

**The integration of technology in supporting progressed learners in
English First Additional Language comprehension**

By Lineo Kolobe

**Submitted in partial fulfilment of the requirements for the Degree in Magister
Educationes in the Faculty of Education, University of Pretoria.**

Supervisor

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FEBRUARY 2019

DECLARATION

I declare that the dissertation, which I hereby submit for the degree of Magister Educationis at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

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ABSTRACT

This study aims at finding the impact of Information Communication Technology (ICT) as an intervention tool for progressed learners in teaching and learning of English First Additional language comprehension in the Intermediate phase. With learner progression proving a challenge facing the South African education system, the aim of this qualitative descriptive case study was to investigate the extent to which First Additional Language (FAL) educators employ ICT as an intervention tool to assist learners who are progressed and if there are positive results to it.

Data collection strategies used in this study were semi structured interviews and data was further collected from documentation such as lesson plans, progression tracking tools and support policies used at selected schools. The study population was eight intermediate phase English FAL educators from two Tembisa schools. In selecting these participants, criterion and purposive sampling techniques were used. Data was analyzed using Atlas.ti and presented in a descriptive and graphical way.

The findings from this study indicated that ICT when used as a pedagogy in a classroom to support progressed learners does yield positive results. The findings further indicate that, ICT has a potential to reduce failure rate which ultimately reduce a number of learners who need to be progressed without meeting promotional requirements. The findings also revealed some of the challenges educators face in using ICT as a pedagogy and one common feeling was the need for further training and support for teachers in order to apply ICT as a pedagogy.

Key words: comprehension, First Additional language, ICT, pedagogy, progression policy, qualitative case study, teacher.

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Comprehension

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

According to the Department of Basic Education (DBE, 2011), a National Curriculum Assessment Policy Statement has been described as a solitary, broad and concise document, which was introduced to replace the previous curriculum for all the subjects listed in the National Curriculum Statement Grade R to 12.

It is a detailed program pertaining to promotional requirements for a learner from Grade R-12. It further clearly indicates and outlines subjects to be offered in each grade and their promotional requirements (DBE, 2011).

According to DBE (1996), a child should be allowed to repeat once in a phase and should be within the age cohort of that phase. If a learner does not meet the promotional requirements as described above, such a learner should be progressed to the next grade (condoned either due to age or number of years in the phase).

According to DBE (2015), Circular 3 states that a decision was reached by a Minister of Basic Education on what is further termed as mark adjustment for senior phase. According to this circular and Circular 1 of 2017, schools' assessment teams were instructed to apply mark adjustments of 5% for three subjects that a learner has failed, and learners must be promoted to the next grade even if they have failed Mathematics. The age cohort, numbers of years in the phase, mark adjustment and condoning of Mathematics results has produced what is called progression policy.

The progression policy states that a learner be allowed to repeat a phase only once as stated in Circular 1 (DBE, 2017a).

Table 1.1: Phases and grades in South African Education

Phases	Grades
Foundation Phase	1-3
Intermediate Phase	4-6
Senior phase	7-9
FET	10-12

A learner is thereby expected to repeat only once in each phase as stipulated in the South African School Act (DBE 1996), otherwise he or she will be condoned due to the number of years in that phase. It is therefore expected that educators should give expanded opportunity activities to enable these learners to be at the same level as other learners in the phase. Teachers have indicated a concern that this policy has a potential to hinder these learners instead of assisting them and increases the failure rate in higher grades (Spaull, 2013). In my study, I am going to investigate how intermediate educators use ICT, in this case seen as technology in their pedagogy to deliver content knowledge aimed at supporting progressed learners to master their comprehension, which includes being able to read, comprehend meaning and answer set questions.

1.2 BACKGROUND

Numerous educators who were interviewed by Zimasa (2016) published in the Daily Vox indicated a concern towards the progression policy. They generally argue that these learners contribute to a high failure rate in higher grades.

What remains evident is that progressed learners do exist in the South African education system from a primary level to a Further Education and Training (FET) level. These learners require extensive support and intervention to remedy the concerns of various educators and work towards assisting them attain promotional requirements to the next grade. Further challenges are finding suitable support strategies to assist progressed learners to attain better results in content knowledge conception.

In his interview, the Gauteng MEC for education indicated that, "As a province, we committed resources and expertise to ensure that progressed learners are given a fair chance of completing school with a minimum loss of time. We have provided progressed learners with comprehensive supplementary programs in schools and in study camps over weekends and holidays" (Nomahlubi, 2018).

One of the strategies introduced in the Gauteng education system from a primary school level to FET level is the introduction of technology in schools. As a support strategy, a 2004 review of White paper 6 was done and this gave rise to the White paper on e-learning which aimed at changing learning and teaching using ICT (DBE, 2004). ICT in this study refers to the use of technological tools in the teaching methodology to deliver content knowledge which will be comprehended by progressed learners.

1.3 THE RATIONALE

The introduction of technological programs in schools used in pedagogy for content knowledge delivery assists educators and learners in enhancing teaching and learning goals (DBE, 2004). Kadijevich and Madden (2015) explain that teachers who are regarded as experts have the ability to reorganise content knowledge and tools to deliver such content in a classroom. English FAL is regarded as a core subject. A failure of a FAL implies that a learner fails the grade (DBE, 2011). The comprehension paper therefore plays an important role in the learner's mastery of FAL. Comprehension writing consists of about 50% of the examination while the rest is split between creative writing and oral exams (DBE, 2011). This therefore means comprehension is one of the components, among others, which have a direct impact on the progression policy.

With learner progression proving a challenge facing the South African education system, the aim of this study is to investigate the extent to which FAL educators employ available ICT tools in their pedagogy for intervention to assist learners who are progressed in delivering comprehension content in the classroom. For learning using technology to be effective, it needs to be adopted and accepted by classroom educators because they are believed to be the centre of changing the perception and adaptability of any content in a classroom (Bourgonjon, De Grove, De Smet, Van Looy, Soetaert & Valcke, 2013).

Although there are a number of computer orientated interventions, which have been developed for children and which appear to be very interactive and attractive, Holloway, Green and Livingstone (2013), assert that its impact and efficiency within low ability learners is minimal. A small percentage of the research on Integration of Computer Technology is focused on early childhood learning and not on learners who are experiencing learning barriers. There is a huge gap in literature, worldwide, on applying ICT within the education system for low ability learners and there is limited research in South Africa on the impact of ICT for progressed learners or a progression policy as this policy is a new phenomenon.

1.4 PROBLEM STATEMENT

According to the Progress in International Reading Literacy Study (PIRLS), which evaluates reading comprehension and evaluates patterns in reading literacy at a five-year period, South Africa scored last in comparison with the fifty countries which competed in 2016. It obtained a score of 320 which is under PIRLS average score of 500 (Howie, Combrinck, Roux, Tshele, Mokoena & Palane, 2017).

The Southern and Eastern Africa Consortium for Monitoring Educational Quality 11 (SACMEQ) (2000) and SACMEQ III (2007) indicated no significant improvement in the Grade 6 reading over the seven-year period (Spaull, 2013). When compared with other African countries, South African Grade 6 obtained a tenth rank of the fourteen that participated. The results for literacy, in SACMEQ III (2007) indicated that only 27 percent of grade six pupils could read but were unable to depict underlying meaning or interpret meanings in shorter texts (Shabalala, 2005).

Nomahlubi (2018) in the Sunday Times stated that progressed learners are believed to be a factor which contributed to a decline in the matric pass rate. In the Daily Vox, Zimasa (2016), mentioned that this notion was further supported where many educators were slamming the progression policy, citing various reasons, among which were the fact that the said learners were not ready to be promoted to the next grade hence extending a web of failure in Grade 12. In an interview with Sifiso (2018), The South African Democratic Teacher's Union (SADTU) representative Nomusa Cembu, expressed concerns about the

results of progressed learners this year. The government has failed to provide educators with the necessary tools to adapt and function within the changed curriculum needs, which included the introduced notion of progressed learners. The union representative says teachers are not provided with sufficient government support and resources to improve the results of these learners (Sifiso, 2018).

These learners have failed to meet the progression requirements to be promoted to the next grade. Due either to the number of years in that grade or the age cohort, they are progressed to the next grade (DBE, 2011). What remains a problem is the lack of mechanisms that could be applied to assist progressed learners to assist in placing them at the same level as promoted learners within the same grade. It is of great importance that these learners are given the necessary support and intervention, which will enable them to cope on the next higher grade and catch up with the content they failed in the previous grade. What then remains of great concern is how educators support these learners in the next grade to be at par academically with the rest of the promoted learners who met the promotional requirements.

1.5 PURPOSE / AIMS

1. To investigate whether technology can be used effectively to support progressed learners in English FAL comprehension.
2. To investigate how educators use technology to support progressed learners in English FAL comprehension.
3. To investigate what the benefits are of using technology in pedagogy for supporting progressed learners in English FAL comprehension.
4. To investigate what the challenges are that face FAL educators when supporting progressed learners using technology.

1.6 RESEARCH QUESTIONS

Main research question:

How effective is using technology to support progressed learners in English FAL comprehension?

Sub research questions:

- a) How do FAL (English) educators use technology to support progressed learners in English FAL comprehension?
- b) What are the benefits of using technology in pedagogy for supporting progressed learners in English FAL comprehension content?
- c) What are the challenges faced by FAL educators when supporting progressed learners using technology?

1.7 CONCLUSION

The South African Schools Act as outlined in DBE (1996) gives a prescription on the promotional requirements for learners and determines their movement between grades. This, with other relevant policies, introduced a concept of moving a learner to the next grade even if that learner does not meet the promotional requirements. In order to assist these learners to achieve in the next grade, a progression policy was introduced which basically deals with supporting the low ability learners who were progressed to achieve in the next Grade. Various stakeholders in the South African education system aired their concerns about this strategy in various interviews conducted by Sfiso (2018) and Nomahlubi (2018). They indicated a concern about this strategy and linked it as a cause for high failure rates. Holloway, Green and Livingstone (2013) outline that there is significant evidence which can prove that if supported with ICT tools, low ability learners have the potential to achieve success, but there is not much done to this effect.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This section will be divided into sub-topics and will give scholarly views and perspectives on the progression policy within the South African education system, its successes and its challenges. The chapter will further consider ICT in education, as Ford and Botha (2010) state, appropriate integration of ICT into education has a potential to change the face of education in a positive way. Another factor to be considered is how ICT is incorporated into FAL as a subject at school. Salehi and Salehi (2012) emphasise the educator's ability to make teaching and learning learner centred in an English classroom using technological tools to assist learners, especially second language speakers. The research will moreover examine the benefits of technology within Pedagogic Content Knowledge (PCK), basing this study under a Technological Pedagogical Content Knowledge (TPCK) theoretical framework which questions the educators' pedagogical awareness which will enable them to transform their traditional classroom into a 21st century class where learners apply technological tools to discover new knowledge (Angeli & Valanides, 2009).

2.2 PROGRESSION POLICY

This is the progressing of a learner from a certain grade to a grade ahead, excluding Grade R, even if such a learner does not meet promotion requirements Circular 3 (DBE 2015). This policy is used to prevent a child from repeating a grade in a phase more than once as outlined in the South African Schools Act (DBE, 1996).

In terms of the national curriculum policy statement in DBE (2011), all learners from intermediate phase learners (Grade 4-6), senior phase Grade (7-9) and FET (10-12) phase cannot fail more than once in a phase. This therefore led to the introduction of the progression policy. According to Zimasa (2016), the progression policy outlines that a learner be allowed to repeat a phase once. Educators are then instructed to introduce

various support or intervention strategies to help learners to catch up with their peers, but due to numerous challenges, educators are unable to fully support these learners and have further outlined that the policy has increased the failure rate in higher grades as learners are just pushed forward (Zimasa, 2016). In her article, Mampane (2017), asserts, citing White paper 6 of 2001, that all learners irrespective of their educational barriers, require extensive support in attending the progression requirements to the next grade.

The following statement from the National Curriculum, Statement Grade R-12 (N4PR) is of utmost importance when deciding on the movement of learners from one grade to the next. According to the DBE (2017a), Circular 1 further highlights that in order for a learner not to repeat a grade more than once, he or she should be progressed to the next grade.

In reference to data from DHS in 35 countries, EPTD (2009) estimated that underage learners are more likely to repeat a grade in comparison to more mature learners in the same grade in all countries except Colombia, Honduras and Peru. EPDC (2009) results show that in Cameroon, for example, around 26 percent of Grade 1 pupils are underage, of these, over one-third repeat Grade 1. “In India, where the overall repetition is relatively low, nearly all of the pupils who repeat are underage” (Sabates, Westbrook, Akyeamong and Hunt (2010, p. 5). Policies and procedures to improve school curriculum attainment and minimise learners dropping out are very important towards achievement of Universal Primary Education.

Learners begin their primary education in large numbers but when they reach senior grade, the numbers have become significantly lower. One of the reasons cited for the high dropouts is the failure to be promoted to the next grade (Lewin, 2009). More mature learners repeating grades have been found to be one of the contributing factors in the high dropout rate in many countries (Sabates et al., 2010).

2.3 ICT IN EDUCATION

The introduction of ICT throughout the world into school systems began with the rationale that learners are required to develop and master the normal use of ICT tools, but in the

21st century, the focus has shifted to integrating ICT into teaching and learning (Ford & Botha, 2010). The importance of ICT has been seen through communication, to obtain information and staying connected to a rapidly increasing digital world. With the introduction of ICT resources, how people perceive and co-exist in the world has changed. “The ability to use ICT has therefore become the new literacy for the 21st century” (Al Harbi, 2014, p.1) “ICT is relevant within education as a means of supporting a process of teaching and learning and is best employed in support of a value creation process. It is not a focus in itself” (Meyer & Gent, 2016, p.1).

ICT used in pedagogy encompasses the use of tools and resources brought together to create, communicate, pass on and store information. “ICT integration implies that technology is used to facilitate teaching and learning, i.e. where students learn with or through ICT. ICT integration does not simply refer to the placing of computers in the classroom; nor does it refer to the use of technology to support traditional teaching methods” (Nkula & Krauss, 2014, p. 243). This includes integration of software presentations, games, videos, interactive white boards, online dictionaries and various websites (Negoescu & Boştină-Bratu, 2016). In education, ICT functions as a tool to empower both educators and learners for effective teaching and learning (Van Niekerk, 2009). ICT is further explained as a tool, which creates access to information through telecommunication. This includes internet, wireless networks, cell phones and other interactive devices. Various studies show that its use in language teaching and learning has shown some improvement in the subject (Floris, 2014). “ICT enhances teaching, learning and research, both from the constructive and instructive theories of learning”, according to Msila (2015) in Nkula and Krauss (2014, p. 243).

Employing ICT in teaching and learning gives learners the ability to perform a more active role, rather than being a mere passive observer or listener, in their studying (Al Harbi, 2014). Islam, (2016, p. 99) says, “Educational technology is a methodical and pre-arranged process of applying modern technology to improve the quality of education and it is a systematic way of conceptualizing the execution and evaluation of the educational process, learning and teaching and helping with the application of modern educational teaching techniques. It also includes instructional materials, methods and organization of

work and relationships”. As indicated by Piper, Jepkemei, Kwayumba and Kibukho (2015), the widespread use of ICT in the education sector is a main concept of the global educational reform agenda. The purpose of ICT in the educational curriculum is to improve the learning outcomes by interacting with resource materials and teachers and curriculum contents (Krish & Zabidi, 2017).

Ahmed (2016), outlines that one of the major expectations of ICT is to support educator capacity building, by offering opportunities for educators and learners to work, save and utilise information while engaged in active learning and to assist students to learn beyond the classroom where there is technological access. Krish and Zabidi (2017, p. 2) say “ICT is transforming the teaching and learning environment in a dramatic way by offering a revolutionary tool in education and it possesses the ability to transfer and disseminate material in a quicker way”.

Philomina and Amutha (2016, p. 603) agreed that “when rightly practiced, information and communication technology hold great promise to improve teaching and learning and there are positive effects associated with technology aided instruction”. Educators have used traditional teaching methods over the years and teaching materials to transfer content knowledge; with the technological transformation into the cyber age, educators are required to keep up with the societal or world demands and innovative pedagogical approaches (Krish & Zabidi, 2017).

