



**PROMOTING LITERACY USING SHORT MESSAGING SERVICES IN RURAL
LEARNERS WITH READING DIFFICULTIES**

By

THOBKILE LEANET NTULI

Student number: **994246140**

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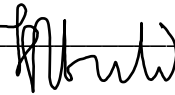
University of KwaZulu – Natal

Supervisor: Dr. V. Jairam

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DECLARATION

I, Thobekile Leanet Ntuli, declare that the dissertation entitled Promoting literacy using Short Messaging Services in rural learners with reading difficulties is my own work and has not been submitted in part or full in any university.

Signature:  _____

Name: Thobekile L. Ntuli

Student number: 994246140

DEDICATION

To all South African policy – makers and educators that acknowledge diversity of learners in a classroom.

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To the Greater Name of God, Almighty, His love and fellowship of His Holy Spirit, who took me to this step of life and protects me always.

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LIST OF ABBREVIATIONS

| | |
|--------|---|
| PIRLS | Progress in International Reading Literacy Study |
| SMS | Short Messaging Services |
| UNESCO | United Nations Educational Scientific and Cultural Organisation |
| CAPS | Curriculum Assessment Policy Statement |
| GET | General Education and Training |
| SMT | School Management Team |
| MRT | Mobile Relationship Tool |
| SIAS | Screening Identification Assessment and Support |
| NCS | National Curriculum Statement |
| OBE | Outcomes Based Education |
| FET | Further Education and Training |
| LSEN | Learners with Special Education Needs |
| SBST | School Based Support Team |
| USAID | United States Agency for International Development |
| EWLP | Experimental World Literacy Programme |
| LOLT | Language of Learning and Teaching |
| PDA | Personal Digital Assistance |
| CEO | Chief Executive Officer |
| MMS | Multimedia Messaging Services |
| RNCS | Revised National Curriculum Statement |

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ABSTRACT

In most rural primary schools, learners reach Intermediate Phase lacking reading and writing abilities, when reading is a core element of their education. Learners who have inabilities to read are conceptualized as ‘learners with reading difficulties.’ The purpose of this qualitative research study was to explore the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) in promoting literacy. The study was conducted in one rural public primary school of Ngome, Greytown area in South Africa. The study used three learners as participants. This research study was underpinned by the interpretivist paradigm and was foregrounded by the theory which was social constructivism. Data was collected through observation and open – ended interviews on the experiences and perceptions of learners in using SMS to learn literacy.

Data on observation and interview transcripts were analysed by means of content and thematic analysis. Findings indicated that the use of SMS had turned learners with reading difficulties to be active citizens, as they were participating actively in all activities, enjoyed receiving messages (SMS), reading them, typing and sending responses. Analysis of findings revealed that learners with reading difficulties need individual attention when reading, while being hands on.

Recommendations indicate that digital learning and stimuli are highly needed to accommodate diversity in a general classroom. SMS provides hands – on learning to learners. SMS encourages active participation of learners in each subject taught.

Keywords: literacy, mobile phone, rural learners, reading difficulties, Short Messaging Services, digital learning, diversity.

CHAPTER 1: OVERVIEW AND RATIONALE OF THE STUDY

1.1. Introduction

Reading is an everyday task for most people. Thoughts (ideas) are expressed in writings which need to be read. Daily information and instructions are written on pieces of paper or books, and others are sent through computers and mobile phones, which need some form of reading literacy to understand them. Hlaithwa (2013) contends that a person who has the ability to read can manage everyday activities effectively.

Policies have been introduced to encourage reading for all South Africans, but training of the stakeholders to implement reading seems to be inadequate. Introduction of policies in South African Education is discussed below.

The introduction of Curriculum 2005 (C2005) in South African education system was meant to solve the inequalities in education. Curriculum 2005 implementation challenged teachers to always use visual resources in all lesson presentations. It seems as if its aim was to foster education that caters for the diversity of learners in classrooms. The standard of assessment was higher than that of learners, and too high for rural learners to attain. The National Curriculum Statement (NCS) was introduced in 2002 to clarify the misconceptions of C2005 and to make pedagogy more understandable (Ntshunzhe, 2011, p.1). The introduction of Curriculum Assessment Policy Statement (CAPS) in 2011 seems as if it was meant to bridge the gaps left unturned by previous curricular.

Teachers are supposed to use visual resources such as illustrations, computers, televisions, etc., but in rural areas teachers depend on textbooks, chalk and chalkboards. After all attempts at establishing the same education for all, learners still have reading difficulties. Lack of reading skills hinders learners' progress. Teachers are facing challenges of how to make learners read and write because of the constant changing of curriculum. The rural schools are not well resourced. Digital literacy, which learners with reading difficulties need, is not taught in rural schools. Learners are left illiterate and pushed to the next grades until their academic life is compromised.

1.2. Focus of the study

This qualitative study explored the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) to promote literacy. The study focussed

on improving and promoting literacy in rural intermediate phase learners who lacked reading and writing abilities. The learners hardly manipulate phonemes, identify phonics and/ or cannot recognise words. The research was based on both IsiZulu and English.

1.3. Background to the problem

The study explores the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) to promote literacy. In most rural schools, most learners reach intermediate phase with the challenge of reading and writing, whereas reading and writing are the core elements of education. Strong literacy skills are the most important tools needed for children to discern and interpret information (Neilson, 2014). A literacy community is a dynamic community which exchanges ideas and engages in dialogues. The literacy philosophy encourages children to enjoy reading books and listen to stories. The study findings would be of great interest to the intermediate phase teachers and the school principals, and to the currently burdened senior phase and Further Education and Training (FET) band teachers.

Literacy opens gates for human potential and is a cornerstone of development. Literacy opens doors to good health, better education, job opportunities and more stable societies. Reading is the only way to attain the acquired literacy skills.

Zimmerman (2017, p.36) posits that South African learners have reading problems, in all languages they read in. Zimmerman (2017) notes that, since learners lack strong reading literacy development, they will battle to be successful throughout their schooling. Reading needs to be a central school activity (Pretorius & Lephalala, 2011 p.2). Many organisations seek to address the problem of learners' poor reading literacy level. Some organisations focus on assessing literacy ignoring the instructional practices, management of reading, understanding how reading is developed in schools and the challenges experienced by the schools and learners in developing reading (Zimmerman, 2017, p.37) According to Zimmerman (2017) private and semi-private schools perform very well in reading and literacy development, but the reason is unknown.

1.4. Research problem

The study explored the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) to promote literacy. Reading difficulty is referred to as the severe learning difficulty whereby learners lack reading skills, and cannot recognise

a word and its phonemes. Words are the means of communication for human beings. Spoken words are quick, direct and easy, but when words are written, they become burdensome (Lerner & John, 2012). Poor literacy leads to exclusion in the form of isolation, loneliness and anxiety for some individuals and social groups. Poor literacy problems need to be detected and treated earlier. Learners who lack reading skills in the early grade face a lifetime trajectory of limited educational progress.

Literacy in and for school is about dealing with the changes in textual, social and cognitive demands. The schools follow what the designated curricula organise. Learners with difficulties mostly do not fit in that organised school curriculum and they need their curriculum.

Inclusive education stipulates that ordinary schools need to network with full service and special schools to give assistance (White Paper 6 of 2001), which is not really happening. When invited to ordinary schools, specialists for Learners with Special Education Needs (LSEN), spend few minutes of a day. Learners with reading difficulties cannot be assisted through few minutes of teaching. Seeking information from LSEN specialists on how to deal with learners with certain difficulties, seems to be a waste of energy since they refer teachers to White Paper 6.

Screening, Identification, Assessment and Support (SIAS) document was released in 2014 and supplied to schools for the purpose of referring learners with severe learning difficulties to the special schools. Negligence of parents and heavy workloads of teachers, in most rural schools, compromise the process. Rural areas have few special schools and few full-service schools are declared but not launched. Rural special schools refuse to recruit the learners referred by teachers from ordinary schools. Special schools' principals complain that teachers from ordinary schools have limited pedagogy since they do not extend their teaching to meet the needs of all learners in the classroom.

1.5. Rationale of the study

In most rural primary schools learners reach intermediate phase lacking reading and writing abilities (Donald, Lazarus & Lolwana, 2010), when reading is the core element of education (Lerner & John, 2012). A person is said to be literate when he or she can read and write. Those learners who are unable to read are conceptualized as learners 'with reading difficulties' (Lerner & John, 2012). In a classroom of forty learners, one may find that eighty percent of

them cannot read and write, and even struggle writing their own names. There is great demand for strategies for promoting literacy among those rural learners with reading difficulties.

Most reading difficulties are caused by poor teaching. A teacher focuses on, and appreciates the learners who are, good achievers and give quick responses, while neglecting those that are struggling behind and confused. The basics of reading are not well taught (Donald, Lazarus & Lolwana, 2010). Learners who cannot read develop low self-esteem, become devastated, are isolated from others, and have a fear of responding in any lesson.

According to Donald, Lazarus and Lolwana (2010), there are three factors that hinder literacy development in the learners, that is: inherited factor, where the learners resemble the behaviour of their parents or one of them; neurological factors, that include head injuries, birth problems, specific illness or epilepsy; and educational factors whereby the child has the tendency of developing learning difficulty. However, when teaching is appropriate and supporting from the early stage of schooling (Foundation phase), the difficulties can be solved.

Accommodating diversity of learners in South Africa is central to the notion of inclusion. According to Bayham and Prinsloo, (2009), it is very important to create a literacy-rich classroom with reading materials that encourage learners' active engagement in learning to read.

In rural schools, learners are overcrowded and schools are under-resourced, resulting in difficulty for a teacher to attend to each learner's needs. The expanded annual teaching plans have dates to be covered and no teacher must dispute them. The policy for progressing learners from the Foundation Phase emphasises that a learner who does not meet the requirement for promotion can be progressed to the next grade to prevent the learners from being retained in the phase for longer than four years, including Grade R (DoE, 2014). That means Foundation Phase learners should not be retained at any grade until they reach Intermediate Phase. This engenders the problems of illiteracy.

Televisions play an important role in promoting literacy, but literacy programmes are presented during midday while learners are at school. Internet requires learners who are literate. Books litter the schools' storage places but the learners with reading difficulties cannot even look at them. Newspapers and magazines are found in towns and cost money.

To elaborate on the professional experiences, there are several learning styles that each classroom must accommodate, which are: visual (spatial) where learners may use pictures,

images and spatial understanding; aural (auditory or musical) where learners learn by hearing the sounds and music; verbal (linguistic) where learners learn through words using both speech and writing; physical (kinaesthetic) where the learner prefers learning by touching or using their bodies and hands; logical (mathematical) where learners use logic, systems and reasoning; social (interpersonal) where learners prefer learning in groups and sharing ideas; solitary (intrapersonal) where learners prefer to work alone and use self – study (Nel, Nel & Hugo, 2013). All these learning styles and techniques are coordinated in the brain which means learning styles are psychological (Nel, Nel & Hugo, 2013).

Most rural schools prefer using linguistic and logical learning styles due to the scarcity of resources. The learners who prefer other learning styles are not accommodated. Learners become bored, fidget, and cause enormous noise. Noise is easily calmed since they are young and fearful, but the cause is not attended. School enrolment is increasing rapidly with the contribution of the learners that are ignored and denied the right to good education. These learners are regarded as having learning difficulties. While I agree in education there are reading and writing difficulties, having eighty percent of them in an inclusive classroom is, however, problematic. According to de Kadt (2017, p.26), low quality education is an injustice to learners, parents and the broader society, making eradication of educational inequality, school dropouts, substance abuse, poverty, violence and crime impossible.

By using the Short Messaging Services (SMS), I hope that the literacy needs of rural learners with reading difficulties will be met. The need for learning through senses include touch, verbal, aural, and visual is fulfilled when learners write and receive messages. There is an alert sound ensuring the message has been sent or received. The screen with light is for viewing the message written or received for reading purposes. The digital buttons with different interesting clicks, make the child enjoy touching them.

The cell phones are available in every part of the learners' homesteads, and it easy for a parent to provide the cheapest one for his or her child's education. Cell phones have no age restrictions. Cell phones may bridge the gap of unavailability of computers in deep rural primary schools.

1.6. The purpose statement

The purpose of the study was to explore the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) in promoting literacy.

1.7. The research questions

The main research question was:

What are the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS)?

The sub – questions were:

How does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties?

Why do rural learners with reading difficulties experience using SMS in developing literacy in the way that they do?

The study took place in a rural area and was limited in scale as it involved three learners from the same school. The aim of the study was to promote literacy in the rural learners with reading difficulties. The study would help in improving literacy with a focus on phonemic awareness, vocabulary development, Fluency, reading comprehension which are obviously needed in learners' daily lives. Since learners have reading difficulties, they need the platform and tool which can assist their ability to read. The always available tools which most or all people have are mobile phones. SMS messages were chosen since SMS are received even when the recipient has no airtime or data.

1.8. Objectives of the study

The objectives of the study were:

To explore the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS).

To examine the use of Short Messaging Services (SMS) in promoting literacy in rural learners with reading difficulties.

To explore the reasons why rural learners with reading difficulties experience using SMS in developing literacy in the way that they do.

The study focused on the learners' progress when using the SMS to read and write messages. SMS was used in writing spelling and sending short text messages. The learners only used the

SMSs as learning tools. They used them in the learning venue. The other aim was for the rural learners with reading difficulties to find and count the phonemes that make up each word, as the letters are available in the cellular phone buttons.

1.9. Contribution of the study

The study focused on the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) in promoting literacy.

Most rural schools lack computers, computer rooms and internet installations that assist in teaching and learning, which implies that there are no computer lessons conducted. Learners depend on teachers' chalkboard presentations which do not cater for diversity in the classroom. Some learners benefit while others do not. Learners with kinaesthetic style of learning prefer learning by touching objects. The study attempted to create a literacy rich classroom that encourages active engagement of learners in learning to read. According to UNESCO, literacy is a key tool for social practice as well as learning. The use of literacy promotes community and individuals' participation in the society. Literacy is closely linked to economic development (Persepolis Declaration, 1975).

Hague and Payton (2010) posit that digital literacy is important for all young people, as it promotes their skills, knowledge and understanding, which helps them to actively participate in social, cultural, civic, economic and intellectual life. Most learners own mobile phones. According to Buizenhout (2012), mobile phones have come with the advantage of performing the function of desktop computers and are easy to use since they are easy to access. Every mobile phone possess SMS App. SMS is the most powerful part of technology that can be used for learning purposes. Moura and Carvalho (2010) claim that SMS can reinforce vocabulary for circular writing where learners create stories together. The use of SMS can be effective in rural areas. Foko's (2009) research noted that even the poor of the poorest South African possess mobile phones.

1.10. School context

The study took place in Hlenyane Primary school (pseudonym). The school is situated in Ngome area, in Msinga – Greytown. Ngome is a deep rural area between Tugela Ferry and Greytown in the province of KwaZulu-Natal. The school is surrounded by families' homesteads. It was established in year 2000 as a Combined school and now is a separated primary school with its own site, buildings and its own principal. There is an influx of learners

coming from Ngcakini, Vuza, Nkonyane, Mawozini, Mdlezane, Keatesdrift and Mpanza areas. Learners use public transport while some walk to school. The staff complement comprises the principal, one foundation phase Departmental Head, three phase heads and seven educators. The language of teaching and learning is isiZulu. English is offered as the First Additional Language. All learners' and teachers' home language is isiZulu.

1.11. Significance of the study

The study was designed to contribute to the understanding of constructive and social constructive approaches. These theoretical framework are of importance in providing methods of teaching and learning using available resources. Social constructivism posits that knowledge is constructed anyhow, can be social or experiential. Methodology provides the interpretation of the knowledge constructed when doing practical activities. Through the qualitative research approach, the study explored promoting literacy in rural learners with reading difficulties using SMS. By using the mobile phones, the study involved the community (parents) in the education of their children.

1.12. Overview of the theoretical framework

The study was underpinned by social constructivism as theoretical frameworks. The reason for choosing that theoretical framework was that: social constructivism is characterized by orientation toward sense – making and active learning. Social constructivism encourages collaboration, social interaction and positive attitude toward learning. Henceforth, it encourages learners to identify, reflect and evaluate their work. It also encourages team work, discussion and peer learning. Social constructivist classrooms provide a variety of activities which cater for the diversity of learners. Variety of activities increase the readiness of learners to learn, develop new knowledge and ideas, and to construct knowledge by themselves (Yadav, 2016, p.93). The benefits of social constructivism are that learners learn and enjoy learning; learners are actively involved in learning activities; learners think, understand and construct new ideas; and learners learn to question situations (Olusegun, 2015).

Social constructivism encourages active participation where learning is created through collaborative effort. New knowledge construction is based on shared interactions and takes place in socio-cultural context. Learners learn more when the adults or peers are guiding them (Isaac, 2013, p.7).

1.13. Researcher's Life history

I am the ninth child in my family, born with hearing and eyesight impairment. From birth up to eighteen months, my eyes were covered by a foreign layer which was removed after 18 months. From then, my eyes started tearing, and were sensitive to any type of air movement and rays of the sun. To-date, I have hearing and eyesight problems.

I grew up in a deep rural area where nobody knew about the schools for disability (special schools). Even the educated people had no trust in those special schools. I started schooling in 1979. It was at a site for a new school with no buildings. Teaching and learning took place in the home of one of the school committee members, under the tented veranda, for several months. The community built one classroom made up of mud, wood and old corroded corrugated iron as the roof, with no windows, and only space for a door. The culture of teaching and learning took place, and new knowledge and skills were constructed. Despite my disability, I was the most intelligent learner in the class because my class teacher gave close attention to me. I was able to read and write. I even managed to help those who attained knowledge later than others.

With vision and hearing impairment, I passed with Position 1 from sub – standard A (Grade one) up to standard five (Grade seven). Teachers were very proud to have a learner like me in the school.

In sub-standard B (Grade 2), Pages of the books were very white and shiny and my eyes became barriers to learning. My class teacher provided me jotter exercise books with pages which were taupe in colour with feint and margin. Jotter exercise books served as the tool that encouraged me to be part of learning. The other problem arose when my eyes did not identify the feint lines. I was writing correct spelling and grammar which denoted that literacy (reading and writing) had been attained, but lines were not followed. My class teacher taught me to formulate my own imaginary lines. I did as I was taught until I completed standard 5 (Grade 7). I started recognising feint lines and margin in the mid standard 6 (Grade 8). My schooling life was almost balanced.

After completing standard 5, I moved to a Junior Secondary school, which was situated in a rural area. I completed standard 8 (Grade 10) and moved to a huge township High school with many classrooms and learners. Since I needed more support and attention from teachers in each subject taught, I didn't cope very well. Then my parents pushed me back to High school in rural area, with no resources. The school seemed as if it acknowledged diversity of learners

while the culture of teaching and learning was implemented properly. I completed standard 10 (Grade 12) in 1992 with reasonable symbols. Currently, I am at this level of education using one ear for hearing and sight problem.

1.13.1. Referring to the researcher's history

If we look back to the era of apartheid, rural schools besides being unequipped with teaching and learning resources, respected the rights of learners with disabilities. I was attending ordinary schools with hearing impairment and eyesight problems leading to reading difficulty. Teachers did not even attempt to refer my disability to the special schools. By reviewing researcher's history, learners with reading difficulties can attain literacy when given tools of their interest, which can encourage them to read and write.

1.14. Research design and methodology

Qualitative approaches to inquiry include narrative style of reporting which is presented as a story. The reporting is organised thematically or chronologically. Qualitative researchers combine findings and discussion sections (Levitt, Creswell, Josselson, Bamberg, Frost & Suarez – Orozco, 2018, pp.26 – 29). Qualitative researchers do not seek natural laws but to develop findings that are bound by their contexts. Qualitative reports reflect the situatedness of the research by describing the context of the investigators and the context with which a phenomenon is constructed (Levitt, Creswell, Josselson, Bamberg, Frost & Suarez – Orozco, 2018, p.26 – 29). The researchers also describe the context of the data sources. Qualitative researchers seek to situate the phenomena, data sources, terms of the location, investigators, and era and time periods in relation to certain social dynamics.

Qualitative research relies on the researcher's view of the situation. The topic stems from everyday life and is relevant to the situation at hand. The topic emanated from the current crisis which is the lack of reading and writing in most Intermediate Phase learners in the specific area (Kālu & Bwalya, 2017 p.45). The research questions displayed emerge from researchers' real-life observation of the situation. Theories in this study acted as the initial guide for data collection process and techniques which the researcher intended to use. Qualitative study adopts case study design. Case study is used for in-depth examination of the participants. In this qualitative research, sampling was purposeful. Participants were selected according to the needs of the research and participants' characteristics. Qualitative research embarks on ethical considerations and limitations (Kalu & Bwalya, 2017 pp. 46 – 48).

To ensure the trustworthiness of the study, the interview and group discussion were video recorded, and photography of the site were taken to provide visual medium in addition to written and spoken words. Verbatim transcripts were collected to enhance the accuracy of the data (Krippendorff, 2013).

1.15. Literature review

The literature review reviewed literature on promoting literacy using SMS in rural learners with reading difficulties. Literature review covered the views of authors about reading pillars, namely; phonemic awareness, comprehension, fluency and vocabulary; global views of author about literacy attainment, contributions of organisations in improving literacy in schools, and the consequences of reading difficulties. The explanation of rural learners is dealt with in the description of rural areas and rurality. Literature review also highlights the use of SMS as a platform for learning literacy.

1.16. Layout of the study

This chapter served as the introduction of the report. The chapter started with the focus on the importance and benefits of being literate. The research problem clarified the disadvantages of being illiterate. The rationale of the study was presented through the researcher's view of the situation or crisis. The overview of the theoretical frameworks described the frameworks on which the study was underpinned (Myende, 2014). Life history reflected and described the schooling journey of the researcher which was very difficult and challenging. The comparisons of schools in the previous decades was also reflected.

