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DEPARTMENT OF APPLIED EDUCATION

An investigation into the use of computers by teachers in schools in Zaka District under Masvingo Province.

BY

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF APPLIED EDUCATION IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF EDUCATION DEGREE IN COMPUTER SCIENCE.

GWERU

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APPROVAL FORM

The undersigned certify that they have read and recommended to Midlands State University for acceptance a research project entitled:

An investigation into the use of computers by teachers in schools in Zaka District under Masvingo province.

A research project submitted to the department of Applied Education in partial fulfilment of the requirements of the Bachelor of Education Degree in Computer Science.

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ABSTRACT

The study sought to establish the use of computers by teachers in schools in Zaka District under Masvingo Province. The research would also find possible solutions to effective use of computers in schools by teachers. The study have adopted the descriptive survey design which permitted the researcher to use questionnaires, interviews and observation to collect data. The design assisted the researcher to find valuable knowledge about opinions, attitudes and practices in the use of computers by teachers. A sample of schools was done under stratified random sampling. The sample was comprised of school heads, teachers and learners giving a total of forty-eight respondents. The outcomes of this study revealed that computers in schools are not being utilised much more efficiently and effectively to embrace learning by the teachers. This rose from a number of limitations such as lack of proven and tested educational software. In addition, failure of the Ministry to provide a National ICT Policy is one of the major challenges. The researcher recommends that the government should source more funds to capacitate the teachers, buy the computers and educational software. It should also build an ICT infrastructure and Policy in education as well to incorporate different organisations and sectors world over to assist schools in terms of connectivity. Lastly, the curriculum implementers in the Ministry of Primary and Secondary Education should include in their curriculum the integration of computers in the teaching and learning process across the curriculum.

ACKNOWLEDGEMENTS

DEDICATION

This project is dedicated to my dear and supportive family, my wife Viola, daughters Victoria, Valerie and Valeria. To my mother and father, I say, "*ndinotenda"* for the foundation you laid for me. Education and knowledge have been a rewarding experience.

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<div align="center">**CHAPTER ONE**</div>

1.0 INTRODUCTION

This chapter is focused on highlighting the rationale behind the focus on ICT in education which the researcher is obligated to investigate the use of computers by teachers in schools. The background of the study, statement of the problem, research questions, significance of the study, delimitations of the study, limitations of the study, definition of terms and a summary are also outlined in this chapter.

1.1 Background of the study

The swift change in growth of Information Communication and Technologies (ICTs) has brought a paradigm shift across the globe. ICT's in education lives a life at the crossroads between evidence-based policymaking, learning and the fast-changing world of technology. Key stakeholders (politicians, parents, teachers, school leaders) demand evidence of the impact of ICT derived from research, monitoring and evaluation. The challenge for policymakers is to develop a sustainable knowledge base for ICT in education, in which key indicators and other sources of information are identified, which enables better insight into the use and effects of ICT for learning. ICT has brought hasty changes in technology and has caused social, political and global economic transformation, (Yusuf, 2005). On its own, Information Communication and Technologies (ICT) literacy rate has become a major tool that reformed how we view the world and the way we live in it. ICT literacy is the capability of a person to identify, search effectively and present specific information so as to build knowledge and develop critical and creative thinking applicable to the field of study, (Mpofu, 2013). This was supported by Kozma (2008) who has highlighted this in his work, and he acknowledges that ICT strategies in many countries cut across diverse fields. Infrastructure development is necessary in order to ensure access to schools, networks and resources for learning. Teacher training both initial and in-service, is a prerequisite for the ability of education to use ICT in learning processes. Technical assistance is needed both in the administrative as well as in the pedagogical domain. Curricula and pedagogical approaches may have to be changed in order to cater for educational change with ICT. Content development is necessary in order to facilitate the interactive potential ICT can offer in the teaching and learning process. In respond to this, educational institutions in third world class should be tailored to meet the benchmarks.

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The adoption of computers into education has been premised on the potential of this 'new technological tool to revolutionize an old-fashioned educational system and as such better prepare learners and the citizens for the information age and accelerate national development efforts, (Albirini, 2006).