Bingimlas (2009) notes that computers as one of the ICT tools assists learners in the learning processes and can minimise a teacher centred classroom by giving educators ways to support teaching and learning and improving their pedagogical practice. Unfortunately, according to Zindi and Ruparanganda (2011) instead of introducing ICT as a pedagogy it was introduced as a subject in many countries. Kessy, Kaemba, & Gachoka, (2006); Rubagiza, Were, and Sutherland, (2011) have argued that teaching ICT in isolation does not prepare the learners for the world, as ICT is not an isolated feature of life. Instead it is a universal, socio, cultural and economic driving tool.

In their view, Krish and Zabidi (2017) state that the old teaching methods would see educators teach content directly from text books. They are regarded as a source of

information which is disseminated to the learners; but with the new pedagogy the educator's role has been redefined as a guide to assist learners to select, organise, evaluate and use knowledge. Burden and Shea (2013), reiterated that teaching ICT as a subject, not using it as a teaching tool, produces minimal effects on student learning outcomes. There is a constant debate on the appropriate ways in which ICT can and should be infused in education to obtain maximum benefits in terms of teaching and learning. Rubagiza, Were, and Sutherland (2011, p. 345) further stated that the benefits of ICT and its potential will not be achieved by just introducing and concentrating on the installation of infrastructure in schools.

To work on this shortcoming, Mukuna (2013, p. 90) argues that “without a shift in practices of teaching and learning with ICT in schools, many young people are not likely to learn how to exploit the opportunities ICT provides. In effect, without clear policy direction, ICT could exacerbate inequalities for certain populations”. Burden & Shea (2013), argued that new pedagogical models emphasizing ICT should be investigated and researched and integrated into teaching and learning as an instructional process. They further emphasise that attention should move from output-based ICT programmes to programmes that integrate ICT with the aim of improving teaching and learning with a view to improving learner performance. Kopcha (2012) further highlighted that professional developmental activities offered to educators will strengthen their competence in the technology integration in education. “This restructuring process requires effective adoption of technologies into an existing environment in order to provide learners with knowledge of specific subject areas, to promote meaningful learning and to enhance professional productivity” (Wanga, 2014, p.1).

2.3.1 The role of a teacher and a learner in an ICT classroom

Moon (2006) outlines the teacher's role and relevance in the development of modern society which is emphasised in the declaration of the special inter-governmental conference on the 'The Status of Education' held in Paris in October 1966. Four decades on, since the Paris declaration, according to Onwu and Sehoole (2015), it also amplifies

the significance of the role an educator plays in attempting to achieve stable and productive societies.

Table 2.1 below is an example of Majumdar’s (2015) model of the role of a teacher in an ICT classroom and he outlines the pedagogical shift which occurs in a classroom once ICT is introduced as a content delivery tool.

Table 2.1: Changes in Teaching-Learning Environment

MODEL	FOCUS	ROLE OF A LEARNER	TECHNOLOGY
Traditional	Teacher	Passive	Chalk and Talk
Information	Learners	Active	ICT tools
Knowledge	Group	Adoptive	ICT tools and connectivity

Source: Majumdar (2015)

Table 2.2 below indicates the change in the educator’s role due to the introduction of ICT in the classroom, Majumdar (2015, p. 3) indicates “Shifting the emphasis from teaching to learning can create a more interactive and engaging learning environment for teachers and learners”. This shift further considers the change in the learner’s learning environment, while the teacher turns from being the source of knowledge, learners navigate through the digital world to create their own knowledge and outline their findings and how they got to their solution or discoveries.

Table 2.2: Change in the teacher's and learner's role when integrating ICT in the classroom

CHANGES IN THE TEACHERS ROLE		CHANGES IN THE LEARNER ROLE	
FROM	TO	FROM	TO
Transmitter of knowledge	Guide & facilitator of knowledge	Passive learner	Active learner
Controller of learning	Creator of learning	Reproducer of knowledge	Dependent learner
Always an expert	Collaborator & co-learner	Dependent learner	Solitary learner
Learning to use ICT	Using ICT to enhance learning	Solitary learner	Collaborative learner
Didactive/ Expository	Interactive /Experimental /Exploratory	Solely learning content	Learning to learn /think/ create & communicate

Source: Majumdar (2015)

In conclusion, it is further argued that ICT integration in education should be aimed at improving learning, encouraging and intriguing learners, promoting teamwork, nurturing enquiry and inquisition and modelling a type of a learner with a different learning attitude. Learning which is autonomous is highly encouraged and it encourages learners to be creative and take the initiative in solution seeking as they research phenomena. The expectation is that learners should be able to pick up things, identify what needs to be utilised, analyse and rearrange them into meaningful segments and do a presentation using ICT tools (Majumdar, 2015).

2.3.2 ICT in teaching and learning English FAL

In the 21st century where technology is predominant in all spheres of life, teaching and learning has also been directly impacted and this change has also been seen in an English language classroom. The teaching and learning of the English language has also seen a change over the years with the introduction of ICT tools in a classroom (Samsuri et al., 2014) According to Ranganath, Rayappa, and Priscilla (2017), in a study about the new roles of an English teacher with ICT in teaching and learning of English, they state that the field of English Language Learning (ELT) has been made authentic, exciting, thought provoking and no longer demanding. As indicated by Warschauer (1996), technology plays a pivotal role as one teaches a second language, such as English, to non-native speakers and its benefits are significant. A lot of assets for teaching and learning English are accessible through the Internet. In a study, Samsuri, Nadzri and Rom (2014) concur that ICT assists non-English speakers to learn English as a second language and a subject.

Ranganath, Rayappa and Priscilla (2017) further reiterate that applying of technological tools in language learning leads teaching and learning to be effectual, intriguing and appealing. ICT ignites the learner and changes learner perception in relation to the learning of the English language. Tools such as sound clips, video and whiteboards make the lesson all more thought-provoking and students are influenced to fully engage in the lesson. The students know the significance of the internet today, hence it is not a surprise that they hold positive perceptions of ICT's role in enhancing their learning (Samsuri et al., 2014).

The Internet offers language learners the opportunity to learn language in an authentic or real set-up. The Internet provides current and correct materials if searches are properly guided by a facilitator (Ranganath, Rayappa, & Priscilla, 2017). Using ICT in a classroom enhances participation and team work among students, and e-newspapers/ e-magazines/ e-journals may be downloaded for providing them to learners to introduce the habit of reading a variety of prose published without carrying heavy printed text books (Sahni, 2016).

For the past 15 years, Bui (2015) indicates that new advances in technology have made language teachers enjoy the benefits that the Internet offers to their teaching practice, such as adequate resources, unending opportunities and possibilities for exposure to language either being spoken or written plus more effective, exciting and helpful suggested activities.

Although ICT is effective to a degree, it cannot be viewed as a fix for all educational challenges, especially in an ELT classroom (Sahni, 2016). Teachers can introduce some excitement, change, energy, and creativity to their lessons thanks to marvellous programmes and software (Ranganath, Rayappa & Priscilla, 2017). They aid learners to be exposed to an environment where English is spoken, through films and other sources. What counts most is being given the opportunity to be an independent learner through discovery learning and expository learning. Constructivism emphasises a learner centred type of learning whereby students become actively involved in the learning environment (Bruner, 1966; Hermann, 1969, as cited in Bromberg, Techatassanasoontorn & Andrade, 2013).

At present English teachers around the world prefer communicative teaching which is learner centred and a learning approach that allows learners to discover knowledge on their own. The teacher centred approach relies on a learner's memory and not the understanding and the genuine use of language (Salehi & Salehi, 2012). ICT has changed the pace of teaching strategies to suit the teaching objectives and the needs of various students. This has allowed learners to practise English even beyond the classroom setting (Correos, 2014).

To conclude, as outlined by Sahni (2016), the art of teaching can be enhanced and made more effective with the use of more modern researched methodologies such as the incorporation of ICT into pedagogy. ICT when used in a pedagogy to deliver English content, has the potential to yield better results and makes teaching and learning fun and learner centred.

2.3.3 The benefits of incorporating ICT in PCK

Louw, Muller and Tredoux (2008, p. 78) asserts that “ICT holds much promise for use in curriculum delivery as a pedagogy and it has a potential to improve teaching and learning capabilities and improve learner performance”. ICT in the digital era has further changed the educational atmosphere in numerous forms which includes the teaching setting and teaching resources employed in the classroom (Floris, 2014). It has also offered room for personal growth (Van Niekerk, 2009). ICT opens doors and access to knowledge beyond the classroom (DBE, 2004). It gives instant feedback to learners, it also promotes deep learning and enables teachers to respond to learners of different abilities (Lau & Sim, 2008). It further replaces the traditional way of teaching and learning. In his review, Floris (2014, p.141) indicates that “with the wide range of teaching and learning materials available for free on the internet, teachers can select those that suit the students’ needs according to their age, level and abilities”. This therefore means that ICT does have an ability to cater for progressed learners as well as low ability learners (Bradshaw & Stratford, 2010).

Technological tools enable educators to synchronize their efforts and realize the classroom needs in the modern technological world (Mampane, 2017). Bourgonjon, et al. (2013) further asserts that technology-based learning’s success depends solely on the attitude of a class educator who will positively affect how this practice is incorporated into teaching and learning. This ideology has further been reiterated by Deshpande, Bhattacharya and Yammiyavar (2012) as they explain that employing technology for learning has proven very effective in primary schools in India and has bridged the educational divide between high ability and low ability learners.

Gee (2007) compares a child’s brain to that of a computer depicting a tabula rasa theory. He draws similarities of a well-constructed video game since people acquire knowledge best when they employ their world of discovery to link numerous experiences into difficult replications. This implies that when one travels into the virtual world, it becomes easier to understand a difficult concept which is simulated by such a game.

In their research study, Ketelhut and Schifter (2011) assert that one of the educational benefits of teaching with computer approaches is that they give a good platform to engage learners in activities which have a potential to yield positive educational results. The report further outlines that technology learning approaches build on many learners' existing interests, skills and knowledge and can reduce the gap between home and school cultures. Roblyer and Doering (2012, p. 363) further highlight that "the use of technology tools in the classroom is vital for the creation of an effective learning experience, since they are aimed at engaging various senses of the learner". This means that learners should not only hear the lesson but also see or touch or smell, but most importantly, experience practically through technological aids.

Digital computer games are considered as some of the examples of effective technology tools for early intervention (Bradshaw & Stratford, 2010). ICT has become a vehicle for learning as it provides many opportunities and allows limitless repetition, drilling and instant feedback (Van Niekerk, 2009). Mustola, Koivula, Turja and Laakso (2016) indicate that children are essentially excited about navigating the digital fantasy world while learning.

Shaffer (2006) points out that, ICT based learning gives learners an opportunity to creatively operate a world of thoughts; they can reach originality and invention, qualities that are very significant in today's technological competitive world. When play-like activities are engaged in teaching and learning, learning becomes more interesting (Gee, 2007). These technology-play orientated activities can include matching games, puzzles, crosswords, blockbusters, map quizzes and drills, thereby enhancing teamwork skills as they engage with other learners. This view is further supported by Prensky (2003) who believes that technology offers different instructional strategies. These methods get learners to participate fully, improves interest and the zeal to achieve. They are not passively discussing, rather they engage in building models and participation in virtual worlds as they construct knowledge (Roblyer & Doering, 2012).

Comparing technology used in pedagogy with traditional approaches, ICT learning gives a more social and cultural world which enables learners to model their thinking to match societal interactions (Shaffer, 2006). Moreover, according to Wong, Mishra, Koehler and Siebenthal (2007), ICT tools such as games in general combine knowledge from different areas to attain a solution or to plan.

Negoescu and Boștină-Bratu (2016) asserts that a text book is no longer fully sufficient. Educators need to revive it by incorporating supplementary resources, modifying content, creating visual illustrations using technology tools such as quizzes, games, slide shows, flash cards or songs in a language classroom. Lewis (2010) points out that new technologies firstly support teaching and learning, then extend and finally transform pedagogy as educators slowly explore the depths and technology ability.

2.3.4 Factors affecting the incorporation of ICT into pedagogy in content delivery

For ICT implementation to be effective, education should be innovative and equipped with relevant skill sets (Msila, 2015). Development and innovation in public education also depends on educators because they are the people who are core drivers in achieving the expected outcomes from the ICT investment for the development of education. “This is because technology does not have an educational value in itself” (Singh & Chan, 2014, p. 875). This notion is further supported by Correos (2014) as he points out that the educator’s mastery and competence level of ICT is very important for classroom implementation. Malewska and Sadjdak (2014) gives an illustration of the benefits of ICT pedagogical implementation into a 21st century classroom. She notes that technology reinforces and enriches the quality of formal instruction. As stated by Domalewska (2014) teaching and learning which is supported by ICT offer life experiences and develops independent lifelong learners.

The United Kingdom as outlined by Curtis (2014) is developing their learners at school into digital natives from the age of six, and this technology prepares these learners for both formal learning and adult life. This is not the case for under-developed countries. There is still a huge gap in technology use between urban and rural schools which brings

about a technological divide (Giller, 2014). “South Africa is a developing country and one can say that naturally, schools will demonstrate the technology gap when it comes to digital technology development. The constantly transforming curriculum and need to develop teachers and teaching may also influence technology education in numerous ways” (Msila, 2015, p. 1974). In other developing countries the focus is still on providing access, the impact of its implementation has not yet become the primary focus of policy makers (Chigona & Chigona, 2010). Kenya and Zambia are among the countries in developing worlds which are transforming their education system to close the technological divide by phasing out their traditional text books and introducing curriculum loaded in tables (Msila, 2015).

In a study for ICT implementation in India, Sarkar (2012) asserts that although the ICT impact is quite minimal in India’s education system, there is evidence of potential growth in the coming years. One of the biggest challenges Sarkar (2012) notes in her study is that diversity, languages and learners’ backgrounds play an important role in planning curriculum issues and their adoption. This is further supported by Msila (2015) that the inception of ICT is influenced by the learners’ backgrounds and socio-economic skills in South Africa.

One of the key contributors to the success of ICT as pedagogy as cited by Chigona and Chigona (2010) indicate that despite these intensive government and institutional efforts, scholars have indicated that ICT has not been fully or effectively utilised in schools. In his view, Bingimlas (2009, p. 2370) asserts that, “the act of integrating ICT into teaching and learning is a complex process and one that may encounter a number of difficulties known as barriers which have a potential to deprive the educator’s capabilities that is any condition that makes it difficult to make progress or to achieve an objective”. Factors such as school support, technological infrastructures, issues such as attitudes towards ICT, the importance of ICT use, ability to use ICT, and beliefs, are among other factors believed to challenge the implementation of ICT in teaching methodologies (Goodwin, Low, Ling, Ng, Yeung & Li, 2015). One of the cited factors as impactful is educator proficiency (Van Zyl & Sabiescu, 2016). According to Bikowski and Casal (2018) learners

lose interest in reading long texts of comprehension on screens and they experience eye strain, there is also a notion that digital text results in limited notetaking. In some instances learners experience technological difficulties, lack of learner training, inadequate teacher support and difficulties comprehending online texts or learning through digital texts.

According to Kale and Goh (2014, p. 43) “limited technology access in classrooms, lack of time to plan and teach with technology due to heavy workloads, teacher centred use of technology and educators’ low self-efficacy and lack of digital skills seemed to negatively influence teachers’ meaningful pedagogical use of ICT in schools”. Numerous challenges have emerged cited by various scholars, among others, internet addiction (Young, 1996), lack of web literacy (Kuiper, Volman & Terwel, 2009), internet bullying, illegal downloading and lack of educator supervision especially in larger classrooms (Campbell, 2005). “New technologies do not require teachers to change the basic principles of good pedagogy, such as a focus on pupil learning and collaboration but, by offering exciting and powerful new kinds of opportunities to implement these principles, they do require changes to classroom practice in order to enable full use of opportunities now available” (Brosnan, 2001, p. 2).

2.3.5 ICT challenges in South Africa

“In the South African context, the concept of e-education revolves around the use of ICT to accelerate the achievement on national education goals. E-education is about connecting learners and teachers to each other and providing platforms for learning. E-education aims to connect learners and teachers to improve information, ideas and one another via effective combinations of pedagogy and technology in support of education reform” (Ford & Botha, 2010, p. 24)

One of the goals of the e-education White paper 6 in South Africa is to enable each learner throughout the country to be able to use ICT tools and for educators to use such tools (Dzansi & Amedzo, 2014). ICT adoption in South African schools has continuously improved over the years. Although most urban schools are using ICT in South Africa, this is not the case in rural schools thereby creating a digital divide (Msila, 2015).