Chapter 2: Different literature, which inform the conduct of the study is reviewed and discussed with regard to different topics. The chapter consists of subtopics such as the element of reading and reading difficulties; consequences of reading difficulties; global view of literacy; improving literacy for teaching and learning; explanation of rural intermediate phase learners; and Short Messages (SMS) for learning literacy.

Chapter 3: The chapter explains the history of theoretical framework of the study and how it contribute to promoting literacy using SMS in rural learners with reading difficulties. The theory is social constructivism by Vygotsky. The chapter discusses the importance of social constructivism on learning literacy.

Chapter 4: The chapter describes the procedures needed when conducting research on promoting literacy using SMS in rural learners with reading difficulties. The chapter outlines methodology, paradigm, research design, and the approach of the study. The selection of participants, context of the school where research took place, data generating strategies, data analysis and interpretation are also discussed. The role of the researcher, trustworthiness of the study, ethical consideration, and limitations are discussed.

Chapter 5: This chapter discusses the findings and analysis of the study based on the observation and interviews.

Chapter 6: the chapter concludes by discussing limitation of the study, outlining the summary of findings, recommendations and further research suggestions.

1.17. Conclusion

The chapter provided an overview and rationale of the study, including research background and problem, contribution, significance, researcher's life history, research design and methodology. Brief description of literature review was provided. The following chapter presents literature which framed this study.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The previous chapter discussed the problem encountered by rural learners who enter Intermediate Phase lacking reading and writing skills. I start this chapter by introducing and reviewing what has happened to most of our rural schools pertaining to teaching and learning of literacy and the development of reading difficulties compared to the development of policies.

Policy makers have developed, revised and amended policies, such as C2005, RNCS, NCS and CAPS that can cater for every learner's learning, but in most rural primary schools, it seems as if subject policy documents stay an office document or file add-ons. Every teacher is in possession of Departmental subject statement (subject policy documents) in his or her file to be followed when teaching. It seems as if few teachers make use of the documents while most of them reject them. In most rural areas, it seems as if there are no signs of good quality education since approximately eighty percent of learners in a class cannot read and write. Literacy is still a huge problem. In Intermediate Phase, learners have reading problems in both English and isiZulu. Learners battle with writing, reading and identifying their names. Learners cannot correct wrong spellings in their names (Zimmerman, 2017, p. 36). Those learners are progressed to next classes until one may not differentiate between their real and developed disabilities or difficulties.

A number of policy initiatives have been developed to rectify problems of reading development in schools. Curricular keep changing every decade. According to Zimmerman (2017), policy initiatives and changing curricular do not bear any fruit in terms of reading improvement. Zimmerman's (2017) statement called for closer attention to the development of initiatives which can assist in solving learners' reading problems in schools. The tool (SMS) which was used in the study could withdraw even the attention of teachers to improve literacy teaching. The school needs to be staffed by well – prepared teachers who are dedicated to teach and improvise when necessary (Balfour, 2015, p. 1). Since curricular keep changing, according to Zimmerman (2017), teachers need to be prepared for a change and use available resources such as mobile phones with SMS to improve learners' literacy.

According to Balfour (2015) teachers have to be dedicated to teach literacy while being loyal to themselves especially those in primary schools since in most rural areas, officials from Department of Education are concerned with tenth to twelfth grades, neglecting the foundations

of those grades. Education advisors and ward managers are always sent to high schools (grades 10 – 12) to monitor curriculum coverage because all the learning difficulties are sifted out in ninth grade. General Education and Training and (GET) learners and teachers are abandoned, even their curriculum coverage is haphazardly monitored by busy principals and their busy School Management Teams (SMTs).

Jika imfundo attempts to ensure the regular attendance of learners, teachers, principals and circuit managers, and their visits to allocated schools (Jika Imfundo, 2018). With Jika Imfundo (2018) teachers are allowed to use any resource that provides good education for learners be they newspapers, magazines, bottles, bottle-tops, illustrations and any digital resources available in the school environment. The present study of using SMS in promoting literacy can be accommodated and secured within Jika Imfundo phrase which encourages teachers to use any resource available but that can provide good education for learners.

In support of the use of cellular phones with SMS in promoting literacy, Neilsen (2014) observes that many children are comfortable online as they are offline, hence, they are designated digital natives. The internet enables endless educational possibilities with constantly evolving information streams. In this chapter, I discuss reading difficulties, causes of reading difficulties, the element of reading and reading difficulties, consequences of reading difficulties, the term ‘literacy’, global perspective of literacy, improving literacy knowledge for teaching and learning, explanation of rural Intermediate Phase learners, and Short Messaging Services as intervention for learning literacy.

2.2. Reading difficulties

Hlaethwa (2013) explains reading difficulty as a learner’s failure to acquire word identification skills. In his study, Hlaethwa (2013) states that reading difficulty is characterised by unexpected obstacles in reading for learners who are supposedly intelligent. According to Donald, Lazarus and Lolwana (2012, p. 330), learners may have difficulties in perceiving visual differences, in finding the right sound to relate to letters, and in blending sounds that form a word. Naiken (2016) posits that reading difficulty is the inability to comprehend and recognise written words, the inability to decode words, and inability to grasp concepts.

Most learners who have serious reading difficulties do not read. These learners are easily identified in the classroom. Being unable to read affects learners’ performance in all subjects as well as their writing. When copying words or notes from the board, learners with reading

difficulties write words that are joined together without space. Sometimes these learners miss out the entire word or letters. When learners with reading difficulties reach Intermediate Phase, they show less interest in learning by rarely paying attention in class, passing their exercise books for marking purposes or completely staying out of the classroom.

2.3. Causes of reading difficulties

Reading difficulties can be caused by the poor coordination between the eye and hand of a learner. This can be seen when a learner is struggling with shapes and sizes of letters, with pressure of pen in his or her hand while trying to keep letters on a line (Donald, Lazarus & Lolwana, 2010, p. 332). Reading difficulties are also evident when a learner displays clumsiness in all class activities.

According to Westwood (2006), reading difficulties are caused by factors within a learner such as low ability to read, perceptual difficulties, dyslexia and poor motivation. Westwood (2006) mentions causes of reading difficulties found in the learners' background such as stress in the home, lack of parental care, and poverty. The other causes may be the inappropriateness of teaching methods and unsuitable curriculum content.

Naiken (2016) states that poor health in form of chronic illnesses and lack of medical facilities can be the cause of reading difficulties. Health problems can result in poor school attendance, and persistent allergies may cause temporary loss of hearing which cause learners' inability to read and hear instructions (Naiken, 2016). Learners' problems in learning, including reading, can be caused by intrinsic neurological (nervous system functioning) cognitive (memory), environmental, physical, linguistic, and intellectual factors (Shaywitz, Morris & Shawitz, 2008).

2.3.1. Neurological and cognitive factors:

Neurological factors are associated with impulsivity (reaction without thinking), hyperactivity (restlessness all the time) and lack of attention (concentration or listening) (Donald, Lazarus & Lolwana, 2010). Cognitive factors are associated with brain functioning during the reading process, and the number of words that can be processed and memorised (Lerner & Johns, 2012).

2.3.2. Environmental factors:

Environmental factors are associated with the background of a learner. Learners live and grow in different environments. Each environment can influence learners' reading abilities. Environmental factors such as home stress, violence, poverty, lack of parental care, poor

communication, poor problem solving, harassment, child headed families, substance abuse (alcohol) and child abuse. They can be social (inter- and intra- personal relationship with all levels of social context), school based (bullying, alienation, non – relevant curriculum, language of teaching and learning, lack of nutrition), and cultural (beliefs, practices, expectations and norms) (Lerner & Johns, 2012).

2.3.3. Physical factors

Physical factors that impact reading include hearing impairment, visual impairment, gender difference, health and nutrition, and injuries and illness (Lerner & Johns, 2012). Visual impairment refers to loss of vision or partial inability to see. Sometimes learners with vision loss have problems in remembering letters, often mispronounce and confuse letters. Nel, Nel and Hugo (2013, p. 17) note that learners with visual impairment sometimes are clumsy, drag their feet, have difficulties copying work from the board, put books closer to or far from their faces when reading, may turn the books upside down, have difficulties writing between the lines of a book, have problems of skipping words or sentences when reading, confuse letters of similar shape, and do not like any games which require good vision. The study on promoting literacy using SMS in rural learners with reading difficulties, seeks the solution of getting learners with partial sight to read and write.

Hearing (auditory) impairment refers to loss of hearing. Damaged hearing are an obstacle for learners to develop reading, speaking, vocabulary, language semantics, sentence structure and phonological abilities (Morina & Elshani, 2015, p. 187). Nel, Nel and Hugo (2013, p. 18) emphasise that learners with hearing impairment (auditory impairment) seem to be inattentive and do not listen to any teacher's presentation, have problems of hearing teachers from behind their backs, misinterpret instructions, learn by watching teachers' lips all the time, sometimes speak louder or lower their voices monotonously, and face difficulties associating with friends.

Due to the shortage of resources all these symptoms listed above are not attended to in most rural or public schools. Learners with learning difficulties are neglected. This study attempts to find strategies which can be implemented for teaching learners with reading difficulties in rural schools. Since mobile or cell phones are popular devices with all learners, whether impaired or not, the study employed SMS as an intervention which can be used to promote literacy.

Gender difference refers to male and female difference. Reilly, Neumann and Andrews (2018) claim that boys are overrepresented in people with reading difficulties which is suspected as a

gender linked neurological contribution. Females tend to be good performers in reading. According to Mwanamukubi (2013), females reach higher levels in reading literacy than males. From early childhood, girls in general, acquire language faster than boys. Girls have also broader vocabulary. Therefore, boys seem to have problems in reading (Mwanamukubi, 2013, p. 26). Mwanamukubi (2013) suspects that societal and cultural contexts, and educational policies promote this gender difference in reading literacy. Parents spend their quality time talking and smiling with their daughters while sons engage in rough games, with not much talking (Mwanamukubi, 2013, p. 26). In this study, all participants possessed cell phones to be used in promoting literacy. Participants liked playing games of receiving and sending SMSs. All participants, whether boys or girls, were treated in the same manner.

Health refers to the physical, cognitive, social, emotional, moral and spiritual well-being in a supportive environment with enough food. Unhealthy eating habits, such as malnutrition and undernutrition, may cause chronic health problems which can lead to learners' lack of concentration. Adnams (2009) states that unbalanced and insufficient nutrition affects physical, cognitive and many aspects of development. Injuries like severe head injuries result from accidents and violence may sometimes affect cognitive development which makes learners not to read and write. Chronic illnesses may affect learners' emotions, self-esteem development and concentration.

2.3.4. Language:

Language development may depend on reading. Language problems are related to learners' inability to comprehend and identify word sound, word structure and grammar. Sometimes, vocabulary and meaning is not developed in case of learners reading a non-mother language. When children are not exposed to using language in a creative way, its development becomes stunted. Learners may have limited vocabulary, which affects both expressive and receptive language (Donald, Lazarus & Lolwana, 2010, p. 335). The present study was conducted in both isiZulu (home language) and English on promoting literacy using SMS in rural learners with reading difficulties.

2.3.5. Intelligence and intellectual factors

Intelligence and intellectual factors relate to the brain damage or poor formation of brain. These problems are caused by genetic abnormality (down syndrome), birth problems, severe head injuries due to accidents or violence, infection affecting the brain such as HIV transmission from mother to child, encephalitis, and meningitis (disturbances of brain meninges) (Donald,

Lazarus & Lolwana, 2010, p. 312). Malnutrition, undernutrition, alcohol abuse, sexually transmitted infections affecting a pregnant mother affect the brain of an unborn child (ibid). When a learner is born in a family with low intelligence and intellectual ability, he or she inherits a similar inability. The combination of parental stress, health risks, malnutrition, inherited low intellectual ability, and deprived environments lead to high chances of intellectual problems (Adnams 2009; Donald, Lazarus & Lolwana, 2010).

Reading difficulties and their causes have been discussed above. Each rural primary school classroom has to overcome these difficulties. Diversity of learners in each classroom mostly needs attention of teachers and the involvement of parents. In most rural primary schools, resources are inadequate or non-existent at all, which hinders the attempts of teachers to attend to learner difficulties. The use of the resources which are already available to the community such as mobile phones with SMS may resolve problems facing rural primary schools and learners. The next paragraph discusses elements of reading associated with reading difficulties.

2.4. Elements of reading and reading difficulties

Reading is about recognising written language, that is, phonemes, grammar and meaning of words (Lerner & John, 2012, pp. 360). Difficulties refer to the problems or things that are not easy. The study focuses on learners who lack phonemic awareness, are not familiar with letters and may not make sense of print. Effective readers need to be competent in reading components such as phonemic awareness, fluency, text comprehension, phonics and vocabulary (Dunn, 2010, pp. 31 – 40).

Lerner and John (2012) describe phonemic awareness as the ability to identify and think about phonemes, construct a word or sound the syllables, spoken words and rhymes. A learner should be able to segment the word into sounds and blend these sounds to form a new word. Segmenting is necessary for learners to spell words. Blending the phonemes assists learners to decode new words (Nel, Nel & Hugo, 2013). Department of Education (2012, pp. 24 – 25) posits that phonemic awareness can be promoted during daily routines and even during snack time.

Reading requires the learner to identify the symbols, their visual sequence and shapes. Nel, Nel and Hugo (2013) recommends that learners must be able to hear symbol sound correspondences, pronounce and understand meaning of the word. Phonics associate the speed

– sound of the letters with written symbols. In other words, phonics is a method of teaching reading. Learners should have listening, speaking, reading and writing vocabulary.

Listening vocabulary is required first followed by speaking one. The more learners read, the more they develop understanding and knowledge. Teaching learners with learning difficulties using mnemonic strategies creates visual and auditory links for them (Lerner & John, 2012). A fluent reader has the ability to apply phonics, word recognition, grammatical knowledge and meaning. Fluent readers can read different types of texts including SMSs, WhatsApp, Tweet, etc. (Hwang & Tsai, 2011). Reading comprehension is a major problem for many learners with reading difficulties. Learners with reading difficulties learn the basic word recognition skills, but many continue to have a great difficulty with tasks that require comprehension of complex passage (Lerner & John, 2012). Reading comprehension is a mode of enquiry, and methods that employ discovery techniques should be used in teaching reading.

Elements of reading associated with reading difficulties have been mentioned. Diversity of learners in each primary school calls for the availability of resources for teaching and learning all these elements of reading. The required pace for teachers to cover work does not cater for learners with reading difficulties. Under - resourced rural primary school teachers can cover all the elements of reading while learners are left behind or a quarter of the class attaining the knowledge. White Paper 6 of 2001 is discussed below in comparison with recent attempts of other stakeholders to improve reading.

White Paper 6 of 2001 aims at giving learners with learning difficulties the chance of receiving education in general schools and reducing the number of Special Schools. Jika Imfundo's (2018) trackers and planners are in line with CAPS documents, and assist in speeding up teaching and learning pace. With Jika Imfundo, learners who need more attention because of their pace of learning are neglected. Foundation Phase teachers are given the amount of work to cover in each day, excluding the slow learners and those with other difficulties (diversity of learners).

Rural primary school classes are still overcrowded and teachers teach while standing at one spot and cannot reach each and every learner. Marking of classwork and homework is scarce. Some learners who need special attention are left behind and excluded in each and every lesson taught. Therefore, those learners develop learning difficulties, but progress to the following grades. The focus of this study was assisting learners with reading difficulties.

Research conducted by the Progress in International Reading Literacy Study (PIRLS) in 2006 confirms that in many South African Schools, basics of reading are not taught well (poor teaching of reading) and learners with specific reading difficulties suffer a double loss (Prinsloo, 2009, pp. 177). According to Prinsloo (2009), learners with reading difficulties require specific help and learning support.

Wagner, Castillo, Murphy, Crofton and Zahra (2014) explain reading as the joint abilities of producing and understanding written languages. Wagner, et al. (2014) note that reading allows people to communicate messages across distance and time. Reading enables communication through shared texts (SMS) with constructive and interpretive thinking. Formal schooling tries to confer interpretive, constructive and critical thinking as one of the central cognitive skills (Wagner, Castillo, Murphy, Crofton & Zahra, 2014). Reading requires five essential components, namely; alphabetic principle, phonemic awareness, oral reading fluency, vocabulary and comprehension. According to Wagner, et al. (2014), reading comprehension is the heart of becoming literate.

To be literate is influenced by vocabulary knowledge and instruction, the ability of a teacher to equip learners with appropriate strategies, the thoughtful interaction between the text and a reader, and the abilities of a reader to interact with the literate environment. As the comprehension becomes complex learners' goals for reading expand (Wagner, Castillo, Murphy, Crofton & Zahra, 2014).

A study on reading difficulties was conducted by Mwanamukubi (2013) in Zambia with grade six learners. The findings showed that most learners in grade six were unable to read fluently as expected at their level of study. Mwanamukubi (2013) posits that teachers are facing challenges of inadequate teaching and learning resources, overcrowding of learners in classrooms and poor staffing which lead them to being overburdened and limit the opportunities for learners with reading difficulties to be attended to effectively.

When learners suffer these barriers to learning in Foundation phase they become illiterate. Illiterate learners then progress to Intermediate Phase, from Intermediate Phase until FET band. Learners then face the consequences of being illiterate. Henceforth, in this study the focus was on rural learners with reading difficulties who suffered the consequences of being illiterate due to lack of being closely attended. The study explored SMS as an intervention in promoting literacy. The study seemed to bring about the change to learners with reading difficulties, from being passive to active citizens. Learners were reinforced to read SMS received.

2.5. Consequences of reading difficulties

A learner who does not read and write cannot succeed in life. Reading problems need to be identified earlier and resolved timeously. Teachers should not use a wait – and – fail method to address reading difficulties of learners (Dunn, 2010, pp. 31 – 40, Lerner & John, 2012, pp. 359 – 361). Reading failure constitutes an educational problem and contributes to major public health problems. According to Lerner and John (2012), early identification and intervention to assist those learners with reading problems is essential, and maximises success of the treatment. Learners who do not read face difficulties in their life which can lead to unemployment.

Learners cannot earn academic certificates, diplomas or degree to get jobs, they cannot fill application forms, cannot read written information on computer screen or mobile phones, rely on vocal information, cannot write e-mails, and cannot telecommunicate (Lerner & John, 2012, pp. 359). Almost, a tiny gap can separate poor readers to traditional, uneducated and illiterate people, while poor readers spend their precious time in schools. Job opportunities are decreased. Furthermore, poor readers lack qualifications, since they do not pass matriculation examinations. Therefore, poor readers cannot continue studying, a situation that maximises school dropouts (National Joint Committee and Learning Disabilities, 2008).

According to Lerner and John (2012), reading is not an overnight process. Reading requires careful instruction, takes several years to accomplish and costs learners to persevere. Lerner and John (2012) claim that the process of recognising words and phonemes is complex and needs learners to use a variety of strategies. In this study, Short Messaging Services (SMS) serve as the strategy for the rural learners to accomplish the task of learning to read.

The learners who lack reading skills in early grade face lifetime trajectory of limited education progress. Early grade reading competency lead to continued retention and success in future grades. USAID, World Vision and Australian government created scalable solutions in 2011 to improve children's delivery of literacy using child's mother tongue language. Findings reveals that children were significantly more likely to be enrolled and lack of education in first language was a significant reason for children dropping out (UNESCO, 2013).

2.6. Global view of literacy

Literacy is the ability to read, write and use arithmetic. Literacy includes the ability to use images, numbers and computers, includes gaining and accessing knowledge through technology, ability to apply printed materials, write with accuracy and coherence, and use the

information generated. For this study, literacy refers to the ability to read and write. According to Bezuidenhout (2012), literacy is differentiated into various categories such as cultural literacy when the individual understands the cultural, social and ideologies that shape reading of texts; critical literacy which is the individual's ability to respond critically to the text messages; visual literacy when the learner reads and writes images, pictures, signs, etc.; media literacy which is capability to read newspapers, magazines, televisions and films as cultural messages. Hague and Payton (2010, p. 15) note that digital literacy is important for all young people as it promotes their skills, knowledge and understanding which will help them to actively participate in social, cultural, civic, economic and intellectual life.

According to de Souza (2007), the concept of literacy among government, policy makers and members of the public, is that, literacy is the ability on the part of individuals to read and write. The concept of literacy in broader socio-cultural and political terms, refers to critical literacy. Teachers who are interested in critical literacy emphasize the written and oral presentation of meanings as a site of change, negotiation and struggle. Earlier psychologists viewed literacy as the acquisition of cognitive strategies, behaviours and linguistic processing skills (de Souza, 2007).

The insight from ethnography increases the recognition that literacy is a practice that is constructed socially and negotiated locally. Literacy takes place in the context of institutional practice, the school and community. De Souza (2007) notes that, the written word or text is one of the semiotic modes that children encounter in their daily life, starting from drama, oral storytelling, television, internet and even cell phone texts. The challenge for literacy teachers is to reconceptualise classrooms as semiotic spaces for children to construct meaning using a variety of multimodal texts, that is; visual, written, spoken, auditory and performative texts (De Souza, 2007).

UNESCO sees literacy as a key tool for social practice as well as learning. The use of literacy promotes community and individuals' participation, and increases their voices in society. UNESCO builds capacity to teach literacy as well as strength the literacy environment. Literacy is closely linked to economic development. The Persepolis Declaration (1975) and International Symposium of Literacy assert that literacy is a basic human right necessary for economic development. Declaration (1975) claims that literacy is a leading concept for participation, political will, and mobilisation (Matsuura, 2003, p. 6).

