UP TODAY?

A POEM THAT CELEBRATES OUR BEAUTIFUL COUNTRY

We have just celebrated Human Rights Day... a day that reminds us that we have to respect one another and our beautiful country, South Africa.

First read this beautiful poem by Sandile Dikeni quietly to yourself...

It is called "A love poem for my country"

My country is for love

so say its valleys

where ancient rivers flow

the full circle of life

PAGE 12 LET'S GET STARTED: A LOVE POEM FOR MY COUNTRY

TOOL-TALK FOR TODAY

RULE # 2:

THE RIGHT TOOLS FOR EVERY JOB!

- **Always make sure that you understand every word in the poem so that you can fully understand the MEANING and the MESSAGE of the poem.**

- If you don't have a dictionary in class or at home, you can find the meanings of words through an online dictionary on your cellphone.

- On the next page we will use our cellphones to find the meanings of words.

PAGE 13 HOW TO USE AN ONLINE DICTIONARY

READ AND UNDERSTAND

A love poem for my country

I have highlighted a few words that we need to understand. Look at them and then read my instructions below the poem:

My country is for love

so say its valleys

where ancient rivers flow

the full circle of life

under proud eyes of birds

adorning the sky

PAGE 15: QUIZTIME 2 AND 4- A

VOCAB CHALLENGE!

PLEASE SELECT YOUR STUDENT NUMBER AGAIN.

WHEN YOU HAVE ENTERED ALL THE ANSWERS, CLICK ON THE SUBMIT BUTTON AT THE BOTTOM OF THE PAGE.

IT WILL TAKE YOU TO THE LAST PAGE OF TODAY'S SESSION.

GIVE

IT YOUR BEST!

CHOOSE YOUR STUDENT NUMBER. *

Select an Option...
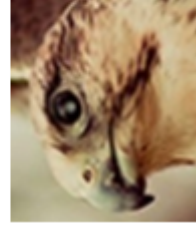
PAGE 14 NEW VOCABULARY

WORDS AND THEIR MEANINGS

Today you have worked a bit with an online dictionary. Let's make sure we understand the meanings of all the highlighted words in our poem.

My country is for love , so say its valleys

This is a picture of the mountains and the valley near the town of Graaf-Reinet in the Eastern Cape.

where ancient rivers flow the full circle of life

ANCIENT: an adjective.It means VERY OLD.

Session 3

PAGE 17: WHAT'S UP TODAY?

WELCOME BACK !

Remember we said last week that we have just celebrated Human Rights Day? Yes it was on 21 March.

It is a day that reminds us that we have to respect one another and our wonderful country, South Africa.

PAGE 16: LET'S GO ON TO MXit!

GET GOING WITH MXit!

CONGRATULATIONS!

You have successfully completed today's session.

You can now leave this site and join your group members for a MXit chat. Please tell the group what you have learnt today and what you liked or didn't like, or ask any questions you have.

Thereafter you can go right ahead and chat – after all – MXit is a social network!!

PAGE 18 LET'S GET STARTED 3

TOOL-TALK FOR TODAY

RULE # 3:

THE RIGHT TOOLS FOR EVERY JOB!

Today we are going to revise PERSONIFICATION.

In order to appreciate this poem, you need to understand what PERSONIFICATION is and why it is used in a poem. So: let's put PERSONIFICATION in our toolbox!

Can you remember the poem FOG?

The first line said: " The fog moves in on little cat feet."

The poem told us that the fog (mist) moves in slowly and quietly over

PAGE 19: AN INTERVIEW WITH THE POET

HOW DO YOU DO, MR POET!

Let's first meet the poet – SANDILE DIKENI.

Madlala Mobipal News met Mr. Dikeni in Cape Town and asked him a few questions.

Here is the interview written as a dialogue for you. Be sure to make notes for yourself on how to write a dialogue.

On your cellphone screen, the text will run underneath the names. Remember when you

PAGE 21: TEENTALK!

PLEASE SELECT YOUR NUMBER AGAIN! *

Select an Option... ▸

Complete the sentence " **I love South Africa because..."**

Use 5 to 10 words. Write your answer in the space underneath the pictures.
Look at the pictures of you need inspiration.
YOU CAN WRITE ANY 5 - 10 WORDS TO COMPLETE THE SENTENCE.
(If you feel inspired and you have time you can even write a poem and use more words)!