Some provinces have advanced more than others in recent years in introducing ICT as a pedagogy. In 2014, according to Msila (2015), the Gauteng Province's minister of education introduced ICT in 2014 in township primary and high schools as a pilot study to see its inception as a big plan for the provincial roll-out to enhance their teaching (Ford & Botha, 2010). Despite its availability in township and rural schools, ICT tools are not applied correctly, the focus is still on basic access and schools and the government have not yet moved to developing interactive lessons and strategies which could assist educators to improve the use of ICT as a pedagogy (Simuja, Krauss & Conger, 2016).

"In 2007, The Department of Education released the Guidelines for teacher training and professional development in ICT, as a strategy in improving educator knowledge, skills and competence in ICT in order to reduce the digital divide that exists between rural and urban schools" (Moodley, 2015, p. 222). Even though technology strategies and initiatives are employed across South Africa, not all schools have bought into the change or integration (Vandeyar, 2011). A number of schools that possess ICT resources choose to utilise it in a limited manner by focusing on acquiring computers or ICT skills. Nkula and Krauss (2014), argue that there is an implementation of ICT without it being integrated into the curriculum thereby not positively contributing towards improved teaching and learning strategies.

"One of the challenges of including ICT in South African education is the lack of adequate ICT skills among school teachers", (Walaza, Loock, & Kritzinger, 2015, p. 36). Educators' failure to use technology creates socio, economic, and cultural related challenges and concerns about social and cultural capital in the integration of ICT in schools (Dlamini & Coleman, 2017). "The concept of integration is, however, complex and challenging. The South African White paper on e-education even identified the integration of ICT into learning and teaching as one of the three main challenges associated with ICT adoption in South African schools" (Nkula & Krauss, 2014, p. 243)

At the schools which are fully resourced, its inception is very slow as educators avoid applying technology in their teaching and learning practice which in some instances is said to be due to insufficient training (Van Niekerk, 2009). A study conducted by Chigona and Chigona (2010) in Western Cape Schools indicated the following as barriers to incorporating ICT into teaching and learning; inadequate educator training, lack of educator support in using ICT and lack of user-friendly computers and an environment not conducive enough to enable learning with ICT.

Vandeyar (2011) further asserts that technology has not had the far-reaching and transformative effects on education that has been predicted over the last years. To date there is no system-wide efficient and viable technology integration in schools, the pace of integration is slow, and teachers are still avoiding using technology in their teaching and learning practice. The technology integration into curriculum has also not been steady through the country, some provinces such as Gauteng, Western Cape and Northern Cape have significantly more advanced technology infrastructure than other provinces, which influences the educator buy-in (Lewis, 2010).

In her research conducted in South African schools at the inception of ICT into education, Msila (2015) indicates the following findings; there is lack of teacher competence in using computers, there is minimal understanding of the CAPS curriculum so integration of a new concept such as a change in pedagogy to deliver what they already are unable to comprehend is a serious challenge. This view is further reiterated by Minty and Pather (2014) that for ICT to be fully incorporated in the classroom, educators are required to change their teaching methods and this is questionable in a number of schools. Furthermore, unlike books, the change with teaching with technology was very swift and it continues to change daily and educators are unable to keep up with such change (Brosnan, 2001). In some schools Msila (2015) found out that due to the burglary in that township, the principals have taken a resolution to lock the newly introduced tablets away to protect them from being stolen and are not being used.

2.3.6 ICT challenges world wide

According to Krish and Zabidi (2017), the 21st century has seen educators faced with numerous challenges due to the dawn of technology, which calls them to be creative and innovative while using the technological applications in the classroom. ICT inventions have created challenges and breakthroughs in the education sector (Biswas, 2017). As outlined by Wanga (2014), the use of ICT especially in educational institutes is dependent on adequate ICT infrastructure facilities and professional experience and interest of teachers. “21st-century skills require a shift in teachers’ roles, a change in understanding the learning process, and a transition from traditional-style teaching to teaching using social-constructivist methodologies” (Avidov-Ungar & Iluz, 2014, p. 132).

Piper, Jepkemei, Kwayumba and Kibukho (2015) argue that no matter how heavily countries invest in ICT hardware equipment, and professional development to improve education, ICT implementation and incorporation in teaching and learning is still very minimal. Richardson, Sales and Sentočnik, (2015, p. 2) also noted that “projects often tend to focus on inputs (e.g., interventions and hardware) and outputs (e.g., use) rather than processes (e.g., training) or outcomes (e.g., change)”. Some noted challenges to proper use of ICT for quality education are lack of teacher ICT skills, low teacher confidence, no or limited teacher training, no or less access to ICT, unchanging educational systems in various countries, and restrictive curricula which does not change. The adoption of ICT in education depends on the availability of infrastructure and the professional experience and willingness of educators to change (Biswas, 2017), taking into consideration that some educators did not experience technology in the early days of their formal schooling, or while they were training to be professional teachers, they may have little experience of meaningful use of technology which has a potential to impact on their beliefs and attitudes (Marsh, Kontovourki, Tafa & Salomaa, 2017).

Plumb and Kautz (2016) add that mastery of IT skills plays an immense role and lack thereof becomes a barrier to enhancing a technology orientated teaching and learning classroom. Plumb and Kautz (2016) further note that large class sizes also play an important role in effective integration of technology and big classes make it difficult for

independent but guided learning. “Teachers' efforts to integrate ICT into the school curricula are moreover limited by barriers that are either extrinsic to teachers (for example, lack of access to hardware and software and insufficient time to plan ICT-mediated instructions) or fundamentally rooted in teachers' beliefs about teaching and learning or both,” (Wanga, 2014, p.1).

Ngololo, Howie and Plomp (2012) further assert that negative attitudes of educators with regard to a change from traditional teaching styles to the integrated styles which change rapidly with limited training is regarded as a major obstacle towards a full benefit of ICT in a classroom. Citing a case in Georgia by Richardson, Sales, and Sentočnik (2015) there is a lack of processes to integrate ICT into the teaching and learning system. Although they have resources such as labs, there is a lack of knowledge on how to integrate technology into subject areas because of a lack of training. “When educators fail to engage in the knowledge revolution, they become prisoner to the classic paradigms that have shaped the traditional school. Thus, a situation has been created in which reality continues to change, and schools, which are supposed to prepare their graduates for a new, open age, continue to operate as closed systems”, asserts Steiner & Mendelovitch (2016, p. 1260). In his study of Singapore, Teo (2008) cited by Ndibalema, (2014) observed that there were barriers in implementation of ICT into the education system such as not enough time for educators to prepare lessons which are ICT oriented, poor collaboration and support of teachers with limited ICT skills.

Educators' opinions of ICT is quite vital as it forms trends which assist them to buy into or be unfavourable in regards to modern technology in the world of teaching and learning (Qasem & Viswanathappa, 2016). One of the countries which has portrayed what is regarded as the ICT 'best practice' is Israel in integrating ICT into education. According to Steiner and Mendelovitch (2016), the type of ICT program which was adopted aimed at including important and necessary content appropriate to the 21st century where they differentiate learner ability and competence with varying instructions thereby promoting learning processes at all grade levels. Hohenwarter, Kocadere and Hohenwarter (2017) in their research have also outlined that resources, institution, subject culture, attitudes and beliefs are among common findings of failure or minimal implementation of ICT in

education in many countries. “Teachers must develop not only essential computer skills but also proficiency in using a variety of technology tools to solve problems, make informed decisions, and generate new knowledge related to their professional performance” (Qasem & Viswanathappa, 2016, p. 562).

2.4 THEORETICAL FRAMEWORK

This research will take the Technological Pedagogical Content Knowledge framework (TPCK) as its theoretical framework. TPCK is defined as an educator’s interpretation and technological reorganisation of content knowledge so that it can be understood by the learners (Angeli & Valanides, 2009). According to Wong, Mishra, Koehler and Siebenthal (2007), 21st century educators possess the ability to get and process knowledge in every field and transform this pedagogy by offering improved methods to engage learners.

Kadijevich and Madden (2015) further explain that skilled teachers are regarded as those who can customise content knowledge and what is good for learning and technology and this is explained as TPCK. The idea of TPCK has been regarded as a diverse process which among others includes the development of a complicated relationship between the uses of technology in methodology to deliver content knowledge relevant to a particular group of learners in a specific setting (Koehler, Mishra & Yahya, 2007).

The TPCK framework for educator knowledge is explained as a complicated interface between content, pedagogy and technology both in theory and in a form of a practice which yields or works towards integrating the use of technology into learning (Schmidt, Baran, Thompson, Mishra, Koehler & Shin, 2009).

“ICT–TPCK is introduced as a strand of TPCK, and is described as the ways knowledge about tools and their affordances, pedagogy, content, learners, and context are synthesized into an understanding of how particular topics that are difficult to be understood by learners, or difficult to be represented by teachers, can be transformed and taught more effectively with technology in ways that signify its added value” (Angeli, Valanides, 2009, p. 211).

In her view Niess (2011), asserts that technology and content knowledge (TPCK) offers a guideline on how educators should design, implement and evaluate curriculum and instruction with technology. This simply guides an educator on the time and the place, and the ways of using domain-specific content and finding ways of guiding students to learn using appropriate ICTs. Technological pedagogical content knowledge (TPCK) is thereby regarded as a link between content, pedagogy and technology (Margerum-Leys & Marx, 2002).

The TPCK framework further takes into consideration the part technology plays in teaching and learning but it has shown a limitation of the poor understanding or lack of interactions between particular contexts and knowledge development (Swallow & Olofson, 2017).

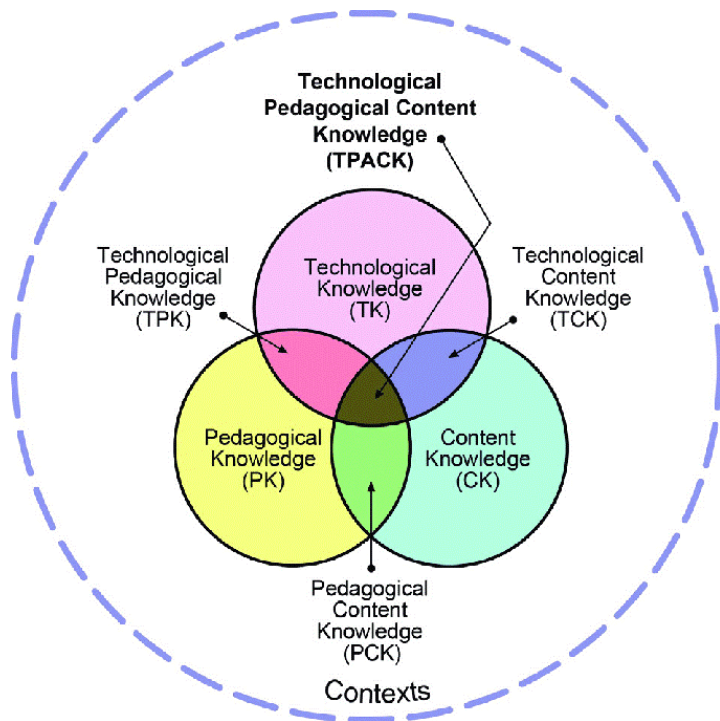


Figure 2.1: TPCK model

Source: Koehler and Mishra (2009)

“The TPCK component could be defined as “a teacher’s knowledge of how to coordinate and combine the use of subject-specific and topic-specific activities using emerging technologies to facilitate student learning” (Cox & Graham, 2009, p. 64).

The knowledge required to teach a particular subject - as drawn by Lee Schulman, acquainted with the concept of TPCK, Mishra and Koehler (2006). The latter is the knowledge required to integrate application within the subject teaching, or as Kildan and Incikabi (2015) indicated that information centering on the triple link of technology, pedagogy and content. Practitioners’ lack of competence to maneuver the implementation of technology makes it insufficient to apply the notion, as they need to comprehend how technology can be infused pedagogically suitable to be used within various subjects taught (Koehler, Mishra, Kereluik, Shin & Graham 2014).

TPCK denotes that an educator is able to solve problems by aligning his or her content with the technological tools which he or she will apply in the classroom for content delivery for a specific topic. Philomina and Amutha (2016) argue that, although TPCK is important, an educator should be creative and innovative so that its relevance can be applicable to the content delivery in addressing learner needs.

It is therefore of great importance that teachers need to be conversant about digital media cultures relevant to the 21st century classroom and relevant to the learner (Mertala, 2017). Educators do not necessarily need to know what learners know in the digital world, but they should be able to align their knowledge towards the demands of the curriculum, meaning they need to apply their skill to solve curriculum issues through the educator’s facilitation (Parette, Quesenberry & Blum, 2010).

Various educator’s pedagogy will be reviewed as they use technology in their teaching to deliver content and how they deliver such content using technology. Teachers should portray knowledge of the content being taught, teaching methods and relevant technology, and know how to bring all the three disciplines into a classroom learning situation (Yue-guo, 2007).

According to Koehler and Mishra (2009), this ideology deals with basic issues such as teaching, learning, curriculum, assessment and reporting, how to promote quality learning and the core relationship between curriculum, assessment, technology and teaching methods. Being able to detect a learner's prior knowledge and link it with various content-based ideas for learners, while correcting any prior misconceptions while employing alternative teaching strategies which accommodates all learners, is very important to promote effective teaching and learning. "The term technological pedagogical content knowledge (TPCK) focuses on the relationship between knowledge about content, pedagogy, and technology" (Robin, 2008, p.226). Mishra and Koehler (2006) declared that TPCK forms the foundation of skilled teaching through technology.

Bertram (2011) describes Shulman's model of teacher knowledge as comprising the following domains. These are: content knowledge (the mastery of content to be taught) and general pedagogical knowledge (being able to employ various teaching techniques, different styles of classroom management and various assessment strategies). In the changing world, Mishra and Koehler (2006) then introduced the concept of technology into the TPCK model, thereby giving room for the introduction of technological styles; context knowledge (knowing about the background of the learners, understanding the philosophy of the school) and pedagogical content knowledge delivered through various technological devices.

According to Hannafin and Land (2000), within a constructivist classroom, teaching and learning centres around the learners not the teacher thereby making TPCK a more appropriate pedagogical framework to be applied in knowledge acquisition. Educators will easily apply technological tools to their lesson if it links with pedagogy. implying that style of teaching guides the choice of teaching methods and it takes into account the beliefs, learning and the comprehension of pedagogy (Kale & Goh, 2014). The learning set up is aimed at evoking discourse which assists learners in developing the skills, attitudes and critical thinking that aim towards solution finding (Hannafin & Land, 2000). Technological tools are therefore argued to be the best interactive tools that allow learners to control the outcomes of their findings (Kale & Goh, 2014).

The significance and applicability of this framework to this study is that the use of ICT has a direct link with TPCK, that is, teachers with significant TPCK will be able to implement ICT easily in their teaching. This then notes that it is within reason to analyse how effective ICT implementation is from the viewpoint of the TPCK theory (Al Harbi, 2014). Educators who are comfortable with the application of ICT as a pedagogy are more likely to use it to support progressed learners as opposed to educators whose competence of TPCK strategies are less likely to adopt and apply it.

2.5 CONCLUSION

In conclusion findings indicate that technology does have a potential to become an answer to the notion of progressed learners and has proved successful in other parts of the world. A constructive classroom, where teaching and learning is learner centred, application of technology as a pedagogy enhances teaching and learning and is beneficial not only to high achieving learners but also to low ability learners (Hannafin and Land 2000). There are quite a number of challenges facing the South African education system with the introduction of technology and if these are addressed, ICT has the potential to address the issue of low ability or progressed learners. This study will examine priority schools which are fully resourced and establish if all the challenges are mediated, does ICT have a potential to assist progressed learners. This study is of the assumption that if a teacher's TPCK level is higher, he or she will be effective in implementing it in his or her teaching.

CHAPTER 3: RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

This chapter gives an outline of the research design and methods used when researching supporting progressed learners using ICT. Data collection techniques, procedures and analysis of data are outlined. The chapter also gives an outline of research norms.