Literacy is seen as a social practice (Ntshuntshe 2011). Ntshuntshe (2011) claims that literacy is not embedded in educational context, it is rooted in the social context. According to Bua – Lit, (2018, p. 3), literacy is the ability to use a combination of letters and sounds to create words or meaning or sentences, which is known as phoneme – grapheme relationships. Literacy is about how learners achieve comprehension, understand how words are decoded and the connection aspects of text to their prior knowledge. Learners' ability to read makes them to find meaning from whole text.

Literacy and its importance have been viewed globally. There are organisations which focus on improving literacy knowledge for everybody, especially for teaching and learning.

2.7. Improving Literacy knowledge for teaching and learning

In this study, I explored the use of SMS as an intervention in promoting learning literacy among rural learners with reading difficulties.

Maseko presented school libraries in 2008 to support, facilitate and promote reading skills and independent reading since libraries contain reading materials and references. Maseko highlighted the intervention programme that improves literacy teaching and learning (Maseko, 2008, p. 4). In 2004, the Minister of Education stated the priority of improving writing and reading skills. The minister wanted to ensure that learners read fluently from the third grade (Grade 3). In Department of Education Strategic Plan from 2007 – 2011, the minister states that effort was made to improve reading, writing and numeracy skills from Grade R – 12, in townships and rural areas (Maseko, 2008, p.4).

According to Matsuura (2003), UNESCO recognises literacy as a key learning tool which plays an important role in achievement throughout the primary and secondary school cycle, therefore teachers need to create conducive learning environments for reading and writing. The environment must aim to cater for and include the needs of children with reading disabilities. UNESCO builds capacity to teach literacy while strengthening the literacy environment. Matsuura (2003) notes that UNESCO helps Guinea, Malawi, Burkina Faso, Mongolia, Uganda, Namibia and Tanzania to strengthen literacy by lowering the cost of books and ensuring their quality.

The World Congress of Ministers for the Eradication of Illiteracy held in Tehran in the year 1965 negotiated actions needed to be taken in tackling illiteracy (Matsuura, 2003, p. 6). Then, Experimental World Literacy Programme (EWLP) was born and launched in eleven countries.

To accommodate diversity of learners, the notion of inclusion is central in South Africa (White paper 6, 2001). According to Bayham and Prinsloo (2009), it is essential to create a literacy-rich classroom with reading materials that encourage learners' active engagement in learning to read. There are seven learning styles each classroom must accommodate, which are: spatial – where learners use pictures and images; aural – learners learn by hearing sounds and music; verbal – learning by words using speech and writing; kinaesthetic – learners learn by touching, using body gestures and hands; mathematical – using logic, systems and reasoning; interpersonal – learners prefer learning in groups; intrapersonal – person prefers to work alone (Nel, Nel & Hugo, 2013).

PIRLS literacy (2016) aims to assess South African learners' performance in reading; to identify the need for literacy improvement; to compare all Grade 4 learners in both national and international levels for all languages used in South African provinces. Countries' participation is voluntary. Learners write tests in their language of learning and teaching (LoLT). This assessment takes place in five year intervals. Findings of the first round of assessments showed that, in rural primary schools of KwaZulu – Natal province, teachers used oratorical approach in teaching reading. Most rural South African schools do not have school libraries which are central for promoting reading (PIRLS, 2016). PIRLS literacy (2016) developed family literacy project in deep rural areas of KwaZulu – Natal to create literate families and community with the purpose of building a reading culture.

PIRLS literacy (2016) witnessed the issue that in most rural primary schools of KwaZulu – Natal resources are inadequate or no resources. The study was conducted in rural learners with reading difficulties. SMS was used as a tool to promote literacy in one of the primary schools of KwaZulu – Natal province.

A similar study was conducted in Islamabad, Pakistan where promoting literacy faces many challenges. Many new literates turn illiterate few months after the basic literacy course. New literates have difficulties in retaining their interest of reading, when reading is the only way to retain acquired literacy skills. For some learners to remember what have learnt they learn by touching objects and listening to relevant sounds. By using mobile phones and receiving activities via SMS, learners were encouraged to read while counting and spelling the phonemes of words.

A similar study was conducted in England where learners performed at about the same level on PIRLS reading Scale (Buddeberg, 2016). PIRLS (2011) posits that students from England

use computers which are available for reading lessons. Learners with adequate resources displayed satisfying performances. In most rural primary schools resources are inadequate and educators face difficulties in accommodating and giving attention to learners with reading difficulties. By using SMS learners were given the opportunities of learning by touching while reading words and sentences from cell phones' screens.

In 2014, a study was conducted by education Technology Charity Tablets for primary schools. Even in rural schools of South Africa use of tablets to enlarge the teacher's pedagogy repertoire and promoting literacy and its use to learners, was conducted. While schools were waiting for the supply of learning tablets, each school was provided with one interactive whiteboard. Teachers were warned that interactive whiteboards are fragile and delicate, the school had to choose one teacher who would be controlling and operating that board. Therefore, the use of interactive whiteboards in teaching and learning in rural schools is not taking place. This means that whiteboards are there to decorate the walls of buildings while learners with reading difficulties struggle to listen to the instructions given by teachers in their under or un-resourced classrooms.

According to Galguera (2015), literacy policies should be linked to community needs. The study on promoting literacy using SMS in rural learners with reading difficulties was linked to the needs of the community. Communities need their children to be literate in both languages which are English and isiZulu. By using SMS in promoting literacy, the study introduced rural learners with reading difficulties to digital literacy.

In South Africa, UNESCO celebrates International Literacy Day by reminding the community that literacy is the foundation of all learning and it is a human right. UNESCO complains that literacy is still an unaccomplished goal. South African Government launched the Kha Ri Gude Mass Literacy Campaign in 2008, with the intention of enabling adults to become literate in one of the official languages (International Literacy Day, 2019), meaning that even adults were encouraged to read and write in order to rid communities' illiteracy.

Since the study was conducted among rural learners with reading difficulties and the focus was on Intermediate Phase learners, discussion of rural Intermediate Phase learners is imperative.

2.8. Explanation of Rural Intermediate Phase learners

Intermediate Phase refers to a phase that is between the Foundation and Senior phases, starting from Grade 4 to 6. According to Cambridge Advanced Dictionary (2003), rural area is a

geographic area that is located outside towns and cities. Rural area is an open swath of land that has few homes or buildings and not too many people. Homes are built far apart from each other. In this study, the term rural intermediate phase learners are those who are doing Grade 4 to 6, receiving their education in a rural primary school.

The term rural is ambiguous, but rural areas are easily recognizable. Rural areas constitute the space where human infrastructure occupy small patches of the landscape, dominated by fields, wood, forests, rivers, mountains and / or deserts (Abdulwakeel, 2017). Rural people always live in farmsteads or homesteads. The difference between rural areas and urban is that people from rural areas can keep the livestock such as cattle, sheep, goats, poultry since they have adequate space and abundant food for the stock, while urban people live in houses that are built closer to each other. The space is limited for just few herb gardens and a dog kennel. Rural and urban are arbitrary and varied. According to Abdulwakeel (2017), rural area is relatively cheap and abundant since there is no competition for space, as in urban areas. Rural people spend time working on their own farms. The unavoidable truth is that most rural people seem to prefer changelessness, tradition and agriculture (Abdulwakeel, 2017).

The study was carried out in a rural primary school. Rural area, people and their homestead have been discussed.

2.9. Short Messaging Services (SMS) as a platform for learning literacy

Short Messaging Services (SMS), also known as text messaging, is a service of sending short texts of up to two hundred and fifty (250) characters to mobile devices such as cellular phones, smart phones and PDAs (Rouse, 2007). Initially, the size of the SMS was 160 characters, then 250 characters and lately new mobile phones' models receive 612 characters in the form of MMS (Multimedia Messaging Services). In the past decade, SMS was the best qualitative mediating tools for communication technologically, economically and also pedagogically (Moura & Carvalho, 2010, p. 2). SMS is a protocol used for sending text messages over a wireless network. Rainders (2010) claims that any tool can be used if it can increase learners to assess their language and contribute to their progress.

The use of SMS in teaching literacy can be effective in rural area of Ngome, since Foko (2009, p. 1.) observes that even the poorest of the poor South Africans possess mobile phones as their computers. Foko (2009, p. 5) notes that cell phones are in the hands of the learners and are used at any time. Most learners use cheap phones with advanced features, and free SMS bundles.

Promoting Literacy using Short Messaging Services in rural learners with reading difficulties

According to Foko (2009), learners prefer sending SMS more than other instant messaging. SMS Apps are available on any type of mobile phone, therefore Apps do not need to be installed or downloaded and they do not become out dated like Facebook Messengers, WhatsApp, Mixit, etc. Unlike other instant messaging services, SMS is the type of texting which is reliable since messages reach the recipients who have no airtime or bundles.

SMS can be used to reinforce vocabulary, for circular writing where learners create stories together. Kathy McCabe, the Chief Executive Officer (CEO) of Radical Learning, developed a new product to support teachers in implementation of CAPS using cell phones (van Wyk, 2012). The new product is designed as simple, effective daily lesson plans to be used in teaching mathematics and literacy from Grade R to 3 (van Wyk, 2012).

A similar research was conducted by United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2012 on exploring the potential of mobile technologies to support teachers and improve practice (Isaac, 2012). The study conducted by UNESCO improved practice to teachers. In this study of promoting literacy using SMS, the aim was to equip learners with reading difficulties with the tool that withdrew their attention to read.

A similar study of the use of SMS in teaching language was also conducted in Portuguese and French classes by researchers, Moura and Carvalho in 2010. Researchers had verified that all students owned their mobile phones with Sim cards of the same provider and free SMS. The experiment provided a range of opportunities for integrating text into teaching and learning strategies and demystifying the use of SMS in educational context (Moura & Carvalho, 2010, p. 6). All groups responded positively and showed great interest in receiving pedagogy via SMS. Some of them displayed great improvement in language learning (Moura & Carvalho, 2010, p. 2). According to Moura and Cavalho (2010) SMS might be used in teaching and learning literacy since learners showed great improvement in language learning. In this study on promoting literacy using SMS the focus was on rural learners with reading difficulties. Learners were in possession of mobile phones while displaying great interest in receiving messages (SMS). Therefore, the study showed that there was a need for easily accessible platform (SMS) which withdrew the interest of learners to read and write. Rural learners with reading difficulties need that SMS tool in encouraging them to read.

Furthermore, a similar study on Short Messaging Services was piloted successfully in remote and resource-poor classrooms of Papua, New Guinea (Nielsen, 2014). According to Nielsen (2014) SMS stories were designed to improve reading, speaking and vocabulary. Research was

conducted in the under – resourced school but focussed on rural learners with reading difficulties. This study used SMS activities such as comprehension texts which were designed to improve reading, speaking and vocabulary which provided similarity between the two studies. The study includes writing words, identifying phonemes and fluency in reading. Since a similar study was conducted in remote areas of Papua, it encouraged the researcher to conduct further research on promoting literacy using SMS.

A similar study was conducted in Grade 9 classrooms in Cape Town on literacy practices. The focus was on township schools which use English as Language of Learning and Teaching (LOLT) and it was not learners' mother – tongue. Findings showed that in South Africa learners still perform poorly in basic reading and writing (Ntshuntshe, 2011). In this study the researcher sought to introduce the use of SMS as a platform that can promote learners to read and write. Curiosity of learners to find out what is written on the mobile phones' screens draws out their interest of reading and writing.

Another similar study was conducted in Gauteng schools on SMS language and written language. The findings showed that educators had a negative influence on the use of SMS in teaching and learning (Geertsema, Hyman & van Deventer, 2011). The study was comparing the use of SMS and written language. The fact is, literate learners can write SMS language because they are familiar with written language while illiterate learners wish to read and write SMS language, they are unfamiliar with written language. Illiterate learners need the tool which can encourage them to read.

In this study, Short Messaging Services was used as a means of promoting literacy among rural Intermediate Phase learners with learning difficulties. The cellular phone with SMS bundles was available for the researcher to conduct the study. The memory was configured to store large amounts of information. The aim of SMS story research project was to determine if the mobile phone text message stories can improve children's reading in primary schools (Watson, 2014). Recently, SMS is the most powerful part of technology. Most learners own mobile phones with free SMS, which can be used for learning purposes. Without data bundles or airtime on learners' mobile phones SMS from teachers can reach learners and be accessed, and many learning activities can be sent to learners. Moura and Carvalho (2010) claim that learners can use SMS for learning improvement and their mobile phones as the learning tools.

In a study conducted in 2018 on examining the effect of SMS on enhancing EFL vocabulary, Etela (2018) describes mobile phones popular devices which can be used in teaching any

language vocabulary by sending SMS to each learner. Mobile phones make learning much easier since SMS can be sent any time and any place. Learning through SMS can be considered as the world's electronic learning. Sending SMS can be helpful when teachers and learners have limited time and place for learning (Etela, 2018, p. 36). Mobile phones are relatively cheap compared to wireless laptops and standard computers. Using mobile phones captures the attention and interest of learners to learn new words (Etela, 2018, p. 36).

Mobile phones are not permitted in most, if not all, public schools in South Africa as they provoke crime, cyberbullying and violence. Literature however, shows that mobile phones are the most important accessories of teachers and learners. Mobile phones have come with the advantage of performing the functions of desktop computers and are easy to use, since they are easy to access (Buizedenhout, 2012).

In most classrooms, texting is seen as a problem. Teachers and parents blame texting for the corruption of language and spelling degradation. The focus of this study was to assist learners with reading difficulties in reading and writing. Looking at the positive side of this: when they are able to write corrupt language, it means they can read corrupt language, hence, outcomes of getting them reading and writing will be achieved. According to Vygotsky (1978), cognitive development of a child appears at two levels; social and individual levels. When learners write corrupt language and degrade the spelling, it means that they have used individual level and gained some of the knowledge, therefore, learners need to be guided and moulded by parents, teachers and peers.

In South Africa, many teachers complain about the problem of texting creep. Learners do not use appropriate language when writing assignments and tests (Vosloo, 2009, p. 2). Plester, Wood and Joshi (2009) posit that texting is some form of phonetic abbreviations. To write the abbreviation, a learner should be at a certain level of phonological awareness. Sending SMS actually helps a learner to read and write (Vosloo, 2009, p. 3).

El – Saghir (2016, p. 1) claims that text messaging is among the most popular platform of communication in the world. El – Saghir notes that texting is cascaded via mobile phones, but dominated by negative impacts. El –Saghir found that texting density was associated with phonological awareness, word recognition and vocabulary development. The more the learners use texting, the more they scored higher in literacy skills (El – Saghir, 2016, p. 5).

Age plays a major role in the use of texting including SMSing as it plays a dominant role in the younger generation such as teens (10 – 17 years) (Ling, Baron, Lenhart & Campbell,

2014). In this study on promoting literacy using SMS in rural learners with reading difficulties, the focus was on intermediate phase learners (10 – 12 years of age). Learners are exposed to using mobile phones for learning literacy purposes. Most of the rural learners are in possession of mobile phones for communication purposes. They study academic skills. This will eliminate proliferating of cyberbullying and sextism texts. Besides learning literacy, as these learners with reading difficulties grow up, they will recognise mobile phones and SMS as tools for gaining knowledge, development of new skills and sharing academic ideas.

If learners are allowed to text their answers, they can have a moment to think and answer carefully. Learners can translate works of literature into text. PowerUp What Works (2016) research findings suggest that SMS (text) messages may help learners develop and understand the content being discussed in a class. The research on using cell phones for learning was conducted outside United States, in a country where computer ownerships is not the norm. Mobile phones help serve as learning platforms that bridge the gap between home and school. As the texting continues to be used for purpose of learning, proliferation of informal writing will be decreased. The learners will produce quality writing (PowerUp What Works, 2016).

2.10. Researcher's perspectives on the literature reviewed

Most of the literature reviewed used mixed methods as their approach to the studies. Mixed methods research is used as both the method and methodology for conducting research which involves collecting, analysing and integrating quantitative and qualitative research in a single study. Numeric scores are used. Literature reviewed used two paradigms which are positivism and interpretivism. Positivism is a methodological philosophy in quantitative research and is based on the application of the methods of natural sciences (Crotty, 1998, p. 8). Crotty postulates that positivism applies methods of natural science to discover the study of social science. Positivism believes in objectivist epistemology (Maree, 2007).

Interpretivism, which was adopted by this study, is rooted in subjectivist epistemology. Most of the researches started with a large number of participants in a quantitative research method and reduced them when conducting qualitative study (Bentahar & Cameron, 2015, pp. 8).

Quantitative research approach uses deductive form of reasoning. Collection of data is made to assess preconceived models, theories and hypotheses. The role of researcher in quantitative research study is to determine the meaning of experiment and test hypotheses. Quantitative research aims to measure the social world, to predict and control human behaviour, and to test

hypotheses objectively (Maree, 2007). In the studies reviewed, the quantitative part used two groups which were experimental and control groups (Kopung, 2014).

2.10.1. Approaches to the study

The study adopted a qualitative research method. The research sought to provide adequate description of methodological justification and presenting trustworthiness of the study. Qualitative research method should be reflected in theoretical framework such as data collection and analysis (Sandelowski, 2010). Qualitative research strategy is the most appropriate in-depth study of the phenomenon of promoting literacy (Hyett, Kenny, & Dickson – Swift, 2014). According to Ostalin (2013), qualitative research is an inductive process of organising data and identifying relationships among the data categories.

Since the study was a case study research, according to Denzin and Lincoln (2000), the researcher attempted to reconstruct participants' understanding of the world. Internal and external validity was replaced by trustworthiness of the study. Trustworthiness includes reliability, dependability, transferability, and credibility of the study (Lincoln & Guba, 2011).

2.11. Conclusion

In this chapter, literature which informed research on the use of Short Messaging Services (SMS) in promoting literacy in rural learners with reading difficulties was reviewed. Sinclair (2007) identifies the importance of reviewing literature from scholars who have undertaken similar study (p. 39). Ravitch and Riggan (2012) describe the importance of theoretical framework; that any study needs support from theories underpinned. Theoretical framework is described as the representation of combined formal theories which clarify the aspects of the study. Maja (2015) posits that the theoretical framework determines concepts and components that guide the study which need to be carefully and thoroughly reviewed and literature related to the topic of the study.

Conceptual framework of the study was constructed using information from other authors' work, with the aim of providing the perspective of the study (Ravitch & Riggan, 2012, pp. 9 – 12). Maja (2015, p. 32) confirms that an empirical study is guided by other studies, but is not a repeat of the same studies others have undertaken. It seeks information on how to frame a study.

In this chapter, I explained elements of reading which are the concepts used in the framework of reading and writing; the difficulties experienced by rural learners in the classroom like

shortage of resources whereas mobile phones are accessible but criticised. The chapter described reading difficulties as among the factors which affect academic progress of learners. The factors which cause reading difficulties were identified as:

- Neurological factors which are associated with reaction without thinking (impulsivity);
- Cognitive factors related to brain functioning;
- Environmental factors associated with the background of a learner which has a great influence on learner's progress such as home, social, school and culture;
- Physical factors with regard to visual and hearing impairment, including gender difference;
- Language factors that include the use of language of teaching and learning which is not a learner's vernacular, affect reading ability and vocabulary development; and
- Intelligence and intellectual factors are associated with brain formation. When brain is damaged or poorly formed, learning difficulty can result. These factors are caused by genetic abnormalities, severe head injuries, infections of the brain such as HIV transmitted from mother to unborn child, encephalitis, meningitis and malnutrition. Alcohol abuse of pregnant mother affect the brain of an unborn child. Most low intelligence and low intellectual ability family produces low intelligence and low intellectual ability offsprings.

The following chapter describes theories underpinning this study. I also mention interventions from different sectors to promote literacy knowledge for teaching and learning.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 Introduction

In the previous chapter, I discussed literatures that informed the study on the use of SMS to promote literacy in rural learners with reading difficulties. The study is informed by learning social constructivism which was developed by Russian psychologist, Lev Vygotsky (1896–1934). Discussion of social constructivism is provided.

3.2 Social constructivism

Social constructivism is a sociological theory of knowledge which states that human development is socially situated and knowledge is gained as individuals interact with each other. Social constructivism favours cooperative learning where individuals share ideas in a group.

Social constructivism highlights the significance of social interaction and the role of culture in construction of knowledge. Social constructivism emphasises the importance of learners' experience, that is; the role of culture and social interaction. Social constructivism's key assumptions emphasise that reality is created by human interaction. Knowledge is a product of social interaction. That means, people interact with other people to broaden their knowledge.

Literacy includes spoken, written, sign, mathematical language and other symbol systems. Since language contains cumulative social construction of any community, it's a very powerful tool of cascading the values, information and world views. Literacy is a key factor in the process of cognitive development.

According to social constructivist perspectives, teachers need to encourage the language interaction in the classroom. Language is the principle way people interact and knowledge is transmitted. Language is a primary tool through which cognitive conflicts and impetus for equilibrium is achieved. Language is a means of encouraging learners to interact through speaking, reading, and expressing themselves (Donald, Lazarus & Lolwana, 2010).

Isaac (2013) posits that social constructivism is a philosophy of learning which has its roots in constructivism. Social constructivism can be described as a continuum. Continuum is divided into three categories, namely; cognitive, social and radical constructivism (Isaac, 2013, p. 7). Social constructivism is based on the importance of culture and context. In social constructivism, learning occurs in society and knowledge is constructed based on social events

(Isaac, 2013, p. 7). Amineh and Davatgari (2015) notes that social constructivism is a theory of knowledge that examines the knowledge and understanding of the world.

According to Vygotsky (1978, p. 57), each and every function in a child's development appears in two ways: intra-psychological, that is inside the child's mind; and inter- psychological, which is between people and is also called social level.

