FACULTY OF EDUCATION

DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND CURRICULUM STUDIES

TEACHERS' PERCEPTIONS ON THE USE OF TECHNOLOGY IN THE TEACHING AND LEARNING AT EARLY CHILDHOOD EDUCATION LEVEL IN REDCLIFF URBAN SCHOOLS

A DISSERTATION SUBMITTED TO THE MIDLANDS STATE UNIVERSITY FACULTY OF EDUCATION IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF EDUCATION DEGREE IN EARLY CHILDHOOD EDUCATION

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JULY 2016

ABSTRACT

This study investigated on teachers' perceptions on the use of technology at early childhood education level in Kwekwe district. The study was necessitated by the recent advances in technology use in teaching and learning. The Descriptive survey design was used to collect data. The population of this study comprised of twelve primary schools in Redcliff circuit and thirty six early childhood educators. A sample of nine out thirty six early childhood educators were selected to answer the questionnaire while three out of twelve teachers-in-charge responded to the interview. The questionnaire and the interview were used to generate data. Questionnaires were completed by nine early childhood educators while three teachers- in-charge from the infant department responded to the interviews. From the study it emerged that computers and televisions are forms of technology that are widely used at early childhood level. The benefits of technology were also established as the ability of technology to motivate learners, providing hands on approach, and enabling learners to develop holistically, that is physically, intellectually, emotionally and socially. From the study challenges associated with use of technology were also highlighted and these included lack of developmentally appropriate technology for use at early childhood education level, lack of child sized materials and lack of computer literacy among early childhood educators. The study suggested overcoming these challenges through providing pre-service and in-service training to early childhood educators for them to be equipped with the necessary skills. The study also recommended that there is need for the government of Zimbabwe to help all primary schools to have adequate age appropriate technology/equipment as it was observed a serious challenge and to enforce use of technology on daily basis through an educational policy.

ACKNOWLEDGEMENTS

I owe sincere gratitude to the Ministry of Education Sports and Culture for granting me the permission to carry out the study in the schools. I also want to extend my acknowledgements to all the school heads, teachers-in-charge of infant department and early childhood educators of the sampled schools for the co-operation and assistance rendered during data collection.

I wish to sincerely thank my supervisor Doctor Manyumwa. E for her invaluable help and guidance and above all, inspirational encouragement throughout the study. She gave me constant support and motivation, leavened with patience and motherly love in an effort to make me remain focused.

Special thanks also go to Mhlakaza Nobesuthu and Tinavapi Lovemore, 2016 Bachelor of Early Childhood Education degree students who gave me advice and encouragement.

Many thanks also goes to the Chindowe and Makiwa families who stood by me throughout the two years up to this day. I also appreciate the financial and social support of my beloved husband Isheanesu during my two year programme, but not forgetting the love from my children Edleen Tanaka, Tadiwanashe Edith and only son Anesu Ethan Makiwa.

Above all, I want to thank the Almighty God Jehovah for his grace and mercy in my life. May his name be glorified forever.

DEDICATION

With all my love and care to my beloved husband Isheanesu Christopher and children Edleen Tanaka, Tadiwanashe Edith and only son Anesu Ethan. I love you all.

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CHAPTER 1

THE RESEARCH PROBLEM

1.1   INTRODUCTION

This study sought to investigate Teachers' perceptions on the use of technology in the teaching and learning at early childhood education level in Redcliff urban primary schools. Chapter one looks at the background of the study, statement of the problem, research questions, delimitations and limitations of the study as well as the definition of key terms. The chapter ends with a summary.

1.2 BACKGROUND TO THE STUDY

Technology use in the classroom has become an important aspect of successful teaching and learning .According to Kotrik and Redman (2005), technology allows learners to learn more in less time .In addition it could be an effective teaching tool when used to engage in all learners in the learning process .The teacher is viewed as an important decision maker in the what technology is, why it is used, and how it is used for children to benefit. (Barron et al., 2011; NAEYC, 2012;)

Technology has gone a long way since the 1980s. For example calculators, interactive white boards, laptops, computers and ipads. A research carried out by Warschauer in 2007 in United States of America indicated that schools with a higher socio-economic status integrated technology much more readily because teachers were confident that children had better access even when at home and therefore complete homework.

Teacher education is also important according to other researches done. A study carried out in USA , by Digital Opportunity Trust analysed teachers' perceptions of technology use by surveying those who participated in the Teach up Teacher Empowerment exercise .The results showed that teachers need to learn how to use technology in the classroom .Thus many teachers lack the technological proficiency needed to take advantage of these new technologies ,making them unable to make use of these technologies in the classroom and leaving many gadgets unused in the classroom. Additionally the results of the research indicated that, although many schools are equipped with the latest technology, more than half of the teachers equipped with computers only used them for administrative functions and only half of the students used them once per week. In line with the above idea, Diem (2000) pointed out that encouraging the use of technology in schools begins with teacher education. The results of this study represent slight movements in considering a variety of technological advances across the field .However most findings reveal that internet use and accessing information on the web remains the most common use of technology in the classroom.

Zhao (2000) conducted a qualitative research to investigate the perspectives and experiences of 17 social studies teachers following technology integration training .The research indicated that teachers held a variety of views. Some sounded the unavailability of computers in the classroom, and a supportive administration as the primary influencing factors.

A research in New York by Mann and Shaffer (1997) found out that when technology was introduced in the classroom, profound positive effects on achievement were noted .Technology use at schools and factors affecting such integration or use has drawn the attention of many researchers .Bauer and Kenton (2005) found out that teachers who were highly educated and had knowledge of technology use were innovative and adept at overcoming obstacles, but they did not integrate technology on a consistent basis both as a teaching tool and learning tool.

In line with the above notion, Eugene (2006) in a study carried out in United Arab Emirates schools indicated that there was a discrepancy between teachers' perceptions and their actual instructional practices of integrating technology. Teachers' teaching practices and the use of technology were found not to match their perceptions. In a similar view, research studies in Tanzania, showed that teachers use technology. However, it is evident that technology is rarely used as a teaching and learning tool. (MOET 2003).

In contrast, Simonsson (2004) indicated that the utilization of technology was related to teachers' perceptions. Also, in a study carried out in Uganda by… on factors influencing use of information communication and technology, it was noted that teachers' perceptions had a strong impact on technology integration in schools. In support, Bai and Ertmer (2008) reported that factors related to the nature of the perceptions were considered crucial to the integration and development of technology in education. Kadzera (2006) in his study carried out in Malawi found out that lack of computers and lack of skilled educators were the greatest challenges associated with use of technology.

 Also Mandoga, Matswetu and Mhishi (2013), in a research carried out in Makoni district. Focussing on challenges and opportunities in harnessing computer technology for teaching and learning revealed that the use of computers for pedagogical purposes was very low.

According to Nyakazeya (2004), the Zimbabwean policy requires all schools to be exposed to computer skills. The policy expected all schools to use technology in teaching and learning. Nyakazeya (2004) states that Zimbabwe is just setting in an Information Communication and Technology revolution and has set a 2015 target for all schools to produce school leavers with the requisite 21st century skills to play a part in the world. The government also pledged its commitment to put computer technology at the heart of the school curriculum. According to the Herald (2006), to support this programme the Zimbabwean government donated a

number of computers to schools through the Presidential Computer programme. Nelson Chamisa, the former minister of Information Communication and technology indicated that their vision was that every school in the country, both primary and secondary schools must integrate ICT in the teaching and learning by 2015."*Our agenda is benchmarked on 2015.Gone are the days that teachers use chalkboard and duster, now teachers need to power point.*"

Use of technology was thoroughly investigated in different contexts and at different levels .However, there are few studies in the area of teachers' perceptions on the use of technology in the teaching and learning at early childhood education level in Zimbabwe. Therefore it is against this background that the researcher decided to conduct a study on the teachers' perceptions on the use of technology in teaching and learning at early childhood education level in Redcliff urban district.

1.3 STATEMENT OF THE PROBLEM

Since technology has become an important aspect of successful teaching and learning in the modern world the teachers' perceptions towards its use are not very. This research therefore examined the teachers' perceptions on the use of technology in teaching and learning at early childhood education level in Redcliff urban schools.

1.4 RESEARCH QUESTION

The study was guided by the following questions:

1.4.1 Main Research Question

How do teachers in Redcliff urban schools perceive the use of technology at ECE level?

1.4.2 Sub Research Questions

1. What form of technology is available at Early childhood education level?

2. What are the benefits of using technology at Early childhood education level?

3. What are the challenges associated with the use of technology at ECE level?

4. What can be done to improve the use of technology at ECE level?

1.5 SIGNIFICANCE OF THE STUDY

Technology plays a vital role at home, at school, nationwide and globally .According to Cornett (2007), use of technology provides learners with vital opportunities to experience and build knowledge and skills in self- expression, creativity, collaborative problem-solving and communication skills. Hence the researcher intended to find out the teacher's perceptions on the use of technology at Early childhood education level in Redcliff urban primary schools. The information gained would benefit a number of people. The research's main aim was to provide the basis for future researchers on the use and inclusion of technology in teaching and learning at ECE level. The researcher would also have a deeper understanding on the concept of technology use in the classroom at ECE level and would be able to implement the knowledge gained from other researches. Further the research would provide a basis to the upcoming researchers and it will be a guideline during their research. Moreso, the school heads and the teachers will gain knowledge on how to address needs of Early childhood learners and how to include technology in teaching and learning. The study would also help to provide Zimbabwean teachers with a platform on which they may start a debate about re-conceptualizing Early childhood education within contextually appropriate standards and practices. It was this researcher's hope that Zimbabwean teachers' perceptions on technology use would shed light on their technological competencies and initiate a literature base for examining the use of technology in Zimbabwean Early learners' classrooms since the policy

requires all schools to use technology during teaching and learning as alluded by Nyakazeya (2004).Finally the research informs teacher preparation colleges and Information Communication and Technology curriculum developers on the actual use of ICT in context. It is from such contextual uses of Technology that concerned parties can improve their Early Childhood education programmes.

1.6 DELIMITATIONS OF THE STUDY

The study was confined to the use of technology at Early childhood level, in Redcliff urban schools only. Redclif is situated in Midlands province. The population included Early childhood education level teachers from three primary schools in Redcliff high density suburb.