The use of computers is relatively new in most African countries including Zimbabwe. The Zimbabwean government is attempting to introduce computer studies in schools. The use of ICTs is depended on the government policies hence; it has developed a national ICT policy. According to Shafika (2007), Zimbabwe as a country has a comprehensive national ICT policy which was developed in 2005 and which makes significant references to the promotion of ICTs in education including their academic use in educational institutions. The President of Zimbabwe, Robert Mugabe donated computers to several provinces in the country and this benefited those few schools .The Nziramasanga Commission Report of 1999, recommended the promotion of the educational use of information technologies for teaching and learning in the educational institutes.

At first glance, content issues related to ICT use in education might seem to some to be of less importance. After all, access to the Internet means access to an entire world of educational resources. Access to the Internet provides access to seemingly endless sets of educational resources and indeed it does. However, experience shows that there is a dearth of educational resources in a format that makes them easily accessible and relevant to most teachers and learners in LDCs, as they relate to current curriculum. Research tells us that, unless electronic educational resources are directly related to the curriculum, and to the assessment methods used to evaluate educational outcomes, lack of appropriate and relevant educational content is actually an important barrier to ICT use in schools. Accessing of information through ICT and internet is now realised by people as important for education. Baatman (2001) argues that Zimbabwe and other developing countries, having internet connections, means at best that there are a few or there is only one computer connected to the internet for a few hours a week .This clearly

shows how limited internet still is in Zimbabwe. When the President was officially launching the E-learning programme at Chogugudza Primary School in Goromonzi District in Mashonaland East and John Landa Nkomo in Mathebeleland North in Tsholotsho district in 2012, he edged the schools that they should be connected to the internet through the satellite installations above for easy access of information about various issues across the world, ('E-learning programme, 2012'). While use of internet is important in computer use, it does not mean that computers become useless if they are not connected. Computers can be of greater value even off-line. Barkia (2002) propounds that, a lot of information is available off-line and teachers use information gathered from the internet or produce information on the computer with or without the internet during lesson preparation.

Information Communication Technology can be of benefit to learners if used efficiently and appropriately. Hennessy, Harrison and Wamakote (2010) report that there is substantial evidence that in the right hands, and used fittingly for specific purposes in specific contexts, ICT can be an effective tool in supporting teaching and learning. Although, the government has shown its interest in supporting use of computers, Zimbabwe does not have a dedicated specific national policy on ICTs in education. As a result , there is no defined training plan on ICTs in education,(Shafika, 2007).This inspired the researcher to make a study from the schools with computers,   the use of computers by teachers in   secondary schools considering that they do not have a computer policy in education guiding them . The researcher's interest was also to find out if the teachers incorporate computers in the teaching and learning of the primary subjects.

Having this consequence, it became imperative for the researcher to focus on finding out the use of computers by teachers in schools.

1.2 Statement of the problem

The donation of the computers in schools by the President of Zimbabwe saw many secondary and primary schools benefitting from the donation. However, without the ICT

policy there is a systematic way enhancing teaching and learning of computers in education. Teachers do not have proper guide lines in schools as to how they should fully utilise computers in education. The computers are not incorporated in the teaching and learning of the primary subjects. It became imperative for the researcher to carry out an investigation into the use of computers by the teachers in school.

1.3 Research Questions

1.3.1 What ICT resources are available in schools?

1.3.2 How are teachers using the computers in teaching?

1.3.3 What are the perceptions of teachers on the impact of the computers in education?

1.4 Significance of the study

Rationalisation of each study generally rests in the need to satisfy personal educational or professional interests. On this particular effort, there were both professional and personal interests. This study's aim was to benefit a number of stake holders in education like, the researcher, senior officials in the Ministry of Primary and Secondary Education and other peer researchers.

The researcher has been a secondary school teacher for a decade now. With the desire in computers, the researcher noted the significance to make an investigation in the field of ICT which would equip the researcher with crucial information and critical skills relevant on the use of computers by both teachers and learners in schools. After the study, the researcher might disseminate information on the use of computers through staff development workshops and seminars to benefit education officials, teachers and learners. He would acquire a Bachelor of Education Degree in Computer Science in fulfilment of the requirements of the course at the end of the study.