3.2 PARADIGM

A paradigm was first described by Thomas Kuhn in 1972 as an overall theoretical framework (Johnson & Onwuegbuzie, 2004). It is “a set of basic beliefs that deals with definitive principles which are not open to proof in any conformist sense” (Guba and Lincoln, 1994, p. 107). The paradigm is perceived as a set of assumptions that works with a final set of principles. It encompasses four concepts: ethics, epistemology, ontology and methodology (Vandeyar, 2011). Guba and Lincoln (1994) further explain a paradigm as how the world generally perceives a phenomenon and a way to interpret and simplify difficult world ideologies and creativities.

3.2.1 Ontology and epistemology

Both ontology and epistemology make up a paradigm (Johnson & Onwuegbuzie, 2004). Scotland (2012, p. 9) explains ontological assumptions as concerned with what constitutes reality, in other words *what is*. My ontological assumptions are that in this study, what is evident is that a learner’s ability in a classroom varies and technology used in teaching influences a learner’s comprehension of content.

Epistemology basically deals with the nature and forms of knowledge (Cohen, 2007). Their assumptions are concerned with the creation of knowledge and how it is verbalised, in other words what knowing means. Guba and Lincon (1994) explain that epistemology questions the originality and nature of the relationship between the person who knows and the type of information he or she knows.

This research will be approached according to the interpretative paradigm as people interpret, perceive meaning and understanding as they form their own perspectives about

the existence of reality (Vandeyar, 2011). Packer (1985) further maintains that humans actively construct reality, knowledge, and identities bringing in the ideology of hermeneutic principles.

“Hermeneutics maintains that much of our everyday experiences occur in the ready-to-hand mode of engagement, as practical activities in which actions and emotions are structured by the following; situation, cultural practices, current projects and concerns that include habitual responses that are so common and never taken into consideration which do not involve context-free elements definable in the absence” (Packer, 1985, p. 1083). It further recognises relationships between researcher and the researched phenomenon to create an account of the participant’s perspective, so both researcher and researched interlink.

3.2.2 Social constructivism paradigm

Constructivism is an epistemology, or a theory, used to explain how people know what they know (Bhattacharjee, 2015). Social constructionism suggests that changes do not occur because of biological or natural processes (Scholnik, Kol & Abarbanel, 2016). Through people’s backgrounds, meanings are formed and as they engage in interactions, their worldly encounters and their interpretation thereof cause change (Alanen, 2015). Fundamentally, as outlined by Bhattacharjee (2015), constructivism takes place when the construction of understanding is derived from worldly encounters and a reflection is made of such encounters. “The constructivist pedagogy is founded on the premise of creating knowledge in a learning environment supported by active learning, reflective learning, creation of authentic tasks, contextual learning and collaborative learning” (Keengwe & Onchwari, 2012, p.239).

Constructivists assume that when integrating technology in a constructivist learning environment; learners should be able to use technological tools to form their own knowledge. In Newhouse’s (2002) view an ICT assisted learning setting is of benefit to the constructivist teaching approach where learners employ the use of proximal learning in creating their own knowledge. Learning should be through active experience and

exploration which will uncover new discoveries within content knowledge and learning should occur through social context (Nguyen, Williams & Nguyen, 2012).

According to Keengwe and Onchwari, (2012), technology integrating means methods in which learners are supported using web-based tools as they create their own knowledge in the process of teaching and learning. Lee (2014) asserts that, while technology plays a vital role in teaching and learning, educators should be able to design conducive learning environments where application directly supports content knowledge delivery and offer an opportunity for content knowledge enquiry and discovery using technological tools.

The constructivist education paradigm asserts that learners should create their own knowledge thereby creating new understanding by using the existing content (Pritchard, 2007). Learning is not forced through reinforcing concepts but is rather a cognitive and socio-cultural interaction in an engaging and authentic learning environment (Otting & Zwaal, 2007). According to Jang, Reeve and Deci (2010), technological activities enhance deep learning. This is because, in those activities, learners devote more time and effort to learning. They are excited as they learn and strive to apply the attained concepts and skills to the future. As opposed to other theories, constructivism places an emphasis on learning by building activities whereby individuals build an understanding of events and learn how concepts are processed based on their personal experiences (Pritchard, 2007).

Barak & Asakle (2018) argue that a constructivist approach which makes teaching and learning learner centred has thereby called for a paradigm shift among the educational professionals, how they see and practise teaching has changed due to the integration of ICT in their teaching and learning. This has enabled teachers to implement a more learner orientated approach with effective assimilation of technology (Avidov-Ungar & Lluz, 2014).

In a constructivism theory the individual constructs his/her own knowledge through reflecting experiences (Bada & Olusegun, 2015). In a constructivism theory each

learner's performance is the result of exploration and continuous reflection, this knowledge discovery by learners supports or assists low ability learners to reach their full potential (Daling, 2017).

This theory will be applied by looking into the applicability of ICT tools in assisting progressed learners. The ability of progressed learners to discover knowledge with the assistance of technology and educators guiding them through the discovery process will be aligned to both theory and classroom practice.

Constructivism, according to Fosnot & Perry (1996) born through the works of scholars such as Piaget (1970) Bruner (1962,1979) Vygotsky (1962,1978) and Pappert (1980,1983) is an ideology which is set against socio-cognitivist which believes that people, their behaviour and backgrounds interlink in reciprocal fashion. This is saying that learning occurs within a context and students build mostly what they see and understand based on their encounters and environment (Kim, 2001). According to Honebein (1996) there is a direct link between a constructive classroom and ICT.

Using the seven pedagogy goals, Honebein (1996) indicates the role educators play in a classroom as;

1. Provide knowledge of the construction process.

The role of a learner is to check the topics. Look into methods of learning and come up with problem solving strategies. The role of an educator becomes that of a facilitator.

2. Provide experience in and appreciation for multiple perspectives.

It is ideal for learners to realize that the approach in problem-solving should not necessarily rely on a method to reach a solution, there could be multiple ways they could come up with. The teacher's role is then to assist learners to navigate possible ways to reach a solution and facilitate dialogue.

3. Embedding learning through realistic and relevant contact.

In Honebein's (1996) view, learning should not only be classroom based. Real life situations should be simulated to allow learning to be of benefit to the outside world. Real situations should be addressed within the context for learning. The role of the teacher is to bring real life situations into a classroom through scaffolding.

4. Encourage ownership and voice in the learning process.

Teaching and learning should be learner focused. Learners should determine what they need to learn and how they should learn it. The teacher's role becomes that of a consultant who assists learners to shape their learning goals.

5. Embedding learning is a social experience.

Learning must show an inter-relation and social cohesion. There should be a platform of dialogue and collaborative practises. The role of the teacher is to facilitate dialogue between and amongst learners.

6. Encourage the use of multiple mode of representation.

The introduction of ICT in the classroom plays a significant role. Learners should be allowed to choose how they want to represent their work. It could be verbally, in writing or with the use of ICT tools such as videos, applications or simulations. The role of the teacher is to allow creativity and choice in a classroom.

7. Encourage self-awareness of the knowledge construction process.

The students, according to constructivism should be able to explain the process of learning and how they reached a certain outcome or solution. The role of an educator is to facilitate the process of learning.

In conclusion, "Like the proverbial horse led to water but which must do the drinking itself, even with the best teachers and methods, students are the only ones who can actually do the learning", (Wang 2011, p. 81). Many scholars in Wang's study believe in a constructive type of approach because it has shifted the centre of teaching and learning and made it learner orientated (Jones & Brader-Araje, 2002). It can be concluded that

ICT enables or promotes a constructive learning environment. Constructivists emphasise that learners should build their own knowledge base either alone or in group work. Each learner is given resources to assist and guide in problem-solving or construction of new knowledge. In a constructivist framework, the role of the community plays a vital role as it offers the setting and sets the challenge and gives a road map to problem-solving techniques (Davis, 1990).

3.3 METHODOLOGY

Mouton (1996, p. 35) describes methodology as a way of doing something. This considers the design, setting, sample, data collection and analysis techniques in a study. Henning, Van Rensburg and Smit (2004) further describe methodology as a set of interlinked methods that complement one another, producing data and findings that will realise the purpose of the research. According to Holloway (2005), methodology is an outline of theories and principles which guides how things should be carried out.

This study will use a qualitative methodology. In qualitative methodology, a researcher interacts with the participants. In the process, the participants unravel his/her world and interpretations are made using qualitative procedures (De Vos, 2002). "Qualitative research refers to inductive, holistic, emic, subjective and process-oriented methods used to understand, interpret, describe and develop a theory on a phenomenon or setting, it is a systematic, subjective approach used to describe life experiences and give them meaning" (Barnes, Grove & Burns, 2003, p.356; Morse & Field, 1996, p.1999).

Bogdan and Biklen (1992) explain a qualitative data collection technique as a method in which researchers pay attention to how things in a society have been naturally created or made, the deeper relations between content matter and what shapes the inquiry. They seek to respond to how social experience is created and given meaning (Denzin & Lincoln, 2011).

As explained by Henning, Van Rensburg, & Smit, (2004) when findings are arrived at without using statistics, such a study is regarded as qualitative enquiry. "Qualitative research basically works towards the interpretation of meanings, emotions, behaviours

and/or perceptions by analysing concrete cases in their temporal and local particularity and starting from people's expressions and activities in their local contexts" (Flick, 2009, p. 30).

Golafshani (2003, p. 455) further indicates, it is a kind of research "that produces findings from the real-world setting where a phenomenon of interests unfolds naturally". Humans are natural story tellers and are socialised in societies surrounded by stories which give narrations of who we are and our belonging, beliefs and code of ethics and principles (Bolton, 2006). This study will therefore collect data using a qualitative research methodology.

3.4 RESEARCH DESIGN

This study was a descriptive case study where data was collected using a qualitative data collection method. "Case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context" (Simons, 2009, p. 21). Stake (1995) explains that a case study is a broad term used to identify research that includes quantitative, qualitative, and mixed-method studies. This design was utilised for the researcher to fully understand a particular phenomenon and its existence. A case study is further explained as a realistic investigation that explores phenomenon which are of a contemporary nature at their real-life existence, especially when the link between them is not defined clearly (Yin, 2013).

A descriptive case study is a "systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest" (Gog, 2015, p. 33) According to Stake (1995), a case study allows a researcher to understand a specific ideology and its existence fully. Yin (2013) further outlines that this empirical inquiry investigates a contemporary phenomenon in its real-life existence or content, especially when there is not a clear definition between the boundaries of a phenomenon.

A descriptive case study is further explained as a tool that describes situations. This design does not determine cause and effect (Jacson, 2015). Data will be further drawn

from various sources such as departmental documentations and policies, educator's lesson plans and semi-structured interviews.

3.5 DATA COLLECTION TECHNIQUES

To collect data, semi-structured interviews will be used. "Interviews are used to generate data that are systematically analysed to search for themes and patterns that illustrate similarities/differences and uncover the meaning of the particular experience" (Cooper, Endacott & Chapman, 2009, p.157). The interviews will be in-depth but open-ended in nature and questions will be fluid rather than rigid. In their description Bogdan and Biklen, (1992) describe that an in-depth interviewing, in order to obtain detailed information, open-ended questions are the best type of questions to use. "Open-ended questions allow for the informants to answer from their own frame of reference rather than being confined by the structure of pre-arranged questions. The interviewer's line of questioning will logically follow the respondent's answers so that the interviewee's point of view is consistently received, acknowledged and reflected. Data will further be collected from the recent departmental policies, circulars and educators' lesson plans.

3.6 STUDY POPULATION AND SAMPLING

Marshal (1996) defines a population as a target group or a set of objects to which the researcher has an interest to study. The use of sampling is a viable and logical way of forming interpretations about a larger group. The study population for this inquiry was English First Additional Language educators in the intermediate phase from the two ICT priority schools in Tembisa. Convenient sampling and purposive sampling were used to select all available intermediate educators from these pilot schools. In convenience sampling, those who are available and likely to participate are selected, (Hancock, Ockleford & Windridge, 1998). All intermediate FAL educators that were available from both primary schools were selected.

The criteria was that because the interest is English FAL, educators who use technology in the intermediate phase will be selected. The number of the interviewees were

determined by their willingness and ability to use technology in pedagogy to teach English FAL. Ideally, it was educators from grade 4 to 6 which could be three educators per school making it a sample of six educators. Usually in a primary school, one or two educators teach a grade. The assumption was that three intermediate educators in each school were teaching English language FAL. Two more educators were selected depending on their willingness to participate, these were educators working on the reading program offered in these schools by the Click Foundation. This foundation has formed a partnership with the Department of Education and they use ICT tools to improve reading for low ability learners. Eventually I found eight educators to participate in the study.

3.7 DATA ANALYSIS

To analyse data and classify it into meaningful analysis, Atlas.ti software will be used. According to Lewins and Silver (2007), Atlas.ti assists researchers to find and systematically analyze difficult concepts posed in unstructured data. The program offers tools that allow the researcher to find, code, and interpret findings in primary data material, to weigh and evaluate their importance, and to visualize the often complex relations between them (Lewins and Silver 2007). According to Barry (1998) this software works with qualitative data by coding it and classifying it into similarities and patterns and creating meanings and explanations according to various categories. Data was then transcribed and organized into codes and themes.

3.8 METHODOLOGICAL NORMS

3.8.1 Trustworthiness

According to Lincoln & Guba (1985) truth value in a research asks whether the researcher has established confidence in the truthfulness of his or her findings and the contextual factors in which the study was undertaken. It further takes into consideration the level of confidence of the researcher based on the research methodologies, participants, and situation. In qualitative studies, to examine the truth value, threats and internal validity must be considered and managed (Sandelowski, 1986). While using a qualitative

methodology, convenient and purposeful sampling, the researcher will ensure that truth value of findings is obtained.

3.8.2 Credibility

According to Leininger (1994), for a concept to be credible, it needs some level of submersion within the research to allow that findings or patterns are verifiable. To achieve this, the researcher intends to spend adequate time to study and verify recurrences and similar patterns within the data obtained.

3.8.3 Dependability

The dependability criterion is explained by Lietz and Zayas (2010) as a relation to the consistency of findings. Qualitative researches are mainly based on studying a phenomenon in its natural setting. The researcher will ensure that participants selected are true representatives of a larger sample and qualitative data collected can be obtained by another researcher. As reiterated by Bogdan & Biklen (1992, p. 490) “the data collected in qualitative research is thick, rich and deep, which often overrides the preconceived attitudes of the researcher”.

3.8.4 Confirmability

Confirmability is the ability of others to confirm or corroborate the findings (Drisko, 1997). As asserted by Shenton (2004) steps will be taken to help ensure as far as possible that the work’s findings are a true reflection of the participant’s ideas. The researcher will ensure that the data and findings are clearly linked. To achieve confirmability, this research will portray findings which are only yielded from the findings, not the researcher’s own predictions and assumptions.

3.8.5 Transferability

Lincon and Guba (1985) argue that transferability means that findings can be applied in theory, practice or in the future studies. Transferability is the level to which findings fit

situations outside of the study and are regarded as meaningful. As much as full transferability may not be guaranteed, this research intends to find information which may be applicable to other researches with the same or similar population sample or unearth findings which may be relevant to other studies similar in nature. To ensure transferability, the researcher will give a full description of the phenomenon, findings and background information to enable other scholars to compare.

3.9 ETHICAL CONSIDERATIONS

It is of vital importance for the researcher to establish and consider trust between herself and the participants. They should be awarded respect and be treated as autonomous beings and should be allowed to make their own decisions which are not influenced by the researcher. Possible risks and harm, while carrying out this research, will be examined regularly to increase sensitivity to the participants.

The participant's identity will be confidential and anonymous. The study will use consent letters to ask permission from principals and teachers and pseudonyms (code names) to identify them will be employed.

3.10 CONCLUSION

My ontological assumptions indicated that the application of ICT in teaching and learning can influence a learner's comprehension of FAL content. This research further explored the interpretative paradigm as people understand, observe and comprehend meanings and understandings from their own interpretation of the existing reality (Vandeyar, 2011). Their background and interactions with the society further aid them in making sense of their reality (Alanen, 2015). This has a direct link with Newhouse's (2002) view that ICT assisted learning in a constructivist teaching environment enables learners to discover and make sense of their own reality.