1.7 LIMITATIONS OF THE STUDY

The sample chosen involved only three primary schools in Redcliff urban under Kwekwe district .The sample chosen was very small. This limited the extent to which the findings could be generalised to all primary schools in the district and the nation at large. The researcher faced financial problems since she was sponsoring herself during the research process from her, and a lot of money was spent on travelling and printing materials. Also the research was time bound since it was to be completed within a stipulated period.

1.8 DEFINITION OF KEY TERMS

Technology: This term is used to refer to information and communication technology such as desk top computers, computer software, digital cameras, overhead projectors, mobile technologies (smart phones, tablets), audio cassette players, video recorders and other electronic devices that enhance teaching and learning.

Early childhood education: is the educational programmes and strategies geared towards children from birth   to eight years.

1.9 SUMMARY

In this chapter, the researcher provided an introduction, rationale for the study which sought to find out teachers' perceptions about technology use at early childhood education level, the background of the study, statement of the problem, significance of the study, delimitations and limitations of the study, as well as the definitions of key terms.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of this study was to explore the perceptions of ECE teachers on the use of technology in Zimbabwe Infant classes. The following are questions that guided the study.

1. What form of technology is available at ECE level?

2. What are the benefits of using technology at ECE level?

3. What are the challenges associated with the use of technology at ECE level?

4. What can be done to improve the use of technology at ECE level?

2.2 FORMS OF TECHNOLOGY AVAILABLE AT ECE LEVEL

There has been an increase in technology use in the teaching and learning of young children. Early childhood education (ECE) learners are exposed to different forms of information technology in their homes and preschool centres. According to Baron et al (2011) learners come to early childhood education settings with a range of experiences. Activities should therefore contain materials that are, available in the children's daily lives. Thus ECE learners are not viewed as passive entities of technology but active agents who are able to make use of technology to enhance their learning.

Different forms of technology for early childhood learners include computers mobile technologies and interactive white boards. A research carried out by Lin (2012) to develop a model for computer technology integration in Taiwan Kindergarten classrooms, resulted in the design of eight two kits for integrating technology; storytelling, motivation, group discussion, drill, games, instruction, portfolio making and evaluation.

The use of technology in Early Childhood Education is expanding with the advancement in computers, mobiles technologies, internet and software applications .The expanded use of technology with young children includes e-books ,multi touch screens, mobile devices, cameras ,DVD and music players, audio recorders, electronic toys ,games and other devices such as tape recorders, tapes ,record and cassette players and projectors.(NAEYC,2012).

According to the Digital Education services (2014), the tablet computers are one of the best technologies for use at Early Childhood Education. Mohammad and Mohammad (2012) allude that some of the research in early childhood education and technology reviewed focused on different forms of technology. On the other hand ,Stephen and Plowman (2005),in their study of the nature of guidance necessary to enhance children's encounter with ICT, in authentic playroom contexts using guided inquiry .The forms of technology they found are ;digital cameras ,digital video cameras ,draw and paint software ,ICT in the music area and digital microscope with the computer. Morgan (2012), also identified white boards as one of the technologies for use at ECE level.

Florida centre for instructional technology (2014), based at the university of South Florida, developed a framework to guide the evaluation of technology use in k-2 classrooms. The FIM identified laptops, mobile devices, interactive white boards, online tools, videos recording devices and software as some forms of technology for use.

Kadzera (2006) in his research on instructional technology in Malawi identified five forms of technology namely; chalk board, flip charts, over-head projectors, computers and videos.

2.2.1 THE CHALKBOARD

The chalk-board, which is a commonly used teaching and learning resource in Zimbabwean Schools, enhances teaching and learning in almost every lesson. Kadzera (2006) notes that the flexibility, availability and versatility of black and white boards are an important aspect to

the classroom teacher. He went on to give the advantages of using the chalkboard namely that ;they are freely available in most classrooms ; they need no power except in the case of white board ; they are user friendly if you have the chalk ; they can display a large number of colours and they can be used with a variety of other material for a broad range of teaching methods . In line with the above idea Wankat and Oreovicz (2001) say chalk boards are excellent for recording permanent information such as the alphabet.

Flip charts are also other forms of technology used at ECE level. Wallace (2000) looked at flip as easy to use effective, familiar and inexpensive. Kadzera (2006) notes that although not the most sophisticated visual aids in today's technology, flip charts are certainly one of the most popular. They are simple, inexpensive, versatile, and when used with thoughtful creativity, there are highly effective. He went on to say that flip charts are placed in front of the class. They enable educators to maintain eye conduct with learners which help them to observe learner's reactions, thereby making it possible to change teaching methods during lesson delivery. The educator is able to control the chart and can write or draw on them as the explanation is in progress. Just like over-head transparencies, flip chart can be prepared in advance, can be written on during the lesson and can be stored for future use. Although a flip chart has many advantages, in the Zimbabwean context, chart material is expensive therefore usually not readily available.

2.2.2 USE OF COMPUTER

Computers are widely used for a variety of operations, such as writing through word processing, class presentation, playing of games, data analysis, retrieving of information and communication (Heinich, Molenda, Russell and Smaldinho 2002). In a survey of teachers' perceptions of the effects of technology on learners' performance, the respondents indicated strong agreement that technology had a positive effect on learner's performance. It is

however noted that even in developed countries, despite the identified benefits of technology, not all teachers are competent and willing to use technology in their teaching and learning in their classes. Thompson (2000) observed that some schools still use traditional methods of teaching while others have seen the need to respond to the changing world and are using the new technologies in their instruction. It is of importance to provide computer training within a social support network and to encourage teacher empowerment over a period of time. Such training will help enhance teachers' comfort level with computers.

2.2.3 USE OF LOCAL RESOURCES

Wankat and Oreovicz (2001) in their article, "Turning Back the Clock," looked at the expenses incurred for purchasing modern technologies and the time needed to learn how to use them. They concluded that such technologies do not improve teaching or increase learning if proper learning principles are not followed. They suggested trying simpler, inexpensive techniques that are effective and take little time to use .Kadzera (2006) notes that Malawi is currently emphasizing teaching and learning using locally available resources (TALULAR),which sometimes may not cost any money or very little money. Thus at Early Childhood education level, use of locally available resources is usually associated with improvisation where and when the original material is not available.

2.3 WHAT ARE THE BENEFITS OF USING TECHNOLOGY AT EARLY CHILDHOOD EDUCATION LEVEL?

Use of technology by teachers' leads to increased learner achievement. Crystal (2001) indicates that technology offers all learners opportunities to learn in ways not previously possible. Thus learners can learn through simulation. In line with the above idea, Lam and Lawrence (2002) purport that technology not only gives learners opportunities to control their own learning process, but also provide them with ready access to a vast amount of

information over which the teacher has no control. A number of researchers carried out studies on technology integration worldwide and reported positive impact on teaching and learning for teacher using technology. For instance Guha (2000) reported significant differences and positive correlation between teacher's present computer training level of comfort and computer usage in the classroom as compared to their previous comfort level and usage.

According to Menzo's (2001) study, many of the learners who are prone to electronic arts class were struggling in most of their other classes. Once they saw what they could do with technology, they began to appreciate the importance of using technology in the classroom. According to NAEYC (2012), technology provides opportunities for children's creative expressions and allows for individual learning styles and multiple intelligences. Moreso, Dudley Grant Memorial Trust (2010) asserts that technology provides opportunities for subject integration. Thus pupils can learn all other subjects through technology use. A review by the NCSS(2000) reports that they support use of technology as a means to teach civic participation and to afford learners, with opportunities for valuable critical thinking activities. Warschaure (2007) in the same view, found out that, schools with a higher socio-economic status integrated technology, much more   readily because teachers were confident that pupils had better access even when at home and therefore complete homework in which technology is necessary for completion. On the other hand, Kotrik and Redman (2005), postulate that technology allows learners to lean more in less time. Meaning that technology is sometimes economical.

A research in New York by Mann and Shaffer (1997) found out that when technology was introduced in the classroom, notable and profound positive effects on achievement were noted. Therefore technology use revealed its importance. Similarly Bauer and Kenton (2005) in their research found out that teachers who were highly educated and skilled with

technology were innovative and adept at overcoming obstacles, but did not integrate technology on a consistent basis both as a teaching tool and learning tool. Results suggested that schools should make sure that they put down a strong policy on the use of technology in day to day activities.

Pass (2008) in a study carried out in Turkey, revealed that Educational technology can influence learner achievement ,makes it possible for learners to accommodate information, increase integrative motivation and enable learners to engage in higher order thinking .Thus the main conclusion drawn from the studies revealed that technology has a great potential as a teaching tool. Echoing the same sentiments, Jonassen (1999), postulates that technology facilitates active learning and reflection about the content. While Smeets and Moolj (2001) assert that technology serves as a tool for curriculum differentiation, provides opportunities to adapt the learning content and tasks to the needs and capabilities of each individual pupil and provides individually tailored feedback.

Odabassi (2000) conducted a quantitative research with 144 Turkish teachers in order to survey the use of Technology among members and their perceptions of Technology use in terms of familiarity, use. Results showed that most teachers were familiar without dated applications and used current educational technology in a rather old-fashioned way. Apart from the above, the benefits of ICT were stated to be easy access to information increasing leaner interest and improvement in learning.

According to Empirica (2006),pupils are more motivated and they participate more actively when Technology –based teaching approaches are being used in the class .Additionally Victoria (2011)states that the effective use of technology in education also has the potential to enhance achievement among the pupils through greater collaboration, improved communication and opening of wider opportunities to share information. In line with the

above idea, Blanket (2006) is of the opinion that learners assume greater responsibility for their own learning and work more independently and effectively when they use technology. Gomes (2005) cited in Bingilmlas (2009) postulates that technology give pupils access to explore new concepts in learning and it saves time, something which was difficult in the past. Furthermore, Wheeler (2001) asserts that, technology enhances efficiency teaching and learning and enables pupils to make conjectures and immediately test them in non-threading environment.

Grabe and Grabe (2007) note that the word processor can improve pupils 'writing skills, spread sheet can promote mathematical skills and playing computer games can assist learners learn how to process facts and make logical inferences while solving a problem that is interesting to them.

Kabanda (2012) asserts that, from a broader perspective, the benefits from advances in ICT could also mean an acceleration of economic and social development and greater inclusion of isolated, particularly rural populations into the main stream of society. Cohen and Manion (2011) propound that technology provides modern ways of learning, for example ,traditionally teachers control learning, its timing, pacing and content, while new method allow teachers to stand at the back to let learning happen and for children to solve problems. Thus teachers move from chalk and talk to learner-centred methods thereby making learning easier. Thus according to Cohen et al (2011) ,using technology helps the teacher to motivate from the mentality of believing that learners are empty vessels and consider the teacher as the source of all knowledge.