To senior educationists and officers in the Ministry of Primary and Secondary Education, the study would be of pivotal role to most teachers as it would help to improve their pedagogical skills by incorporating the use of computers in their teaching at primary school. The responsible persons in the ministry of education might also figure out the impact of making the computer studies compulsory in all the schools. As for the other

researchers, they would use this research as a source of reference on how computer are used in teaching.

1.5 Delimitation of the study

The research was carried out in Masvingo Province, schools with computers since the main focus of this study was on the use of computers by teachers schools. The researcher used Masvingo Province as the area of study because that is the area he was teaching. The population of the study consist of three hundred students, nine teachers and three school heads.

1.6 Limitations of the study

The researcher came across several constraints during the research. The research was carried out when the schools were almost closing for the first term of 2016.School heads and teachers were busy preparing end of term reports. Some of the respondents did not pay much of their attention as they were busy marking, compiling and making reports. However, they managed to assist in providing answers to the questions the validity and reliability of the study was threatened. The researcher had to travel from Harare to Masvingo. The researcher had to source funding from family members in order to carry out the project. Due to time problems the researcher had to carry out spot on interviews, issue questionnaires and collect them on the same day giving the respondents' limited time to respond to questions. This was because the researcher had no accommodation in Masvingo, had to get back on time before sunset.

1.7 Definition of terms

Information and communications technologies (ICTs): are technologies used to communicate and to create, manage and distribute information. A broad definition of ICTs includes computers, the Internet, telephones, television, radio and audio visual equipment.

Computer packages: in this study refer to a selection of electronic based materials requiring the use of computer technology and typically would be used with other materials such as printed documents and videos. These include Microsoft word, spreadsheet, presentation packages, the internet and e-mail.

Technology: context of this study refers to new machines, equipment and ways of doing things that are based on modern knowledge about science and computers.

Resources:

Instructional Software: is a general term for computer programmes designed specifically to deliver instruction or assist with delivery of instruction on topic, McFarlane and Sakellariou (2010, p: 77).

1.8 Summary

There is underutilisation of computers by teachers in Masvingo. The unavailability of the necessary educational software and the policy barred teachers to fully utilise computers to enhance the teaching and learning process. Most teachers are using skills acquired during their training courses since they do not have syllabi or an ICT policy to guide them. Therefore, it became the main focus of the study to investigate the use of computers by teachers in secondary schools. This study is vital for it equipped the researcher with wide spectrum and critical skills required by teachers. The educationists and the researcher at large through workshops, meetings and seminars may benefit where possible. Strategies suggesting the computer use by incorporating the academic subjects to enhance teaching and learning would be addressed. The research might also be valuable to other researchers for they may use it in literature. The research may also prompt further research by others. The following chapter will focus on literature review on the use of information communication technologies by teachers in schools.

CHAPTER TWO

Review of Related Literature

2.0 Introduction

The previous chapter focused on the background to the study, statement of the problem, research questions, significance of the study, limitations and delimitations of the study, definition of terms and the summary. In this chapter, the researcher has reviewed literature generated by previous researchers on the use of computers in schools. The researcher reviewed literature in three broad areas which are computer resources available in schools, use of computers and teachers' perceptions of teachers on the significance of computers in their teaching.

2.1 Computer resources available in schools

In order to incorporate ICT in the teaching and learning environment, there is great need for schools to have necessary computer resources such as computer hardware, computer software and internet connections. The amount of equipment available for students' use in the classroom is very critical with individual access preferred for most programs. The ability for users to communicate, collaborate and exchange information online is especially important for school nets, and in this context ICTs normally refer to computers, computer networks and the Internet, and gradually other devices that can be used as network or Internet access devices such as hand-held PDAs and mobile phones.