This study further used a descriptive case study approach. Simons (2009) explains this as an in-depth examination of a phenomenon while a descriptive case study is a "systematic inquiry into an event or a set of related events which aims to describe and

explain the phenomenon of interest” (Gog, 2015, p. 33) To collect data, the interview method was used which generated data that was analysed using Atlas.ti. The selected population which was conveniently and purposefully selected was eight intermediate phase educators from two primary schools.

CHAPTER 4: DATA ANALYSIS

4.1 INTRODUCTION

In this chapter the focus was to analyse data collected and interpret findings from the respondents. This also includes a review of lesson plans, annual teaching plans and policies relevant to the participants' teaching and learning. All interviews were transcribed to enable easy analysis (Creswell 2014).

In this study, as already outlined, data was collected through open-ended interviews, educational policies and lesson plans. This analysis was based on eight educators interviewed in two Tembisa schools and were guided by the following objectives:

1. To investigate whether technology can be used effectively to support progressed learners in English FAL comprehension.
2. To investigate how educators use technology to support progressed learners in English FAL comprehension.
3. To investigate what the benefits are of using technology in pedagogy for supporting progressed learners in English FAL comprehension.
4. To investigate what the challenges are that face FAL educators when supporting progressed learners using technology.

The following questions were asked:

Main research question:

How effective is using technology to support progressed learners in English FAL comprehension?

Sub research questions:

- a) How do FAL (English) educators use technology to support progressed learners in English FAL comprehension?
- b) What are the benefits of using technology in pedagogy for supporting progressed learners in English FAL comprehension content?
- c) What are the challenges faced by FAL educators when supporting progressed learners using technology?

4.2 PROCESS

As outlined earlier, data was qualitatively collected using semi-structured interviews. These interviews were conducted face to face, telephonic appointments were made and they took place at the participants' schools.

Introductions were made and the researcher outlined the purpose of the interview, requested permission to record the proceedings in order to ascertain that all responses were captured. Each participant was asked 17 questions as indicated in Annexure F. Although the questions were asked in English, participants had a freedom to respond in any language with which they felt comfortable.

4.3 THE EFFECTIVENESS OF USING ICT TO SUPPORT PROGRESSED LEARNERS IN ENGLISH FAL COMPREHENSION

The three objectives of this study were guided by the main research question. The following analysis is based on what educators reported with regard to the effectiveness of using ICT in pedagogy to support progressed learners in comprehension by addressing sub research question 1 and 2.

4.3.1 Teaching methods educators use in their pedagogy

In responding to what teaching methods and strategies educators use, the eight participants shared a common view as of Bas and Beyhab (2017) that learners learn through practise. They acknowledged that self-exploration to find responses has proven to be of greater benefit. Bas and Beyhab (2017) assert that “the benefits of experiential, hands-on, student-directed learning is very important, most teachers, knowing the value of engaging, challenging projects for students, have planned field trips, laboratory investigations, and inter-disciplinary activities that enrich and extend the curriculum”.

“You group them, give them a concept and instruct them to practise on their tablets to find a solution”, reiterated Participant 4.

Participant 6 further highlighted that when one uses the discovery method as a teaching method to teach, there is a significant amount of responses or solutions arrived at and learners can explain how they arrived at the solution. This is in line with Honebein (1996) as he describes the seven pedagogical goals of constructivism that educators should allow self-awareness of the knowledge construction process, meaning learners are able to explain the process of knowledge acquisition.

Another common method educators use is problem-solving. This method is strongly viewed by five of the eight participants. It encourages learners to seek their own solution to a given problem. In this kind of learning, learners are given a challenge, learners are unaware of the solution and their role is to determine the answer (Deen, Van den Beemt & Schouten, 2015). Three participants indicated that they use more drill and practise because some concepts require memorisation instead of problem-solving in English FAL. Drill and practise deal basically with the 'what' and the 'when' which is best suited for a comprehension test (Murali, 2016).

4.3.2 Integrating ICT into your lesson content

In responding to this question, there were numerous views shared which varied between participants. The two participants who were running a Click reading program indicated that they use applications of phonics with pictures, whereby learners learn how to sound words guided by pictures, gestures and images to depict meanings of both words, sentences and paragraphs.

“If they learn how to read with understanding by manipulating visual worlds and images, they will be able to attend to comprehension papers”, stated Participant 2.

This is in line with a study conducted by Glenberg (2017, p.12) who says “when using the computer, children manipulated images on the computer screen rather than directly manipulating toys. Manipulation of the images produced benefits relative to re-reading comparable to those found when manipulating the toys”.

The most common response from the eight participants, was that they use easy materials from the internet and eBooks and smart boards as reading resources. This practice is

supported by Day (2002) saying, in order for reading to be effective and possible and to obtain expected results, texts must be of the learner's competency level especially if it is a second language.

4.3.3 Educators' experiences using ICT

This question was aimed at assessing the experience of teachers in ICT application in the classroom which to a degree would affect their competence in the application. Participant 2 who is a new graduate indicated that he used ICT at a tertiary studying level and for him integration comes easy and naturally. Four participants indicated that they started in 2014 when the program was introduced at their schools while the other two indicated that they had just started using ICT during the Click Foundation reading program. Wang (2011), in a study conducted in Mongolia, asserts that, less experienced educators who have recently graduated from higher institutions have portrayed an ability to easily teach with ICT as compared to the more experienced educators who were exposed to older traditional teaching methods. Even in this study, an educator who had just graduated indicated that he felt more comfortable with teaching with ICT as compared to other educators who still switch to a more traditional way to support progressed learners.

4.3.4 Educators' view about teaching with ICT (benefits)

In responding to how participants feel about teaching with ICT they share the same view by indicating that it has improved their easy access to resources and has made lesson planning easier and teaching becomes fun. The introduction of ICT tools has introduced the power of diversity, accessibility of information and knowledge transfer beyond the classroom (Majumdar, 2015).

In his research about benefits and challenges of Information and Communication Technologies (ICT) Integration in Québec English schools, Rabah (2015) indicated that when ICT is incorporated into teaching and learning, the following occurs; attention span of the learners is improved, educators are able to deliver a well-researched content, learner autonomy is encouraged, learners learn in a co-operative way as they obtain

individualised content aimed at their specific needs, and a learner's level of participation is increased. Instant feedback offered by ICT acts as reinforcement and correction of misconceptions. These findings are similar to the responses obtained from the participants in this research.

Figure 4.1 below shows similar responses from the eight participants. These participants shared common views on the perceived benefits of using ICT as pedagogy in supporting and teaching progressed learners.

All participants indicated that the introduction of ICT in their schools have yielded more far-reaching results than it was anticipated in terms of learner performance for both able and progressed learners. Participant 2 stressed that: *"When learners are interested in finding a solution to a problem, their concentration span is prolonged and they thoroughly concentrate"*.

Participants have indicated that child-centred learning encourages full classroom participation and allows for group work which thereby encourages peer assistance which is beneficial to those learners who are unable to participate in a class. *"Learners are eager to assist each other to discover or find answers, thereby encouraging self-discovery of new content or answers"*, reiterated Participant 1.

This is further supported by Collins (2011), the introduction of ICT into the classroom as a teaching and learning method has been seen as a way to encourage communication between learners and has also contributed to a positive attitude displayed towards learners' approach of work activities.

Some ICT applications offer rewards and instant feedback. Educational games challenge or encourage learners to want to move to the next level or collect points for the particular topic.

Participant 2 said: *"learning which is enhanced with a little reward acts as a motivation for students to achieve a higher result"*.

"Using Click Foundation reading resources, learners have to complete level A to move to level B, so learners are eager to advance to the next level by attaining a higher score on

his or her current level hence encouraging participation and higher attainment,” stated Participant 3.

Participant 7 further confirms that it is easy to support progressed learners because the lesson is self-paced while high ability learners can move forward as opposed to a traditional classroom where you are unable to both support progressed learners and teach the high ability learners, with ICT this becomes possible. This view is further shared by Participant 1 who highlighted that traditionally, he had to create time in the afternoon as support sessions but with the new ICT tools, he can teach and support at the same time, and use afternoon extra lessons as extra classes for something else.

All eight participants shared common views that the introduction of ICT to their school has proved beneficial. One participant noted that one of the most critical benefits of ICT, is that learner absenteeism has reduced significantly since the introduction of ICT. Learning has become fun and learners look forward to using either the tablets or the smartboards to discover new information. Participant 4 said: “our numbers have gone up from a class of 35 to a class of 45, which means more people realize the need to bring their children to this school”.

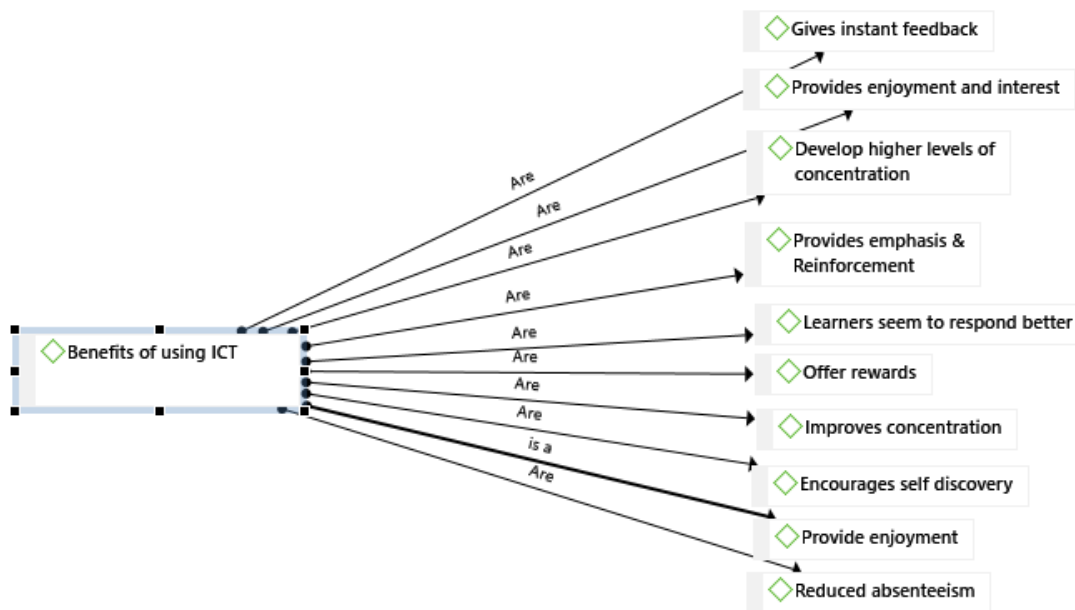


Figure 4.1 The benefits of using ICT in pedagogy for supporting progressed learners

4.4 WAYS IN WHICH FAL (ENGLISH) EDUCATORS USE ICT TO SUPPORT PROGRESSED LEARNERS IN ENGLISH FAL COMPREHENSION

4.4.1 Type of ICT tools educators use in their pedagogy

The following analysis examines ways in which educators support progressed learners and the tools they use in doing so.

Figure 4.2 below indicates tools educators use as part of pedagogy in supporting progressed learners. Common factors between all these participants is that all classrooms use smart boards which have been installed, e-books and e-lesson plans. ICT has replaced the traditional way of teaching whereby the interaction was only facilitated by an educator using a chalkboard. To date, digital whiteboards which are interactive, smartphones, computers or tablets are new tools brought in as part of pedagogy (Persson, 2016).

Participant 1 highlighted that, *“this content is still very similar to the hard copy CAPS text books, it is still general, it does not take into consideration the type of learners we have, we still have to design simplified lessons to accommodate progressed learners”*.

ICT promotes functional learning through the use of images, graphics, video, charts and graphs (John & Sutherland, 2004).

You Tube and videos

Most participants indicated that they use You Tube more often in their lesson plans. In You Tube, they find simplified videos, though they are not CAPS aligned but they possess similar themes. They download relevant videos and use them as resources. Videos create diorama to capture the pictures and sounds which creates vision, sound and movement hence generating excitement for the learners (Sahni, 2016).

Games & simulations

Most participants use games to drill their learners. These are interactive content which basically address section B of a comprehension which is basically a language structure.

“This is the easiest part because I download a small grammar content and I know it will have an interactive informal activity for my learners to do”, said Participant 6. “It is easy to practise language structure from different interactive websites where you find their language games, and learners enjoy them”, emphasized Participant 1.

Phonic sound, songs and pictures

Digital story reading “stimulates students to utilize the technology such as audio, video, and images to convey information in the form of a story” (Bui, 2015, p. 6) “The exposure to digital storytelling not only encourages students to read more but also enhances their critical thinking” (Ohler, 2013, p. 14). These learners are unable to read; some can read but with little understanding. The fundamental aim of comprehension is to test the learner’s critical understanding of a written text. Both schools have introduced a Click Foundation program which assists with an application which is aimed at improving reading and phonics. This application teaches learners how to read using sound, songs and pictures. It starts at a very low level and it assists progressed learners to be able to read. In both schools, participants have indicated that this program is a solution to a serious reading challenge they have been facing over the years. What happens is, learners use computer animations, pictures, songs and video clips to sound words and explain their meanings. They then progress to a higher level where they are expected to read paragraphs and understand the meaning.

“The learners we sent to this program have improved in class,” said Participant 3.

Smart boards

When learners use a digital board, they are able to read a long text with ease because they can control the font size and at times change the colour of the text to suit their eyes, thereby reducing eye stress as compared to hard copy or print material (Sahni, 2016. In

both schools, participants shared the same view, by indicating that the use of smart boards for reading is easier than learners having to read from text books.

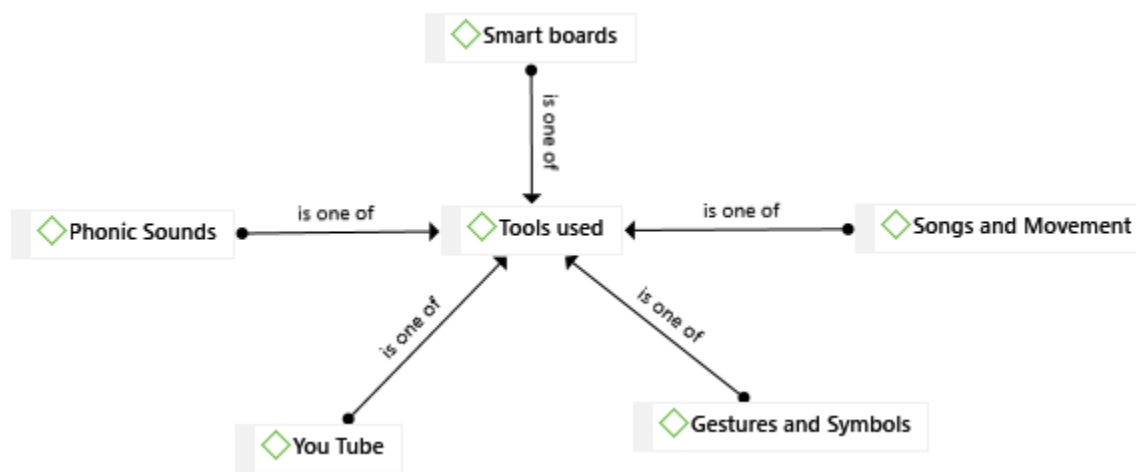


Figure 4.2: Ways in which ICT is used to support progressed learners

This study therefore sees a similarity in terms of tools educators use in using ICT as a pedagogy in content delivery. They all agree that since the inception of the ICT into their schools, the teaching aids are no longer a challenge to obtain as it is easy to teach with the above-mentioned tools.

4.4.2 Ways in which ICT is used in pedagogy

Pérez-Sanagustín, Nussbaum, Hilliger, Alario-Hoyos, Heller, Twining, and Tsai, (2017) in a research on ICT in K-12 schools indicate that ICT provides new ways of supporting learners - it changes pedagogy. One of the main advantages for utilising ICT in teaching is the opportunity of digitalising assessment methods, offering quicker, individualised, and constant responses and feedback through various ways (Collins, 2011). Figure 4.3 below shows responses to ways in which ICT is used. Of the eight participants interviewed, all indicated that they use ICT for informal assessment, as a support activity used for reinforcement and to introduce a lesson. They are used as a tool for exploring new learning topics, solving problems, and promoting critical thinking skills.