Victoria (2011) suggests that when technology is used efficiently in the classroom, it builds greater collaboration, improve communication and opening a wider opportunities to share information among learners. In support the World Bank (2004) in Kamau (2012) states that

technology enhances sharing of knowledge and experiences with the global community and the sharing of knowledge enables the learners to actively look for their counterparts in other countries. This means that technology enhances working together as a team. In line with the above idea, Becta (2004) asserts that technology use encourages team work ,communication and sharing of knowledge among students .al-Alwani (2005)cited in Mandina (2015) alludes that the benefit of using technology is to expand the pedagogical resources available to teachers.

Wang et al (2010) proposed a synthesis of the roles of technology to enhance inquiry based learning .They suggest that computer technologies offer an accessible vehicle for extending inquiry as children naturally explore and learn about their environments. Furthermore Wang (2010), alluded that technology enriches and provides structures for problem contents, facilitates resource utilisation and supports cognitive processes. In line with the above idea, the NAEYC (2012), notes that technology enhances young children's cognitive and social abilities. The debate on technology in Early Childhood Education has been based on the benefits of technology to enhance young children's social, emotional, cognitive, and language development. Li, Atkins, and Stanton (2006), concluded from their randomised controlled pilot trial with Head start children that computer use in school enhances the development of children from socio-economically disadvantaged homes. Relatedly, Bettino, and Sharma (2003), in Amins (2010), state that, the use of technology can improve performance, teaching, administration, and develop relevant skills in the disadvantaged communities.

In another research carried out in Turkey, it was claimed that technology use has been an influence on teacher perceptions and lesson planning according to Gimbert and Cristol, (2004).Back et al(2008) examined predominant features that led to teachers make use of technology in their classes. The results noted six factors that included ;adapting to external requests and others' expectations driving attention using the enhanced functions of

technology .They noted from theorists who claimed that technology can be a way of enhancing instruction through 'scaffolding young learners' concrete learning.

Kadzera (2006) in his research on the importance of instructional technology in 2006, asserts that instructional technologies motivate young learners, capture their attention, and help explain complex concepts. Charles and Senter,(2002),says the word motive comes from a Latin root meaning "to move'', hence a drive or desire to perform tasks .Teachers work to bring this desire in their learners so they will fully engage in instructional activities and develop in-depth understanding of concepts. Noels, Clement and Pelletier (1999) define intrinsic motivation as a performance of an activity simply for the pleasure and satisfaction that accompanies the action. When Early Childhood Learners are intrinsically motivated, educators do not have worry because learners are tuned for success. Echoing the same idea, Bullock and Stefano (2001), also allude that learners who are intrinsically motivated, learn more easily on their own because their stick and carrot are internal. The challenges that come with new technologies should be seen as opportunities for growth and improvement and not as problems. The use technologies which learners can easily use to get the expected end results can generate that curiosity to do more.

Technology use also helps in capturing young learners' attention in the teaching and learning according to other studies. For instance Kadzera (2006) in his study notes that instructional technologies capture and sustain learners' curiosity and attention throughout their lessons. In support Williams (1991) noted that the use of overhead projector enables the educator to maintain complete classroom control and interest in a lesson. Therefore this control is also effective when the educator wants to direct the learners' concentration either to the technology being used, or to the information being displayed by the technology, or to the educator. This concentration by ECE learners on what is going on enables them to follow the

lesson and learn whatever concepts are being taught. Moreso such attention also enables the educator to realize the readiness of young learners to understand what is being taught.

According to Kadzera (2006), by using technology the educator can explain concepts that would be difficult to elaborate orally. When learners see the material, its mechanism, and its function, teachers are saved the hard way and learners easily understand what the educator is talking about. Wallace (2000) postulates that the use of technology makes it possible to increase individualized instructional opportunities which enable the educator to have adequate spare time for preparation of instruction that will meet the needs of the learners. Thompson (2000) asserts that when teachers use technologies in their teaching, learners are involved in the use of those technologies and notice the relationship and relevance of what the educator is teaching and the technologies being used. The Early Childhood learners' attitudes towards learning gets improved, and that prepares them for the technologically oriented society.

2.4 CHALLENGES ASSOCIATED WITH TEACHERS' USE OF TECHNOLOGY IN THE CLASSROOM

Technology use in schools and challenges associated with such integration have drawn the attention of many researchers and have been of high interests to them. Zhao (2007) conducted a qualitative research to investigate the perspectives of seventeen (17) social studies teachers following technology integration training .The research indicated that teachers held a variety of views towards technology use. These views influenced their use of technology in the classroom. Their challenges included the unavailability of computers in the classroom, sharing of resources, a supportive administration and a strong support staff as the primary influencing challenges. In line with the above notion, Diem (2000) pointed out that, encouraging the use of technology in schools begins with teacher education .The results of

this study represent slight movements in incorporating a variety of technological advances across the field.

According to Pass (2008), this shift towards use of educational technology had also some repercussions for the roles of schools and teachers. Research results stressed that schools had the challenge of dealing with problems in use of technology since teachers were not provided with technological content knowledge and skills to cater for needs of the young learners.Valdez (2006), alluded that, lack of training to provide teachers with the skills and knowledge needed for technology use was said to be a compounding problem. As a way of overcoming the above challenge, Allarta commission on learning (2006) purports that it is widely emphasized that role models of professional training including study groups, teachers, networks mentorship, task groups ,research projects and resource centres should be used , instead of one day training without follow-ups.

A research conducted in Tanzania, by Mendes, Tujinman and Young (2003) revealed that there is less emphasis on ICT training in Primary Schools in Tanzania due to limited resources. In line with the above idea, Senikes (2003) added that most of the schools that teach computer skills are private schools. This problem may be due to unsuccessful training, hence technology use in classrooms lacks.

Balankat (2006) argues that although educators appreciate and accept the value of technology use in education, difficulties go on to be encountered during the process of adopting these technologies .Thus a challenge here is lack of knowledge.

Kabanda says another study by Cuban et al (2001) provided evidence that showed that increased availability of computers might not be sufficient to promote classroom integration. Access to computers and related resources do not necessarily lead to their more wide spread classroom use.

In a research by Plante and Beattie (2004) they found that the overall ratio of pupils to computers is now five to one in Canada. In line with the above notion, Kadzera (2006), states that lack of technology facilities has been seen to be one of the challenges lowering the use of technology as a teaching tool in schools. The ministry discovered that the computer ratio was one as to thirty –five. Balanket et al (2006) note that although educators come into view to accept the value of ICT in education, difficulties go on to be encountered during the process of adopting these technologies.

A research carried out in United States of America by the Digital Opportunity Trust (2001), showed that many teachers lack the technological proficiency needed to take advantage of these new technologies ,making them unable to bring these technologies into the classroom .In the same study that analysed teachers' perceptions of technology by surveying those who participated in the Teach up Teacher Empowerment programme ,the results showed that teachers need to learn how to use technology in the classroom.

In a research carried out by Abort (2003), results showed that although many schools are equipped with the latest instructional technologies, many studies have indicated that more than half of the teachers equipped with computers only use them for administrative functions. .According to Adams and Bank(2000),the reason why teachers do not use technology is lack of knowledge. Ertmer (2007) notes that ,lack of confidence in one' s ability to use technology and corresponding lack of commitment to using it can add to teachers' reluctance to use technology in the classroom. Despite the availability of technology ,NAEYC(2012) notes that the issue of equity and access remains unsolved and creates a digital division ,meaning children from low socio-economic backgrounds have little or no access to the latest technologies in their homes ,schools and communities. However to address this ,Ride-out (2011) recommends that Early childhood settings should provide learning opportunities with digital cameras ,audio and video recorders ,printers and other technologies for children who

may not have access to these tools. Also the issue of equity and access can be addressed when educators provide opportunities for all children to participate and learn using technologies in early childhood classrooms.

According to McDonald and Howell (2011) teachers 'technological and pedagogical competence, access to the digital technologies, school ICT policy and administrative support for technology integration have a bearing towards technology use. In support, Keengwe and OnChwari (2009), concluded from their investigation of technology use in teacher education curriculum that, providing opportunities for a seamless integration of technology into instruction requires teachers, school administration, technology co-ordinator and parents to play an active role in determining the importance of technology in Early childhood Education classrooms. The results of this study revealed that children need adult support to become independent and confident users of technology.

Ihemeideh (2009) focussed on the challenges with technology use in Jordanian Pre-school settings from teachers and principals' perspectives. The main challenges identified by teachers were, lack of developmentally appropriate software, time and rewards. For principals the main challenges were inadequate funding, lack of knowledge about technology use and lack of age appropriate facilities.

Bauer and Kenton (2005) found that teachers who were highly educated and skilled with technology were innovative and adept at overcoming obstacles but they did not integrate technology on a consistent basis both as a teaching tool and learning tool. The findings of the research suggest that schools have not yet achieved true technology use because of lack of experience and lack of resources. Gulbohar (2007) concluded that teachers and administrative staff felt competent in using technology available at the school. They reported a lack of guidelines that would lead them to successful use of technology.

Teachers' perception of technology use was also researched by different researchers, for instance, Bhargava et al (1999) who studied gender discrepancy in both classroom access and use. The results revealed that there were significant differences between males and females and these differences were due to biased classroom practices, lack of female role models and home computer gender gaps. In line with the above idea Hong and Koh (2002) found out that female teachers were more anxious than male teachers towards hardware.They also noted that the overall computer anxiety levels of male teachers were not significantly different from the anxiety levels of female teachers.

According to Earle (2002), some challenges associated with technology use in the classroom include both the restraining forces that are extrinsic to teachers such as access, time, support, resources and training. Forces that are intrinsic include attitudes, beliefs practices and resistance. Echoing the same view, Brinkerhof (2006) in United Arabs pointed out that challenges are grouped into four main categories namely resources, institutional and administrative support, training and experience and attitudinal or personality challenges.

Kadzera (2006),argues that teachers who already have too much class work and school responsibilities may find it difficult to use that instructional technologies require additional time to learn and to prepare the technology for use in the classroom. They may feel that they have no extra time to spare to facilitate technology. Babbie (2001) also identified time limitation and the difficulty in scheduling enough time for computer classes as a challenge to teachers 'use of technology.