REMEMBER TO SEND YOU ANSWER TO ME BY CLICKING ON THE PURPLE ENVELOPE **AT THE BOTTOM OF THE PAGE** AND **MAKE SURE THAT YOU HAVE SELECTED YOU NUMBER!**

PAGE 20: TAKE THE PERSONIFICATION QUIZ!

FIRST SELECT YOUR STUDENT NUMBER PLEASE *

Select an Option... ▸

READ EACH OF THE FOLLOWING LINES THAT ARE QUOTED FROM THE POEM AND DECIDE IF IT IS AN EXAMPLE OF PERSONIFICATION OR NOT.

**CLICK YES if it is PERSONIFICATION.
CLICK NO if it is NOT.**

1. "My country is for love, so say its valleys." *
   ○ A. YES
   ○ B. NO

2. "...where ancient rivers flow..." *
   ○ A. YES

PAGE 23: WHAT'S UP TODAY?

Let's talk to the poet about "A love poem for my country."

Madlala News:	**Good afternoon, again, Sandile!**
Sandile:	**Good Afternoon, Madlala Mobipals. It's lovely to join your lesson again. Be sure to make notes, because I will help you understand my poem a bit better.**
... .	Sandile, last week the

PAGE 22: GO ON AND HAVE FUN ON MXit!

LET'S CHAT ON MXit!

CONGRATULATIONS!

You have successfully completed today's session.

You can now leave this site and join your group members for a **MXit** chat. Please tell the group what you have learnt today and what you liked or didn't like, or ask any questions you would like about the poem.

Thereafter you can go right ahead and

PAGE 25: LET'S LISTEN TO A PRAISE SONG ABOUT THE RAINBOW NATION

Here are the words of the song about our suffering, but also our

FIFA WORLD CUP 2010 – WAVING FLAG – BY K'NAAN

When I get older

I will be stronger

They'll call me freedom

PAGE 24: LET US TAKE A CLOSER LOOK AT EVERY LINE OF THE POEM…

STANZA 1 LINE 1

My country is for love	LINE 1	We must love our country, South Africa

STANZA 1 LINE 2

so say its valleys	LINE 2	When we look at our beautiful valleys, we say, "I love my country."

PAGE 26 – NEWS ABOUT TODAY'S QUIZ

LET'S TALK QUICKLY!
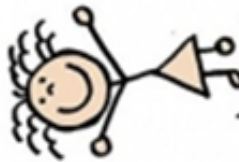
MOBIPALS - I HOPE YOU ENJOYED THE WAVING FLAG SONG!

I just love it!

You are all improving your English week by week and I am very proud of you!

- so wave your flags!!!!

We have worked hard during the last three weeks:

- we have looked at the vocabulary of this poem

PAGE 27: MXit time !

Chat about the poem and what it means to you please!

CONGRATULATIONS!
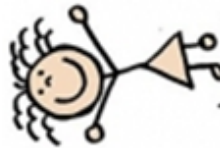
You have successfully completed today's session.

You can now leave this site and join your group members for a MXit chat. Please tell the group what you have learnt today and what you liked or didn't like, or ask any questions you would like about the poem.

Thereafter you can go right ahead and chat - after all - this is a social

Session 4

PAGE 28: WHAT'S UP TODAY?

NEWSFLASH

news news NEWS news news NEWS news news NEWS news news

Mobipals – I am very proud of you! Many of you improved your vocabulary and did so well in last week's QUIZ. You can all be very proud of the progress you are making!

Today we are going to take a quiz to make sure that you understand "A love poem for my country.

PAGE 29: TAKE THE POEM QUIZ!

QUIZ NUMBER FIVE

WHEN YOU HAVE ENTERED ALL THE ANSWERS, CLICK ON THE PURPLE ENVELOPE AT THE BOTTOM OF THE PAGE.

IT WILL TAKE YOU TO THE NEXT PAGE OF TODAY'S SESSION.

BUT FIRST: PLEASE SELECT YOUR STUDENT NUMBER IN THE DROPDOWN BOX BELOW.

PLEASE SELECT YOUR STUDENT NUMBER *

Select an Option...

PAGE 30: LET'S GET STARTED 4

TOOLTALK FOR TODAY 4

THE RIGHT TOOLS FOR EVERY JOB!

We have now really studied "A love poem for my country" well.