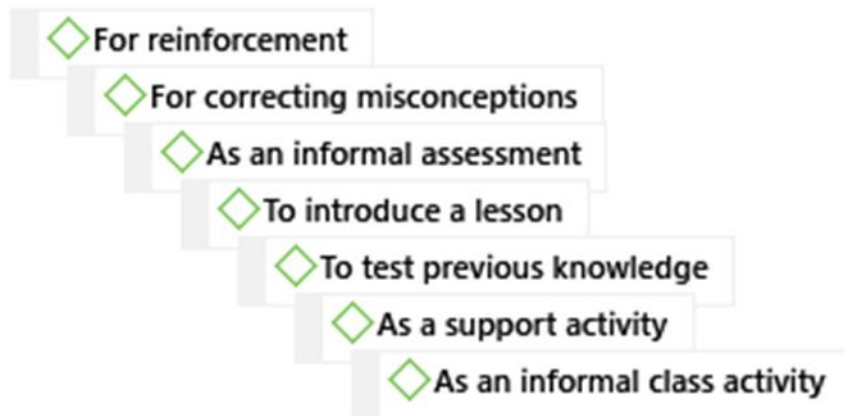


Figure 4.3: Ways educators use ICT in a classroom

Although educators indicated a high level of commonality in their responses, the researcher went further to find out which were the most preferred ways of using ICT in the participants supporting progressed learners. Educators prefer to use ICT more as an informal activity rather than a reading activity, as illustrated in Figure 4.4 below. This means they apply ICT tools more for section B of the comprehension paper, which is language structure. It takes the form of a game and is animated for easier learner usage.

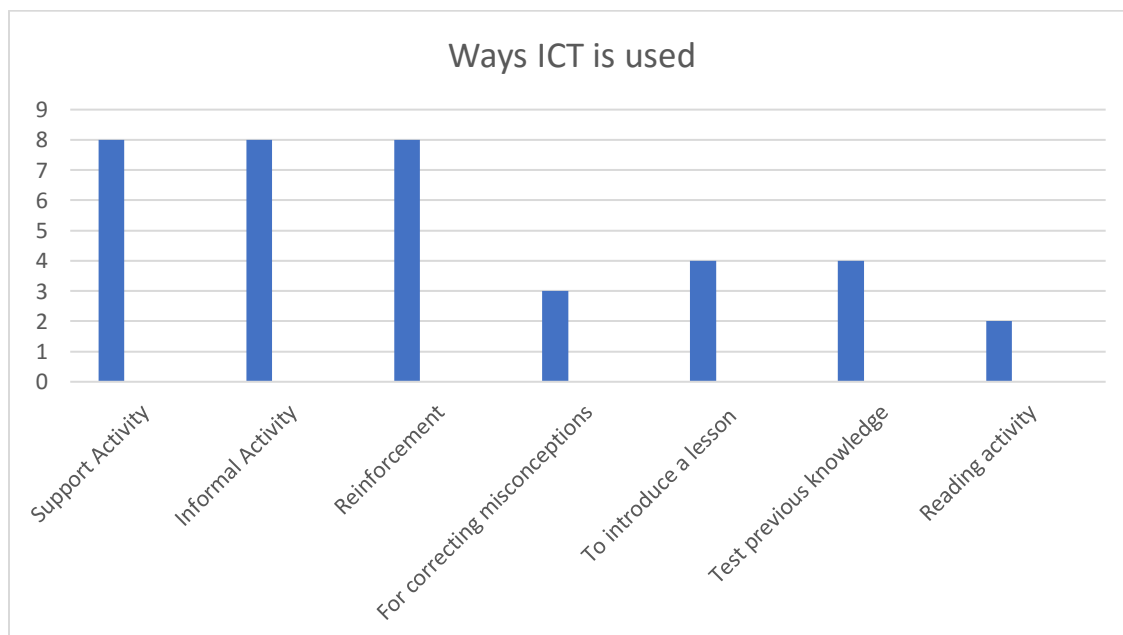


Figure 4.4: Ways in which ICT is used to support progressed learners

4.5 TRACKING OF PROGRESSED LEARNERS PERFORMANCE A REVIEW OF PERFORMANCE SCHEDULES

Numerous studies have reiterated the importance of incorporating ICT into pedagogy as an improved learner performance (Pérez-Sanagustín et al., 2017). In this study, the researcher also examined the performance of progressed learners from the year they were progressed to the current year performance. The focus was only on the progressed learner performance. Participants outlined that there is no prescribed tool to be used in supporting these learners, it is mainly at an educator's discretion as to which method or tool to use and they vary according to concepts being dealt with as per the annual teaching plan. Most participants preferred the use of games and You Tube videos as a support tool. The results indicate a progress in terms of learner performance from the year they were progressed to date.

4.5.1 Results analysis of school A

Figure 4.5 below indicates how progressed learners in school A performed as tracked. From grade 3 to Grade 4 in 2017, 14 learners did not reach their promotion requirements and were therefore progressed to grade 4, 22 were progressed to grade 5 while 34 were condoned to Grade 6 due to different criteria as explained in the literature. In term 1, only 6 learners of the 14 in grade 4 met the requirements and achieved success. In Grade 5, 12 learners and 14 in Grade 6. In term 2, the numbers increased and only two learners were reported to still be struggling in grade 4, while in grade 5 only three were struggling. The biggest challenge is still experienced in Grade 6 where 13 learners are still struggling despite all the intervention programs applied. What is evident is that there is significant improvement of over 50% pass rate of progressed learners in all grades in English FAL. This is further numerically presented in Table 4.1.

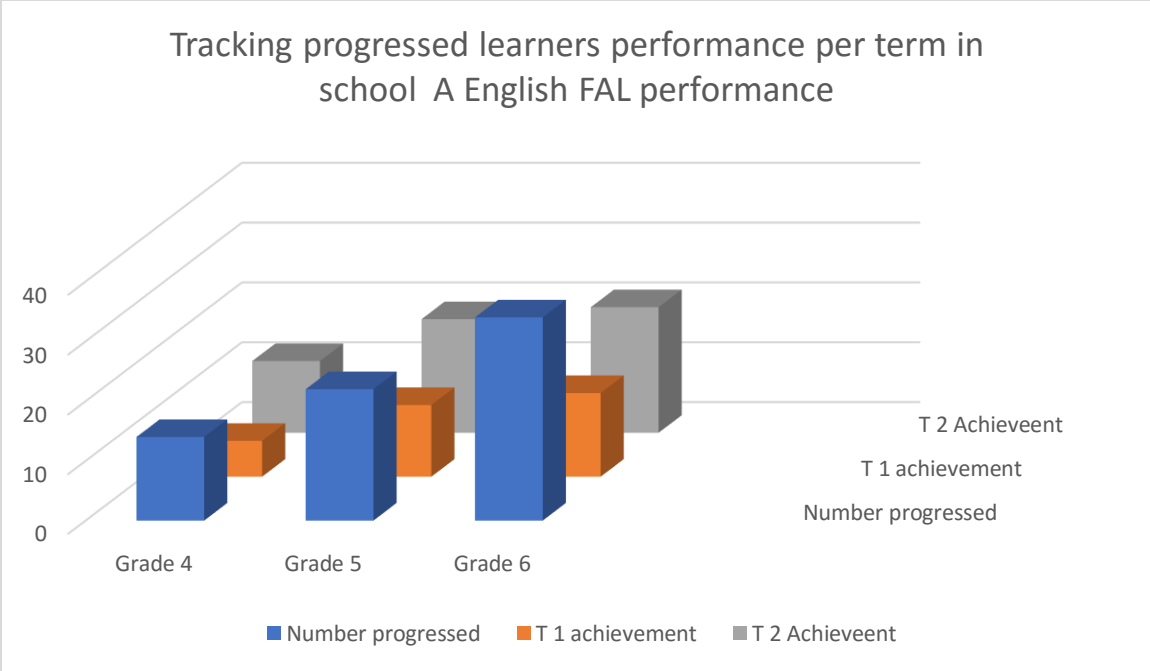


Figure 4.5: Performance of progressed learners in term 1 and 2 of 2017

Table: 4.1: Performance of progressed learners in term 1 and 2 of 2017

Grade	Number progressed	T1 Achievement	T2 Achievement
Grade 4	14	6	12
Grade 5	22	12	19
Grade 6	34	14	21

4.5.2 Results analysis for school B

Figure 4.6 and Table 4.2 indicate the number of progressed learners not meeting promotional requirements from term 4, 2017 to term 2, 2018 in school B. What the figure and table demonstrate is that in 2017 end of the term 4, in grade 3, 18 learners were progressed to grade 4 and by the end of term 1, through a robust intervention initiative, three learners had met the requirements, leaving 15 learners still requiring support. This number was further reduced to 11 by the end of term 2. By the time data was collected in grade 4, seven learners of the 18 were no longer regarded as progressed learners, the intervention strategies applied assisted them to be on par with their fellow learners in the

same grade who had achieved the promotional requirement. The same analysis applies to grade 5 and 6 learners. There is significant evidence that there is an improvement in the learner performance and all participants attributed the improvement to the use of ICT as a support tool for low ability learners.

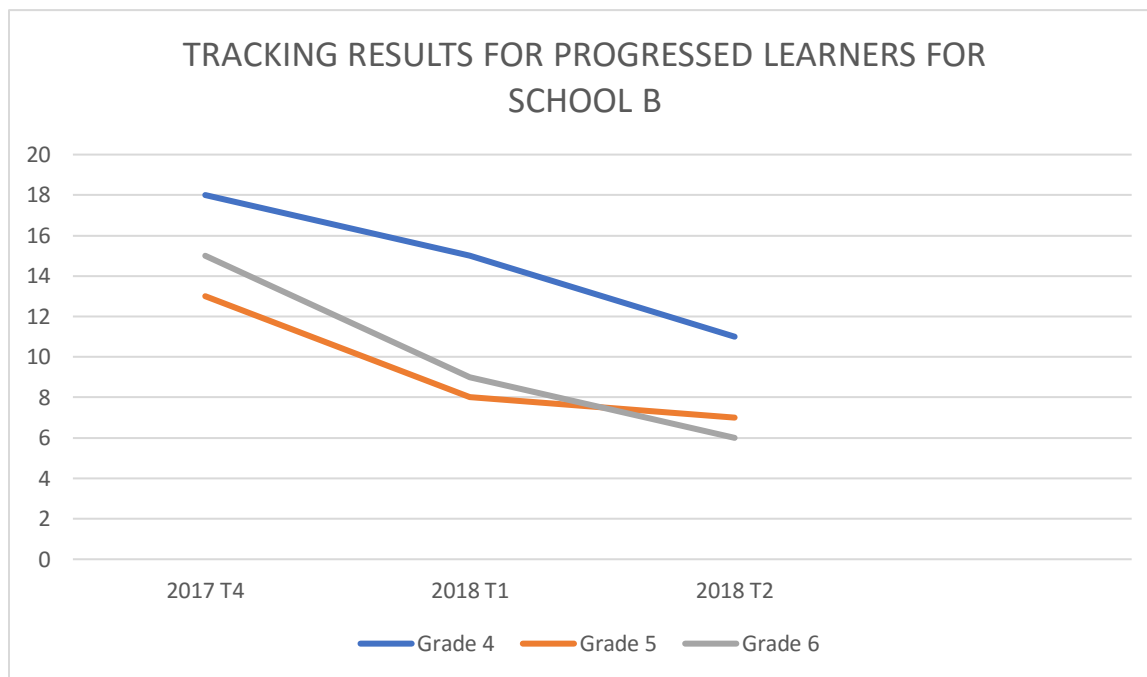


Figure 4.6: Results for progressed learners for school B

Table 4.2: Numerical representation of progressed learner performance

	Grade 4	Grade 5	Grade 6
2017 T4	18	13	15
2018 T1	15	8	9
2018 T2	11	7	6

4.6 CHALLENGES OF USING ICT TO SUPPORT PROGRESSED LEARNERS

All the participants in this study were selected from two ICT priority schools. This therefore indicates that ICT resources and access is not a challenge. Despite all the fully resourced classrooms and readily available technicians, participants still experienced challenges. They indicated that their challenges are intrinsic. According to Baturay, Gokearslan and

Ke (2017), intrinsic barriers are what educators' believe to be the best educational pedagogy, how they view the technological change in the classroom, and their general practice. They further argue that rapid change on the issue of innovation could pose challenges. The following review outlines findings of participants in relation to the challenges they experience in integrating technology into teaching and learning.

4.6.1 Curriculum demands

'Our curriculum is still the same CAPS curriculum, it is overloaded and as a result it becomes difficult for low ability learners to learn at an expected pace especially because they still have to refine their search skills on the internet and still struggle to read what is said', echoed Participant 1.

The challenge facing educators to fully apply ICT into their teaching methods is not only finding enough time to come up with appropriate computer skills or how to apply these in the lesson, but it is coming up with relevant contexts for practical integration that is in line with both the curriculum and the learning process (Richards, 2005).

'We learn this technology together with learners and we are not able to complete the prescribed syllabi requirements,' said Participant 4.

One common finding was, that there are not ready-to-use interactive activities at the educator's disposal. Each teacher needs to do his or her own research which at times is not fully in line with what the Annual Teaching Plans (ATP) prescribes, especially for progressed learners.

"We are expected to come up with simplified content for progressed learners, it is simply not there because reading is also a challenge for these learners" indicated Participant 4.

4.6.2 Training and development

One of the most exciting findings in this study was that educators who are new in the profession, as seen from Participant 2, were more comfortable to use ICT than educators who are experienced in teaching.

“When I studied at university, we used a lot of ICT tools, so for me integration comes easily,” said Participant 2.

Participant 1 indicated that it gets really challenging as he has been using the traditional method of teaching for over 20 years of his teaching career and has just switched to ICT in 2014. Plumb and Kautz (2016) note that in order to master ICT, normal IT competence plays an important role and lack of this competence therefore becomes a challenge to enhancing a technology orientated teaching and learning classroom. The focus of ICT integration to be effective in the classroom should be on educator development and a change of mind set for educators who used and preferred a more traditional approach to teaching (Qasem & Viswanathappa, 2016).

4.7 DATA ANALYSIS OF POLICIES

According to DBE (2012) the National Policy Pertaining to the Program and Promotion Requirements of the national curriculum statement grades R – 12 (NPPPPR) attempts to explain and gives direction on how learners should move from one grade to the next. According to this policy, progression refers to the movement of a student to the next grade from grade 1 to grade 12 even if this learner does not meet the requirement to be granted a pass to the next grade. This among others was introduced to prevent learners from repeating one phase for more than four years and having more mature learners in lower grades.

The admission policy for ordinary public schools as published as Government Notice 2432, Government Gazette, Vol. 400, No. 19377 of 19 October 1998, outlines that the underperformance of the learner in the previous grade is addressed in the grade to which the learner has been promoted through various support initiatives. The rationale behind the policy on progression according to DBE (2017A) is that it is intended to minimize the high dropout rate and maximize school retention. The notion of progression of learners is not new in our education system and internationally. Progression of learners is consistent with international best practice in countries such as Finland, Sweden, Denmark, Japan, Korea, and the United Kingdom. The intention is that instead of forcing these learners to

consistently repeat a grade, rather give them the opportunity to progress to the next grade and provide them with additional support.

This policy further gives a guide on promotional requirements. "Promotion" in this context refers to a move of a student from one grade to the next if such a learner has satisfied a required level of achievement of a particular subject in a particular grade based on National policy pertaining to the program and promotion requirements of the NCS Grades R-12.

Since becoming a democracy in 1994, the task of transforming from the past apartheid era to a democratic society which strives to create equal opportunities for all its citizens turned into a number one goal for South Africa. There was a dire need for redress and change in areas such as language (Sayed & Ahmed, 2011). According to Motala (2006), the big achievement was a review of and creation of an education system based on principles of quality and equity in pursuit of democratic ideals (Van Staden, Bosker & Bergbauer, 2016). Spaul (2015) indicate that in South Africa, learners learn in their mother tongue in the foundation phase and then switch to what is termed language of teaching and learning in Grade 4 to Grade 12 which is mostly in English and Afrikaans.