Research has shown that lack of incentives for the teachers who sacrifice their time to use technology in their classes contributes significantly to teachers' unwillingness to use technology. According to Spodark (2003), a survey conducted at Hollins University in on

technology use (70 percent) of respondents reported that there were no outside incentives provided to initiate the changes.

2.5 WHAT CAN BE DONE TO IMPROVE THE USE OF TECHNOLOGY AT E.C.E LEVEL?

There are several strategies that researchers have come up with in trying to improve the use of technology at Early Childhood Education level. These include the need for educators to be trained. Yang's (2012) study of technology use in primary schools, found out that teacher training is a crucial component to harness technology's pedagogical potential. Echoing the same sentiments, Wang et al (2010) also states that teacher training is essential for teachers to effectively use technology enhanced inquiry learning. Additionally, the 2005 ICT in Education options paper, states that Zimbabwe recognises a number of ways in which technology use can be supported and improve the delivery of educational quality in Zimbabwe. These ways include training workshops. Waema (2005) alludes that most programmes for training information communication and technology professionals are derivative from those countries which are already developed in terms of economy with little adjustment to reproduce the realities of industrial and development goals in individual countries.

In relation to the above idea, in another research carried out in United Arab Emirates, some of the suggested strategies of improving technology use which, regular professional development workshops, enhancing curriculum with technology –enhanced materials such as CDs and videos, increased collaboration between schools across the country and giving enough freedom for teachers in the selection and coverage of curriculum materials.

Hope(1997),postulates that recognizing and rewarding teachers enhances technology use in the teaching and learning process and suggested several ways of how this can be done some

which involve paying stipends to explore educational computing and related technologies ,providing technology role models for teachers, lending various configurations of technology to teachers for their use, encouraging and praising teachers for using technology, scheduling convenient technology staff development sessions, and setting aside time during the workday for teachers to explore computers and related technology.

The National Association for the Education of Young Children (2012) recommends that ECD settings should provide learning opportunities with digital cameras, audio and video recorders, printers and other technologies for children who might not have access to these tools. The issue of equity and access can be addressed when educators   provide opportunities for all learners to participate and learn using technology in Early Childhood Education (NAEYC, 2012).

Effective and improvement of technology use requires the dynamic connections between technology ,pedagogy ,content and knowledge (Koehler,2007).This author contend that teachers need a technology by design approach in order to switch their roles from passive consumers of technology to more active roles as designers of technology .The design approach empowers educators to bring the dynamics between pedagogy ,content and knowledge at the fore front of children 's learning experiences.

According to the NAEYC(2012),there is need to study teachers practices in order to make sense of their use of technology and also help them identify their own technological competence and the kinds of support they need. Thus, Mc Kenney and Voogt (2012), investigated teacher design of technology for emergent literacy .They recommended that teachers need support to work on their own technological zone of proximal development in order to implement seamless integration of the technology in regular classroom activities. Adult support also plays a vital role in improving the use of technology at ECE level.

Plowman (2008) states that children need adult support to become independent and confident users of technology. In line with the above idea, Dowes (2001) postulates that, if educators and learners are given equipment and enough time to take computers home and learn about them in their own time, they can make quick gains in skills.

2.6 SUMMARY

In this chapter, related literature was reviewed under the following sub headings; forms of technology available at ECE level, what are the benefits of using technology at Early Childhood education level, challenges associated with teachers' use of technology in the classroom, and what can be done to improve the use of technology at ECE level. Having reviewed literature, the next chapter will focus on the methods used in collecting data for this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This Chapter spelt out the methodology used in this study. The research design, population, sample and the sampling procedures were highlighted. The instruments, data collection procedure and the data analysis plan were also spelt out. The chapter ended with a summary of issues presented.

3.2 RESEARCH APPROACH

According to Creswell (2011), research designs are procedures for collecting, analysing, interpreting, and reporting data in research studies. Fraenkel and Wallen (2003) asserts that a research design is the overall plan for collecting data in order to answer the research questions. A research design is therefore a systematic way of inquiry aimed at finding solutions to problems. It also spells out the specific data analysis plan that the researcher intends to use in the study. Cresswell (2011), notes that research designs are useful because they help guide the methods and the decisions that researchers must make during their studies.

There are three types of research designs that a researcher can use .These include the quantitative, qualitative methods, and mixed methods. However in this research, used the mixed methods research design. Mixed method is the combination of quantitative and qualitative methods. Cresswell (2003), says mixed method gives the researcher a wider perspective as it involves the use two different methods other than using only one method. Creswell(2003) and Sydenstincker-Necto (2000) cited in Bingimulas (2009),state that mixed

methods approach explains a research problem, increases the quality of the final results and provides a more comprehensive understanding of analysed data .Binglimus (2003), notes that, the results of the research are stronger when based on a diversity of methods. However it can be difficult for the researcher to combine the methods.

3.3 RESEARCH DESIGN

For the purpose of this study, a descriptive survey design was adopted. Best (1970) says a descriptive survey design is a method of collecting data from a sample by either directly observing phenomena through the use of either a questionnaire or an interview.

According to Fraenkel and Wallen (2003) a research design is the overall plan for collecting data in order to answer the research question. Echoing the same view are Cohen and Manion (1994) who believe that a research design is a plan selected by the researcher to answer research questions. From the above definitions therefore is a systematic way of inquiry which is aimed at finding answers to problems. It also spells out the specific data analysis plan that the researcher intends to use in the study.

The choice of a descriptive survey design by the researcher was because it helped him provide the description of the state of affairs as it exists. It also provided a clear picture of the phenomenon on which the researcher wished to investigate prior to the collection of data. Above all, the method had no bias because the researcher had no control over the variables, but only reported on what was happening.

3.4 POPULATION

A population can be of any size and will have at least one or more characteristics that makes it different from any other population. According to Fraenkel and Wallen (2003), a population is the group of people who are of interest to the researcher, the group to whom the

researcher wants to generalise the results, of the study. Similarly, Chiromo (2006), views population as all the individuals units and objects or events that will be considered in a research project. Therefore a population is a group of people or events under study. The population for this study comprised of 12 primary schools in Redcliff circuit and 36 early childhood educators.

3.5 SAMPLE AND SAMPLING PROCEDURE

The sample for this study consisted of three primary schools out of 12, and 9 early childhood educators in Redcliff urban out of 36 early childhood educators. Three early childhood educators were selected per school to answer questionnaires making a total of 9 out of 36 teachers and a teacher in charge (TIC) ,to respond to the interview making a total of 3 out of 12 teachers in charge. The number was considered adequate to generate reliable data to answer the sub research questions of the study. According to Fraenklin and Wallen (2005) a sample is any group from which information is obtained. Punch (2009) defines it as a smaller group drawn from a population under study. It was important for the researcher to choose an appropriate sampling procedure to select participants .Williams defines sampling as the process of selecting units from a population of interest so that by studying it we may fairly generate our results back to the population from which they were chosen. In line with the above idea, Smith (2001), views sampling as concerned with the selection of a subset of individuals within the statistical population to estimate the characteristics of the whole population. Therefore sampling can be viewed as a process of selecting a portion of the total population under study as participants in the study.

In this study the researcher employed cluster sampling through a hat system in the selection of schools who participated in the study. The ECE educators and teachers in charge in the cluster were chosen using purposive sampling procedure. Chiromo (2006) notes that

purposive sampling involves hand-picking the cases to be included in the sample. Similarly Cresswell (2011), says purposive sampling in qualitative research means that researchers intentionally select or recruit participants who have experienced the central phenomena or the key concept being explored in the study. Thus with the use of this method, the participants were selected on the basis of the researchers' judgement, for example the selection of Early childhood educators only and not generalized practitioners. As the name self explains, the researcher purposively chose the subjects because of their typicality and this means that, subjects were chosen because of their typicality and only Early Childhood educators were included.

3.6 RESEARCH INSTRUMENTS.

The study used two research instruments which were the questionnaire and the interview. Use of the two instruments enabled triangulation in order to increase reliability and validity. Fink (2008) refers to use of multiple measures to collect data on a single outcome, whilst Creswell (2011) asserts that triangulation seeks convergence, corroboration, and correspondence of results from different methods .Therefore triangulation can be viewed as a method of using two or more research instruments in order to achieve results or findings of greater validity.

3.6.1 THE QUESTIONNAIRE

In this research study, the questionnaire was the major instrument developed to collect data from the early childhood educators from the three selected schools. Gall and Borg (2007) postulate that a questionnaire is deemed most suitable for use in the research as the main purpose of survey to collect data about phenomena that are not directly observable and to collect data about observable phenomena in a convenient way .Best and Khan (2006) say a questionnaire is used when factual information is required .It is also a form of inquiry containing systematic and organised items that are set for the sample to respond. (Tuckman,

2001).Thus in this research the researcher used the questionnaire to obtain factual information on teachers' perceptions on use of technology at early childhood education level. All the questions carried by the questionnaire focused on the areas highlighting teachers' perceptions related to technology use.

The questionnaire was widely used because of its merits .According to Levin and Wadmany (2006), the questionnaire helps the researcher to validate results. This was so because early childhood educators were instructed to give as much detail as they could since some of the questions were open ended. Therefore these allowed the respondents to go deeper into the study. More so, anonymity was guaranteed when using the questionnaire, since each participant responded to it individually. The researcher used structured questionnaires as they helped in getting factual information and comparing and contrasting different teachers 'perceptions on technology use in the teaching and learning at early childhood level in Redcliff urban primary school.

However the questionnaire had its own weaknesses, even though it was considered the major instrument for this research. These limitations were highlighted by Chiromo (2009), who asserts that the questionnaire may not be flexible enough to enable respondents' true feeling or attitude to come through. Chiromo (2009) argues that people often treat these kinds of instruments with suspicion, thus respondents might fail to give full detail since they will be worried about the intentions of the study .As a result less and inaccurate information might be obtained.

3.6.2 THE INTERVIEW GUIDE

The second instrument that was used by the researcher was the interview .The interview was used to triangulate the views expressed in the questionnaire by the three teachers in charge. This is a face to face conversation between two people that is the interviewer and the

respondents. Sieldman (2000) notes that interviews are conversations between two or more people where question and answer segments are involved. Weiss (1998),also points out that interviews give in-depth of the given situations on the ground in the respective areas of research. Therefore an interview is a face to face interpersonal encounter whereby the interviewer asks questions to the interviewee for responses in relation with the topic under study. Interviews play a complimentary role to the questionnaire since they probe the reactions hidden beneath the surface and they look for data at a deeper level than the questionnaire .Thus according to Chiromo (2009), the interview enables the respondents to express their views, feelings and opinions on the subject under consideration. Therefore in this study, the interview made the researcher able to find out exactly what the teachers in charge's views about the use of technology in the teaching and learning at early childhood level in Redcliff urban schools were.