In this poem Sandile Dikeni writes about his love for South Africa – a country that brings love, peace and joy to his heart.

There are many ways in which we can write about our country, South Africa.

We are now going to read a text that gives us facts about South Africa. So we call such a text a factual text.

PAGE 31: HOW WELL DO YOU KNOW YOUR COUNTRY? – A QUICK SURVEY!

Don't STRESS - this is just a fun quiz.

Let's say we are planning a tour of South Africa. Where will we go? What do we know about the cities we are going to visit?

FIRST ENTER YOUR STUDENT NUMBER PLEASE!

ENTER YOUR STUDENT NUMBER *

PAGE 33 – COMPREHENSION QUIZ
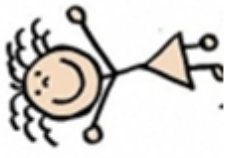
Mobipals

Don't forget to use your own summary as well.- you can scroll up and down to look at the text while you answer the questions.

1. The Republic of South Africa is situated at the very southern end of the African continent. The country is bordered by the Atlantic Ocean on the west, and by the Indian Ocean on the south and east.

2. It is home to lots of beautiful plants. very

PAGE 32: A COMPREHENSION TEXT: THE RAINBOW COUNTRY

Welcome to South Africa

Mobipals -

Now **YOU MUST use the notes in your note book about HOW TO READ A COMPREHENSION TEXT (ON PAGE 30). GO BACK TO PAGE 30 if you didn't make notes.**

Summarise this comprehension text for yourself **ACCORDING TO THE METHOD IN YOUR NOTES.**

WHEN YOU FEEL READY, MOVE ON

DON'T FORGET!

Session 5

PAGE 35 – WHAT'S UP TODAY?

SOME FEEDBACK ON LAST WEEK'S SESSION

Mobipals – congratulations on surviving the last few weeks! You have had a busy and upsetting time with the strikes in your community but you still gave it your all last week! That is something to be proud of. Remember to keep your focus on your own education!

Last week you were QUIZ-ED-OUT by me! **Give yourselves a round of applause** for answering a poetry quiz, a general knowledge quiz on South Africa AND a comprehension quiz!

Let's end our South African theme with a

PAGE 34 A – GO ON AND HAVE FUN ON MXit!

LET'S CHAT ON MXit!

CONGRATULATIONS!

You have successfully completed today's session.

You can now leave this site and join your group members for a **MXit chat.** Please tell the group what you have learnt today and what you liked or didn't like, or ask any questions you would like about the poem.

Thereafter you can go right ahead and

Session 6

PAGE 37: LET'S GET STARTED

THE RIGHT TOOLS FOR EVERY JOB!

LET'S PUT THE TOOLS WE NEED TO UNDERSTAND THIS POEM IN OUR TOOLBOX.

Remember to make notes in your NOTE BOOK!

Today we are going to read a poem where sounds, imagination and repetition play an important role to get the message across to us, the readers or target group. The poem we are going to discuss is called SNAKE.

- The poet uses techniques such as ALLITERATION AND ASSONANCE

PAGE 36: WHAT HAVE YOU LEARNT ABOUT SOUTH AFRICA?

Last week you completed a quiz on South African cities before we read the comprehension text that informed us about South Africa. Let's see if you can improve your personal score from last week.

PAGE 39: LET'S TALK SNAKE!

SOUNDS, IMAGINATION AND REPETITION
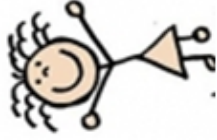
REMEMBER TO WRITE NOTES IN YOUR NOTE BOOK NOW!

I highlighted all the s-sounds in the poem so that you can see how clever the poet is in painting a picture of the hissing snake. The repetition of words and sounds help to convey the message of the poem to us and give us a clear picture in our minds.

PAGE 38: SNAKE by IAN MUDIE

READ THE POEM BY YOURSELF FIRST

Suddenly the grass before my feet

shakes and becomes alive.

The snake

twists, almost leaps,

graceful even in terror,

smoothness   looping   over
smoothness

monster person

slithers away, disappears.

-And surely, by whatever means of
communication

PAGE 41: GO ON AND HAVE FUN ON
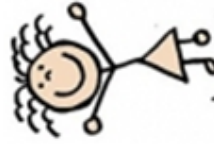
MXit!

Let's chat on MXit!

CONGRATULATIONS!