2.1.1 Computer hardware and software

Research projects that many teachers find hardware and software are scarce in schools. Several schools do not consider addressing structural problems and deficits in education systems. This can include using ICTs to enhance administrative and teaching efficiency, alleviate under-resourcing in specific areas e.g. a lack of computers or learning support materials, resources and expertise, or support teachers who may be under-equipped to deal with new teaching challenges. Usually technology is placed far from the classrooms and much of the hardware is too old to handle the new software application, (Byron, 1999 cited in Harzig, 2004).A survey study elsewhere by Ginsberg and MacComark (1999 cited in Bukaliya and Mubika, 2011) reported that issues surrounding computer hardware were the most serious barriers affecting

implementation. In the same study by Ginsberg et al (1999) discovered that teachers in less effective schools reported concerns about computers being limited. This indicates that generally computers are limited in Zimbabwean schools. Chitsanga (2000) argues that, the numbers of computers in schools were not enough for both the computer and non-computer teachers to use effectively.

Research studies as noted by Bukaliya et al (2011) showed that most teachers feel that more money for other computer accessories like printers, scanners, digital projectors and screens were needed. Computer equipment is expensive and school administration may find it hard to purchase enough hardware since they do not consider computers to be necessary hence, computers are not examinable in most schools like other academic subjects. According to Bukaliya et al (2011), research carried out indicated that there are no budgets in most of the schools for computer procurement. On a positive note, Kuwadza (2012) reported that the Presidential scheme of donating computers needed to be complimented by the corporate world and well-wishers. This was a positive move of provision of scarce computer hardware by the President of Zimbabwe although the resources were limited several schools benefited as a result most schools in Zimbabwe embarked on the use of computers. Based on research data, it is clear that when technology is used as a learning tool student's attitude towards learning and their self-concepts towards leaning and their own self concepts improved consistently, Schacter (2001).

Sufficient computers with good internet connectivity in turn depending on electricity and telecommunications services. Other computer resources like computer laboratories are very crucial in the school. According to Rusten and Hurdson (2011) propounds that, establishing computers in a laboratory or dedicated room entails schools to install quality electricity, network cabling and servers, internet access, effective security and specialised furniture. Given sufficient resources, the use of ICTs in education also often develops through "virtuous cycles" (e.g., developing online content builds demand for connectivity and hardware), which increases the number of connected schools, which in turn creates more demand for online content.

On another note, a research study in Kenya indicated that the computer laboratory as an ICT resources are scarce to many schools and an indication that most schools have

no access to computer laboratories. Thus, if not all of the enabling conditions are present; ICTs are unlikely to be able to achieve their objectives on a large scale. However, pilot projects on a smaller scale are often able to work around constraints using strategies such as working in urban areas where there are fewer infrastructure and technical support problems.

2.1.2 Internet connections.

The effective utilisation of the large number of computers recently procured by, or donated to, Zimbabwean educational institutions, with over 7300 computers having been donated through the President's Computer Programme between 2004 and 2006 and one university having received more than 400 computers as donations in 2005 (The Herald, 2006; University of Zimbabwe, 2006);

Chirove (2007) cited that Zimbabwe is seen to be lagging behind in the use of ICTs in the world. This entails us that, in the best case, there should be a clearly articulated rationale for the use of ICTs in education, linked to national economic and social development frameworks.

The Ministry of Primary and Secondary Education, educationists and teachers should be open to new ways of teaching and learning with ICTs and prepared to invest time and effort in implementing potentially far-reaching changes. Connectivity services, acting as an Internet service provider (ISP) for schools, or facilitating partnerships with ISPs to connect schools at preferential rates (Schoolnets that act as ISPs directly sometimes establish their own network infrastructure, and/or operate as virtual ISPs, using network infrastructure of commercial providers. Baartman (2001) reports that in Zimbabwe and other developing countries, having internet connections, means at best, that there are a few or there is just one computer connected to the internet for a few hours a week. This signifies that internet connection in Zimbabwe is still very limited although users keep growing.