The interviews gave room for teacher-in-charge to make open-ended comments on relevant points. The questions focused on forms of technology available in their schools, perceptions concerning learners' use of technology, the benefits of using technology, the challenges associated with use of technology and ways in which use of technology can be improved. Fink (2008) notes that the interview protocol containing space for recording essential data about time, day and place of the interview and questions to be asked is needed.

However the interview as an instrument had its own peculiar weaknesses. Chiromo (2009) asserts that interviewees may be reluctant to divulge information which they might consider sensitive. Aditionally, the interviewees can be tempted to provide in accurate information to please the interviewer. However the researcher reassured the respondents to be free and honest since their responses were going to be kept in strict confidence and were to be used solely used for the study.

3.7 DATA COLLECTION PROCEDURES

A systematic procedure was used for collecting data and administering data. The researcher, armed with a letter of introduction from her institution, sought permission to conduct the study from the Ministry of Primary and Secondary Education that is from the head office, the district office and the school heads. Following the approval from the Ministry, the researcher then visited the target schools. The researcher explained the objectives of the study to the respondents and addressed all ethical considerations before distributing the questionnaires, interviewing respondents. The questionnaires were physically distributed by the researcher to make sure that they were received by the intended participants. Personal follow-up procedures were undertaken. Approximately one week after the questionnaires were distributed to each school, the researcher went back to collect the responses, anticipating that enough time had been granted.

At the beginning of all interviews, the teachers in charge (respondents) were told about the purpose /aim of the study and they were informed that their names would remain anonymous and that information would not be available in raw data form to anyone, other than the researcher. The teachers in charge were then asked to sign a consent form.

3.8 DATA ANALSIS PLAN

The collected data were recorded. Also the collected data were organised and summarised in form of frequency tables, bar graphs and histograms. Descriptive statistics were used to analyse and present data.

3.9 SUMMARY

This chapter focused on research design, the population and sample and sampling procedures and the research instruments which were selected and used. It also focused on how data were collected as well as suggesting the data analysis plan.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

In this chapter the researcher presents, analyses and discusses the data collected concerning the teachers' perceptions on the use of technology at Early Childhood Education level.

4.2 DATA PRESENTATION AND ANALYSIS

In this section data were presented following the sub-research questions in an attempt to provide the answers to the research study. Of the ten questionnaires issued, nine were returned which is ninety percent of the total questionnaires issued, and all the interviews were a success.

4.3 What forms of technology are available at Early Childhood Education Level at your school?

Sub research question 1*:*

This question sought to find out the forms of technology that are widely used at ECE level in the participating schools. The responses are shown on table 4.1

Table 4:1: ECE educators' responses on the forms of technology widely used at ECE level. (N=9)

Technology	Frequency
Computers	7
Cell phones (smart phones)	5
Televisions	7

Dvds	4
Radios	2
Telephone	6
E-learning	1

The most frequently mentioned forms of technology were computers and televisions, whilst the least frequently mentioned was e-learning.

In response to the same question, Teachers in charge of the infant department identified computers, televisions, DVDs and cell-phones as common forms of technology available for use at Early childhood education level.

One of the teachers in charge said,*" Pano ma computer hobho asimamwe achoa kafa.*' (meaning There are many computers here but some of them are not functional)

The other Teacher in charge responded, *"Ma smart phones, ma dvd, ma television tinoashandisa pakudzidzisa vana vadiki, chete ma computers mashoma ,haakwani"(.*meaning we use smart phone, DVDs and televisions to teach young children but the computers are very few. They are not enough.)

The third teacher in charge also said, "*Mazicomputer atinawo akakurisa, asi tinawo (*meaning The computers that we have are too big but we do have them and the computers are not child-sized).It was evident that computers were available in all the schools.

It was also necessary to find out how often teachers used technology at early childhood education level. The teachers' responses are shown on table 4.2.

Table 4:2 ; ECE educators' response on the time interval on use of technology.

N=9

TIME INTERVAL	FREQUENCY
Daily	1
Once a week	4

Twice a week	2
Three times a week	1
Monthly	1
Not at all	0

The most frequently mentioned time interval on how technology is being used was once a week, while the least frequently mentioned time interval was monthly.

In response to the same question, Teachers in Charge of the early childhood department indicated three different responses. The other one said *",Isu technology tinongoti kamwe pasvondo then its enough"* (meaning We only use technology once a week.)

The other teacher in charge also echoed "*Pa time table yedu its three times zvayo per week asi a….pakatiomera nenyaya ye time* ",(meaning it is supposed to be used three times per week according to the time table, but in reality we are not following the time table because of lack of time.)

The third teacher in charge indicated that they make of technology daily "*Zuvane zuva panguva ye indoor free play vana vanotambisa ma toy phones, vanoona television*, *ma cartoon vachirondedzera nyaya yavarikuona"(*meaning we use technology daily as ECE learners interact with their learning centres during indoor free play, as they watch cartoons on televisions, play with toy phones and tell stories from the cartoons.)

DISCUSSION

The findings shown on table 4.1 agree with the findings of the Digital Education Services (2014) when it postulates that the tablet computers are one of the best technology for use at Early Childhood Education level. This is also consistent with the findings of Hernessy and Osborne (2005), who allude that Information, Communication and Technology tools that can enhance teaching and learning may include computer projection technology, digital recording equipment and computer controlled microscopes.

Findings also showed that four (4) early childhood educators, identified DVDs as one of the forms of technology being used at ECE level although it has the least frequency. In support two teachers in charge of the infant department also mentioned Dvds as one of the forms of technology being used at ECE level. This is consistent with the findings of Kadzera (2006)'s research in Malawi when he identified DVDs and video as one of the five instructional technologies for use with young learners. This was also mentioned by Stephen and Plowman (2005) in UK, in his study of the nature of guidance necessary to enhance children's encounters with ICT in authentic playroom contents using guided inquiry. They found out that digital video recorders as forms of technology being at ECE level.

According to the findings, Early childhood educators and teachers in charge seemed to view technology in relation to digital media such as computers, lap tops, DVDs, smart phones and failing to consider charts, mobiles, models and interactive white boards as some form of technology. This gap then led to them failing to give some accurate information pertaining to their time interval of technology use.

While four (4) early childhood educators use technology once a week, Miller (2005) from his study found out that, today the average child in the United States sits in front of television, video and computer from four to five hours per day, spending less time on imaginative play. Therefore, it seems the findings here have a difference because of how the respondents defined technology.

However, policy states that technology is supposed to be considered for use on daily basis since we are living in a global village today, and Zimbabwe is one of the developing countries in which technology has a part to play.

4.4 What are the benefits of using technology at ECE level?

Sub research question 2:

This question sought to find out the benefits of using technology at early childhood education level both to educators and to learners. The teachers' responses are shown in table 4.3

Table 4:3; ECE educators' responses on the benefits of using technology at early childhood level. N =9.

BENEFIT	FREQUENCY
Enjoyable and stimulates curiosity to learn, motivated.	8
To vary teaching methods.	2
Enhances pupils' intellectual, physical, social and emotional development.(PIES)	8
It enhances communication.	2
It assists pupils in problem solving skills.	1
Easy mastery of concepts	2
Easy and readily available media	3
Maximum concentration is achieved	3

The most frequently mentioned benefit was that pupils enjoy when using technology and it stimulates curiosity to learn, while the least frequently mentioned benefit was that technology assists in varying teaching methods.

In response to the same question, teachers in charge of the ECE department also held the same view. One of them said,*"Zvirinyore kuti vana vadzidze kuteerera kana tichishandisa T.V ne radio nekuti vazvijaira*."(meaning it is easy to teach listening skills as they listen to

the radio a television because they are used to these forms of technology. The same teacher in charge went on to say, "*zvinhu zvakaita semhuka, dzavasingazivi se shumba, giraffe zvirinyore kuti vana vazvidzidze vachizvionera pa T.V. kana pa ma 'games' epa computers*(meaning that animals like lions and giraffes can be seen from the televisions and computers.)

The other teacher in charge said,"*vana vano developer intellectually as they tell stories they will be watching*.(meaning pupils will develop intellectually or cognitively when they re-tell a story of films or movies, dramas they will be watching on a television or computer or smart phone.)The same TIC respondent also said, *zvirinyore kumurairidzi sezvo iyo technology yacho iri media yakakwana*,(meaning technology makes teaching easier to early childhood educators educators since it is readily available media for use.

The third teacher in charge said,"*vanavano developer ma fine motor skills, pavanobaya-baya ma buttons e ma computers kungotichete mazihombe.*'' (meaning learners develop their fine motor skills as they press the buttons of computers but the computers are too big.) The same teacher in charge said,"*mudzidzisi anoitirwa easy kudzidzisa ma listening skills nekugona kurondedzera nyaya paya pavanenge vachiona chero drama kana kuteerera pa radio*,''(meaning that technology makes it easier for ECE educators to teach listening skills as they listen to television and radio and also enhances pupils the ability to comprehend stories through watching a television.)

All the three teachers in charge mentioned that one of the most benefits of technology is that it makes it easier for ECE educators to teach listening skills. The least frequently benefit was that pupils will be well versed with computers at an early stage.

DISCUSSION

The findings of early childhood educators on table 4:3, which reveals that technology stimulates curiosity and motivates learners, agree with Pass (2008)'s study in Turkey when he found out that educational technology increases integrative motivation and enables learners to make connections to higher order thinking. The same notion was also noted by Empirical (2006) who purports that pupils are more motivated and they participate more actively when ICT based teaching approaches are being used.

It is noted that eight early childhood educators agreed that technology use enhances learners' intellectual and social development. This is consistent with the findings of the National Association for the Education of Young Children (NAEYC, 2012) when it states that technology enhances young children's cognitive and social abilities.

With reference to table 4:3 it is also noted that two out of nine ECE educators agreed that technology helps in varying the teaching methods, thereby making use of modern ways of teaching that give learners' curiosity to learn. This agrees with the findings of Cohen and Manion (2011), when they state that technology provides modern ways of learning …moving from chalk and talk to learner centred methods. In line with the above idea, Kadzera (2006) also states that technology use enables the ECE educator to explain concepts that would be difficult to elaborate orally.