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You can now leave this site and join your group members for a MXit chat. Please tell the group what you have learnt today and what you liked or didn't like, or ask any questions you would like about the poem.

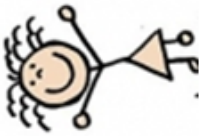**Thereafter you can go right ahead and**

PAGE 40: TAKE THE SNEAKY SNAKE

5-QUESTION QUIZ!

REMEMBER TO SELECT YOUR STUDENT NUMBER BELOW

PLEASE SELECT YOUR STUDENT NUMBER *

Select an Option... ▶

1. The speaker says that the grass before his feet suddenly becomes alive and shakes. This means that.. *

○ A. the wind is blowing very hard.

○ B. he is kicking very hard at the grass to make a path for himself.

○ C. he has a wild imagination.

○ D. the snake in the grass got a fright and quickly got out of the way.

Session 7

PAGE 43: 2 WISE 4 WORDS

LANGUAGE QUIZ

REMEMBER TO SELECT YOUR STUDENT NUMBER BELOW

PLEASE SELECT YOUR STUDENT NUMBER *

Select an Option...

READ THE FOLLOWING 5 SENTENCES AND DECIDE WHETHER EACH SENTENCE IS RIGHT OR WRONG

PAGE 42: WHAT'S UP TODAY?

CONGRATULATIONS MOBIPALS!

You have reached the last session of our

MOBIPALS POETRY WORKSHOP SERIES.

PAGE 45: NEWS ABOUT THE UPCOMING EXAMS!

The Mobipal English Examination

You are going to write two English papers. In your School English examination you will be tested on the poems that you have discussed with Mr. Khoza in class this term. ASK MR KHOZA EXACTLY WHAT YOU MUST PREPARE FOR HIS EXAMINATION.

In the **Mobipal Examination** on 13 June you will be tested on an UNSEEN poem. What does this mean?

Often in exams you will also be tested

PAGE 44: LET'S GET STARTED WITH SIX BLIND MEN AND AN ELEPHANT

THE RIGHT TOOLS FOR EVERY JOB- REMEMBER!

What should we put in our toolbox today?

REMEMBER TO WRITE NOTES!

Today we are going to look at a NARRATIVE poem.

That is just a smart word for a poem that tells a STORY.

The person who speaks to us in a poem, is called the SPEAKER.

DON'T FORGET!

PAGE 46: DID YOU UNDERSTAND

THE ELEPHANT POEM?

Here is the poem again.
You can scroll up and down your screen to answer the questions below.

SIX BLIND MEN AND AN ELEPHANT

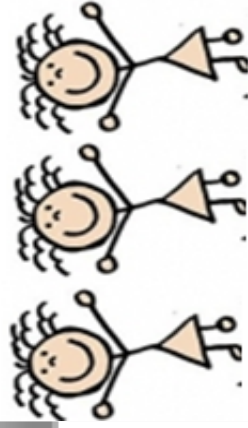Once there were six blind men, blind from an early age.

Many things they hadn't seen, so they went on an outing
to touch an elephant.

In India many elephants are used for work
so they are tame as dogs.
The six blind men stood in a row next to the elephant
toucing it, touching it with their hands as eyes.

"So tell me, what is an elephant like?", asked a

PAGE 47: TEACHER & TEENTALK

CONGRATULATIONS!

You have successfully completed THE MOBIPAL POETRY WORKSHOP SERIES FOR GRADE 8 AND YOU HAVE BEEN FANTASTIC!! Take care, MOBIPALS! Good luck with your preparation for all your examinations! But Mobipals – before we say good bye – I would like you to answer a few last questions for me about our MOBIPAL LESSONS.

Please chat to me one last time by making a few choices below!

PLEASE SELECT YOUR STUDENT NUMBER *

Select an Option.... ▶

PAGE 48: MOBIPAL MXit for FUN!

WELL DONE, MADLALA MOBIPALS!

CONGRATULATIONS!