Intra-psychological development encourages the child to work independently and discover the world on his or her own. When learners use mobile phones, they discover outer covering and functioning of it by themselves, like making calls and using different types of texting such as SMS. Inter-psychological development occurs when a child learns with help of adults or peers, combining phonemes to construct a word.

In his issue of cognitive development, Vygotsky (1978) emphasizes the role of language and culture and claims that learning occurs within a Zone of Proximal Development (ZPD). Social constructivism emphasises the role of mediation. Although learners can master ideas and concepts on their own, they need assistance from adults and peers who are more advanced than them. Learners need guidance from the teachers and collaboration with peers (Vygotsky, 1978, p. 39)

Vygotsky shares many of Piaget's assumptions on how learners learn and emphasises that learning takes place in social context. Culture and social context give learners the cognitive tools for constructing and broadening knowledge. Piaget sees children as active and adaptable to the environment. Vygotsky proposes a child-centred approach to teaching and learning. He posits that language is an important tool for interaction. Similar to Piaget, Vygotsky sees a child as an active citizen, needing mediation from the parents, teachers or others. Through mediation, the child's exploration can be guided into an appropriate use of language in a social context (Vygotsky, 1978).

3.3. The importance of social constructivism on learning

Social constructivism promote learner – centredness (Marzouki, Idrissi & Bennani, 2017). Learners participate actively during educational process in class, ask questions when in need of clarity and make constructive comments. Therefore social constructivism encourages and engages learners in thinking critically in regard to subjects taught. Learners show positive attitude and interest toward the use of SMS in learning literacy. Mobile phones with SMS used in this study have positive effects on learning process. Social constructivism focuses on each

individual's learning and his or her interaction with group, peers and the teacher. Activities sent to learners via SMS help shape how each individual behaves such as interaction with learning environment, device used, peers and the researcher. Social constructivism states that learners's cognitive development is influenced by his or her culture and background (Marzouki, Idrissi & Bennani, 2017). Literacy seems to be the need of every person since everybody has his or her own language to speak, read and write. Mobile phones and SMS turned to be the most useful tool almost globally.

3.4. The reason for choosing social constructivism

Social constructivism encourages a self-directed approach to learning, which enables learners to find and describe their own learning needs through their experiences. Learners need to be given activities which will empower them so that they access their beliefs and experiences that will reshape prior knowledge (Gunduz & Hursen, 2015, p. 1). Social constructivism plays an important role in the construction of meaning from experience and encourage learners to learn for a change.

As a researcher and a teacher in this study, by using mobile phones, I wished to create motivating conditions for learners who have developed learning difficulties and those with reading difficulties; to foster acquisition of prior knowledge; and create the process of learning. Social constructivism theory seem to be twenty – first century approaches that encourage learner – centeredness in the classroom and shift the teaching methodology of teacher-fronted framework, put teachers as instructors, mediators and facilitators of knowledge. Learners become creators of new knowledge by integrating new experiences with their existing knowledge (Fer, 2009, p. 129).

3.5. Conclusion

In constructivist classrooms participants are learners who use their existing knowledge of mobile phones and SMS to learn reading and writing, with the guidance of researcher for this study. Therefore, the involvement of learners in constructing new knowledge which emerges at social level constitutes Vygotsky's social constructivism (Maja, 2015, p. 33).

Ravitch and Riggan (2012, p. 39) confirm that the theoretical framework is the component which consists of concepts to be used in the study. This study was about the cognitive and social construction of new knowledge using prior knowledge of mobile phones, while using SMS to attain new knowledge of reading and writing, for learners with reading difficulties in

a rural inclusive classroom. Scotland (2012) confirms the interaction between the world and each individual's consciousness as one that contributes to the construction of meaning.

This chapter discussed the theory that guided the study, that is; social constructivism by Vygotsky. Social constructivism sees an individual as an active citizen who interacts with the world to construct new knowledge.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

The previous chapter dealt with theory that informed the study, namely; social constructivism by Vygotsky. This chapter provides a discussion of interpretivism as a paradigmatic perspective and the assumptions within interpretivism. The chapter also describes the qualitative research approach, history of qualitative research approach, the research design, the selection of participants, data generation and analysis methods, the role of the researcher, ethical considerations and the issues of trustworthiness.

4.2. Interpretivism as paradigm

Interpretivist approach seeks for culturally derived and historically situations. Interpretivism is linked to thoughts of Max Weber (1864 – 1920) (Hughes, 2018). Max Weber suggests that human science is concerned with understanding (*Verstehen*). Weber contrasts interpretive approach needed in human and social science with explicative approach (*Erklaren*) which focuses on causality of natural science (Crotty, 1998). Interpretivism has many variants, that is, phenomenology, hermeneutics and symbolic interactionism.

The study adopted an interpretivist paradigm, where qualitative approach is used to enquire about the use of short messaging services (SMS) in promoting literacy among rural learners with reading difficulties. The researcher prepared the mobile phones to be used by the participants (learners) and set the list of SMSs that needed to be sent to learners weekly/ daily. Within the interpretivist paradigm, the researcher worked closely with the participants. The researcher gained insight about the participants' experiences in using cellular phones at their age, reading SMSs, and writing the replies.

Interpretivism has its roots in hermeneutics, which is the study of the theory and practice of interpretation. Interpretivism is a paradigm that favours constructivism and social constructivist theories. The interpretivist perspective is foregrounded on the assumption that human life can only be understood from within. Interpretivism focuses on people's subjective experiences and perceptions on how people construct the social world and how they interact with each other. The study focused on the research technique that helps the researchers understand how people interpret and interact within their social environment (Maree, 2013). Interpretivists assume that reality is socially constructed, by placing people in their social

context, their great opportunities to understand and the perceptions they have of their own activities (Creswell, 2007). Through scaffolding how meanings are constructed, people gain insight into the meanings and improve their comprehension of the whole. Interpretivism assumes that there are multiple realities of the phenomena which differ across time and place. Theories allow researchers to make links between the abstract and the concrete, the theoretical and the empirical (Maree, 2013).

4.4. The qualitative research approach

The qualitative approach was used in this study. Qualitative data was collected in the case studies through interviews. The study was based on a phenomenological research design (Maree, 2013).

The qualitative data was generated through the case studies. Case study is a bounded system that involves the study in more than one site. Case study offers a multi-perspective analysis (Creswell, 2013). In the study, the first part of research was guided by question, *how does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties?*

The three learners, as participants, were purposefully selected by their teachers who identified the problems from them (Maree, 2016; Leedy & Omrod, 2013). The selection was based on Grade 4 to 6 learners (Intermediate Phase). The first qualitative research part was based on observation. All the selected learners were in possession of cell phones. Activities included both languages, IsiZulu and English, and focused on improving spelling, word recognition, arranging the phonemes that make the word, their names, family, school, etc. Short Messaging Services activities were sent twice a week.

The participants were observed and assessed on their ability to read and respond to messages. They read each SMS received aloud repeatedly, copying them down and then typing responses digitally. According to Lerner and John (2012) repeated reading and writing encourage the learners to recall what had been read.

Activities were sent from the researcher's mobile phone to learners' phones through SMS. Learners read messages repeatedly, wrote down responses, then sent them to the researcher's laptop or back to her mobile phone. That procedure was controlled by the availability of a mobile network. The procedure is illustrated below.

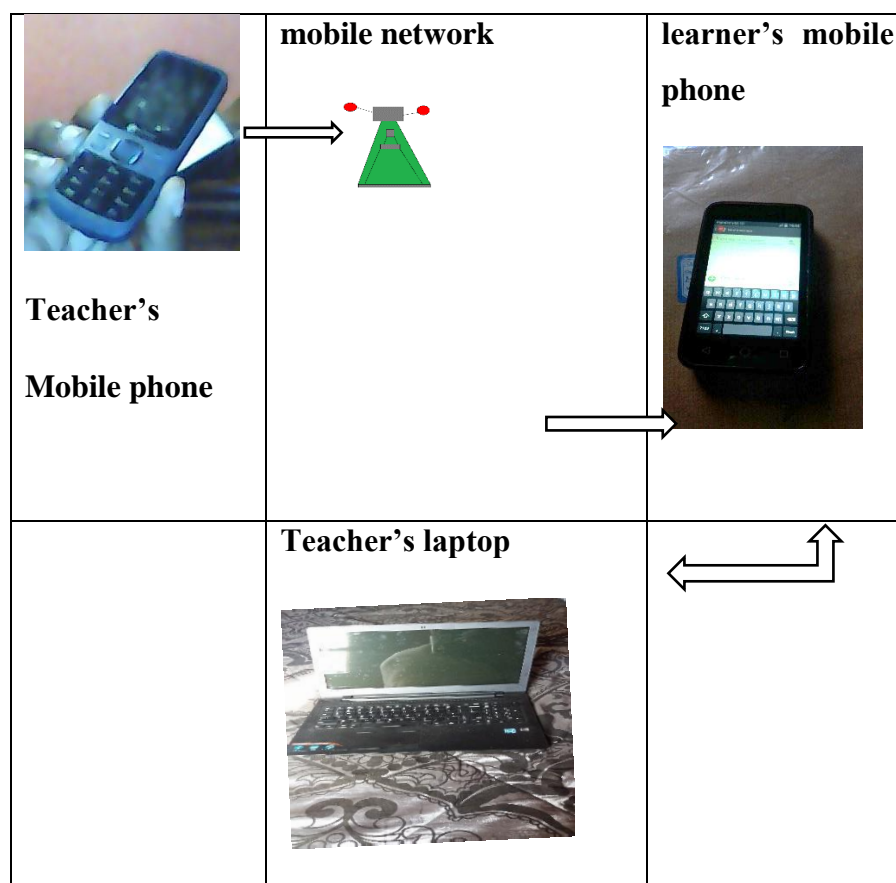


Figure 4.1 SMS learning infrastructure (adopted from Moura & Cavalho, 2010)

When recording the marks obtained, for example, in spelling, their real names were not used.

| Spelling (out of 5) | Participant A | Participant B | Participant C |
|---------------------|---------------|---------------|---------------|
| 1 st day | | | |
| isiZulu | 2 | 1 | 3 |
| English | 1 | 2 | 4 |

Table 4.1 Example of recording sheet.

The informal interviews were conducted in each session of study to obtain the experiences of participants in using SMS as a learning tool for literacy improving, and their perceptions about the use of cell phones when studying. Their views were recorded orally and the written information was collected. Activities were repeated two to three times for the learners to try developing and broadening knowledge of literacy and the use of cell phones (John & Lerner, 2012; Nel, Nel & Hugo, 2013).

The second part of the qualitative research study was based on the overall reflection of the study. The study was guided by the following questions: *what are rural learners' experiences and perceptions of using SMS in learning literacy? Why do rural learners with reading difficulties experience using SMS in learning literacy as they do?*

The interview was based on the learners' views about their studies. The findings were recorded, analysed using content analysis, coded and transferred to transcript. Analysis of data was conducted for both observation and interviews. The researcher revisited the participants to obtain the additional information (Maree, 2013).

4.5. Qualitative Research design

The plan on how to proceed in determining the nature of the relationship between variables is called research design. The study followed a qualitative approach using case study (Hwang & Tsai, 2011; Creswell, 2013). The phenomenological research design was used. The qualitative research design addressed the following question: *How does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties? What are the rural learners' experiences and perceptions of using SMS in learning Literacy? Why do rural learners with reading difficulties experience using SMS in learning literacy as they do?* According to Leedy and Omrod (2013), phenomenological research focuses on understanding of people's experiences, perception and understanding of a situation. Phenomenological research design attempts to answer the questions.

The strength of the case study design is that it is useful for learning about a situation which is poorly understood. Case study allows the researcher to deal with a wide variety of raw data (Maree, 2013). The limitations to the case study research design are that cases may lack scientific rigour, which characteristic of interpretivist studies, and data may not be generalisable. The aim of the qualitative interpretivist study was to provide rich descriptions of the participants' experiences and perceptions on the use of SMS in learning literacy (Maree, 2013).

4.6. The case study

This research is underpinned by the case study. Case study is related to social issues that aim to understand human beings and interpret their actions. Yin (2003) describes the case study as

an enquiry which is empirical which investigates contemporary phenomenon within its real life context. The case study approach is used where researcher has no control over the situations. According to McMillan and Schumacher (2010), case study employs multiple sources of information found in the setting. In this study, case study methodology was considered since it provided multiple data collection techniques, variety of participants' opinions and integration between the use of SMS and promotion of literacy.

Case study also allows the adoption of qualitative data gathering techniques. Qualitative methods present more coherent pictures of a situation. Case study allows multiple source of information. Case study consists of four characteristics. In the present study these were: particularistic, which referred to the promotion of literacy; descriptive, which referred to the use of SMS; heuristic which summed up the particularistic and descriptive case study; and inductive, which referred to the reason for promoting literacy and the use of SMS for the rural learners with reading difficulties (McMillan & Schumacher, 2010).

4.7. Reasons for choosing qualitative inquiry

According to White (2004), qualitative research has eleven characteristics which are:

- Inductive; the researchers develop insights, concepts and understanding from the data and no hypothesis is needed.
- Humanistic; researchers get to know the people, their experiences such as sufferings, frustrations, pain, faith, love and beauty.
- Flexible; researchers need to be flexible in conducting research. Qualitative research has guidelines to be followed which are not rules. The approach to be used is decided during the study. The researcher can deviate from his or her own plans.
- Involve fieldwork; researchers visit the people in their locations or can set site for the people to observe them.
- Descriptive; qualitative research use words and pictures to convey what has been learnt about the phenomenon on using SMS to promote literacy. Data used are in the form of participants' words, and need direct citation from the documents and also video tapes are included to support findings.
- Researcher looks at people and settings holistically; the whole phenomenon is understood.

- Researchers need to be sensitive; Researchers must try to understand people; To the researchers all views of the participants are valuable.
- Researchers are primary instruments for data gathering and analysis: researchers collect information themselves using interviews and observation of the behaviour of the participants.
- The researchers listen to the participants' views and understand the phenomenon of their interest;
- Researchers interact with the people in an unobstructed way;
- Researchers conduct interviews normally as if they have general conversation with the participants;
- All people are viewed as equal. Even the people that are ignored by the society have their views heard;
- By observing people in their locations, listening to their views, talking about their opinions, the researchers obtain knowledge on how to socialise with them and know their rating scales. Researchers serve as mediators of the data (Merriman, 1998, p. 7).

4.8 Selection of participants

Data collection in a phenomenological research design may involve purposive sampling of a portion of the population. Participants will be selected because of some defining characteristics. The researcher selected the participants from the population that provided the information about the use of SMS as a strategy to promote literacy among rural learners with reading difficulties. Based on the researcher's knowledge of the population, subjects were selected to provide the best information to address the purpose of the research (Leedy & Omrod, 2013).

According to Creswell (2014), the goal of purposeful sampling is to understand specific phenomenon by selecting information-rich cases for investigation. In the case of this study, the main objective was to explore the use of Short Messaging Services as a sound platform for promoting literacy among rural learners with reading difficulties. The phenomenon that was investigated was the participants' views, experiences and perceptions in learning literacy (writing and reading) using Short Messaging Services (SMS).

The study purposefully select three learners as participants. The study used the following criteria to select participants:

- possession of smartphones or cell phones.

- having reading difficulty.
- being in the same primary school the research was conducted in.

No person was told that selection was based on certain academic characteristics. Since participation was voluntary, no participant was forced to join.

4.9. Location of the study

The research site for the study was Mount Hlenyane Primary School (pseudonym) in Ngome area, the part of Msinga area, in Umzinyathi District. The school is situated in a rural area where the community, together with the school, depends on boreholes and rivers to get water. The school was surrounded by many traditional family homesteads. The school is under – resourced since researcher noted drawings done at the back of previous years’ calendars. Teachers depend on mostly on chalk and chalkboard to teach learners. Learners were sharing textbooks. Network towers are adequate, Vodacom and MTN towers were noted. People passing by the school were in possession of cell phones, even the cattle and goat herders carried cell phones with them.

4.10. Description of the participants

The participants in this study were one girl from Grade 4, one girl from Grade 5 and a boy from grade 6. Participants were selected because of their characteristics of being unable to read and write. The study withheld the real names of the participants and school, and they were referred to as Participant A. Participant B and Participant C. For the school’s name I used Mount Hlenyane Primary School.

Participant A was a twelve year old girl. She attended the school from grade R. She appears to be a child who was forgetful. According to her class teacher, she was unable to read and write in both languages.

Participant B was a sixteen-year-old boy. He also attended Mount Hlenyane primary school when he was in grade 3. Participant B’s facial expression was promising as if he could read and write when he could not. According to his class teacher, he was unable to identify the first vowel “a”.

Participant C was a fourteen year old girl. She was always dancing. No exercise books were found in her bag except her school jersey. She attended Mount Hlenyane primary from grade R.

4.11. Data generating strategies

4.11.1. Observation

The study employed the qualitative approach and adopted case study. SMS lessons were sent twice a week in both Isizulu and English. Literacy activities included spelling, word recognition, comprehension, writing and reading conducted in the classroom settings. Observation of the participants was done while the researcher attempts limiting the Hawthorne effect. Hawthorne effect is the tendency of the participants observed to behave in a conformist manner (Rambe, 2009).

Maree (2016) posits that the researcher learns most by being immersed in the research situation. The researcher learns the discourse and language used by the participants, and uses that knowledge (discourse and language) when conducting the interviews. Observational data was recorded using running records on how learners with reading difficulties attain the knowledge of literacy through Short Messaging Services.

Literacy activities in both isiZulu and English consumed an hour in each observation day. Interviews took thirty minutes and were recorded and transcribed.

The observation instruments consisted of a game with four instructions which aided the participants to read SMSs, convert the word as instructed, read aloud, write and send the new words via SMS. The second instrument consisted of picture reading, which played a great role in introducing reading comprehension. Learners interpreted texts that communicated with pictures or images. In this study, picture reading was based on interpretation of feelings presented by the pictures. Fictitious English and isiZulu comprehension helped participants to identify words and the frequency of each word mentioned. Participants answered the questions in IsiZulu and English and sent responses via SMS.

According to Lotherington and Ronda (2009), new media emerged from old media. Since we are living in convergence culture where the media have converged, it was essential to practice new strategies of teaching and learning literacy. Every text learners sent engaged them with learning language. When learners are allowed to text the responses during their discussions as

happened in this study, it can be beneficial for those with learning difficulties (Lotherington & Ronda, 2009).

In this study, English comprehension was sent via SMS for participants to read and answer the questions based on it. Three participants read the comprehension texts quietly, then loudly. Answers were sent to the number given to the participants. The researcher viewed all the responses each day. Both isiZulu and English comprehensions were conducted on the same day. Zimmermann (2014) posits that for comprehension to develop, learners need more chances to engage in writing and verbal questions.

4.11.2. Open – ended interview

Qualitative research employs three types of interviews; open – ended, semi – structured and structured interviews (Creswell, 2014). The study used open – ended interviews which took the form of conversation between the researcher and the participants with the intention of exploring the participants' ideas, views, beliefs and perceptions about the phenomenon.

Open ended interview allowed participants to express their own views. The researcher and participants were made at ease as if they were discussing or brainstorming the issue. The direction of the interview was not predetermined. It was up to the researcher and the participants to determine the direction of the interview. Open ended interview made it possible for the researcher to generate rich data and ideas in such conversations because the level of questioning was varied and suited the context. Data was recorded by taking notes, recording proceedings and video recording (Leedy & Omrod, 2013).

The facilitator is needed to manage existing relationship and create a comfortable environment for discussion. The facilitator's role includes observing the impact of group dynamics, observing non – verbal interactions and documenting the content of discussion. In this study, the role of a facilitator was assumed by the researcher. The researcher collected non- verbal data using video recording. Non – verbal data provided thicker description and interpretations. Proxemics, silences, variation in volume of the voices and hesitations (chronemics) of the learners were collected by researcher (Nyumba, Wilson, Derrick & Mukherjee, 2018).

According to Gibson (2012) it is important to plan the duration of the discussion since participants are likely to develop fatigue in longer discussions. Gibson (2012) emphasises that if discussions are conducted in younger school children, it should be very short since children have shorter attention span, and lose focus and interest quickly. After the completion of each activity (SMS) one interview question was posed and discussed in the form of informal

conversation. From discussions the researcher selected the important points. However, in this study, interview questions were posed during observation period as the general conversation.

4.12. Data recording procedures

Observations involve writing up full notes, and the complete description of context and activities such as events and conversations.

4.12.1. Field notes

In recording observations, two dimensions needed to be captured, that is; the description of what is observed, and reflecting the meaning of it. The researcher used the following template:

| Date and time | Situation or site | Action observed | Reflection of what was observed |
|-------------------------|---|--|---|
| 14 October 14h20 min | Inside Grade 4 classroom as research site | Three participants were picking up the tagged (A, B, C) mobile phones with their own tags. | The message communicated by this action meant that reading started in the body covering of the mobile phones. |

Table 4.2 Template of describing what has been observed and reflected (Adapted from Maree, 2007).

During the research process, the SMS activities were sent to participants and interviews were conducted in the form of conversations. The researcher moved around taking field notes and recording conversations. Observation noted during interviews and the participants' responses were contained in the field notes including additional information provided by the participants. The researcher kept the reflective diary that contained the ideas participants regarding their experiences in the research and the problems that arose were reflected in the diary or solved.

4.12.2. Video recording and photographs

Data gathering techniques such as interview and observation dominant in interpretive paradigm are supposed to be unobtrusive. In qualitative research data comes from a variety of sources. Hence, the use of field notes, reflective diary, video recording and photographs were of great importance.

Video recording was used to record the proceedings, to capture group discussion and non – verbal elements that could slip the researcher’s attention, which could also enhance the credibility of the study. Writing answers down during an interview is time consuming and sometimes may be distracting. As soon as the researcher finished the interview, the video was reviewed and reflected to identify the gaps needed to be explored in a follow-up interview. Video recordings were also used for the purpose of data analysis (Maree, 2007, pp. 92).