However teachers' perceptions towards the use of technology in teaching and learning at ECE level is not the same. One of the respondents did not see the importance of technology use and this is the one who said use of technology wastes time. However this respondent tends to disagree with Kotrik and Redman (2004) who postulate that technology allows learners to learn more in less time. Also all respondents, both teachers in charge and early childhood educators viewed technology in relation to digital media only, failing to take note of other technologies such as charts, models and mobiles.

The researcher also find it necessary to find out the reactions made by ECE learners when technology is being used during lesson delivery**.** The responses are shown in figure 4.1.
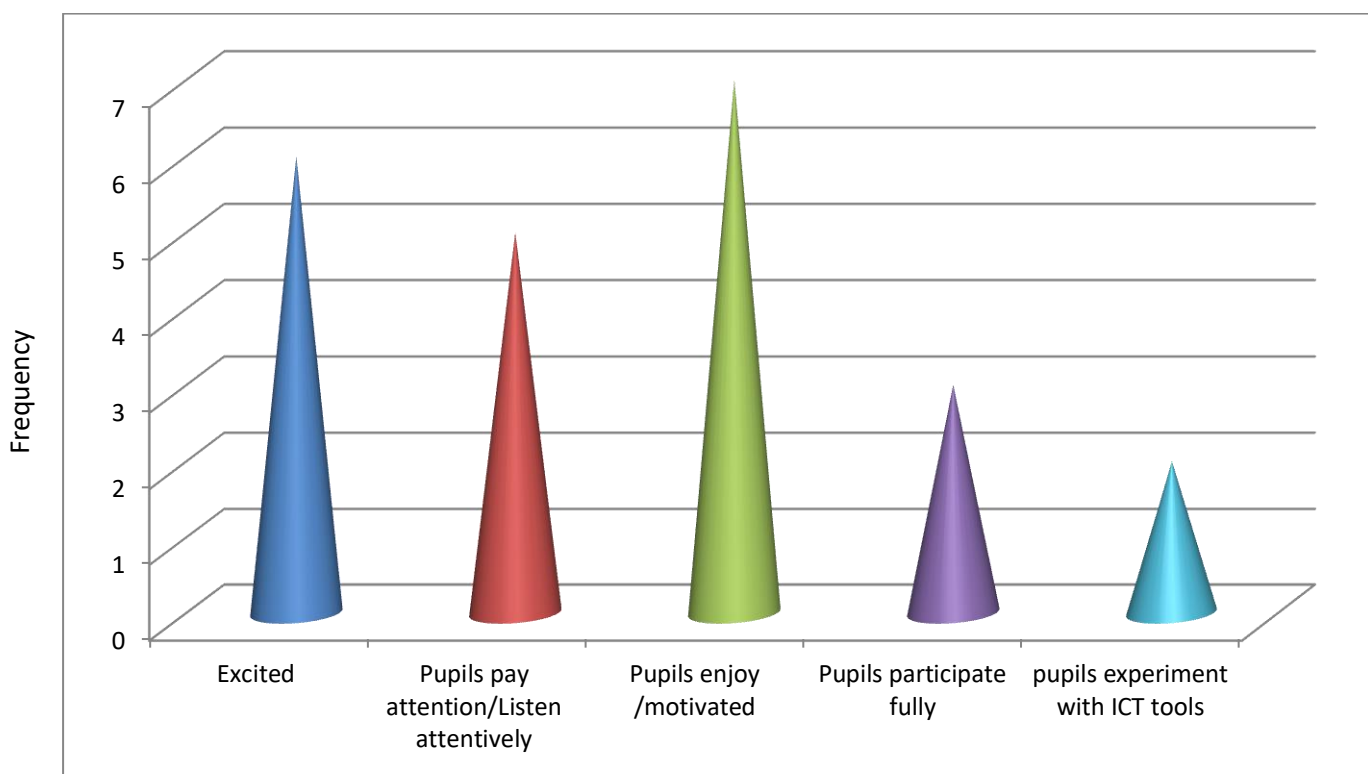
Fig 4.1: ECE educators' responses on ECE learners' reactions towards the use of technology during lesson delivery

The most frequently mentioned reaction was that early childhood learners enjoy and are motivated, while the least frequently mentioned reaction was that learners want to experiment with ICT tools.

DISCUSSION

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It was also noted that pupils enjoyed and were motivated by the use of technology as stated by eight educators. These findings are consistent with Kadzera 's (2006) research carried out in Malawi, when he concluded that technology motivates young learners, capture their attention and help explain complex concepts.

Basing on the findings on figure 4.1, it is noted that only two (2) ECE educators noted that technology use helps pupil to explore and experiment with ICT tools. This idea was also mentioned by Gomes cited in Bigilmas (2009) who postulates that technology give pupils access to explore new concepts in learning. In line with the above findings the NAEYC (2012) also concluded in their research that technology offers all learner opportunities to learn in ways not previously possible.

Sub research question 3

4.5 What are some of the challenges associated with use of technology at ECE level?

Table 4:4; ECE educators' responses on the challenges associated with use of technology.

CHALLENGES	FREQUENCY
Lack of resources/equipment	8
Lack of support from the administration	5
Lack of skilled/no computer literacy ECE educators	8
Lack of age appropriate technology	8
Lack of access to computers at home	7
Shortage of time	3

The most frequently mentioned challenges were lack of resources /equipment, lack of skilled or computer literacy ECE educators, lack of age appropriate technology while the least frequently mentioned challenge was shortage of time to use technology in the teaching and learning.

In response to the same sub question, Teachers in charge also echoed some similar sentiments. One of them said, *"Dambudziko hatina ma ECE teachers vanoziva nezve ma computers izvi, uyezve iwo macomputers acho mashoma zvikuru pavana vedu"* *(*meaning We do not have early childhood educators who are well versed with computer technology, and the computers are very few as compared to our pupils.)

During interview, the other Teacher in charge said, "*Kunyangwe zvedu tinawo macomputers acho haashandiba akatozvifira, anoda service chaiyo*," (meaning Although we have the computers but they are not functional, they need to be serviced for them to work.)

The third teacher in charge for the ECE department also said, "*Technology yedu zhinji pano haisiyezera revana veECE therefore rubatsiro rwainopa ruri very limited,*" (meaning The technology we have is not of the size of our pupils therefore the help it offers is very limited.)

DISCUSSION

Lack of resources was reported as one of the major challenges associated with the use of technology at ECE level according to table 4:4.This is consistent with Zhao's (2007) findings from his qualitative study, investigating teachers' perspectives, when he found out that teachers had a range of challenges which include; unavailability of computers in the classroom and sharing of resources. More so, the above findings also agrees with Plante and Beatie (2004)'s findings in their research in Canada which concluded that the ratio of pupils computers is five as to one (5:1).In a similar note, Kadzera (2006) in his research in Malawi, notes that the ministry discovered that the computer ratio was one as to thirty-five (1:35).

Lack of skilled ECE educators was also vital when looking at table 4:5.These findings agrees with Pass (2008)'s findings, when his results stressed that schools had the challenge of

dealing with problems in use of technology since ECE educators were not provided with technological content, knowledge and skills to cater for the needs of the young learners.

Really, the issue of skilled educators seems to agree with a number of researchers, including Valdez (2006), who concluded that lack of training to provide teachers with the skills and knowledge needed for technology use was said to be a compounding problem. The above findings are also consistent with the results of a research by the Digital Opportunity in (2001), in United States of America, when they concluded that many educators lack the technological proficiency needed to use technology in teaching and learning at ECE level. Basing on the findings from this research, it is noted that both teachers in charge (2) and the ECE educators (5) states that even if technology is available at ECE level, but it is not child-sized therefore is not developmentally appropriate. These findings agree with technology use in Jordanian Pre-schools, settings from teachers' perspectives. They identified lack of Developmentally Appropriate Software and lack of age appropriate facilities.

About three educators pointed out lack of time to use technology as a primary influencing challenge. These findings agrees with Kadzera's (2006) study, when he alludes that teachers who already have too much work (class work), and other school responsibilities found it difficult that instructional technologies require additional time to learn and to prepare for using them in their classroom. Thus this was also mentioned by Earle (2002), when he concluded that both restraining forces that are extrinsic to teachers, such as access, time and support contributed negatively to the use of technology at ECE level. Therefore the ECE educators in this study confirm this dissatisfaction with the pre-service preparation they received for using technology. It can thus be projected that for a larger percentage of ECE

educators, the amount and quality of technology use in their teaching is not to the level that could otherwise be achieved if improvements in pre-service teacher training were instilled.

Sub research question *4*

4.6 What can be done to improve the use of technology at ECE level?

This question sought to find out the ways in which technology use can be improved.
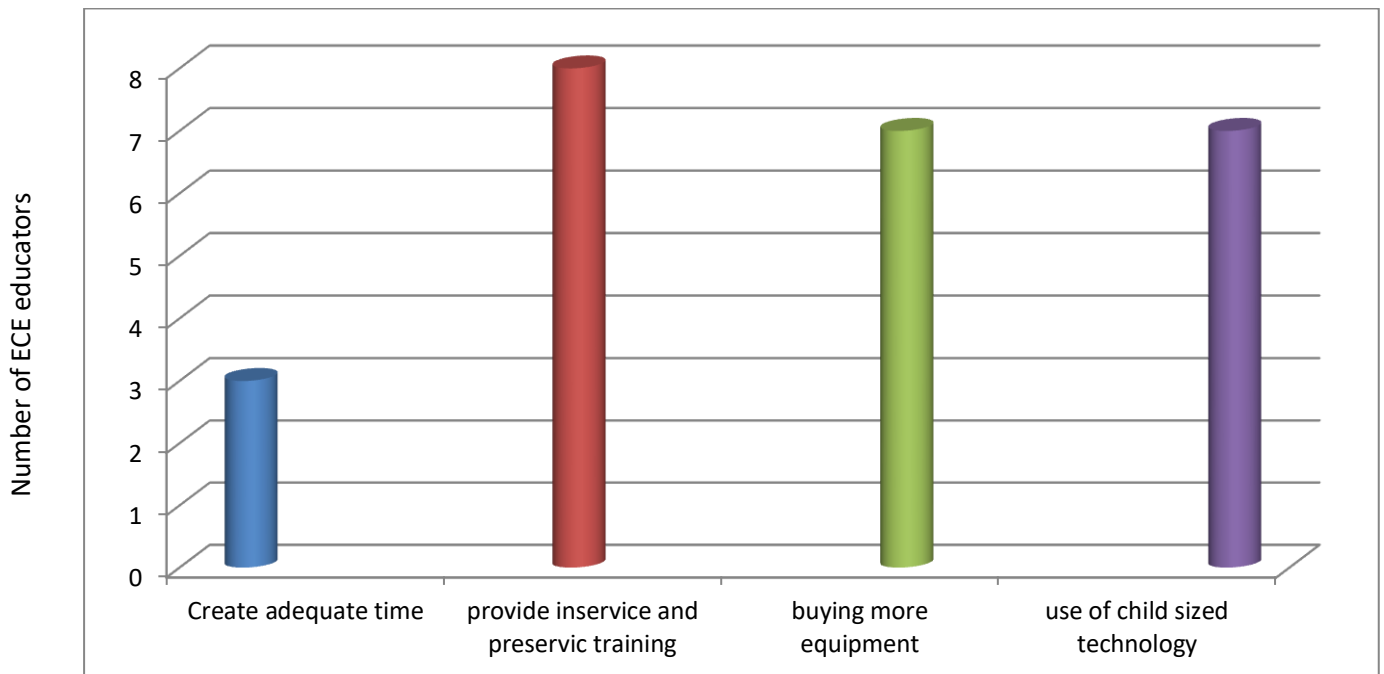
Figure 4,2 : ECE educators' responses on ways of improving the use of technology at ECE level.