Table 4.3 below indicates all legal frameworks around progression and promotion policies in South Africa. All participants have indicated that these are the policies which guide their teaching and movement of learners from grade to grade. Through a review of these policies, it is indicated that there is a link between progressing policy application and tools to be used to implement this policy, one being changing the classroom and applying ICT tools with PCK in line with constructivist theory thinking.

Table 4.3: Policies guiding progression policy

1996	South African School Act sec	Age cohort Number of years in the phase
2011/2012	NPPPR	National Policy Pertaining to the Programmeme and Promotion Requirements of the National Curriculum Statement Grades R– 12: Pretoria
2014	White paper on E learning	Introduction of ICT as a support tool for teaching and learning
2015	Circular 3 of 2015	Mark adjustment
2017 (B)	Circular 1 of 2017	Maths condonation

4.8 LESSON PLAN REVIEW

This study further gathered data from educators' lesson plans. Below is a summary of the findings.

All participants indicated that the smart boards they use already have Annual Teaching Plans (ATP), e-books and e-lesson plans. One common view from all the participants was that these materials are not categorized to suit all classroom dynamics or varying learner ability and their time frames are stringent. *“You are expected to complete 2.5 % of syllabi coverage weekly but some learners are slow and it takes more than a week to complete a prescribed activity as per the ATP,”* reiterated Participant 4.

Table 4.4: Sample lesson plan for grade 5 at School A

English First Additional Language		
Grade: 5	Term: 2	Date: 12-23 July 2018
Module: 15 Topic: Friendship	Unit: 2	Contact hours: 1 Hour
PERIOD 11 & 12		
Previous content learnt: Language: Adjectives		
Content and concepts: Reading Comprehension		
Resources required: Interactive whiteboard, YouTube videos; internet access; laptop/desktop; students' tablets; DBE books; speakers; Moodle; TYB Portal; PowerPoint presentation.		
<u>Teaching Plan</u>		
<i><u>Introduction</u></i>		
<ol style="list-style-type: none"> 1. Pre-test: Spelling test on the following words- man, fast, handsome, girl and pretty. 2. Watch the YouTube video, "The Sharing Song" (Available from: https://www.youtube.com/watch?v=tShVolofZ_4) 3. Sing along to the song. Discuss the video with the class. What is the importance of sharing? How can we share? 		
<i><u>Body:</u></i>		
<ol style="list-style-type: none"> 1. Students must complete "The Angry Brothers Comprehension" by answering the questions into their workbooks. 		
<i><u>Conclusion</u></i>		
<ol style="list-style-type: none"> 1. Post-test: Students must complete the comprehension questions in their workbook. 2. Display memorandum. Mark as a class. 		
<u>Student Activity</u>		
<i><u>Introduction</u></i>		
<ol style="list-style-type: none"> 1. Watch the YouTube video, "The Sharing Song" 2. Sing along to the song. Discuss with the class. 		
<i><u>Body</u></i>		

3. Read “The Angry Brothers” comprehension and answer the questions in your workbook.

Conclusion

4. Mark and correct your work according to the memorandum. Remember to check your spelling and grammar.

Assessment: Informal-Memorandum

Another common finding was that; learners can expand their learning by “Googling” on the spot to obtain a solution. This allows for self-discovery of information but educators should guide such searches.

“Some learners get easily distracted by these gadgets and end up in wide searches as our lesson plans do not have a clear guide of which sites to visit hence learners prefer Google,” said Participant 1.

After the question whether the e-books have materials which cater for progressed learners, the participants’ views were common in the sense that, there is no room for support activities. What the policy advises them to do is to use simplified resources from the lower class.

“I use materials from Grade 4 as support material to teach progressed learners in Grade 5 because I do not have the competence to re-create my own interactive lessons,” Participant 1 said.

He further indicated that if all else fails, he resorts to printing material as a support strategy and this strategy was shared by three other participants.

4.9 CONCLUSION

“When used appropriately, different ICT tools are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping to make teaching and learning an engaging, active process connected to real life” (John & Sutherland, 2004, p. 3). Educators in this

study have common opinions. They all use hypermedia which enables language educators and their learners to apply resources such as digital texts and graphics which help them to explain stories, animations, videos and phonic sounds and songs. These are tailored to support progressed learners in their classroom. One can therefore draw a conclusion that learning which is learner centred, assists learners to achieve better through collaborative, explorative enquiry (Chan, Lau, Li, Pow, & Lai, 2017).

Secondly from their views, one draws a conclusion that the introduction of ICT in their schools has offered an authentic learning environment in which learners discover, create and use information. Learners have greater control of what they are learning and this has improved their interest, eagerness to build knowledge and willingness to participate. The ability to access various links, sharpens their knowledge discovery skills and encourages independent learning.

As English is studied as a FAL, application of ICT acts as a support intervention which simplifies and makes learning this subject easier and this has further been noted in the results analysis of term 4, 2017 to term 2, 2018. Learners manage to find resources such as spelling and explanations from online dictionaries, encyclopaedia, grammar quizzes and word puzzles. This has made learning easy, fun and self-controlled.

The following are similar findings as outlined by participants: Introduction of ICT has enabled an educator to obtain support materials easily from the internet. They can use some applications to test for prior knowledge, test current content understanding informally, or be used for formal assessment to test if the objectives of the lesson have been achieved. ICT is also a tool which assists progressed learners to give them information, explain processes and use games & video for illustrations. Some applications offered instant feedback and rewards, unlike traditional teaching and learning where feedback is given later, after a teacher has controlled all responses.

One can therefore draw a conclusion that, in the two selected schools, ICT is beneficial to assisting not only progressed learners but all learners. It has improved the pass rate by reducing the number of learners who are not achieving.

CHAPTER 5: FINDINGS

5.1 INTRODUCTION

This study focused on the impact of effectiveness of ICT to support progressed learners in the intermediate phase. This chapter is a discussion of the findings derived from the analysed data. The importance of using ICT to enhance teaching and learning has been established from the reviewed literature. Louw, Muller and Tredoux (2008) stated that used as a pedagogy, ICT has the ability to positively enhance teaching and learning capabilities and improve learner achievement.

According to Ranganath, Rayappa, and Priscilla (2017), English Language Learning (ELT) has been made original, interesting, thought provoking and no longer demanding. Not only has ICT benefited the learners by making teaching and learning learner centred, it has also with its technological tools enabled educators to coordinate efforts and understand the needs of the classroom in the modern technological world (Mampane, 2017).

Ranganath, Rayappa and Priscilla (2017) further reiterated that the utilization of ICT in language learning makes teaching and learning to be efficient, captivating and alluring. With the innovative pedagogy the educator's function is altered to that of guide to aid learners to select, organise, evaluate and use knowledge (Burden & Shea, 2013). According to Meyer and Gent (2016), the relevance of ICT is depicted as a support mechanism towards teaching and learning and when used within a pedagogy, it facilitates teaching and learning.

ICT, when used as a teaching method, easily disseminates knowledge, communicates and further facilitates teaching and learning. Nkula and Krauss (2014) further assert that the application of ICT enhances a learner centred teaching and learning as opposed to the traditional way of teaching especially when used as a support tool for low ability learners.

The following were the intended research questions, the researcher wanted to respond to:

5.2 RESEARCH QUESTIONS

Main research question:

How effective is using technology to support progressed learners in English FAL comprehension?

Sub research questions:

- a) How do FAL (English) educators use technology to support progressed learners in English FAL comprehension?
- b) What are the benefits of using technology in pedagogy for supporting progressed learners in English FAL comprehension content?
- c) What are the challenges faced by FAL educators when supporting progressed learners using technology?

5.3 FINDINGS OF THE STUDY

The aim of this study was to investigate if ICT can be used to support progressed learners in English FAL comprehension, to further investigate if teaching with ICT is effective to be used in pedagogy in assisting progressed learners to acquire content knowledge, and if educators can use technology to simplify and re-contextualise content acquisition for progressed learners.

English FAL is regarded as a core subject (DBE, 1996) and if a learner fails it, he or she cannot be promoted to the next grade. This subject therefore has a direct influence on the number of progressed learners at a school (DBE, 2017a). When ICT is brought into schools and is used as a teaching method for content knowledge delivery it helps educators and learners in augmenting teaching and learning goals (DBE, 2004). This study found that there is a significant improvement in the learner performance due to the introduction of ICT especially for progressed learners.

5.3.1 The effectiveness of using ICT to support progressed learners in English FAL comprehension

The three objectives of this study were guided by the main research question. The findings are based on participants' responses regarding the effectiveness of using ICT in pedagogy to support progressed learners in comprehension by addressing both sub research question 1 and 2.

5.3.2 Teaching methods educators use in their pedagogy

The findings of this study indicated that learners learn more effectively through the use of practise and self-discovery. This idea is further shared by Bas and Beyhab (2017) who highlight that best practices such as experiential, hands-on and student directed learning yield better results. The self-discovery method of learning produces better results as compared to the traditional teaching pedagogy as echoed by Honebein (1996). The participants moreover shared a view that discovery learner centred type of learning which was adopted from the constructivist ideologies enables learners to explain how they arrived at a solution and enhances problem solving skills.

The participants were of the similar view as Bas and Beyhab (2017) that learners achieve better when they are fully involved as participants. They agreed that when kids explore, it assists in problem-solving skills. Practical and experimental learning is therefore believed to be the most appropriate way of supporting progressed learners using ICT.

The discovery method as a teaching method to teach was also highlighted as the most effective method to teach productively, learners were able to explain how they reached a solution and were able to outline various steps they followed in reaching a solution; in this way learning becomes effective and meaningful. This is in line with Honebein (1996) who suggests that teachers should therefore give learners an opportunity to construct their own knowledge and to explain the process of knowledge acquisition.

Problem solving was also a method participants believed to be effective when used in the ICT classroom. This method was strongly viewed by five of the eight participants to

motivate learners to seek their own solutions to answers. This is in line with Murali (2016), suggesting that learners should be given room to solve their own challenges the best way they can without prescribed steps to follow. ICT when used in a pedagogy thereby enables learners to be problem-solvers on their own.

5.3.3 Integrating ICT into your lesson content

There were a number of views in addressing which part of the lesson is the most suited to ICT integration. The participants' practices and opinions varied to a degree. Participants involved in the Click Reading programme outlined that they use assistive reading devices during reading. Learners sound words guided by digital sound, pictures, gestures and images to depict phonemic awareness and meanings of both words, sentences and paragraphs. This was also used by Glenberg (2017) and he says learners are able to integrate ICT tools such as images and sound to get meanings.

One similar view was the use of simplified lower grade material as a support strategy. These materials are easily downloaded from the internet, thereby making easy access for both the educator and the learners. Participants in this study shared this view, that the use of ICT tools such as internet and e-books offer a variety of teaching aids which are easily integrated into a lesson thereby creating a virtual reality for the learners. In a comprehension classroom, reading for understanding is a core objective, so digital reading aided by images and sound assists low ability and progressed learners to create understanding.

5.3.4 Educators' experiences using ICT

The educator's experience has a direct influence on the application of ICT in a classroom. The researcher investigated both general teaching experience and experience in teaching or exposure to ICT tools. It was discovered that most participants' first experience in teaching with ICT was in 2014 when the schools were turned into ICT priority schools, although their teaching experience is generally more than fifteen years. What was fascinating was that educators with less than five years work experience portrayed some level of ease in teaching with ICT as compared to long service educators who still prefer

hard copy materials. The same findings are outlined in a study conducted by Wang (2011) in Mongolia.

This section aimed at finding out the experiences of teachers in ICT application in the classroom which is believed to have an influence in their TPCK ability. Findings indicate that, less experienced educators use ICT tools more easily than educators who have been teaching for a number of years. One of the common reasons is that, recent graduates who studied at university using ICT found it easier compared to their fellow educators who taught before technology was introduced as a pedagogy.

5.3.5 Educators' view about teaching with ICT (benefits)

One common view of all participants about the benefits of ICT is that they currently have easy access to resources and lesson plans that are properly aligned to digital resources. They outlined that they spend time on lesson preparation with ICT and it is easier preparing a lesson and presenting it. The benefits of ICT incorporation into pedagogy are outlined by Rabah (2015) as a learner's concentration span is improved and increased and well researched up to date content is shared. Majumdar (2015) echoes the same sentiments as the participants that lessons have become diverse and there is easy access to new or current information which is transferred beyond the class room.

Rabah (2015) outlines the benefits of ICT integration into content delivery as; attention span of the learners is improved, educators are able to deliver a well-researched content, learner autonomy is encouraged, learners learn in a co-operative way as they obtain individualised content aimed at their specific needs and a learner's level of participation is increased. Instant feedback offered by ICT acts as reinforcement and correction of misconceptions. These findings are similar to the responses obtained from the participants in this research.

One common finding was improved learner performance. Collins (2011) indicated that introduction of ICT as a pedagogy has been found as an important mechanism which has the ability to improve a learner's attainment. Participants further re-iterated that, ICT motivated low ability learners to strive to achieve or move to a next level in game- like

activities. This is due to the fact that they get instant feedback and rewards. Some applications offer feedback, rewards and some applications offer hints to reach a solution as opposed to a classroom environment where low ability learners are silently overlooked and forgotten in participation and discussion. One of the best discoveries was the view that since its inception in these schools, learner enrolment has increased and learner absenteeism has reduced. This indicated a high level of interest by learners and a willingness to learn.

5.4 WAYS IN WHICH FAL (ENGLISH) EDUCATORS USE ICT TO SUPPORT PROGRESSED LEARNERS IN ENGLISH FAL COMPREHENSION

5.4.1 Type of ICT tools educators use in their pedagogy

These findings outlined ways in which educators support progressed learners and the tools they use. Common findings were that participants prefer You Tube, games and simulations, phonic sounds, songs and pictures and smart boards. According to John and Sutherland (2004) ICT encourages practical learning and teaching through the use of images, graphics, videos, charts and graphs.

You Tube and videos

Participants indicated that they show learners video clips to demonstrate solutions or processes which ultimately facilitate or guide their learning processes. They further copy relevant videos and apply them as part of their resources.

Games & simulations

Games and simulations act as drill and practise for content which only require learners to memorise a concept or practise for emphasis. Comprehension activity consists of a section 2 which consists of a language structure type of activity. Concepts in this section require a degree of drill and participants believe that games and simulations come in handy.

Phonic sound, songs and pictures

As stated by Ohler (2013), online stories are fascinating and motivate or encourage a culture of reading and critical thinking. The main aim of comprehension is to test the learner's critical understanding of a written text by requesting them to deduce meanings, summarise, predict and argue their responses. The tools available, such as the Click Foundation reading program assists the participants to support progressed learners in improving their ability to read.

Smart boards

Smart boards have been argued to be beneficial as learners are able to manipulate the font size and colour of the text for their comfort and ease to read (Sahni 2016). All participants share the above view and that learning with the smart board brings all resources together to assist in the teaching and learning.

5.4.2 Ways in which ICT is used in pedagogy

Participants' views differed on their preferred time to use ICT in a lesson. In their study Pérez-Sanagustín, Nussbaum, Hilliger, Alario-Hoyos, Heller, Twining, and Tsai, (2017) on ICT in K-12 schools state that one of the benefits of ICT incorporation into teaching and learning was making assessment interactive and digital. This assessment application gives feedback quicker, learning becomes individualised, and corrections are instant. When used as an assessment tool, ICT gives further rewards of either points or a learner proceeds to the next level depending on the application being used (Collins, 2011).

It was further discovered that participants have a preference for ICT used as an informal activity rather than a reading activity, where application is more on language structure which is a section B of a comprehension task.

5.5 TRACKING OF PROGRESSED LEARNERS PERFORMANCE A REVIEW OF PERFORMANCE SCHEDULES

One of the objectives of this study was to assess the effectiveness of the ICT usage in supporting progressed learners, and to achieve this a review of a learner's performance was done. Tracking of learner performance indicated that in both school A and B, there was a significant academic improvement among progressed learners. The DBE (2011) outlines that with significant and tailor-made support, learners experiencing learning barriers have the ability to improve their performance.

5.6 CHALLENGES OF USING ICT TO SUPPORT PROGRESSED LEARNERS

Both schools are well resourced in terms of ICT requirements but there are still challenges found. All participants indicated that supporting progressed learners requires time and the CAPS policy does not provide for this. This puts a strain on syllabi coverage and completion. Another common factor the researcher found was that educators require constant training in the use of the smart board, especially highly experienced teachers who have been teaching using traditional methods. As reiterated by Qasem and Viswanathappa (2016) educators' development is required in an ICT classroom to enhance their competence in their use of ICT.