Photographs that reflect the site were taken during observation of the study. Photography is a method that allows recording and analysing behaviour. The use of photographs provided the researcher with time to reflect on the behaviour.

4.13. Data analysis and interpretation

Qualitative data analysis is an ongoing and iterative process. Data collection, processes, analysis and reporting are intertwined. The researcher conducts the research, generates data, reports and goes back to the participants to collect additional data (Creswell, 2014). The qualitative data was analysed using content analysis that identified and summarised content.

Content analysis is referred to as the analysis of the transcript of the qualified responses to open – ended questions in interviews including field notes, reflective diary and the transcripts from the video recordings.

The researcher in this qualitative data was immersed within the data to become familiar with the data. The researcher took all the data from the field notes, reflective diary, and interview transcripts and formed an understanding of data. Data was coded (marked with symbol, descriptive word or unique identifying names) for the content analysis (Maree, 2014; Creswell, 2007).

Once all data had been coded, the researcher searched for emerging patterns, associations, concepts and explanations in the data. The qualitative researcher engages herself in defining the concepts, creating typologies, finding associations within the data, mapping the range and nature of phenomenon, and developing strategies (Creswell, 2013).

4.14. Coding of interview transcripts

Video recorded data was transcribed including non–verbal cues such as silence which could denote embarrassment or pause of thoughts, hunches that were important elements of conversation and laughter which also added meaning to spoken words. Transcripts were

transcribed verbatim and question by question. Coding is described as a process of reading through the transcribed data, line by line, word by word and dividing the data into meaningful categories. Maree (2007) defines coding as marking the segments of the information with your choice of symbols or names. Codes are heuristic tools to continue with investigation and discovery. Data was sorted according to themes and coded to enable the researcher to easily retrieve, examine and compare the text.

Example of interview transcript with code

| Interviewer: | Interviewee: | Code: |
|--|-------------------------------|--------------|
| What did you experience when using SMS in learning literacy? | Words were difficult to read. | Challenge |

After categorising data was complete, the initial transcript was read to check whether all the insights of the data had been captured. The themes were identified to facilitate the understanding of the data. Data was organised into categories and summarised to bring meaning to the text.

4.15. Role of the researcher

The researcher served as a coordinator of the study, giving instructions and procedures. The researcher was the interviewer; recording, analysing and interpreting the data gathered. The researcher was the observer who was immersed in the data gathering. Since the researcher was involved in the rigorous experience with the participants, it was essential to recognise the participants' bias, values and interest pertaining to the research topic (Maree, 2013). According to Creswell (2014), the researcher needs constant participation to avoid ethical issues from arising. During the SMS activities and interviews with the selected participants, the researcher was both an observer and interviewer, while abiding by all ethical considerations.

4.16. Trustworthiness

According to Naiken (2016, p. 91), trustworthiness in a qualitative study refers to the way in which the researcher is able to give assurance to the audience that findings in the study are reliable and the research is of high quality. In qualitative study, the issue of trustworthiness involves the following quality assurance criteria, namely, reliability, dependability, credibility and transferability.

4.16.1. Reliability

Reliability indicates that the research approach is consistent across different researchers and different projects (Lincoln & Guba, 2011). Reliability of the instrument or measure means that the same instrument is administered several times with same population and provides the same findings, therefore, the instrument is reliable. There are number of types of reliability, that is, test – retest, equivalent form, split half and internal reliabilities (Maree, 2016).

In this study the activities based on the use of SMS in learning were repeated several times, to the same participants, to ensure the reliability of findings.

4.16.2. Dependability

Dependability of the study depends on the steps of the research design and the research context. Researcher described how data was gathered, analysed and interpreted. Observation were repeated in same SMS activities to improve stability of findings. Changes occurred such as withdrawing of participants during data gathering process, or any behaviour of participants that can have negative impact on the study, were explained. According to Lincoln and Guba (2011) dependability emphasises the need for a researcher to describe changes that occur during the research and how they have impact on the study.

4.17. Validity

In qualitative study, validity means that the researcher checks for accuracy of findings. The terms that are used to ensure validity of the information are credibility, transferability and dependability (Lincoln & Guba, 2011).

4.17.1. Credibility

Credibility deals with the forms of research and refers on how well data is. The process of analysis addresses the intended focus (Polits & Hungler, 2009). The data was gathered and analysed using content analysis. Participants were selected purposefully to undergo literacy activities and were interviewed informally after each activity. The formal interview was conducted at the end of the observation sessions to reflect on the overall study's success or failure, and participants' experiences and perceptions about the study.

According to Lincoln and Guba (2011), credibility of qualitative study can be achieved by availing the raw data to others. They can analyse the data. After the transcriptions which focused on the participants' experience and perceptions and highlighted the differences among

the participants had been made, the researcher re-visited the participants to review and validate the categories of findings. That was done to check and recheck whether categories and overall analysis reflected the participants' views.

According to Patton (2010), the credibility of a qualitative study depends less on the sample size. Credibility depends more on the richness of the information gathered and the analytical skills of the researcher. Interviews and SMS observation ensured the credibility of this study through corroboration of evidence. Credibility establishes that results of qualitative research are believable from the perspective of the participants. The participants legitimately judge the credibility of the results (Guba & Lincoln, 2011).

4.17.2. Transferability

Transferability of findings refers to the degree to which the results of a qualitative research approach can be transferred to other contexts (Maree, 2013). The study was conducted in the same institution, utilising the same participants who were easily accessible. Since participants had English as a second language, the researcher translated every sentence for them. The location of the study was the rural primary school in Msinga area. The researcher conducted the research in the public primary school in both isiZulu and English.

At the time of the research, the school was undergoing challenges of learners with reading difficulties caused by unknown situations. The school served the largest part of the community and was expected to provide good education that catered for every learner regardless of any type of difficulty. SMS was used as an intervention to draw learners' interest in reading and writing. SMS and mobile phones served the purpose of increasing learners' participation in reading. The other aim of using SMS literacy was to improve and reinforce literacy knowledge to rural learners with reading difficulties.

4.18. Ethical considerations

Researchers must obtain the permission from the education departments or any departments involved before conducting the research. Any researcher must pay attention to the ethical principles such as informed consent, voluntary participation, and protection from harm, privacy, confidentiality and anonymity (Maree, 2016).

The study researched children as the participants, and the researcher considered the following:

- To obtain informed consent from the parents or guardians.
- Not to report the results to parents.

- Not to report the information that will be given by a child in confidence.
- Not to pressurise the child to participate in the research (Fraenkel & Wallen, 2008).

4.18.1. Informed consent

The researcher explained the research to be conducted and informed the learners and parents that participation was voluntary; the child had the right to withdraw from participating. The parents had the right of forbidding their children from participating.

Consent forms were distributed two weeks before the commencement of the study, allowing the parents or guardians to suggest whether they were willing or unwilling to consent to the participation of their children (Maree, 2016).

4.18.2. Confidentiality and anonymity

No names of the learners were written in any message sent or received. All the information was kept confidential. After the study was completed, all the cell phone videos of interviews were deleted. All information that was shared by the learners would not leak to anyone (Maree, 2016).

4.19. Limitations

The study used cell phones that were not permitted in public schools. Like calculators, cell phones could get lost or confiscated by teachers who were not involved in the study. All teachers of the school were informed about research study that involved the learners' possession of cell phones. After each activity, cell phones were switched off and stored in the school's strong room.

Short Messaging Services run actively with Data bundles and / or airtime. Enough data bundles were purchased, which covered the entire research study.

Sometimes parents forbade their children from leaving their cell phones at school due to trust issue. Parents were informed for their involvement since the study was an attempt to assist their children who hardly read and write.

The study focused on the interpretivism paradigm and that was based on case study.

According to Miyazawa (2013) SMS can carry 160 scripts, therefore, messages need to be separated into two or three if they are long. Smartphones carry more than 160 characters of SMS scripts which means that smartphones came to solve the space problem.

When learners learn with their parents' cell phones or mobile phones, there could be a risk of theft, assaults and many threats. Hence, participants in this study were given cell phones to use by the researcher which were collected after conducting the observation.

The challenge of using mobile phones is the increased amount of time and space. From educators' perspectives, mobile phones can be used profitably outside of the classroom, during leisure time and after school hours since the extra time given can be wasted by playing diversionary games. The challenge of providing mobile phones for development purposes is when a learner uses it to send an SMS to her or his friend in other classrooms or in the same classroom. The teacher in that classroom may become upset (Wagner, 2014). The researcher put up rules of study such as no games should be played, their mobile phone cameras must not be used, at the beginning and always reminded her participants. The study took only two months. If participants wished to continue learning using cell phones after the two months, the centre had to provide them with cell phones or they would have to use theirs.

4. 20. Conclusion

The chapter discussed interpretivism as a paradigm, describing the history of the paradigm. Its interpretation linked to Weber's thoughts. The chapter discussed qualitative research approach, research design, case study approach, qualitative inquiry, selection of participants which was based on the criteria that they possessed cell phones and they were one boy and two girls from intermediate phase(grade 4 – 6), location of study which was conducted in rural primary school, description of participants, data generation based on two strategies such as observation and interview.

Data was gathered from the observation instrument (instrument 1) which consisted of four activities. Instrument 1 attempted to answer the research question "*How does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties.*"

These four learning activities were used to deductively analyse the data for observation purposes. Four activities were also used to examine whether literacy can be promoted using SMS. All four activities were used to promote reading skills in rural learners with reading difficulties. Activities dealt with the following: word recognition and identification, blending and segmentation of words, words and picture comprehension, reading and finding meaning to them, and counting phonemes that make up each word. The word activity means a process an organism carries which involves mental function. Academically, activity is a procedure

designed for learners to stimulate learning in order to achieve a designed goal. Generally, activity is an amount of work which is measured in terms of its duration, relationship to the goal set, consumption of resources, and cost. According to Kopung (2014), the term activity contributes to the satisfaction of collective needs and involves goal settings. Activities were repeated several times and to the same participants for ensuring reliability of the information gathered.

Since the credibility of qualitative research approach depends less on sample size but more on in-depth of information gathered, three participants were purposefully selected to undergo literacy activities and were interviewed after each literacy activity. Formal interviews were conducted at the end of observation session. Interviews were based on the questions: *What are the experiences and perceptions of rural learners with reading difficulties, using SMS in learning literacy?* And, *why do rural learners with reading difficulties experience learning literacy using SMS in the way that they do?* Interviews were conducted in IsiZulu and translated to English since English First Additional Language (FAL) starts at the beginning of Intermediate Phase. Video of the interview was transcribed into words (text). Findings were recorded and analysed using content analysis. Text materials were reviewed repeatedly comparing them with video presentation. As it is stated in a previous chapter, the researcher was immersed in data when searching for meaning and pattern flow of data.

The chapter further discussed data analysis and interpretation, role of a researcher, trustworthiness, ethical consideration and limitations of the study. The next chapter discusses data presentation and data analysis.

CHAPTER 5: DATA PRESENTATION AND ANALYSIS

5.1. Introduction

The chapter presents and discusses findings of the study. The main research question was: What are the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS)? ; followed by the sub – questions which were:

How does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties?

Why do rural learners with reading difficulties experience using SMS in developing literacy in the way that they do?

To answer the questions, the theoretical framework and a literature review were considered. Data from observation and open – ended interviews is analysed and discussed. Direct quotations from observations and interviews are used as evidence.

5.2. Location of the study

School was under – resourced, with no computers and learners were sharing books. Two cell phone towers noted nearby the school. Henceforth network was available for a researcher to easily conduct the study. The school principal recharged each mobile phone used in the study with the same amount of airtime.

5.3. Rules facilitating the study

Rules for conducting the study were explicit since researcher was using learners as participants. Sending SMS was confined for use in literacy discussions only. Every SMS was sent to the given number only. Participants were denied the rights of taking each other photos. Participants opened only SMS slot and read SMS sent to him / her. Since some would have used their parents' mobile phones, they were instructed not to answer any calls nor read other messages, except the one sent to them.

5.4. Analysis

Analysis is a phase which shows steps in observation cycle when a researcher interprets recorded data. Analysis can be also defined as a form of translating observational data. Analysing interviews is a method of making sense of data gathered. Constructivist theory

principles were used during data analysis and interpretation. Participants were involved throughout the process. Thematic or content analysis was used to search for patterns or themes of different interviews coded. The study began its analysis by discussing findings gathered in observation activities. Observation analysis included comprehension of passages, reading and writing game, theoretical perspectives, experiences and perceptions displayed by participants in the study, the use of SMS as an intervention for learning literacy, field notes and the use of photography.

5.5. Observation of literacy promoting activities

Study started by using A5 exercise books in pre – writing responses before typing and responding to messages via SMS. When the same activity was sent, participants copied previous responses. Researcher changed the materials (A5) to blank sheets of papers. Participants kept receiving new paper sheets every time the observation was conducted.

Word game and comprehension passages were sent through SMS. The researcher observed participants behaviour and assessed their responses.

5.5.1. Elements of reading and reading difficulties

Participants were provided with comprehension passages in both English and isiZulu languages, reading and writing games.

5.5.1.1. Comprehension passages

Comprehension passages covered three activities which are picture reading, English and isiZulu words comprehension passages. Comprehension passages with questions were sent via SMS to participants' mobile phones for them to read and answer as instructed.

To participant A reading seemed to be very challenging on the first day of the study. She did not recognise the words and identify phonemes that made up a word. She asked for help from the other participants to find the mentioned words from the comprehension passage. Great improvement was displayed on the third day of the study when IsiZulu comprehension passage was sent via SMS. Participant A started reading few words, copied questions as they were, and sent them back as her responses. In English comprehension passage, Participant A referred to the first question while giving the same answers in all questions. Without being assisted or guided, she gave correct responses to Picture comprehension, in writing and oral.

Comprehension passages were sent through SMS to participant B who was using his phone. He hardly read English words and sentences. He read some words while omitting others.

IsiZulu comprehension passage was slightly easy to read, showing that participant B was not used to reading. He gave correct answers to picture comprehension. Participant B tried giving correct answers several times until he mastered all the comprehension passages sent.

At the beginning of the study, Participant C refused picking up writing materials until she was given a mobile phone. She rushed onto the phone camera to take photos of herself. The researcher re-read the rules of the study and channelled her to the activities they were engaging in. When comprehension passages were sent to her via SMS, she correctly selected all mentioned words, answered questions and counted phonemes. The researcher marked hand written responses of the participants and recorded their scores in a table. The purpose of marking activities was to assess the improvement of participants' literacy when using SMS. The last results of English word and picture comprehension passages were as follows:

| Participants | Picture (marks / 5) | Section A (marks / 5) | Section B (marks / 5) |
|---------------------|----------------------------|------------------------------|------------------------------|
| A | 5 | 4 | 3 |
| B | 5 | 5 | 5 |
| C | 5 | 5 | 5 |

Table 5.1.

Bua – Lit (2018) confirms that literacy is about how learners achieve comprehension, decode words and connect aspects of text to their prior knowledge. In picture comprehension, all participants' responses were correct, they related pictures to what they knew and experienced. Dunn (2010) posits that good readers need to be competent in reading components such as fluency, vocabulary, phonemic awareness, text comprehension and phonics. From the above table, participant A slowly became a good reader while participant B and C participated well during the continuation of the study. Participants identified words and counted how often each word appeared in the passage. Readers actively construct meaning, know how to reflect on reading and gain knowledge of effective reading strategies (Zimmerman & Smit, 2014).

5.5.1.2. Reading and writing game

Reading and Writing game was sent via SMS. Participant A used the main statement to answer all four instructions, which means that all of them had the same responses. She requested help from of others and from the researcher. Participant A easily forgot that kept researcher repeating instructions, one at a time. Game took her three days to give correct responses.

Reading and writing game was sent via SMS to Participant B's phone. Participant B was using his own mobile phone. He had not experienced any difficulty in finding SMS slot, but reading was a problem. He tried reading the statement until he asked for help from the researcher. Participant B responded to the instructions, recited the words wrongly from the beginning of the study (Day 1). He constructed and blended words correctly. He made few mistakes in counting the phonemes. On the continuation of the study, Participant B was attempting to read and recite words without being supported. According to Vygotsky (1978), learners can master concepts on their own, but they need guidance and assistance of adults or peers.

The SMS on Reading and Writing game was sent to Participant C. She responded to the message alert tone, rushed to find messages and asked the researcher what it was all about. She also refused to write answers on paper sheets before typing SMS. Out of four questions, she answered three of them correctly. As the study continued, Participant C got all the words correct. She constructed, blended and segmented words as required. Participant C counted phonemes correctly. She had a problem in reading aloud and attended all questions at the same time. Participant C answered one question at a time while her concentration was encouraged by SMS alert tone.

First and last results of Reading and writing game are illustrated as follows:

First day, first attempt.

Word segmenting (hand written) is necessary for learners to spell words

| Participants | Marks (out of 4) |
|--------------|------------------|
| A | 0 |
| B | 3 |
| C | 3 |

Table 5.2 (a)

Word construction and blending (SMS): Blending phonemes assists learners to decode new words.

| Participants | Marks (out of 4) |
|--------------|------------------|
| A | 0 |
| B | 3 |

| | |
|----------|----------|
| C | 3 |
|----------|----------|

TABLE 5.2, (b) Record **sheets**

Participant A enjoyed looking at SMS, but reading words was her big problem. She did not recognise written words nor identify the words to construct, segment or blend. She used a trouble – avoidance strategy by keeping herself busy writing as if she understood the process. She wrote the same response to all four instructions, that is, *1. Take, 2. Take, 3. Take, 4. Take*. Participants B and C were trying very hard to construct, segment and blend new words until they got some and missed other words. Results of last day of conducting the study is illustrated below:

Word segmenting (hand written)

| Participants | Marks (out of 4) |
|---------------------|-------------------------|
| A | 3 |
| B | 4 |
| C | 4 |

Table 5.3 (a)

Word construction and blending (SMS)

| Participants | Marks (out of 4) |
|---------------------|-------------------------|
| A | 3 |
| B | 4 |
| C | 4 |

Table 5.3(b) Record **sheets**

Nel, Nel and Hugo (2013) posit that a learner should be able to segment words into sounds, blend these sounds to form new words and segment words in order to spell them. In the Reading and writing game, participants were instructed to blend sounds to make new words, then segment all the new words to identify phonemes that made each word. As the study continued, all participants were able to read their own SMS without being helped, and followed the instructions on their own.

5.5.2. Theoretical perspectives

Social constructivism believes that teaching and learning happen when learners are actively involved in activities which bring meaning and knowledge construction (White, 2004). Social constructivism, as adopted by the study, required the researcher to meet all participants' current levels. Participants were engaged in the same activities for them to produce reliable results. The three participants showed that in the classroom there is a huge diversity. In the case of Participant A, the first day she did not recognise words, identify phonemes which make up words or read any word meaning. She lacked prior foundational knowledge. She was at the dependent or frustration level, where Participant A has inadequate background of reading and need assistance from educators. Participant B read SMS words (comprehension sent) wrongly at first, meaning that he needed some lessons. He had not sent an SMS before. Participant C completed some activities herself. She became more independent as the study continued. Gunduz and Hursen (2015) suggest that learners need to be given activities that will empower them to access experiences and beliefs which will reshape prior knowledge.

5.5.3. Experiences and perceptions displayed by participants in the study

The qualitative interpretivist study aims to provide rich description of participants' experiences and perceptions about the use of SMS in learning literacy (Maree, 2013). Participants had different notions (mental pictures) about using SMS in learning literacy. The notions are illustrated in the table below.

| Participant | Participant's comment | Researcher's comment |
|--------------------|---|---|
| A | Messages are sent on time. Every time I have to think what I am going to write and I have started afresh for several times. I have read same words several times. This thing (SMS) reinforced us to read before answering while books do not. Let us just read and write everything in our exercise books only. | Found difficulties sending SMS. Found difficulties to read and write. She did not participate in learning process before. Then, since they were only three learners in the study, she had to participate in every activity learned. |

| | | |
|---|---|---|
| B | I will forward this SMS to my brother in Johannesburg. He will appreciate that I can now be able to send him SMS. My brother will also appreciate that I am using SMS in learning. | Enjoy reading, writing and sending SMS. Conceive SMS as the tool being used for academic purposes. |
| C | Who will buy mobile phone for me? I am very young, I don't have cell phone. After this study, if our school can borrow me one, I can read, write, send SMS, leave its mobile phone and collect it just for learning only! | Thinking of the future learning conditions (stressed). Also conceived SMS as a tool for learning. |

Table 5.4 Perceptions of participants participating in the study, adapted from Maree (2007)

Participants demonstrated different experiences and perceptions about learning literacy using SMS. Participant A, who experienced difficulties in using SMS in learning literacy, was encouraged to participate since that gave more opportunities for uplifting her performance. Participant B perceived the use of SMS as a supporting tool which could help him attain high academically. Participant C conceived SMS as a tool for learning. She experienced challenges of thinking ahead of the study. Two sub questions mentioned in this study were addressed by the above discussion: *What are the experiences and perceptions of rural learners with reading difficulties, using SMS in learning literacy?* And, *why do rural learners with reading difficulties experience learning literacy using SMS in the way that they do?*

5.5.4. The use of SMS as platform of learning literacy.

The only platform used in the study was Short Messaging Services (SMS). Etela (2018) recommends the use of mobile phone in teaching and learning any language vocabulary by sending SMS. Hague and Payton (2010) say that digital literacy promotes young people's skills, knowledge and understanding and can help them to participate actively in society. Participants received and responded to activities by means of SMS.