Presidential e-learning programme (2012) the President says "Computing devices and even more importantly, access to the internet provide a whole new world of support and means for individuals to pursue their passions, learn and empower themselves. Journal of Technology Management and Innovation (2008) note that the internet when put to proper use present several benefits which include it acting as an information database,

helping in searching for new and more information on a particular subject, enhancing easy communication globally and improving academic performance.ICT as applied in the study contributes to generating skills that prepare adolescents, including young entrepreneurs and workers, for employment opportunities in the 21st century hence, improvement in their employment opportunities. Albirini (2006) argued that the adoption of computers into education has been premised on potential of this new technological tool to revolutionize on old fashioned educational system and such better prepare the learnersand citizens for information age and accelerate national development efforts. This is also supported by Gaimster and Sinclair (2004) the internet offers a wealth of resources but learnersdo not have the appropriate information seeking skills or domain specific knowledge and vocabulary to enhance them to utilise these resources effectively. Internet is a useful communication resource that gives teachers and learners the capability to interact and collaborate with others around the world.

2.2 Use of computers

Hennessy, Harrison and Wamakote (2010) indicate that there is substantial evidence that, in the right hands and used appropriately for specific purposes in specific context, ICT can be an effective tool in supporting teaching and learning. Computers have become popular tools for teachers and so they can use computers in numerous ways to help their learnerslearn. In the schools where computers are used learners find computers easy to use. Schools should prepare children to cope with and they should learn the operation of computer so as to train them for future jobs since they will continue to use computers.

Hennessey et al (2010) argue that integrating ICT into subject learning is far more effective for learners. Newhouse (2008:3) argues that today computers in schools are both a focus study in them (technology) and a support for teaching and learning. Gulbar and Guben (2008) also argue that ICT integration in schools is needed in order to achieve many objectives and improve the value of lessons in all subject areas. In a research study purported by Mandoga et al (2013) show that computers were not being used in all aspects of the curriculum. The research indicated that the computers should spread across all the subject areas other than being used as instructional tools in single subject areas. In that study teachers said that computers were being used sorely for computer studies lessons. The research study further states that through use of suitable

software, computers could be utilised to teach subjects like English, Science, Maths, Geography, Art and other subjects. Failure to employ computers across the curriculum could direct to churning out the school graduates without the necessary technical skills to effectively undertake the challenges you could meet in the cyber world. Research results from many countries point out it is still a long way ahead before computers will be effectively integrated in most classroom,(Becker, 1986,Office of technology Assessment, Olson and Eaton, 1986, for Canada).

According to Newhouse (2003:3) "Today computers in schools are both a focus of study themselves (technological education) and a support for teaching and learning (educational technology).ICT integration in schools is needed in order to accomplish many objectives and improve the quality of lessons in all subject areas." However, it is not the case in most schools since computers are not integrated in the teaching and learning. Teachers need to be computer literate first and then be introduced to specific integrative strategies that enhance their use of computers in the classroom. Becker and Riel (2000) postulate that "The more professionally involved the teachers were the more likely to use computers in exemplary ways, emphasizing cognitively challenging tasks such as reflective writing, teacher questions calling for deep thinking, problem solving tasks and emphasize active engagement in learning" Chan Li (2007) alluded that teachers must be willing and able to use technology effectively in their teaching to realise the benefits that the technology offers. This makes integration of computers important because they are being used in the teaching and learning.

A positive attitude is developed in mostly in the subject. According to the Bloom's Taxonomy (1965) use of computers place a high cognitive demand on children. "If applied effectively, technology implementation increases learnerslearning, understanding and achievement but also augments motivation to learn, encourages collaborative learning and support development of critical thinking and problem solving skills,"(Schacter and Fagano 1999 cited in Pitler et al 2007).In the constructivism theory , learning requires active participation and critical thinking by learnersduring learning activities. Computers aid creativity where learnersare given a chance to work and construct what is meaningful to them.

According to Newby et al (2011) Computer as a teacher presents instruction to the learner much as a teacher or tutor might. They went on to say that the computer in education from the 1960s is a tool that presents instruction to the learnersdirectly. The use is termed Computer Assisted Instruction (CAI), Computer Assisted Learning (CAL), or Computer Based Learning (CBL).The computer provides content information through various media in the form of text,visuals,audio, video aid through it provide instructional activities or otherwise need interaction from learners, assess learner performance, gives feedback and determine proper follow up activity because the learner is highly involved individually.A report entitled computer advantage: Tutoring individuals states :With computers as tutors , no student will be overwhelmed because he /she is missing fundamentals the computer will repeat materials until each lesson has been sufficiently mastered,(Bennett , 1999:3, cited in Gulley 2003).