SUCCESS

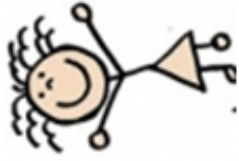You have successfully completed THE MOBIPAL POETRY WORKSHOP SERIES FOR GRADE 8 AND YOU HAVE BEEN

8. TICK THE NEW WORDS THAT YOU LEARNT FROM THE MOBIPAL LESSONS. IF YOU ALREADY KNEW THE MEANING OF THE WORD BEFORE THE LESSONS, DON'T TICK IT. *

- [ ] STANZA
- [ ] QUOTE
- [ ] QUOTATION MARKS
- [ ] CELEBRATE
- [ ] ELEGANT
- [ ] MOTION
- [ ] PROUD
- [ ] PRIDE
- [ ] GLISTENING
- [ ] FOG
- [ ] HAUNCHES
- [ ] SLITHERS
- [ ] PORTRAYS
- [ ] GRACEFULLY
- [ ] CONVEYS A MESSAGE
- [ ] ANCIENT
- [ ] CARESS
- [ ] BOULDER
- [ ] ADORN
- [ ] DEMOCRACY
- [ ] OPPRESSION

9. THERE ARE 21 WORDS IN QUESTION 8 ABOVE. HOW MANY OF

APPENDIX I:
MOBILE INTERVENTION: CONTINUOUS ASSESSMENT QUIZ EXAMPLES

Pre-reading: General Knowledge

1. In which city will we find Table Mountain? *
Select an Option... ▸
Select an Option...
A. Durban
B. Cape Town
C. Port Elizabeth

eGoli – the city of Gold *

3. This city is called the Mother City of South Africa. *
Select an Option... ▸

4. This city is called Jacaranda City and has the largest man-made forest in the world. *
Select an Option... ▸

5. South Africa's most famous township, SOWETO, is southwest of... *
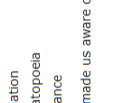Select an Option... ▸

6. In which province is Cape Town? *
Select an Option... ▸

7. Which animal is NOT one of the Big 5 in the Kruger Park? *
Select an Option... ▸

Vocabulary

⊙ A. HOPE
⊙ C. UNITY
⊙ D. JOY
⊙ B. DISPLEASURE

PICTURE 10

PICTURE 10: Which word does NOT fit? This picture portrays... *

⊙ A. UNITY
⊙ B. MILLIONS
⊙ C. HOPE
⊙ D. CARESS

CLICK ON THE SUBMIT BUTTON TO SEND YOUR ANSWERS TO ME.

Please tell me on mXit what you learnt from this poem and also if you found the challenge easier than last time you did it.

Visual Literacy / Poetry

our ancient rivers

1. The poet says that ancient rivers flow in the valleys of South Africa. This means that the rivers... *
⊙ A. are polluted.
⊙ B. are old and part of the cycle of life.
⊙ C. are old, but not part of the cycle of life.
⊙ D. are old, part of the cycle of life and should be respected.

our beautiful valleys

and mountains

2. The line, "so say its valleys"... is an example of... *
⊙ A. a metaphor
⊙ B. a stanza

⊙ B. Imagination
⊙ C. Onomatopoeia
⊙ D. Assonance

5. The poet made us aware of the snake throughout the poem by... *
⊙ A. repeating the word "monster".
⊙ B. repeating the s-sound to imitate the hissing sound of a snake.
⊙ C. using his imagination.
⊙ D. saying that snakes can communicate.

CLICK ON THE PURPLE ENVELOPE BELOW TO SEND YOUR ANSWERS TO ME.

Comprehension

ANSWER THE FOLLOWING QUESTIONS BY TYPING ONLY ONE WORD IN EACH BOX PROVIDED.

1.1 The world speaks about South Africans as the... nation. (1) *

1.2 The South African economy has always benefitted from the discovery of gold and ... (1) *

1.3 Johannesburg is known as the city of gold or ...(1) *

1.4 The ... ocean forms the Western border of South Africa. (1) *

1.5 South Africa is famous because of its unique... that brought justice for all South Africans. (1) *

QUESTION 2

CHOOSE THE CORRECT OPTION FOR EACH OF THE FOLLOWING QUESTIONS

2.1 South Africa has ... capital cities. (1) *

○ A. 11

○ B.

QUESTION 4

Answer the following questions in one short full sentence each.

4.1 What, do you think, was the writer's goal AND target group with this text about South Africa? (2) *

4.2 What is the writer's attitude towards South Africa? (1) *

4.3 Give a reason for your answer to question 4.2 in your own words.(2) *

Well done on completing your first mobi comprehension!!! THE TOTAL FOR THE COMPREHENSION QUIZ IS 15 MARKS. Now take your chance, click on the dice and send your answers to me. Once you are done, you can log on to MXit!