5.7 REVIEW OF POLICIES AND LESSON PLANS

Progression policy is a legal practice sanctioned by the Department of Basic Education and it is supported by the legal framework such as South African School's Act of 1996 and White paper 6 on Education. These legal frameworks give a road map on how a learner should be progressed and supported in each grade in order to be on par with the learners who have been promoted.

The lesson plans educators use also indicate when and how the incorporation of ICT into a lesson should happen. As indicated further by Sahni (2016) educators can apply ICT tools during any part of the lesson to enhance teaching and learning. All reviewed lesson plans accommodate the use of ICT within the teaching methodologies.

5.8 CONCLUSION

It is therefore concluded that, ICT integration into pedagogy is a tool used to assist and support progressed learners in the schools being studied (Richardson, Sales, & Sentočnik, 2015). Its benefits are numerous and the participants' views are similar to that of scholars reviewed under literature. It is further concluded when used appropriately ICT has the ability to improve learners' attainment, interest and participation in a class which is also in line with the constructivist ideology adapted to guide this study. Although there are a number of challenges found at the schools being studied, they to a degree are able to apply ICT to assist progressed learners and the benefits are visible and significant.

CHAPTER 6: RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

This chapter is aimed at giving recommendations of the findings as discussed in the previous chapter and this chapter will further provide concluding remarks.

According to the South African School Act cited in DBE (1996), there are guiding principles which detail the promotion of a learner from one grade to the next. Other than the promotion of learners who have met the requirements, learners are also progressed due to age and the number of years in the phase even though they did not meet the promotional requirements. There are systems put in place to assist such learners who are termed progressed learners and one of the mechanisms is White Paper 6 which had a mandate to outline support for low ability learners and this was further developed in to White Paper 6 on E-learning (DBE, 2014). This meant the introduction of ICT as a support tool used in a pedagogy to support progressed or low ability learners.

This study also examined scholarly veins on the ICT applications as pedagogy in supporting progressed learners it benefits and challenges. This chapter explained the background and legal framework guiding progression policy in South Africa. The South African Schools Act of 1996 in (DBE, 1996), gives a blue print on how learners are to move from one grade to the next and CAPS policy cited in DBE (2015) further gives guiding principles on promotional requirements and progression. Throughout the years there have been changes within the curriculum policies pertaining to promotional requirements which saw the introduction of mathematics condonation (DBE, 2015) in Circular 3 and mark adjustment (DBE, 2017b) The legal framework instructs educators to progress learners into the next grade even if they have failed Mathematics and their marks should be adjusted with 5% in order to meet promotional requirements.

Another focus was the worldwide view on the integration of ICT into education as a way to support progressed learners. The introduction of ICT into education has grown globally and its benefits have been significant through the years (Al Harbie 2014, Nkula & Krauss,

2014 and Van Niekerk, 2009). It creates any access to knowledge, it is relevant to the 21st century classroom (Krish & Zabidi 2017), makes teaching and learning learner centred (Piper et al., 2015). Another common view was that ICT acts as a tool which assists educators to plan and convey messages in an interesting classroom setting when used correctly (Philomena & Amutha, 2016, Burden & Shea, 2013). According to Majumdar (2015) the role of an educator in a classroom where ICT is used within a pedagogy also shifts. An educator facilitates teaching and learning while learners become active participants who collaborate as they interact, explore and experiment and build new knowledge.

6.2 LIMITATIONS OF THIS STUDY

The findings of this study cannot be generalised as a representation of a broader population of South Africa schools using ITC in pedagogy. This study was a research project in fulfilment of an MEd dissertation. Its main aim was to understand the benefits of using ICT in pedagogy to support progressed learners in English FAL Comprehension.

6.3 CONTRIBUTIONS OF THIS STUDY

This study will contribute as a source of knowledge and a point of reference for future scholars. It will also act as a reference for the Department of Education in the roll out of ICT into schools where ICT will specifically be used as a support strategy to address progression policy concerns.

6.4 RECOMMENDATIONS

6.4.1 The impact of ICT in pedagogy for content delivery for progressed learners

With progression being a policy in the South African education system from primary education to the FET band, it is recommended that, as supported by Jang, Reeve and Deci (2010), technological activities should be used in a classroom as pedagogy as they have the ability to increase deeper learning. Its relevance has also been echoed by Meyer

and Gent (2016) as they stated that when ICT is used as a supporting mechanism, it improves quality of teaching and learning. ICT has substituted the old way of teaching whereby conversations were only centred around an educator using a chalkboard, to the application of digital whiteboards which are interactive. Smartphones, computers or tablets are new tools brought in as part of pedagogy (Persson, 2016). Both literature and participants' views are similar and the researcher therefore recommends an application of ICT tools as pedagogy to improve quality of teaching which ultimately benefits all learners both promoted and progressed.

6.4.2 Educator development and CAPS Policy

One of the common notions was the need for further development for educators. Technology keeps changing and for educators to be kept up to date with new trends and demands, there should be on-going training so that the educators are able to use the newly implemented tools to support learners. Hohenwarter, Kocadere and Hohenwarter (2017) indicated that not only resources play a vital role in the failure of ICT introduction in schools but also factors such as mastery of content and educator's attitudes and beliefs are among common findings of failure or minimal application of ICT in education in many countries.

Educators are expected to master not only basic computer skills but also to use a variety of technology tools for problem solving techniques and decision making and come up with new designs and models related to their curriculum (Qasem & Viswanathappa, 2016). The researcher therefore recommends that, for ICT to be effective, educator development should be given a priority and the new content should be aligned to the CAPS policy for it to bear fruit in the classroom.

6.4.3 General recommendations

- Since educators play a vital role in facilitating teaching while using ICT tools, it is recommended that they should be given constant and frequent training so that they can be fully resourced to assist learners.

- There should be a review of the CAPS policy which links the new support strategies to the curricula.
- Educators must be creative and willing to explore the benefits and applications of ICT into their various pedagogies when teaching English FAL.
- There should be constant tracking of learner performance even for informal activities to know which ICT tool is most appropriate when used with pedagogy.

6.4.4 Recommendations for future research

Although there have been concerns around progression policy, the benefits of learners' progression have also been established in this study. One which was cited by Steiner and Mendelovitch (2016) was that, making older learners repeat a grade a number of times demoralises learners and increases the dropout rate.

Application of ICT as a pedagogy in teaching and learning has been seen to be impactful both in South Africa and globally, although the scale of application, especially in Sub-Saharan Africa, is still quite minimal in rural and semi-urban schools.

It is recommended that this study of ways to support progressed learners is further explored in the South African context as progression policy does impact the South African education system.

A broader sample of both urban and rural schools still needs to be explored and this study further has the potential to be a comparative case study where a researcher is actually involved in testing two classrooms using traditional methods of teaching plus ICT to test the level of learner acquisition in both classes.

6.5 SUMMARY OF THE RESEARCH STUDY

The objective of this study was to investigate if ICTs are used to support progressed learners in English FAL comprehension, to also check if teaching with ICT is effective to be used in pedagogy in assisting progressed learners to acquire content knowledge. As earlier outlined in the earlier chapters there is a concern pertaining to the progression policy affecting learner pass rate (Nomahlubi, 2018; Zimasa, 2016).

The main reason the researcher undertook this study was that there has been no study which has focused on the use of ICT specifically aimed at supporting progressed learners especially in township schools, for FAL educators.

This research was a qualitative study which collected data using in-depth interviews which were open-ended in nature. Eight intermediate participants who are English FAL educators were purposefully and conveniently selected from two primary schools. As indicated in chapter five the research established that the use of ICT in pedagogy enables the support of incorporating ICT into teaching methodologies. The benefits indicated include: improved progressed learners' performance, high learner participation, teaching and learning which are learner-centred and encourages self-discovery of information.

The study further discovered the need for further educator development and review of the CAPS policy to accommodate low ability learners.

6.6 CONCLUDING REMARKS

The researcher concludes that, as stated by Richards (2005), ICT when used in pedagogy is one of the strategies found to be effective to enhance teaching and learning and improve learner performance especially in English FAL comprehension. Negoescu and Boştină-Bratu (2016) assert while text books are no longer fully sufficient, digital reading and other applications are able to revive comprehension learning and crafting visual demonstrations through the use of technology tools such as quizzes, games, slide shows, flash cards or songs in a language classroom. Although its introduction is slow in the South African schools, one can conclude that where it is applied, its results are significant and the widespread implementation through the country would be vital towards learner achievement and reduction of the number of progressed learners.

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LIST OF APPENDICES

Appendix A



GAUTENG PROVINCE

Department of Education
REPUBLIC OF SOUTH AFRICA

814141112

GDE RESEARCH APPROVAL LETTER

Date:	05 February 2019
Validity of Research Approval:	05 February 2019 — 30 September 2019 2018/387
Name of Researcher:	Kolobe LV
Address of Researcher:	18 Glenvalley Baker Road Sebenza Edenvale 1609
Telephone Number:	084 700 6862/ 082 600 7780
Email address:	sereetsil@webmail.co.za
Research Topic:	The integration of technology in supporting progressed learners in English
Type of qualification	Masters
Number and type of schools:	Two Primary Schools.
District[s]/HO	Ekurhuleni North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za

1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.
2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.
4. A letter/ document that outline the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
5. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
6. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
7. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
8. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
9. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
10. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
11. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
12. On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
13. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.
14. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards



Mr Gurnani Mukatuni

Acting CES: Education Research and Knowledge Management

DATE: . 05/02/2019

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Making education a societal priority

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

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APPENDIX B



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Dear Sir/Madam,

INVITATION FOR YOUR SCHOOL TO PARTICIPATE IN A RESEARCH PROJECT

The integration of technology in supporting progressed learners in English FAL
Comprehension

I am currently enrolled for a master's degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is: The integration of ICT in supporting progressed learners in English FAL Comprehension

This research seeks to investigate the way in which educators integrate ICT to support progressed learners in English FAL comprehension.

We are therefore asking your consent to interview teachers in a research project investigating the use of ICT as an intervention for progressed learners. The purpose of this study is;

To investigate if ICTs can be used to support progressed learners in English FAL comprehension.

To investigate if teaching with ICTs is effective to be used in pedagogy in assisting progressed acquire content knowledge.

To investigate if educators can use technology to simplify and re-contextualise content acquisition for progressed learners

To gather the required information, I am requesting permission to approach your primary school teachers that use technology in teaching English FAL in intermediate phase. These participants will receive an individual invitation to participate. A 30-minute scheduled interview will be conducted at a venue convenient to the participants. I have included here for your information a schedule of interview questions and a short survey.

Please understand that the decision for your school to participate is completely voluntary and that permission for your participation will also be protected by the University of Pretoria. Kindly also note that each individual's participation in the study will be completely voluntarily and will in no way either advantage or disadvantage them. Each participant will be free, at any stage during the process up to and including the stage at which they authenticate the transcript of their interview, to withdraw their consent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be destroyed.

All the information obtained during the research study will be treated confidentially, the Department of Education will not have any access to the raw data obtained from the interviews. At no time will either your school or any of the individual participants be mentioned by name or indeed be allowed to be identified by any means in the research report.

At the end of the study, you will be provided with a copy of the research report containing both the findings of the study and recommendations. This research presents a unique opportunity for your school to get involved in the process of research aimed at exploring ways and means to improve the use of mobile technology in South African private schools. If you decide to allow your school's participation, kindly show this by completing the consent form at the end of this letter.

Thanking you in anticipation.

Kolobe L.V

Student Researcher

University of Pretoria

sereetsil@webmail.co.za

(084) 700 6862

Dr M Mihai

Supervisor

University of Pretoria

maryke.mihai@up.ac.za

(082) 430 2928

LETTER of CONSENT
SCHOOL AS PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

The integration of technology in supporting progressed learners in English FAL Comprehension

I, _____, the principal of

_____ hereby voluntarily and willingly agree to allow my school to participate in the above-mentioned study introduced and explained to me by Lineo Kolobe, currently a student enrolled for an MEd degree at the University of Pretoria.

I further declare that I understand, as explained to me by the researcher, the aim, scope, purpose, possible consequences and benefits and methods of collecting information proposed by the researcher, as well as the means by which the researcher will attempt to ensure the confidentiality and integrity of the information she collects.

Full name

Signature

Date

School stamp

APPENDIX C



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Dear Sir/Madam,

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT:

The integration of ICT in supporting progressed learners in English FAL Comprehension.

I am currently enrolled for a Master's degree at the University of Pretoria. Part of the requirements for the awarding of this degree is the successful completion of a significant research project in the field of education.

The title of my approved research study is:

The integration of ICT in supporting progressed learners in English FAL Comprehension.

This study is concerned with investigating how teachers use technology in supporting progressed learners in English First Additional Language comprehension and its benefits.

You and your school are hereby invited to participate in this research project, which aims to:

1. To investigate if ICT can be used to support progressed learners in English FAL comprehension.

2. To investigate if teaching with ICT is effective to be used in pedagogy in assisting progressed acquire content knowledge.
3. To investigate if educators can use technology to simplify and re-contextualise content acquisition for progressed learners.

Below is the scope and responsibility of your participation. To gather the information that I require for this research, I thereby request permission to interview you as a primary school teacher about the use of technology and your perceived benefits of using technology for supporting progressed learners in English comprehension. This interview should take no longer than 30 minutes, and can be conducted at any location you suggest. I have included here for your information a schedule of interview questions.

Kindly note that this is a voluntary participation and that permission to participate is further protected by the University of Pretoria. Your participation in this study will in no way either advantage or disadvantage you or any other participant.

Each participant will be free, at any stage during the process and including the stage at which they authenticate the transcript of their interview, to withdraw their consent to participate, in which case their participation will end immediately without any negative consequences. Any and all data collected from them up to that point in the study will then be destroyed.

All the information obtained during the research study will be treated confidentially, no person shall have access to raw data, including the department of education. Both the interviewee name or the name of the institution in which he or she works shall not be revealed in this report.

The findings and the recommendations of this study shall be shared as a copy of a research.

This research presents a unique opportunity for you and your school to share and compare best practices with the country and the world, to enable you to further get involved in the process of research aimed at investigating the benefits of using technology

in a pedagogy for progressed learners in South African schools in teaching comprehension.

If you decide to participate in this study, kindly indicate this by completing the consent form at the end of this letter.

Thanking you in anticipation.

Yours in service of education,

LV Kolobe

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Dr. M. Mihai

Supervisor

University of Pretoria

maryke.mihai@up.ac.za

(082) 430 2928

LETTER of CONSENT
INDIVIDUAL PARTICIPANT

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED:

The integration of ICT in supporting progressed learners in English FAL Comprehension.

I, _____, hereby voluntarily and willingly agree to participate as an individual in the above-mentioned study introduced and explained to me by Lineo Kolobe currently a student enrolled for an MEd degree at the University of Pretoria.

The researcher has explained the aim of this study, its scope, purpose and possible repercussion as well as the possible benefits this study may yield. Data collection methods proposed by the researcher have been outlined and clearly explained and the means in which she will ensure confidentiality and the authenticity and integrity of the information.

Full name

Signature

Date

APPENDIX D

The interview questions

Kindly fill the following Biographic questions

1. Age
2. Gender
3. Number of years in service

Answer the following questions as best as you possibly can:

1. How do you go about integrating ICT in your lessons?
2. When did you start teaching with ICT and why?
3. How do you feel about teaching with ICT?
4. What type of ICT tools do you prefer and why?
5. In which part of the lesson or content do you think it is appropriate to use ICT and why?
6. How often do you integrate ICT in your lesson and why do you choose to do so?
7. How do you think ICT contribute towards content delivery?
8. Are you able to design or create content suitable for progressed learners using ICT tools?
9. What are some of the perceived benefits of using ICT as pedagogy in teaching English FAL?
10. How do the progressed learners react towards learning with ICT?
11. In your opinion, can you say ICT programme has assisted you to support progressed learners.
12. Has the introduction of ICT made support for progressed learners easy?
13. How does ICT affect the classroom atmosphere and learner discipline?
14. What are the challenges faced by you in integrating ICT into teaching of English FAL?
15. How has using ICT to deliver content knowledge affected pass rate?