Foko (2009) posits that most learners have cell phones in their hands and use them at any time. Participant B used his own cell phone for communicating with his family. Learners preferred sending SMS to other instant messages (Foko, 2009). According to Foko (2009), SMS Apps are available in any type of mobile phone and do not need to be installed or downloaded while SMS Apps do not become outdated. All mobile phones used in this study were preloaded (ready-made) with SMS Apps. All types of mobile phones, whether cheap or expensive, were loaded with Short Messaging Services. Participants had to look for SMS position only. The researcher observed each participant's reading. A running record was used to assess how each participant's reading improved each day. The extracts of the running records are as follows:

Participant B: day 2

Once upon a time, there was a great family of lions, living in the bush. One day they were ambushed by the Swiss people. S(several times)wiss people were only interested in making cotton business-busy. When they were looking for cotton plants to harvest, they saw the tails of lions.

Some words were read correctly. When participant B found it difficult to read the next term, he kept repeating the same word several times.

Participant A: day 3

Umalume kaNtoko wayehamba kancane, ediyazela kuhle komuntu oqhuba imbuzi.
[ended] UNtoko wayehamba emva kwakhe ephethe esikhulu isikhwama.
Kwakubonakala ukuthi uNtoko siyamsinda lesisikhwamakazi.

In Day 3, Participant A read three words in isiZulu comprehension which was a great improvement on her part.

Participant C: day 1

Once upon a time, there was a great family of lions, living in the bush.
One day they were ambushed by the Swiss people. Swiss people were only interested in making cotton business. When they were looking for cotton plants to harvest, they saw the tails of lions.

Participant C read words correctly. When she did not know how to read certain terms she kept quiet for few minutes and skipped them. Nel, Nel and Hugo (2013) affirm that learners with

reading problems skip words when reading, and sometimes confuse letters of nearly the same shape.

Participant A: seventh day

Once [one] upon a time, there√ was√ a great family of lions, living in the√ bush. One day they were√ ambushed by the√ Swiss people. Swiss people were√ only interested in making cotton business. When they were√ {ended here} looking for cotton plants to harvest, they saw the tails of lions. Swiss people killed one lion and realized it was a breastfeeding mother lion.

Participant A showed the researcher the words she had identified, and was able to read them.

Nel, Nel and Hugo (2013) mention certain styles of learning which are: the use of pictures and images (spatial); using speech and writing (verbal); using hands and touching (kinaesthetic); learning in groups and working alone. By using SMS in learning, participants responded to message alert tones (aural), picked mobile phones and started scrolling (kinaesthetic), read SMS sent, and responded to instructions step by step (verbal, mathematical) while reciting and writing words as instructed (aural, interpersonal and intrapersonal). Pictures were displayed on a board for participants to read and find the feeling shown in pictures (spatial).

5.5.5. Field notes used in the study

Field notes were also used when observing the participants' behaviours in the study. The extract from field notes is reflected in the table below:

| Date and time | Situation / site | Participants | Behaviour/s observed | Reflection on what was observed |
|----------------------|-------------------------|---------------------------------------|---|---|
| 30 may 12:18 | Inside classroom 9 | Three participants (A, B and C) | Participants picking up mobile phones, checking whether batteries are flat or not and proceeding to look for inbox SMS notifications. | 1. Prior knowledge was displayed since participants were aware that mobile phones had batteries. 2. Reading had already started, participants were reading battery symbols and |

| | | | | |
|--|--|--|--|-----------------------|
| | | | | SMS notifications. |
|--|--|--|--|-----------------------|

Table 5.5 (adapted from Maree, 2007, p. 86)

5.5.6. The use of photography

Photos of the site with participants participating in the study were also used to show that the study had been conducted (validity).



Figure 5.1 Photograph taken during observation of the study.

Adapted to photo voice by Khanare lectures (2017)

The picture above shows participants using mobile phones, sharing ideas while asking for help from each other. A researcher was by their side explaining instructions in vernacular to show transferability of the study. Participants used SMS as a platform for learning literacy. Participants discovered the use of keyboards, found matching letters, and discussed questions sent via SMS (Davatgari & Amineh, 2015). SMS drew the attention of each participant.

5.6. Analysing interview transcripts

The researcher gathered data through open-ended interviews as stated in chapter four. Open-ended interview was employed with the intention to explore participants' views, ideas, beliefs and perceptions about the use of SMS in promoting literacy among rural learners with reading difficulties. Questioning was varied and suited the context.

Open-ended interview took the form of conversation and was conducted after every session. The same three participants were also used in conducting focus group discussions.

5.6.1. Participants' responses

Q1: What did you, as a rural learner with reading difficulty, experience when using SMS in learning literacy?

a) Advantages:

Participant A enjoyed learning literacy using SMS and was assisted by the message alert tone. She responded to interviews by giving the following words:

Participant A

Message alert tone reminded me to search for new SMS sent. Phone buttons (keyboard) with letters from A to Z were easy to touch and taught me to write the correct spelling'.

Participant B mentioned how easy it was to use SMS in receiving and typing responses. The study helped him to be able to read his own messages, meaning that he can now read and write. He can make sense of written print.

Participant B

I wrote the words easily, touching cell phone buttons when learning is very interesting. I wish that every day we should use SMS to write. No time wasted by thinking about the spelling, cell phone reminded me the spelling because all letters are in front of me. Tone rang aloud when messages are received. Reading words on the screen is like reading messages from friends. Now, I can read my messages, ma'am taught me how to read and write SMS. I did not ask anyone to download SMS, it does not need to be downloaded. I used free SMS.

Participant C doubted herself before the commencement of the study that she can read SMS. She enjoyed reading comprehension passages and typing responses.

Participant C

My experience is that I typed all my answers correct. I didn't know that I can read SMS. It is good to read comprehensions in cell phones. Message alert tone reminded me to read my message every time.

b) Disadvantages / challenges

Participant A mentioned the changes of her life and attitude about reading and writing. She was typing anything which could keep her busy. The study reinforced her to participate actively until she realised that she did not recognise any words.

Participant A

I kept typing any letter available just to blind the researcher, but we were only three of us. I had no place to hide. Therefore, I tried reading while I didn't recognise any words written.

In the first day, Participant B was nervous and trembling when he read the SMS. Some words were read correctly and others read wrongly.

Participant B:

I was looking for buttons to press and it consumed my time. I felt bad when one of us sent back SMS responses before me.

Participant C:

I didn't know how to read other words. They were difficult to read. I selected all 'they' and 'there', instead of selecting 'the' in the comprehension passage. In my cell phone you make two to three beats to get to the letter you want to write.

Q2: Why did you experience learning literacy using SMS in the way that you did?

Participants provided the reasons behind their experiences. Participant A commented that before learning using SMS, she had a problem with reading and writing. She regarded message alert tone as a stimulus of reading to her. Participant B said reading and writing SMS helped him to recognise letters of the alphabet that are contained in mobile phone keyboard. He commented that although he possessed a cell phone, he used it just for calls and he did not attempt to read any written stuff. Participant C compared her mobile phone with other devices like tablets. She found it easy and interesting to use SMS in learning literacy. Participants' views are listed below

Participant A

In my classroom, I was not used to reading since I have a problem of reading and writing. Then, I usually observed others doing it. Because of using SMS, I can read and write. Tone (message alert tone) always reminds me to attend the phone and read.

Participant B

My phone was used just for receiving phone calls. When SMS entered, I didn't even look at it. I played opening and deleting those messages. In this class, it is different. I open SMS, read, copy and write replies. I recognised that buttons have alphabets and also numbers.

Participant C:

Phones have buttons with letters, and touch screens have touch buttons with letters also like tablets. Writing is easy when teacher instructed me how to write and where to write.

I read everything the teacher sent to my phone. I made four words from the word 'take.' Since I didn't pay attention to my words, I wrote wrongly in one of them. I corrected it quickly. Reading is fun when using SMS.

Q3. As a rural learner with reading difficulty, what is your own perception of learning literacy by using SMS? Did this procedure help you? Explain.

All participants' responses (A, B, and C) showed that using SMS in learning literacy developed their abilities to read and write. By interpreting their perceptions, they all enjoyed reading SMS, typing responses and wished to continue using SMS in learning literacy. Participant A was happy that at the school, she was using SMS in learning. Participant B saw his classroom scores as better than before, after using SMS. Participant C likes learning literacy by using SMS. Participants' responses are as follows:

Participant A

The SMS procedure helped me a lot. I like reading and writing SMS and it has taught me to identify letters (phonemes) that make up a word. I can write good (correct) spelling. I am happy that, at school, we are using SMS in learning to read and write.

Participant B

I learned how to read SMS by reading comprehension passages and other things that were sent. My brother can now send me SMS from Johannesburg and I will reply him. I write every task in the classroom and my scores are better than before. It is good to learn using SMS.

Participant C:

SMS lessons helped me a lot. I know how to read and write SMS. I can help others in my community by reading and writing SMS for them when they ask me to. My grandmother enjoys observing me reading SMS and copying it in the exercise book. She puts comment 'now you are a real scholar who is studying every evening'. Grandmother likes me a lot now. I like learning by SMS. Are we going to continue using phones with SMS in learning?

5.6.2 Participants' comments

Participants commented in vernacular:

A: *SMS ingifundisile ukufunda amagama nendatshana, ngingajabula uma ngingafunda ngeSMS zonke izifundo zami. (SMS taught me reading words and comprehension passages. I can be happy if I use it in all learning subjects.)*

B: *mina ngingajabula uma kungathiwa sonke eklasini sifunda ngamaSMS ngoba mina sengiyakwazi manje ukuzifundela amanye amagama asencwadini ebengingawaboni singakafundi ngeSMS. (I can be glad if all of us in the classroom use SMS because I can be able to read other words in my book which was not recognised before learning by means of SMS.)*

C: *ngiyathanda ukufunda ngeSMS ne foni. SMS ingifundise ukubhala nokuphendula imibuzo kahle zonke izinhlamvu ngizibuka eduzane bese ngiyacabanga iSpelingi. (I like using SMS and mobile phone in learning. SMS taught me reading and answering questions well. All letters are closer to me to look at and I can recall the spelling of words.)*

All participants agreed that learning literacy by SMS taught them to read and recognise words.

During interviews participants' responses were video recorded.

5.6.3. Coding of data

After searching the pattern flow of data, a researcher organised data into groups. The process of grouping data is called coding. The responses provided by participants were coded and the codes noted included: excitement about the use of SMS in learning, self-discovery and success anticipating.

5.6.4. Themes emerged from analysis of interviews

Coding of data resulted in different themes. The researcher read codes repeatedly which allowed the emerging of themes. The researcher kept searching for the importance of data gathered and its relationship to questions, and the relationship between questions, themes and objectives of the study. Four themes and sub-themes emerged from data and are illustrated in the table below.

| Questions | Themes | Sub - themes |
|---|--|---|
| 1. What did you, as a rural learner with reading difficulties, experience when using SMS in learning literacy? | 1.1. Participants' active involvement in the use of SMS or stimuli. 1.2. Participants' experienced certain challenges in reading SMS. | 1.1.1. The need for stimuli |
| 2. Why do you experience in learning literacy using SMS as you do? | 2.1. Causing of reading problems. | 2.1.1. Inferiority 2.1.2. Lack of resources 2.1.3. Self - discovery |
| 3. As a rural learner with reading difficulties, what is your perception of learning literacy using SMS? Did the procedure help you? Explain. | 3.1. Success of SMS for learning literacy. | |

Table 5.6 Emerging themes adapted from Maja (2015)

5.6.4.1. Participants' active involvement in the use of SMS or stimulus

The theme emerged from participants' responses in the first secondary question on their experiences using SMS in learning literacy. Participants seemed as if they had participated actively, enjoyed and attained certain knowledge and reading skills.

5.6.4.1.1. The need for SMS or stimuli

All participants were reminded by message alert tone to read and respond to questions sent, meaning that the use of such stimulus was necessary. Their responses are given below.

A: Message alert tone reminded me to search for new SMS sent.

B: ...cell phone reminded me the spelling because all letters are in front of me. Tone rang aloud when messages are received.

C: Message alert tone reminded me to read my message every time.

5.6.4.2. Participants experienced certain challenges in reading SMS.

When participants were asked about the disadvantages or challenges faced in studying using SMS, they provided different responses. Participant A said that she did not recognise any words written. Participant B complained that looking for buttons to press wasted his time, while participant C complained about the number of beats she pressed until reaching the destined letter.

Participant A

I kept typing any letter available just to blind the researcher, but we were only three of us I had no place to hide. Therefore, I tried reading while I didn't recognise any words written.

Participant B

I was looking for buttons to press and it consumed my time. I felt bad when one of us sent back SMS responses before me.

Participant C

I didn't know how to read other words. They were difficult to read. I selected all 'they' and 'there', instead of selecting 'the' in the comprehension passage. In my cell phone you make two to three beats to get to the letter you want to write.

5.6.4.3. Causes of reading problems

In chapter two, causes of reading difficulties were explained. Westwood (2006) note that reading difficulties can be caused by factors within a learner such as low ability to learn, perceptual difficulties and poor motivation. During the course of the study, participants displayed different types of reading problems which indirectly included low ability and poor motivation, and directly included school environmental factors such as lack of resources. These themes are discussed below.

5.6.4.3.1. Inferiority

Findings showed that reading difficulties were caused by rejection and negligence. Learners were not used to reading, meaning that they were withdrawn from reading. Consequently, learners did not participate in any learning taking place in the classroom, until they were filled

with fear of being laughed at, discouraged and disappointed. Participant A seemed as if she was rejected, discriminated, neglected or excluded by the procedures of the classroom. Participant B feared reading wrongly and being laughed at by his classmates.

Participant A:

In Day one, it was difficult to read SMS since I was not used in reading.

Participant B:

I feared to read words wrongly.

5.6.4.3.2. Lack of resources

Since learners have different learning styles as stated in chapter two, lack of resources directly affect the level of learners' performances. Participant A demonstrated short listening, writing and speaking lifespan. Learners like her need practical activities where they can listen, write and speak, while using some intervention such as visual (videos or any screen) devices. Participant C showed the symptoms of spending her quality time reading and comparing different mobile phones and letters on their keyboards. She refused writing responses in exercise book before typing, showing she had a problem of writing. She also needed learning by touching buttons. Below is her response.

Phones have buttons with letters, and touch - screens have touch - buttons with letters also like tablets.

5.6.4.3.3. Self – discovery

Participants discovered that they were able to read and write, although Participant A tried her best to read until she realised that words were difficult for her to recognise at that moment. Therefore, she worked very hard to achieve what other participants had achieved. Participant A asked for assistance and used knowledge obtained to attain new knowledge. The participants self-discovery responses were as follows:

A: Therefore, I tried reading while I didn't recognise any words.

B: In this class, it is different. I open SMS, read, copy and write replies.

C: My experience is that I typed all my answers correct. I didn't know that I can read SMS.

5.6.4.4. Success of SMS in learning literacy

The theme mentioned emerged from a question on the perceptions of participants in learning literacy using SMS. All participants' responses were, or nearly, the same (synchronised).

Participants commented that learning literacy by using SMS helped them and they wished to continue using this type of intervention.

A: The SMS procedure helped me a lot. I like reading and writing SMS and it has taught me to identify letters (phonemes) that make up a word. I can write good (correct) spelling.

B. I learned how to read SMS by reading comprehension passages and other things that were sent. I write every task in the classroom and my scores are better than before. It is good to learn using SMS.

C: SMS lessons helped me a lot. I know how to read and write SMS. I like learning by SMS. Are we going to continue using phones with SMS in learning?

5.7. Conclusion

Findings were based on qualitative research data drawn from observation and interviews. Sub questions were used as a guide to the study. The chapter presented and discussed findings such as elements of reading and reading difficulties, the use of SMS as platform for learning literacy. Two sub-question answers were based upon the use of observation and interviews. Different themes and sub-themes were gathered during interview and observation.

CHAPTER 6: SUMMARY OF FINDINGS AND RECOMMENDATIONS

6.1. Introduction

The previous chapter discussed the findings of the data gathered during the conduct of the study. Conclusions drawn from interpreted data was also dealt with. This chapter presents and discusses conclusions drawn focusing on outline of the research problem, summary of chapters, limitations of the study and summary of findings, and recommendations while acknowledging inherent limitations.

6.2. Outline of the research problem

The main research questions was:

What are the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS)?

The sub - questions were:

How does the use of Short Messaging Services (SMS) promote literacy in rural learners with reading difficulties?

Why do rural learners with reading difficulties experience using SMS in developing literacy in the way that they do?

The research study is summarised chapter by chapter below.

6.3. Summary of chapters in the study

The study discussed overviews on the use of SMS in promoting literacy, literature review, research design and methodology, theoretical framework, and analysis of data that are summarised chapter by chapter below.

Chapter 1 discussed the overview, orientation and rationale of the study. The research study was introduced by discussing reading, its impact on the individuals, and South African education policies which were introduced in order to strengthen education. The study explored the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) in promoting literacy.

Objectives of the research were discussed. When discussing the contribution, of the study it was concluded that the study potentially creates a rich classroom which encourages active engagement of learners in learning to read. This chapter also discussed the context of the school as a being rural South African school situated between Tugela Ferry and Greytown. The rationale and historical background of the researcher was discussed to show the enthusiasm and dedication to this type of research.

Chapter 2: In the literature review chapter, the researcher started the discussion by describing and explaining terms key to the study such as reading, reading difficulties, SMS, rural learners, their causes and impact in learners' academic lives. Reading was explained as the ability of a reader to recognise written language which consists of phonemes, grammar and meaning of words (Lerner & John, 2012). Phonemes, phonics, phonemic awareness, comprehension, word recognition and grammatical knowledge are called elements of reading. The chapter also discussed reading difficulties as inability of a reader to acquire word identification and recognition skills, perceive visual difference, comprehend and decode words (Naiken, 2016). Reading difficulties were identified as being caused by neurological and cognitive, environmental, physical, language, intelligence and intellectual factors (Shaywitz, Morris & Shawitz, 2008). Consequences of reading difficulties were explained as factors that constitute educational problems and contribute to major public health problems. People who cannot read face difficulties in their lives which may lead to unemployment, failure to earn certificates, diplomas or degrees and cannot read any written information (Lerner & John, 2012).

The chapter also viewed literacy globally. Literacy was viewed as the ability to use images, numbers and computers, including gaining and accessing knowledge through technology, ability to apply printed material, and write with accuracy and coherence. For this study, literacy was referred to as the ability of a learner to read and write. Different literature explained literacy in different situations. Hague and Payton (2010) explained digital literacy as one which promotes young people's skills, knowledge and understanding that assists them to participate actively in social, economic, civic and intellectual life while Bua – Lit (2018) explained literacy as the ability of a learner to combine alphabets for the purpose of creating words or sentences.

The chapter also reviewed attempts which were made by different organisations for the purpose of assessing and improving learners' performances in reading. These organisations include UNESCO, EWLP and PIRLS.

The study was located in a rural area; therefore, definition of rural area was made as an open swath or land which has homes that are built far apart from each other and located away from towns or cities. Each family owns a homestead of two to approximately nine houses or huts which make one home. Abdulwakeel (2017) describes rural people as those who live in farmsteads or homesteads, keep livestock such as cattle, goats, sheep and poultry, since they own adequate land or space and abundant food.

Since the study was conducted using SMS as platform for learning literacy, SMS was described in this chapter as text messaging which serves in sending short messages of up to two hundred and fifty (250) characters, to and from mobile devices (Rouse, 2007). To affirm the importance of the study, Rainders (2010) claims that any tool can be used if it increases assessment of learners' language contributing to their progress.

Chapter 3 discussed the theoretical framework that informed the study. These theory is:

Social constructivism as adopted by the study, emphasises the role of culture in construction of knowledge, the importance of learners' experiences and social interaction. The theory emphasises that reality is created by human interaction, which means people's knowledge broadens when interacting with others. Literacy, in this theory, is seen as a powerful tool for communicating values, information and world views. That means, literacy is a key factor in the process of cognitive development. Literacy needs to be encouraged in the form of language interaction in learners through speaking, reading and writing (Donald, Lazarus & Lolwana, 2010). Therefore, social constructivism sees a child as an active citizen who needs mediation from parents, teachers and others.

Chapter 4 discussed the research design and methodology explaining and describing the paradigm followed by the study, approaches adopted, sampling, data collection, analysis and data interpretation, trustworthiness, ethical considerations and limitations of the study. The study followed the interpretivist paradigm derived from Max Weber's (1864 – 1920) thoughts, who suggested that human science is concerned with understanding (Crotty, 1998). The qualitative approach was used to inquire about the use of SMS in promoting literacy in rural learners with reading difficulties. Interpretivism favours constructivism and constructivism is foregrounded on the assumption that human life can be understood within. Interpretivism focuses on people's perceptions and experiences and on how they construct the social world and interact with each other.

Qualitative approach was adopted for collecting qualitative data using observation and interviews. The chapter also discussed how qualitative data was generated. Three learners from Intermediate Phase (grade 4 – 6) were selected as participants. One teacher was recruited as peer observer. The first qualitative part of research was based on observation where activities of both isiZulu and English were sent to learners' mobile phones through SMS. Activities included word recognition, improving spelling, arranging phonemes and were sent twice per week. The second part was guided by secondary questions.

The chapter discussed trustworthiness of the results in qualitative research. Research results have to be transferred from context to another and changes, such as the use of blank sheets of papers instead of A5 exercise books which occurred during the process should be described. The chapter also discussed ethical considerations made with the use of children as participants and limitations of the study.

Chapter 5 presented findings and data analysis beginning with the description of the study location, rules of the study, analysis of observation and interviews.

Chapter 6 concludes by summarising chapters of research study, and discussing limitations, findings, recommendations and future research suggestions.