The most frequently mentioned way of improving the use of technology at Early childhood Education level is by providing pre-service and in-service training to ECE educators while the least frequently mentioned way of improving technology use was by creating adequate time for ECE learners and educators to use computers and learn about them at their own.

In response to the same-sub-question, Teachers in charge of the responding schools also have the same opinions. One of them said, "*Mateachers akawanavo training yemacomputers sezvo zvirizvo zvaveko, zvingatibatsira kwazvo kuti vagozogonawo kushandisa pakudzidzisa vana*." (meaning If teachers are trained this may help us since use of technology is compulsory ,this will help them to be able to make use of technology when teaching young children.)

The other teacher in charge during interview said, *"if young children are to benefit the educator must know the content first*, (meaning teachers need to have the knowledge and skills to assist pupils in technology).

The third respondent also echoed, "*There is need to buy the resources, tikatarisa ratio yedu yemacomputers its about 1:7, so vana vadiki vanoda kubaya, kuona umwe neumwe yake*, *and technology yacho inodawo kuve child sized kuitira handling yacho*." (meaning there is need to provide more equipment and resources to match with the number of pupils so that they explore, and also to buy child sized computers which are developmentally appropriate.)

DISCUSSION

The issue of provision of pre-service and in-service training to ECE educators as a way of improving the use of technology, is consistent with the findings of Yang's (2012) study of ICT use in primary schools, when he found out that teacher training is a crucial component to harness technology is pedagogical potential. Wang et al (2010) also assets that teacher training is essential for teachers to effectively use technology enhanced inquiry learning. On the same note Allarta commission on learning (2006), in their findings also noted that it was widely emphasized that raw model of professional training including study groups, teachers,

networks mentorship, task groups, research projects and resource centres should be used, instead of one day training without follow-ups.

The Early childhood educators also mentioned the idea of creating adequate time for early childhood learners to explore the computers and other technology. These findings also agree with Spodark (2003) in his study when he concluded that scheduling convenient technology staff development sessions and set time aside time during the workday for teachers to explore computers and related technology. The same suggestion was also mentioned by Dowes (2001) in UK, when he found out that teachers and learners need to be given equipment and enough time to take computers home and learn about them in their own time, they can make quick gains in skills.

4.7 SUMMARY

This chapter analysed and discussed the findings from this study. It endeavoured to answer the four main research questions that aimed at getting information on the use of technology at Early Childhood education level in Redcliff urban primary schools. Data were illustrated through the use of tables and graphs.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter summarises chapters one to four, giving recommendations as well as drawing conclusions. The results of the analysis of the interview and the questionnaire are represented. Lastly, recommendations drawn from the research are discussed.

5.2 SUMMARY

The researcher's interest was to find out the teacher's perceptions on use of technology in the teaching and learning at early childhood education level, with special reference to schools in Redcliff Urban in Kwekwe District.

The background was an introduction to the research study in depth. According to the Zimbabwean policy, all schools are expected to use technology in teaching and learning across all grades. Therefore, it was the researcher's hope to find out teachers' perceptions in the use of technology at early childhood education level. The research questions which guided the study sought to find out information about forms of technology available at ECE level, the benefits of using technology at early childhood education levels, the challenges associated with the use of technology at ECE level , as well as ways of improving the use of technology at early childhood education level. The study was confined to use of technology at early childhood level only , in Redcliff urban schools which is situated in Midlands province the population included thirty six early childhood education teachers from twelve primary schools in Redcliff high density suburb and a sample of nine ECE educators and 3 teachers in charge from three primary schools were selected.

The review of related literature was presented in Chapter 2. It was noted that there are different forms of technology for use at early childhood education level, that include computers , laptops , television, flip charts , smart phones, chalkboard etc. Also benefits of using technology at ECE level were stated by other researchers. These include enhancing young children's cognitive and social abilities. Moreso, the challenges associated with use of technology were also outlined and these include, lack of age- appropriate technology, lack of resources, lack of skilled manpower, just to mention a few. Ways of improving technology use at ECE level were also noted in chapter 2. These include providing in-service and pre- service training to ECE educators , buying more equipment, providing child sized technology.

Chapter three (3) highlights the methodology used to explore the teacher's perceptions in the use of technology at ECE level. The researcher used the mixed methods approach. The descriptive surveys research decision also guided the study. Questionnaires for early childhood educators and the interview guide for teachers in charge for the infant department were used as research instruments. The use of these instruments were for triangulation purposes. Data for the research study were collected from the ECE educators and teachers in charge of the Infant department of the schools which were under study.

 In chapter four data were presented analysed and discussed. The data were presented in forms of tables and graphs from the findings, it was noted that the most common technology being used at early childhood education level were computers and television. It was also noted that most educators make use of technology once per week only which is far below the ministry of education expectations. Moreso, it was noted from the finding that technology plays a pivotal role to both educators and learners, as it stimulates learners curiosity to learn and vary teaching methods. Also from the results obtained it was discovered that lack of age-appropriate materials, lack of skills or computer literacy Early childhood

educators and lack of sources were the most frequently mentioned challenges associated with the use of technology at ECE level. One of the most frequently mentioned way of improving technology use was by providing in-service and pre- service training to ECE educators and use of child sized technology.

However from these respondents, it was also noted that they only viewed technology in relation to digital media, failing to take note of other technology such as charts, models and mobiles.

5.3 CONCLUSION

In this research, the following conclusions were made.

One of the research objectives was to find out the forms of technology available for use at Early childhood level. Findings revealed that computers and television are widely used at ECE level. It can therefore be concluded that in the schools studied, computers and television were readily available for use at ECE level.

The second objective aimed at finding the prevalence of technology use at Early childhood level, it was noted that teachers only use technology once per week . It can therefore be concluded that teachers at ECE level are not following the requisites of the Zimbabwean policy on technology use. Therefore, primary and secondary education should enforce use of technology on daily basis through the educational policy.

The third objective sought to find the benefits of using technology at ECE level. Results revealed that technology enhances pupils intellectual, physical, social and emotional development as well as stimulating learners curiosity to learn. It can therefore be safely concluded that technology use is worth in the teaching and learning at ECE level.

From the fourth sub question which sought to find out pupils reactions, when ECE educators make use of technology during lesson delivery. It was noted that ECE pupils enjoy, are motivated, and they listen attentively. Therefore, it can be concluded that technology use arouses pupils interest and enhances pupils listening skills. This agree with some philosophers such as Pestalozzi who eludes that ECE educators must teach according to the interest of the learner.

The fifth sub question sought to identify challenges associated with use of technology at ECE level. The findings revealed that lack of computer literacy ECE educators , lack of age appropriate technology and lack of resources as the serious challenges encountered in schools at ECE level. It can therefore be concluded that in schools particularly at ECE level, there are no age appropriate technology and no skilled ECE educators that are developmentally appropriate for the young learners.

Finally the sixth sub question sought to find out ways of addressing the identified challenges. The most ways of improving technology use were through providing in-service and pre-service training to teachers. Therefore it can be concluded that teacher training plays an important role in improving the use of technology at ECE level.

5.4 RECOMMENDATIONS

The following recommendations were made based on the research findings:

- The Ministry of Primary, Secondary education should enforce use of technology on daily basis through an educational policy

- The government of Zimbabwe need to help all primary schools to have adequate age appropriate technology /equipment as it was observed as a serious challenge

- All teachers should be trained though pre-service and in-service for them to have the requisite skills to use technology in ways that will benefit both ECE learners and themselves

- There is need to carry out staff development in the infants department up to the District level so as to make ECE educators aware that not only digital media is technology but also flipcharts, puppets, models, mobiles, charts, chalkboard, stories, drama are also forms of technology that are developmentally appropriate to ECE learners

- There is need for the teachers and the schools administration to provide technology that help learners during lessons meaning there is need to staff develop the teachers through in-service and pre-service training for them to given skills necessary for use at ECE level

5.4.1 RECOMMENDATIONS FOR FURTHER STUDIES

- A similar study need to be carried in difference geographical area and the number of schools should be more than twice , to increase the reliability for the findings.

References

Balanskat, A. (2006) A review of studies of ICT impact on schools in Europe. European schools net. [Online] Available: ec.europa.eu/education/pdf/doc254_en.pdf

Bauer, J., & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology and Teacher Education*, *13* (4), 519-546.

Becker, H. J., & Ravitz, J. L. (2001). Computer use by teachers: Are Cuban's predictions correct? *Paper presented at the American Educational Research Association*, Seattle. Retrieved March 15, 2016 from http://www.crito.uci.edu/tlc/indings/confer-ences-pdf/aera_2001.pdf.

Bhargava, A., Kirova-Petrova, A., & McNair, S. (1999). Computers, gender bias, and young children. *Information Technology in Childhood Education Annual*, January 1, 263-274.