6.4. Limitations of the study

The study was limited to three participants of the same school and with reading difficulties. Only rural intermediate phase learners were selected as participants. The study was limited to participants who possessed mobile phones since it promoted literacy using SMS. Mobile phones for two participants were provided by the researcher since one of them had not been given a phone at home and the other one's phone consumed all the airtime or data before being used in the study.

6.5. Findings

The purpose of the study was to explore the experiences and perceptions of rural learners with reading difficulties in using Short Messaging Services (SMS) in promoting literacy.

Findings of the study indicated that SMS turned the learners to be active citizens as they actively participated in all activities and enjoyed receiving messages (SMS), reading them and typing the responses. Participants' doubts, which they expressed at the beginning of the study, elapsed and they started enjoying learning by touching (kinaesthetic). Messages alert tone

serves as auditory learning (listening, behaviour and stimuli) for them to remember reading SMS. Findings revealed that participants were not aware that they could read or recognise words written. The study provided courage for them to discover themselves, their flaws and rectify their problems. SMS learning provided some important learning styles which needed to be accommodated in each classroom (Nel, Nel & Hugo, 2013), that is, spatial learning where participants learned and responded positively to picture comprehension; verbal leaning where they learnt by reading and writing words; kinaesthetic learning which involved touching mobile phones' keyboards while scrolling SMS and typing responses; aural learning happened when they listened and responded to sounds of message alert tones; logic or mathematical learning which happened when participants counted phonemes that made up words and followed instructions step by step; social learning which occurred when participants shared ideas, asked for assistance and guidance by peers as well as researcher; and solitary learning witnessed in participant C who mostly preferred to work alone and answer questions by herself.

According to findings of the study, parents indicated positive results pertaining to learners' use of SMS for their children's learning. By looking at their children, SMS could be a good intervention to be used for learners with reading difficulties, since the commencement of research study had seen their children beginning to attend to homework unlike before. SMS kept learners focused on their phones for learning purposes.

6.5.1. Summary of findings according to themes

This chapter provides findings. These findings are summarised according to themes as follows:

6.5.1.1 Participants' active involvement in the use SMS or stimulus

Participants participated actively and seemed as if they had attained certain knowledge and reading skills. This showed that when all learners in the classroom are given the attention each of them needs, they can obtain certain academic knowledge and skills. By using SMS, learners started reading keyboards of mobile phones, recognising different message alert tones and screen lights. Therefore, learners' difficulties were supposed to be screened, identified and put into consideration. If most of the learning styles were considered when teaching and learning takes place, all learners can participate well in one or two styles. Learners who did not find the use of pen and paper method of learning appealing could benefit from kinaesthetic style of learning.

6.5.1.2. Participant's experiences of challenges in reading SMS.

Participants had different experiences in learning using SMS. One said she did not recognise words written, the other complained about the buttons which wasted his time and the other one complained about the kind of mobile phone's buttons which needed several beats. This study understood that participants were selected purposefully because they were unable to read and write, which revealed their habit toward learning. This study reinforced them to move from previous behaviour to learn, concentrate and participate in all class activities and attain knowledge at a different pace.

6.5.1.3. Causes of reading problems

Findings of the study showed that participants had low ability to read and write. Participant A displayed less ability to memorise what had been learnt. She knew that she was unable to do anything pertaining to learning and just did not participate in any learning taking place in the classroom. Two participants were struggling and getting tired very quickly which also revealed their low abilities to learn. Since they were in a classroom of sixty-nine learners, they were hardly reached by educators. They were not taken into consideration. Rural learners with learning difficulties left unattended were less motivated to read and write. Learners had their own perception about participating in learning. They pretended as if they were writing until educators concerned send them away from the classroom. Lack of resources also played a negative part in learners' learning. Resources encourage learners to participate in an active manner, concentrate and remember what they have seen compared to what they have heard and felt. By using SMS, rural learners with reading difficulties performed practical activities where they could listen, write, speak and touch.

The other cause of learners not reading properly or not reading at all was the inferiority complex instilled in them by peer educators. Rural learners with reading difficulties had that fear of reading badly, are laughed at, are discouraged and disappointed. By using SMS one participant discovered that she didn't recognise any words written. One participant discovered that he could read, copy and write replies while the other did not know she could read SMS. Participants started acquiring assistance and working very hard to achieve the outcomes. The study revealed that when platforms like SMS were administered in a general classroom, all learners could participate, discover themselves, concentrate and achieve certain goals.

6.5.1.4. Success of SMS in learning literacy

The study found that using SMS put learning literacy at ease. Participants commented that the procedure helped them in reading, writing and identifying phonemes which made up words. Participants' parents concurred that their children were encouraged to attend to their books and started worrying about school work which was not happening before the commencement of the study. This implied that SMS can be used for rural learners with reading difficulties to encourage them to read and write

The above-mentioned findings warrant the recommendations that follow.

6.6. Recommendations

Based on the findings above and on the entire study, the following recommendations may be taken into consideration by the relevant institutions in an attempt to rectify the problem of reading and writing (literacy) in rural primary schools' learners.

Problems of reading and writing must be identified and given attention earlier so that learners do not enter Intermediate Phase with the same problems. SMS must be utilised for learning in rural learners since schools are under resourced and no computers are available for learners with reading difficulties.

6.7. Future Research Suggestion

This study was limited to three participants. A similar research study could be conducted in other rural neighbouring primary schools of the same ward or district.

The study considered rural learners with reading difficulties. The same study could be conducted in township learners with reading difficulties in under resourced primary schools.

6.8. Conclusion

The study was placed within the lens of constructivism and social constructivism theory, including the use of the interpretivist paradigm. The study focused on analysing and interpreting meaning of data from each participant's view, perception and experience (Maja, 2015). Findings of the study revealed that rural learners with reading difficulties interacted actively when using mobile phones and SMS. All participants were involved in learning literacy using SMS while discussing, asking questions and seeking guidance when necessary.

Furthermore, findings indicated that Intermediate Phase learners have reading difficulties since they omit, substitute, add or mispronounce words when reading. These learners were poorly motivated to read since they feared being laughed at, are discouraged and disappointed by teachers and fellow classmates. Hence, they were not used to reading. The study recommends the use of SMS since findings showed that SMS encouraged these learners to share their feelings towards reading and writing, to share ideas with others and asked for help when necessary. The study further suggests the use of SMS and mobile phones in learning literacy since resources such as computers are inadequate for rural learners with reading difficulties to use. Mobile phones are available in the community and among learners and may be used in learning literacy by means of sending and receiving SMSs.

REFERENCES

- Abdulwakeel, S. (2017). *What is rurality?* Swedish University of Agriculture.
<https://www.researchgate.net>
- Adnams, C. (2009). *Intellectual disability in South Africa: Quo Vadis?* CA: University of Cape Town. www.google.com
- Aldoobie, N. (2015). Technology integration and learning. *Journal of Contemporary research. Centre for Promoting Ideas*. 5(6). USA: University of Northern Colorado.
<http://www.ajcrnet.com/journal/volume5no6December2015/16pdf>
- Astalin, P. K. (2013). Qualitative Research Design: A Conceptual Framework. *International Journal of Social Science and Interdisciplinary Research*, 2 (1), 118–123.
- Balfour, R.J. (2015). Blended learning and open and distance learning: Implications for best practice in Higher education. *South African Journal for Open and Distance Learning Practice*, 37 (1), 1 - 18
- Bantahar, O., & Cameron. (2015). Design and implementation of a mixed method Research Study in Project Management. *Electronic Journal of Business Research Method*. 13(1), 3 – 35.
- Bayham, M., & Prinsloo, M. (Eds.). (2009). *The future of Literacy Studies*. Palgrave: Macmillan.
- Brann, A., Gray, T., & PowerUp What Works. (2012). *Using texting to promote learning and literacy: Educator's guide to learning disability and ADHD*. Washington DC: WETA.
www.idonline.org/article/61
- Bua - Lit. (2018). *How are we failing our children? Reconceptualising language and literacy education: Language and Literacy collective*. Retrieved on 2019/10/02
<https://www.bua.lit.org.za>
- Buddenberg, K. (2016). *Literacy in England – ELINET Children, Adolescents and Adults*. Retrieved on 2019 / 03 / 24 www.eli-net.eu
- Buzeidenhout, M. (2012). *An investigation into the effect of mobile poetry–based instruction on the literacy level of Grade 8 English first additional language learners within the South African rural Context: a case study*. Stellenbosch University.
<http://scholar.sun.ac.za>

- Cowden, P. (2010). Reading strategies of learners with severe disability. *Reading improvement*, 43(3), 162–175.
- Creswell, J.W. (2007). *Qualitative inquiry and research design: choosing among five traditions*, (2nd ed.). Thousand Oaks: Sage.
- Creswell, J.W. (2013). *Qualitative enquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- Creswell, J.W. (2014). *Research Design: qualitative, quantitative and mixed methods approach*. Thousand Oaks, CA: Sage.
- Crotty, M. (1998). *The foundation of social research: Meaning and Perspective in the Research Process*. London: Sage.
- Davartgari, H., & Amineh, R. J. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences, Literature and Language*, 1(1), 9– 16. Retrieved on 2017 / 08 / 06.
- De Kadt, J. (2017). *Education and injustice in South Africa*. Article: (online). Retrieved on 2017 / 07 / 20. [www.hsf.org.za>focus>download](http://www.hsf.org.za/focus/download)
- De Souza, L.M.T.M. (Ed.). (2007). *Critical Literacy: theories and practice*, 1(1). Retrieved on 2017/07/ 19 (online). www.criticalliteracy.org.uk
- Declaration of Persepolis. (1975). International Symposium for Literacy, Persepolis, 3 – 8 September 1975. *Internat. Co- ord. Secretariat for Literacy*, 1976.
- Denzin, N. K., & Lincoln, Y.S. (Eds). (2000). *The Handbook of Qualitative research*. Thousand Oaks, CA: Sage Publication Ltd.
- Denzin, N.K., & Lincoln, Y.S. (Ed.). (2011). *Strategies of qualitative inquiry*. Thousand Oaks: Sage.
- Department of Basic Education. (2012). *National Education Policy Act: The National Policy Framework for Teacher Education and Development in South Africa*. Pretoria: Government Printer.
- Department of Basic Education. (2014). *National Education Policy Act: The National Policy Framework for Teacher Education and Development in South Africa*. Pretoria: Government Printer.

- Department of Education. (2001). *Education White Paper 6: special needs education: building an inclusive education and training system*. Pretoria: Department of Education.
- Donald, D., Lazarus, S., & Lolwana, P. (2010). *Educational Psychology in Social Context: Ecosystemic applications in Southern Africa*. (4th ed.). Cape Town: Oxford University Press.
- Dunn, M. (2010). Defining learning disabilities: Does IQ have anything significance to say? *Learning Disabilities Multi- disciplinary Journal*, 16(1), 31–34.
- El – Saghir, K. (2016). *The Impact of Texting Use and Practices on Literacy Development*. Wayne State University. Retrieved on 2018/06/21 (online). <http://www.researchgate.net/publication/303913399>
- Etela, P. (2018). The effect of Using Mobile Phones SMS on International and Incidental Vocabulary Learning by Iranian EFL Learners. *Journal of Applied Linguistic and Language Research*, 5(5), 35–46. Asaluyeh: Iran. www.jallr.com
- Fer, S. (2009). Social Constructivism and Social constructivist curricula in Turkey for needs of differences of young people. *Overview of light of the PROMISE Project*, 9. Procedia: Elsevier.
- Foko, T. (2009). *The use of mobile technologies in enhancing learning in South Africa and the challenges of increasing digital divide*. Mereka Institute – CSIR.
- Fraenkel, J.R., & Wallen, N.E. (2008). *How to Design and Evaluate Research in Education*. (7th ed.). Boston: McGraw–Hill.
- Galguera, L. (2015). UNESCO (2015). Education for all (2000 – 2015): Achievements and Challenges. EFA Global Monitoring Report 2015, [n.d.]. Paris, France. UNESCO.499pp ISBN – 978 – 92 – 3 – 10085 – 0. *Journal of SupraNational Policies of Education*, 3, 328–330. Accessed 2019/03/ 20 <http://unesdoc.unesco.org/image/0022/002274/227436e.pdf>.
- Geertsema, S., Hyman, C., & van Deventer, C. (2011). Short Messaging Services (SMS) language and written language skills: Educators' perspective. *South African Journal of Education* 31(4). Pretoria. (online). <http://www.scielo.org.za>

- Gibson, J.E. (2012). Interviews and focus group with children: Methods that match children's development competencies. *Journal of Family Theory and Review*, 4, 148–159. www.google scholar.com
- Gunduz, N., & Hursen, C. (2015). *Constructivism in Teaching and Learning: Content Analysis Evaluation*. Procedia: Elsevier. Accessed on 2019/03/20. www.sciencedirect.com
- Hague, C., & Payton, S. (2010). *Digital Literacy across the curriculum - A futurelab Handbook*. Retrieved on 2017/07/20. (online). http://www2.futurelab.org.uk/resource/documents/handbook/digital_literacy.pdf
- Hlaethwa (2013). *Reading difficulties experienced by learners in the Foundation phase in Makapanstad primary schools*. Unpublished thesis submitted for the degree of Master of Education. Makapanstad: University of South Africa.
- Howie S.J., Combrinck, C., Roux, K., Tshele, M., Mokoena, G.M. & McLeod, P.N. (2016). *PIRLS Literacy 2016: South African Highlights Report*. University of Pretoria: Faculty of Education. Accessed 2018/04/23
- Hughes, C. (2018). *Introduction to Research methodologies*. University of Warwick. Retrieved on 2019 / 10 / 24. (online). <http://warwick.ac.uk>sociology>staff>
- Hwang, I., & Tsai, Y. (2011). *The use of mobile networking and ubiquitous learning*. Retrieved on 2017 / 09 / 23. (online). <http://onlinelibrary.wiley.com.wol1/doi/10.1111/j1467-8>
- Hyett, N., Kenny, A., & Dickson –Swift, V. (2014). *International Journal of Qualitative Studies on Health and Wellbeing*, 9: 23600.
- Isaac, S. (2013). *Mobile Learning for Teachers in Africa and Middle East: Exploring the Potential of mobile Technologies to Support Teachers and Improve Practice*. France: UNESCO
- Jika Imfundo. (2018). *The Programme to Improve Learning Outcomes (PILO)*. Revised edition. KwaZulu – Natal Department of Education.
- Kalu, F. A., & Bwalya, J. C. (2017). What makes Qualitative Research Good Research? An exploratory Analysis of Critical Elements. *International Journal of Social Science Research*. 5(2), 43 - 56 (online) accessed 2019/03/23 <http://www.researchgate.net/publication/319679032>
- Khanare, F. (2017). *Photovoice lectures*. Unpublished. University of KwaZulu – Natal.

- Kopung, J. (2014). *Exploring the use of WhatsApp instant messaging (WIM) as a platform for mathematics teaching and learning: Case Study*. Thesis submitted for the degree of Masters in Education. Durban: University of KwaZulu–Natal. www.researchspace.ac.za
- Krippendorff, K., (2013). *Content Analysis: An introduction to its methodology*. (3rd ed). Thousand Oaks: Sage Publication Ltd.
- Leedy, P.D., & Omrod, J.E. (2013). *Practical research: Planning and design*. Ohio: Merrill Prentice Hall.
- Lerner, J. W., & John, B. (2012). *Learning disabilities and Related mild disabilities: characteristics, teaching strategies and new directions*. (12th ed.). Washington DC: Wadsworth.
- Levitt, H.M., Creswell, J.W., Josselson, R., Bambert, M., Frost, D.M., & Sua'rez – Orozco, C. (2018). *Journal Article Reporting Standards for qualitative Primary, Qualitative Meta – analytical and Mixed methods Research in Psychology: The APA Publication and Communication Board Task Force*, 73(1), 26–46. <http://dx.doi.org/10.1037/amp0000151>
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic enquiry*. Beverly Hills: Sage.
- Lincoln, Y.S., & Guba, E.G. (2011). *Naturalistic enquiry*. Beverly Hills, Calif: Sage.
- Ling, R., Baron, N. S., Lenhart, A., & Campbell, S. W. (2014) “Girls text reality weird”: Gender texting and identity among teens. *Journal of Children and Media*, 8(4), 423–439.
- Lotherington, H., & Ronda, S. (2012). *Updating communicative competence: A multimodal Analysis of two elementary texts*. Canada: Brock University.
- Maja, M.M. (2015). *Classroom interaction in teaching English First Additional Language learners in the intermediate phase*. Unpublished Thesis submitted for the degree of Doctor of Education. SA: University of South Africa.
- Makgato, M. (2012). *Identifying constructivist methodologies and pedagogic content knowledge in the teaching and learning of technology*. Pretoria: Procedia.
- Maree, K. (2007). (Ed). *First Step in Research*. (1st ed.). Pretoria: Van Schaik.

- Maree, K. (2013). *First Step in Research*. Revised Edition. Pretoria: Van Schaik.
- Maree, K. (2014). *First Step in Research*. Pretoria: Van Schaik.
- Maree, K. (2016). (Ed). *First Step in Research*. (2nd ed.). Pretoria: Van Schaik.
- Marzouki, O.F., Idrissi, M.K., & Bennani, S. (2017). Effects of Social Constructivist Mobile Learning Environment on Knowledge Acquisition: A Meta – Analysis. *International Journal IM*, 11(1), 18 – 39. Mohamed V University. Rabat: Morocco. Accessed on 08 / 08/2020. <http://doi.org/10399/ijmv11i15982>.
- Maseko, M. (2008). *Importance and value of School libraries in Education*. Paper presented at the Department of Education, ELITS 6th Annual Conference held at the Orion – Mont – Aux – Sources Hotel, RSA, on the 02 – 04 July 2008 (unpublished). Accessed on 2018 / 04 / 22. www.unesco.org
- Matsuura, K. (2003). *United Nations Educational Scientific and Cultural Organisations*. Paper presented at the occasion of celebration of World Press Freedom Day 2003. Kingston, Jamaica, on the 03 May 2003 (unpublished). www.unesco.org
- McMillan, J.H., & Schumacher, S. (2010). *Research in Education: Evidence-based Inquiry*. Upper Saddle River, NJ: Pearson Education.
- Merriman, S.B. (1998). *Qualitative Research and Case Study Applications in Education: Revised and Expanded from Case Study Research in Education*. (2nd ed.). *Journal for business and management*, 3(1) San Francisco: Jossey – Bass.
- Merriman, S.B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey – Bass.
- Miyazawa, I. (2013). Literacy promotion through mobile phones. *The 13th UNESCO – APEID International Conference and World bank – KERIS High level Seminar on ICT in Education* [n.d.], p. Islamabad: UNESCO. <http://www.unesco.org.pk/education/document/project%20Brief%20Paper-ICT.pdf>
- Morina , M., & Elshani, H. (2015). Characteristics of reading and understanding of hearing impairment students in classes vi – viii. *Academic Journal of Business, Administration, Law and Social Sciences*, 1(1), 184 – 192. www.iipcccl.org

- Moura, A. & Carvalho, A. A. (2010). *Mobile learning: using SMS in Educational contexts*. Australia: Brisbane. <http://hal.inria.fr/hal-01054693>
- Mwanakubi, L. (2013). *Reading difficulties in grade six learners and challenges faced by teachers in teaching reading: a Case study of Chadiza and Chipata Districts, Zambia*. Unpublished Thesis submitted for degree of Master of Arts in Child and Adolescents Psychology. Lusaka: University of Zambia.
- Myende, P.E. (2014). *Improving academic performance in rural school through the use of assert – based approach as a management strategy*. Unpublished Thesis submitted for the degree of Doctor of Philosophy in Education. Bloemfontein: University of Free State.
- Naiken, D. J. (2016). *Reading difficulties as barriers to learning experienced by learners entering intermediate phase*. Unisa. Retrieved 03 / 04 / 2019. www.google.com
- Nel, N., Nel, M., & Hugo, A. (2013). (Eds.). *Learner Support in a Diverse Classroom: A guide for Foundation, Intermediate and Senior Phase teachers of language and mathematics*. (1st ed.). Pretoria: Van Schaik.
- Nielsen, K. (2014). Self - assessment methods in writing instruction: a conceptual framework successful practices and essential strategies. *Journal of research in reading*. 37(1). Retrieved on 2017 / 09 / 18. <http://doi.org/10.1111/j.1467-9817.2012.01533.x>
- Ntshuntshe, N.A. (2011). *Literacy practices and English as the language of learning and teaching in a grade nine classroom*. Unpublished Thesis submitted for the degree of Masters in Education. Cape Town: Cape Peninsula University of Technology. Accessed on 2019/03/20
- Nyumba, T. O., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insight from two decades of application of conservation: qualitative methods for eliciting judgements for decision making. *Methods in Ecology and Evolution*, 9(1) 20 – 32. British Ecology Society. <http://doi.org/10.1111/2041-210X.12860>
- O'Donnell, A., Dansereau, D.F., & Hall, R.H. (2012). Knowledge Maps as Scaffolding for Cognitive Processing. *Educational Psychology Review*, 14(1), 71–86.

- Olusegun, B.S. (2016). Constructivist Learning Theory. A paradigm for Teaching and Learning. *IOSR Journal of Research Method in Education (IOSR – JRME)*, 5 (6), 66–70. Retrieved on 2019 / 10 / 29
- Patton, M.Q. (2010). *Qualitative Research and evaluation methods: qualitative research*. (3rd ed.). Thousand Oaks: Sage.
- Plester, B., Wood, C., & Joshi, P. (2009). Exploring the relationship between children's knowledge and school literacy outcomes. *British Journal of Development Psychology*, 27(1), 145–161.
- Polit, D.F., & Hungler, B.P. (2009). *Nursing search: Principles and methods*. New York: J.B Lippincott Company.
- Pretorius, E. J., & Lephalala, S. (2011). *Reading comprehension in high poverty schools: how should it be taught and how well does it work?* *Per Linguan*, 22(2), 1 – 24
<http://dx.doi.org/10.5785/33-2-740>
- Prinsloo, C. (2009). *Building a strong foundation: Learning to read; read to learn*. CA: University of Cape Town.
- Rainders, H. (2010). Twenty Ideas for Using Mobile Cell Phone in the Class. *English Teaching Forum*, 48(3).
- Rambe, P. (2009). *The impact of using social networking sites on academic relations and student learning in University setting*. Cape Town: University of Cape Town.
<http://onlinelibrary.wiley.com>doi>abs>
- Ravitch, S., & Riggan, M. (2012). *Reason and Rigor: How Conceptual Frameworks Guide Research*. Thousand Oaks: Sage
- Reilly, D., Neumann, D.L., & Andrews, G. (2018). *Gender Difference in Reading and Writing Achievement: Evidence from the National Assessment of Educational Progress (NAEP)*. Australia. www.google.com
- Rouse, M. (2008). *Developing inclusion practice: A role for Teachers and Teacher Education?* United State and Britain. London: Routledge.
- Sandelowski, M. (2010). What is in a Name? Qualitative definition revisited. *Research in Nursing and Health*, 33(1), 77 – 84

- Scotland, J. (2012). Exploring the Philosophical underpinning of Research Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching*, 5(9), 9 – 14. Qatar: Qatar University. <http://dx.doi.org/10.5539/elt.v5n9pp>
- Shawitz, S., Morris, R., & Shawitz, B. (2008) The education of dyslexic children. From childhood to young adulthood. *The Annual Review of Psychology*, 50, 451–475.
- Silverman, D. (2016). *Qualitative Research*. Thousand Oaks, CA: Sage Publications
- Sinclair, M. (2007). A guide to understanding theoretical and conceptual framework. *Article in evidence based Midwifery*, 5(2), 39. Retrieved on 2019/10/24 <http://www.researchgate.net>
- South African Government. (2019). *International Literacy Day in 2019*. <http://www.gov.za>internationalliteracyDay2019>
- Tuckett, A. (2004). Qualitative research sampling in the Very Real Complexities. *Nurse Researcher*, 12(1), 10–61. www.google.com
- Van Wyk, I. (2012). *CAPS: Using Cell Phones to assist teachers and parents*. E4Africa. (online) <http://www.e4africa.co.za/?p=42284>
- Vosloo, S. (2009). *The effect of texting on literacy: modern scourge or opportunity*. Shittleworth Foundation. Retrieved on 2018 / 04 / 09
- Vygotsky, L. (1978). *Mind in society. The development of higher mental processes*. Cambridge, Mass: Harvard University Press. www.google.com
- Wagner, D.A., Castillo, N.M., Murphy, K.M., Crofton, M., & Zahra, F.T. (2014). Mobiles for Literacy in Developing Countries: An effectiveness Framework. *Journal Article (Literacy org)*. 30. http://repository.upem.du/literacyorg_article/30.
- Wagner. D.A. (2014). *Mobiles for reading: a landscape Research Review*. University of Pennsylvania. www.google.com
- Watson, D. (2014). *Global Workforce Study – At a glance – Towers Watson*. Article. (online) <http://www.towerswatson.com>assets>jls>

- Westwood, P. (2006). Teachers' perspectives on learning difficulties: Teachers' beliefs and expectations concerning students with learning difficulties. *Australian Journal of Remedial Education*, 27(2), 19–21. www.google.com
- White, C.J. (2004). *An introduction to research methodology*. Pretoria. Intuthuko Investments. www.elinet.evi>EnglandLongReport
- Yadav, R. (2016). Role of Constructivism in learning. *International Journal of Educational Studies*, 3(3), 93 – 97. India: University of Haryana.
- Yin, R.K. (2003). *Case Study research: design and methods*. Applied Social Research Methods Series, 5, (3rded.). Thousand Oaks: Sage
- Zimmerman, L. (2014). Lessons learnt: Observation of Grade 4 reading comprehension teaching in South African schools across the Progress in International Reading Literacy Study (PIRLS) 2006 Achievement Spectrum. *Reading and Writing*, 5(1), 1 – 9. <http://dx.doi.org/10.4102.rw.v5i1.48>
- Zimmerman, L. (2017). Learning from the best: Reading literacy development practices at a high performing primary. *A Journal for language learning*. 36 – 50. *Per Linguam*, 33 (2): 36 – 50. Accessed 2019/03/21. <http://dx.doi.org/10.5785/33-2-740>
- Zimmerman, L., & Smit, B. (2014). Profiling classroom reading comprehension development practices from PIRLS 2006 in South Africa. UNISA. *South African Journal of Education*, 34(3), 1- 9 Accessed on 2018/11/10. <http://www.sajournalofeducation.co.za>

APPENDIX A-PERMISSION FROM DOE



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Phindile Duma

Tel: 033 392 1063

Ref.:24/8/1618

Ms TL Ntuli
E198 Umlazi
PO Ntokozweni
4066

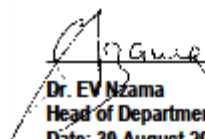
Dear Ms Nene

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"PROMOTING LITERACY USING SHORT MESSAGING SERVICES IN RURAL LEARNERS WITH READING DIFFICULTIES"**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 30 August 2018 to 01 March 2021.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Phindile Duma at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report/dissertation/thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

UMzinyathi District


Dr. EV Nzama
Head of Department: Education
Date: 30 August 2018

KWAZULU-NATAL DEPARTMENT OF EDUCATION

Postal Address: Private Bag X9137 • Pietermaritzburg • 3200 • Republic of South Africa

Physical Address: 247 Burger Street • Anton Lembede Building • Pietermaritzburg • 3201

Tel.: +27 33 392 1063 • Fax.: +27 033 392 1203 • Email: Phindile.Duma@kzndoe.gov.za • Web: www.kzndoe.gov.za

Facebook: KZNDoe... Twitter: @OBE_KZN... Instagram: kzn_education... Youtube: kzndoe

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APPENDIX B-ETHICAL CLEARANCE



DK February 2019

Mrs Thobekile Leane Ntuli (994246140)
School of Education
Edgewood Campus

Dear Mrs Ntuli,

Protocol reference number: HSS/1312/018M

Project title: Promoting literacy using Short Messaging-Services (SMS) to rural learners with reading difficulties

Full Approval – Expedited Application

In response to your application received on 20 August 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and FULL APPROVAL for the protocol has been granted.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shamila Naidoo (Deputy Chair)

/ms

Cc Supervisor: Dr V Jairam
Cc Academic Leader Research: Dr SB Khoza
Cc School Administrator: Ms Sheryl Jeenarain

Humanities & Social Sciences Research Ethics Committee
Dr Rosemary Sibanda (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4050

Telephone: +27 (0) 31 260 3567/3560/4557 Facsimile: +27 (0) 31 260 4800 Email: rdmbag@ukzn.ac.za / amyntambo@ukzn.ac.za / richung@ukzn.ac.za

Website: www.ukzn.ac.za



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APPENDIX C-. PERMISSION FROM RESEARCH SITE

| education | | MBONGELENI PRIMARY SCHOOL | |
|---|-------------------|---------------------------|----------------------|
| Department: Education PROVINCE OF KWAZULU-NATAL | | | |
| MBONGELENI PRIMARY SCHOOL | | | |
| Address: Greytown | Postcode: 3250 | Telephone: 031 4128143 | Cell: 078 4128143 |

To :
Mrs T.L. Ntuli
University of KwaZulu – Natal Student

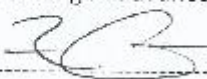
Dear Mrs T.L. Ntuli

Re – responding from the request to conduct a research

I, Chonco, Z., the Principal of the school grant Mrs T.L Ntuli, I.D. No. 7302050351082, permission to conduct a research on **Promoting literacy using SMS in rural learners with reading difficulties**, in the above mentioned school from 11 March to 30 April 2019, but this will depend on learners' attainment of knowledge.

I hope our learners will gain a lot in this research.

Thanking in advance


Mr. Z. Chonco (Principal)

DEPARTMENT OF EDUCATION
THE PRINCIPAL
MBONGELENI PRIMARY SCHOOL
P.O. BOX 1688
GREYTOWN 3250
DATE: 07/02/2019

APPENDIX D-INFORMED CONSENT

Parent / Guardian's permission with his / her child form to conduct research

Dear Parent or Guardian

On behalf of myself, Mrs T. L. Ntuli, I humbly seek your permission to conduct research study with your child. I am a Master's Degree student at University of KwaZulu – Natal, Edgewood Campus. The study is about the promotion of literacy using Short Messaging Services (SMS) in rural learners with reading difficulties. Your child will be learning in both Isizulu and English. Activities will be Spelling, Word recognition and comprehension. The conduction of study involves the use of mobile phones for sending and receiving SMS to and from the researcher.

This study is of great benefit to your child's ability to read and write in both languages. In this study your child will be interviewed on the experience and challenges of learning using SMS. Your child will be video –recorded and photos will be taken while the face will be made blurred for privacy and anonymity purposes. No monitories will be awarded. No information given by your child will be distributed or leak to anyone and anywhere.

Participating is voluntary, your child can withdraw from participating at any time if he or she feels uncomfortable with it.

If you have any enquiries, please, don't hesitate to contact:

Mrs T.L Ntuli: 071 369 7748 / 082 768 8314, or

Dr. V. Jairam: 031 260 1438 – Supervisor of the study.

| |
|--------------------|
| DECLARATION |
|--------------------|

I _____, Parent / Guardian of _____ (name of the child) in Grade ____ give permission to my child to participate in the study.

I have read and understood the above information.

Signature of Parent / Guardian _____

Date: _____

APPENDIX E CHILD ASSENT FORM

Dear learner

The project on promoting literacy using Short Messaging Services will be undertaken at your school. You are kindly requested to participate in this study, as it is of great interest to your ability to read and write. The study will be conducted in both Isizulu and English languages. Your participation in this study is voluntary and no rewards such as money, gifts, etc. will be given. Activities taken will be spelling, words recognition, phonemes awareness and comprehensions. Each activity is conducted through SMS, which means mobile phones are tools of the study. The study will also include interviews in the form of conversation at the end of each activity. You are requested to participate in photo taking during observation and video recording during interview for trustworthiness of findings purposes. Since this study will be using research names such as A, B or C, your name will not be used. Any information gathered will only be used for this study and will not be shared with anyone. Your face in photos and videos will be presented blurred. Since your participation is voluntary, you may withdraw from the study at any time you feel uncomfortable with it and without being punished.

If you need further information about this project, contact the following individuals:

Mrs T.L. Ntuli (082 768 8314), or

My Supervisor: Dr Jairam (031 260 1438),

I _____ (full name) read and understand the content of this study, given and give the consent to participate. I do understand that participation is voluntary and I can withdraw from the study when I decided to.

Signature _____ of _____ a _____ learner:

Date: _____

Signature of Parent / Guardian: _____

Date: _____

APPENDIX F PERMISSION REQUEST TO USE PHOTOGRAPH AND / OR VIDEO RECORDING.

Dear learner

If you are willing to be part of the study and also wish for your responses to be recorded in the following tools, just tick (×) the appropriate column /s.

| Tools | Yes | No |
|---|-----|----|
| 1. Photograph during observation session of the study. | | |
| 2. Video recording during interview session of the study. | | |

DECLARATION

I _____ (full name) read and understand the content of this study, given and give the consent to participate. I do understand that participation is voluntary and I can withdraw from the study when I decided to.

Signature of Participant: _____

Date: _____

Signature of Parent / Guardian: _____

Date: _____

APPENDIX G-INTERVIEW SCHEDULE

Promoting literacy using Short Messaging Services in rural learners with reading difficulties

| Month / week | Day | Interview on | Interviewer | Date |
|--------------|-------|-------------------------|-------------|------------|
| Week 1 | Day 1 | Participants as a group | T.L. Ntuli | 29/05/2019 |
| | Day 2 | | | 30/05/2019 |

| | | | | |
|--------|-------|-------------------------|-------------|------------|
| | | Participants | | 31/05/2019 |
| Week 2 | Day 1 | Participants | T.L. Ntuli | 03/06/2019 |
| | Day 2 | Participants | | 05/06/2019 |
| Week 3 | Day 1 | Participants | T. L. Ntuli | 10/06/2019 |
| | Day 2 | Participants | | 12/06/2019 |
| Week 4 | Day 1 | Participants | T.L. Ntuli | 16/07/2019 |
| | Day 2 | Participants Comment | | 17/07/2019 |
| Week 5 | Day 1 | Participants | T.L. Ntuli | 22/07/2019 |
| | Day 2 | Participants | | 23/07/2019 |
| Week 6 | Day 1 | Participants or | T.L. Ntuli | 29/07/2019 |
| | Day 2 | | | 30/07/2019 |

| | | | | |
|--------|-------|--------------|------------|------------|
| Week 7 | Day 1 | Participants | T.L. Ntuli | 05/08/2019 |
| | Day 2 | Participants | | 06/08/2019 |
| Week 8 | Day 1 | Participants | T.L. Ntuli | 12/08/2019 |
| | Day 2 | Participants | | 13/08/2019 |

INSTRUMENT 1

English

Promoting literacy using Short Messaging Services in rural learners with reading difficulties

The instrument attempts to answer the main question “*How does the use of SMS promote literacy in rural learners with reading difficulties?*” observation instrument consists of reading and writing game, picture and words comprehension. Since participants lack reading abilities, the researcher will read and explain the passages and questions. The participants will look for the words themselves and share ideas when necessary. For reading and writing game, each participant is going to play separately without being assisted until mastering the activity.

Observation method: Construction of knowledge

Working with phonemes: Reading and Writing game

Duration: 60 minutes

Intervention: Short Message Services (SMS)

Objectives: To improve recognition of words, reading and writing skills.

To withdraw the attention and curiosity of learners.

Activity 1

The word ‘take’ will be sent, with instructions and questions to participants.

INSTRUCTIONS:

Write the word ‘take’ to your exercise book

1.1.2. To the word ‘take’ remove ‘k’ and put ‘l’.

1.1.3. Say the new word aloud.

1.1.4. Write the new word in your exercise book.

1.1.5. Send the new word via SMS to the given number.

How many phonemes form the word ‘take’?

INSTRUCTIONS:

To the word ‘tale’ remove ‘e’, put ‘l’.

Say the new word aloud.

Write the new word in your book.

Send the new word via SMS.

Promoting Literacy using Short Messaging Services in rural learners with reading difficulties

INSTRUCTIONS

To the word 'talk' remove 'k' and put 'i' between 'a' and 'l'.

Say the new word aloud.

Write the new word in your book.

Send the new word via SMS.

INSTRUCTIONS

From the word 'tail' remove 't' and put 'j'.

Say the new word aloud.

Write the new word in your book.

Send the word via SMS.

How many words have you sent via SMS to the given number?

Send the word via SMS.

How many words have you sent via SMS to the given number?

Read all the new words formed by 'take'.

INSTRUCTION

Put (+) signs between the phonemes of each word, for example, 't + a + k + e = take.'

Words will be marked and the results will be sent to each participant using SMS. Photographs and mobile phone videos will be taken during observation and discussion.

RECORD SHEET

Words construction and blending (SMS)

| Participants | Marks (out of 4) |
|--------------|------------------|
| A | |
| B | |
| C | |

Word segmenting (hand written)

Promoting Literacy using Short Messaging Services in rural learners with reading difficulties

| Participants | Marks (out of 4) |
|--------------|------------------|
| A | |
| B | |
| C | |

Reflection:

What went well or not went well? Why?

Activity 2 Comprehension passages [60 minutes]




a) Comprehension with pictures

Duration: 10 minutes

The pictures will be displayed for participants to read them. This helps learners understand that they can learn through pictures and that, pictures tell stories. Questions are sent to the participants' mobile phones using SMS. Participants will be instructed to select answers from the given words and send them to the given number.

Words to choose from:

Sick, sad, cold, happy.

| Picture 1 | Picture 2 | Picture 3 |
|---|---|---|
|  |  |  |
| Question: how do you think the girl feels? | Question: How do you think the girl feels? | Question: How do you think the girl feels? |

Picture 4



Question: how do you think the boy feels?

Picture 5



Question: how do you think the boy feels?

Cartoons extracted from (colourbox.com, toonclip.com & shutterstock.com).

Words Comprehension

Duration: 50 minutes

Comprehension and questions will be sent via SMS to participants. Participants will be asked to count the words which appears very often in the passage. These words are 'the' and 'and'.

Once upon a time, there was a great family of lions, living in the bush. One day they were ambushed by the Swiss people. Swiss people were only interested in making cotton business. When they were looking for cotton plants to harvest, they saw the tails of lions. Swiss people killed one lion and realized it was a breastfeeding mother lion. They ran into the bush and found two cubs crying because they were very hungry. Swiss people kept the cubs in a huge cage and fed them with milk. They named the cubs, Cuga and Pusha. The cubs grew up and hated Swiss people.

SECTION A

Questions:

Write the word 'the' each time you come across with it.

How many words 'the' are there in a passage?

iii) Write the word 'and' each time you come across with iv) How many words 'and' are there in a passage?

Section B

Fill in the missing information.

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Once upon a times, there was a _____, living in _____.

Swiss people were only interested in making _____.

Swiss people realized it was Two cubs were crying because they _____.

Two cubs were named _____.

Comprehension record sheet

| Participants | Pictures (marks / 5) | Section A (marks/5) | Section B (marks/5) |
|--------------|----------------------|------------------------|------------------------|
| A | | | |
| B | | | |
| C | | | |

Reflection

Picture comprehension responses

Picture 1 sad

Picture 2 sick

Picture 3 expected responses: sick or cold

Picture 4 happy

Picture 5 sad

[1 mark each response: $1 \times 5 = 5$ marks]

Words comprehension

SECTION A

The, the, the, the, the, the

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= 7

And, and, and, and, and

= 5

[1 × 4 = 4 marks]

SECTION B

Solutions:

Great family of lions, the bush

Cotton business

a breastfeeding mother lion

iv. Were very hungry

v) Cuga and Pusha

[1 × 5 responses = 5 marks]

Instrument 2

IsiZulu

The instrument attempts to answer the main question, *How does the use of SMS promotes literacy in rural learners with reading difficulties?* Observation instrument consists of words comprehension. Since participants lack reading abilities, the researcher will read and explain the passages and questions. The participants will look for the words themselves and share ideas when necessary.

Isifundo

Sithatha imizuzu eyamashumi ayisithupha [60 minutes] Inhloso yesifundo:

Abafundi kufanele bakwazi ukubhala nokufunda amagama.

Ukubona nokubheka amagama akhona endabeni.

Ukuqonda ukuthi indaba ikhuluma ngani.

Ukukwazi ukuthola nokuthumela imiyalezo yeSMS

Indatshana

Fundisisa lendatshana bese uphendula imibuzo elandelayo, uyithumele ngeSMS

Promoting Literacy using Short Messaging Services in rural learners with reading difficulties

| Umbuzo | Participant A | Participant B | Participant C |
|---------------|---------------|---------------|---------------|
| 1 [out of 6] | | | |
| 2 [out of 6] | | | |

Reflection

Promoting Literacy using Short Messaging Services in rural learners with reading difficulties

Open – ended interview: English

Promoting literacy using Short Messaging Service.

Open – ended interview which takes the form of conversation and conducted after every session. Interview is based on the questions: *What are the rural learners with reading difficulties' experiences and perceptions of using SMS in learning literacy? Why they experience as they do?* Interviews will be conducted in IsiZulu and translated to English since English First Additional Language (FAL) starts at the beginning of Intermediate Phase.

Date: _____

Participant: _____

What did you, as a rural learner with reading difficulty, experience when using SMS in learning literacy?

Advantages

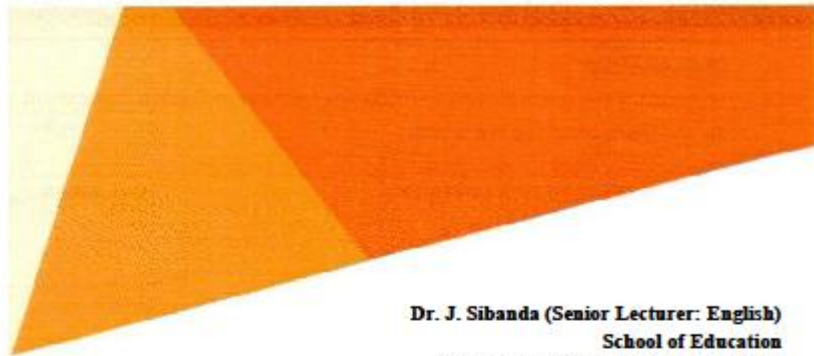
Disadvantages / challenges

Why do you experience as you do in learning literacy using SMS?

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3. As a rural learner with reading difficulty, what is your own perception of learning literacy by using SMS? Did this procedure help you? Explain.

EDITOR'S REPORT



Dr. J. Sibanda (Senior Lecturer: English)
School of Education
Private Bag X 5008, Kimberley, 8300
North Campus, Chapel Street, Kimberley
E-mail: Jabulani.Sibanda@spu.ac.za
jbsibanda@gmail.com
Website: www.spu.ac.za
Tel: 27534910142
Cell: 0845282087
07 March 2020

CERTIFICATE OF LANGUAGE EDITING

To whom it may concern

I hereby confirm that I have proof read and edited the following thesis using Windows 'Tracking' System to reflect my comments and suggested corrections for the author(s) to action:

**Promoting Literacy Using Short Messaging Services in Rural Learners with
Reading Difficulties**

By
Thobekile Leanet Ntuli

Although the greatest care was taken in the editing of this document, the final responsibility for the product rests with the author(s).

Sincerely

07.03.2020

SIGNATURE

DATE

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