Bingimlas K. A. (2009). EURASIA, *Eurasia Journal of Mathematics, Science and Technology Education* 5(3), 235-245

Brinkerhof, J. (2006). Effects of a long-duration, professional development academy on technological skills, computer self efficacy, and technology integration beliefs and practices. *Journal of Research on Technology in Education*, 39 (1), 22-44.

British Educational Communications and Technology Agency (BECTA) (2004). *A review of the research literature on barriers to the uptake of ICT by teachers.* Coventry: BECTA.

ChanLin, L., Hong, J., Horng, J., Chang, S., & Chu, H. (2006). Factors influencing technology integration in teaching: A Taiwanese perspective. *Innovations in Education and Teaching International*, *43* (1), 57-68.

Chiromo,A.S. (2009).*Research Methods and Statistics in Education*. Gweru: Midlands State University

Cohen, L, Manion, L, and Morrison, K. (2011). *Research Methods in Education*. London: Routledge Falmer.

Cope, C. and Ward, P. (2002) Integrating learning technology into classrooms: The importance of teacher's perceptions. *Educational Technology and Society*. http://ifets.ieee.org/periodical/vol_1_2002/cope.pdf[2004, March 30]. Retrieved 23 March 2016

Creswell, J. W. (2003). Research design: *Qualitative, quantitative and mixed methods*. California: Sage.

Creswell, J. W. and Plano Clark, V. 2011. *Designing and Conducting mixed Methods research,* Thousand Oaks, CA: Sage.

Crystal, D. (2001). *Language and the internet*. Cambridge: Cambridge University Press.

Dawes, L. (2001) What stops teachers using new technology? In M. Leask (ed.), *Issues in Teaching using ICT* (London: Routledge), 61-79.

Earle, R. S. (2002). The Integration of instructional technology into public education: promises and challenges. *Educational Technology*, *42* (1), 5-13.

Empirica, C. (2006) "Benchmarking access and use of ICT in the European schools 2006". European schools net. (http://europa.eu.int/information_society. Retrieved 23 March 206

Ertmer, P. A. (2005),"*Teacher pedagogical beliefs: The final frontier in our quest for technology integration*?"Educational Technology Research and Development, 53(4), 25-39

Eugene, J. (2006). How teachers integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education, 14*(3), 581-597.

Frankel , J.R. and Wallen, N.E (2003) *How to design and evaluate research in education* : Boston McGraw Hill

Grabe, M. & Grabe, C. (2007) *Integrating technology for teaching and learning*. New York: Boston.

Guha, S. (2000). *A Comparative analysis of present and preferred situations of elementary grade teachers in using computers for classroom instruction*, ERIC Document Reproduction Service No. ED440089.

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

Kabanda, G. (2012) Knowledge frontiers for sustainable growth and development. Zimbabwe: Zimbabwe Open University.

Kotrlik, J., & Redmann, D. (2005). Extent of technology integration in instruction by adult basic education teachers. *Adult Education Quarterly: A Journal of Research and Theory*, *55* (3), 200-219.

Lam, Y., & Lawrence, G. (2002). Teacher-student role redefinition Teachers" Perceptions Of The Use Of Technolog 55 *International Journal of Innovative Research in Science,*

Levin, T., & Wadmany, R. (2006). Teachers' beliefs and practices in technology-based classrooms: A Developmental view. *Journal of Research on Technology in Education*, *39* (2), 157–181.

Levin, T., & Wadmany, R. "Teachers" views on factors affecting effective integration of information technology in classroom: Developmental scenery". *Journal of Technology and Teacher Education*, vol. 16, no. 2, pp. 233-236, 2008

Menzo, K. K. (2001). Academic record. *Education Week*, 20(35), 22-35. Washington.

Miller , E (2005) Fighting Technology for toddlers, Education Digest Vol 71 Issue 3 pg 55-58

NCES (2000). *Internet access in U. S. public schools and classrooms: 1994–99*. Washington, DC: NCES 2000–086.

National Association for the Education of Young Children [NAEYC]. (2012). *Technology and young children – ages 3 through 8: A joint position statement of the National Association*

for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media. Washington, DC.

Redmann, D., & Kotrlik, J. (2004). Technology integration into the teaching- learning process by business education teachers. *Delta Pi Epsilon Journal, 46* (2), 76-91 *T.H.E. Journal, 28* (7), 40-43.

Schofield, J. W., & Davidson, Simonsson, M. (2004). Technology use of Hispanic bilingual teachers: A function of 241.

Smeets, E. (2005). Does ICT contribute to powerful learning environments in primary education? *Computers and Education*, No. 44,p; 343-355.

The Herald (2006) Matebeleland South Governor hands computers to school. Harare. The Herald, Wed, May 19,(2006 p7)

Tusubira, F. and Mulira, N. (2004). "*Integration of ICT in Organization: Challenges and Best Practice Recommendations Based on the experience of Makerere University and other Organizations"*. Paper Presented at the International ICT Conference held at Hotel Africana, Kampala, Uganda on 5-8th Sept. 2004

UNESCO (2002) Information and Communication Technology in Education–*A Curriculum for Schools and Programme for Teacher Development*. Paris: UNESCO.

Victoria,T. L. (2011) ICT in education. [Online] Available: Retrieved from http:en.wikibooks.org/wiki? ICT in education on 13 April 2016.

Waema, T. M. (2005). In Etta, F. E and Elder, L (eds), *A brief History of the Development of ICT Policy in Kenya at the Crossroads: ICT Policy Making in East Africa.* Nairobi, Kenya: East African Educational Publishers Ltd

Wheeler, S. (2001). Information and communication technologies and the changing role of the teacher. *Journal of Educational Media*, Vol**.** 26, No.(1), Pp;7-17.

Williams, M. D. "Technology integration in education. In Tan, S.C. & Wong, F.L. (Eds.), Teaching and Learning with Technology", pp. 17-31: An Asia-pacific perspective. Singapore: Prentice hall.

World Bank,(2006). *Information and Communication for Development: Global Trends and Policies* Washington D.C: The World Bank Institute

Yelland, N. (2001) *Teaching and learning with ICT for numeracy in the early childhood and primary years of schooling*. Australia: Department of education, training and youth affairs.

Young, J. (2002). The 24-hour professor. The Chronicle of Higher Education, Vol**.** 48, No. (38), Pp; 31-33.

Zhao, Y. (2007). Social studies teachers' perspectives of technology integration. *Journal of Technology and Teacher Education*,*15* (3), 311-333.

Zhao, Y. and Cziko, G. A. (2001). Teacher adoption of technology: a perceptual control theory perspective. *Journal of Technology and Teacher Education*, Vol**.** 9, No. (1), Pp; 5-30.

pen Learning 2000. (Pp; 53-62).Brisbane: Learning Network, Queensland.

APPENDIX 1: LETTER OF PERMISSION- MIDLANDS STATE UNIVERSITY

MIDLANDS STATE UNIVERSITY

P. BAG 9055
Gweru
Zimbabwe

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Fax: (263) 54 260233/260311

FACULTY OF EDUCATION

DEPARTMENT OF EDUCATIONAL FOUNDATIONS, MANAGEMENT & CURRICULUM STUDIES

06 January 2016

Ministry of Primary and Secondary Education

P. O. Box 8022

CAUSEWAY

RE: SPECIAL PERMIT TO CONDUCT RESEARCH IN THE MINISTRY

The Faculty of Education's Department of Educational Foundations, Management and Curriculum Studies at Midlands State University is seeking your permission to allow Mr/Ms CHINDOWE CHARITY a Bachelor of Early Childhood Education student in the department, to conduct his/her research in your ministry. The research will be conducted in KWEKWE / MIDLANDS District/Province.

May I take this opportunity to thank you for the cooperation you have always given this Department in this respect.

E.P. Mangwaya, *Ph.D.*
Chair, Educational Foundations, Management & Curriculum Studies

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APPENDIX 2: QUESTIONNAIRE FOR ECE EDUCATORS

Questionnaire for ECE educators

I Chindowe Charity am currently studying for a Bachelor of Education degree in Early Childhood Education at Midlands State University. I am researching on Teachers 'perceptions on the use of technology in the teaching and learning at Early Childhood Education level in Red cliff urban Schools. I am kindly asking you to complete this questionnaire. Your responses will be used for this research only and will be treated with confidentiality. Your cooperation is greatly appreciated.

1. What forms of technology are available for use at ECE level at your school?

   Computers

   Cellphones
   Television

2. How often do you use technology to teach ECE learners?

   Twice a month.

3. What are the benefits of using technology at ECE level?
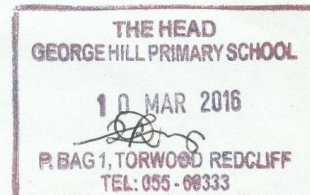   Pupils master the concepts easily.

   They enjoy learning.
   There is maximum concentration

4. How do the ECE learners react when you make use of technology doing lesson delivery? Explain

   There pay attention to the
   teacher.

5. Give some of the challenges associated with the use of technology at ECE level?

a. Time

b. Shortage of resources

c. Attitude

d.

6. How do you think these challenges can be addressed? Give 2 reasons

a. Create enough time for the pupils to have access to computers

b. Schools to buy computers for the pupils.

APPENDIX 3: INTERVIEW GUIDE FOR TEACHERS-IN-CHARGE

Interview Guide for Teachers In charge

1) What forms of technology do you have presently at the station for your learners at ECE level?

   Teacher Television and Computers, Cellphone.

2) How often do your teachers and learners use technology at ECE level?

   Daily

3) Which forms of technology do you recommend for use at ECE level?

   Computers

4) State three major benefits of using Technology at ECE level, both to educators and learners?

   Educators
   (i) _easy and readily available media_
   (ii) _data can be safely kept._

   Learners
   (i) _pupils will have develop intellectually_
   (ii) _Pupils will be well versed with computers at an early stage._

5) What are some of the challenges do you encounter in trying to integrate technology in the teaching and learning at ECE level?
   (i) _lack of skilled ECD trs_
   (ii) _Pupils have problems in handling equipment like computers._
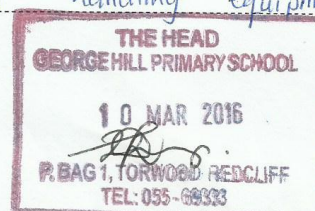
6) Suggest 2 ways of improving the use of Technology at ECE level?

Schools to have Infant computer labs so as to enable ECE ppls to have much time in their learning using computers.
- Also schools to have Televisions and for pupils to watch progs that help them in their learning.