Computer assisted instruction is in categories which include drill and practice, tutorial and simulation. There is interactivity between computer and the user. Teachers do not have time to repeat lessons over and over again and the teacher gets tired quickly unlike a computer. This is supported by Han (2008) citing that one big difference between computers and teachers is that computers will never get tired, and will repeat the same thing again and again without complaining, As long as a computer is programmed to carry a task it does. And it is an advantage to slow learner.

According to Taylor (1980 cited in Roblyer et al 2013) Computers as tools support learning. With the computer as an assistant the student make use of computer to assist with learning related tasks such as writing , calculating or communicating with others .This include use of common productive tools for the work related to learning. The learner can take the role of the teacher in some instances thus, through using the computer to organize and present multimedia information for others to learn from. The computer assist learner in performing routine work tasks that may help facilitate learning, (Newby et al, 2011).At work place computers are used as tools to help workers .Word processors are used by writers to type documents, databases are used for to store the records for business people and spread sheets are required for calculations. Learnersshould therefore, learn to use computers at school in the same ways that they are used at work place.

Word processors are used for a variety of learnerslearning activities that involve computer literacy. Through use of word processors learnerscan write stories, poems, letters and other class work. Newby et al (2013) noted that learnerscan reach out beyond classroom and connect with other people in the community thus through electronic means using e-mail. They went on to say that learnerscan use word processor for example to type, spelling words or other language exercises as a way of practicing these skills. The children can type their hand written notes on a word processor to reinforce studying. Research suggests that word processors in writing instruction are effective if used appropriately. Word process can be used by teachers to support any directed instruction or constructivist activity. Researchers suggest that Word processor is the most commonly used software in education.

Williams and Sawyer (2005: xi) point out that" The power point presentation include additional material that expands upon important topics from the text, allowing instructors to create interesting and engaging classroom presentations." From each chapter of the presentation includes illustrations, animations to enable teachers to emphasize critical concepts in memorable. The teacher is the one who decides on the slides to use in the presentation.Through use of presentation software the teacher is able to illustrate and provide learnerswith practice in information organisation skills. With a computer and a presentation screen, a teacher can put up notes on the screen instead of writing them on the chalk board which may be hard to read.

Spread sheets are designed for manipulating numbers and creating graphs as well as making calculations. According to Roblyer et al (2013) these are programs designed to organise and manipulate numerical data. They help users to manage numbers just as word processing people manage words.

2.3 Perceptions of teachers on the significance of computers in their teaching

Though funding, equipment, lack of time, and knowledge are known obstacles to successful technology integration (Hardy, 1998; Lam, 2000, Simonsen & Dick, 1997), a critical component in meeting teachers, technology needs is responding to teacher's beliefs toward technologies. Hope (1997) wrote, "Teachers basically had to contend with two factors (with technology adoption); (a) the psychological effect of change and (b) learning to use microcomputer technology." (p. 158). Understanding teachers'

beliefs towards technology play apivotal role in successful technology adoption. This is supported byZhao, 1998 and Kunaya et al (2005) noted that teachers' perceptions of implementation of technology into classroom are often derived from their experience, personal beliefs and professional development. Previous studies employed a variety of methods and perspective to assess in-service teachers' technology beliefs. These methods included: Likert-scale questionnaires (e.g., Ross, Hogaboam-Gray & Hannay, 1999) case study methodology (e.g. Ertmer, Gopalakrishnan, & Ross, 2001). German and Sasse (1997) found that teachers who participated in a two-year technology integration program improved their technology self-efficacy and their interest in learning more about how technology could impact the curriculum. Ross, Hogaboam-Gray, and Hannay (1999) reported that access to technologies increased teachers' "opportunities for successful teaching experiences, thereby contributing to greater confidence in their instructional ability" (p.7). In addition, they also noted, "teachers who interpret their interactions with computers as indicative of high grow in self-confidence, regardless of their experience" (p.93). Research also reveals that before teachers use technology for instruction they must be personally convinced of its benefits and must see the utility of using a particular technology (Lam, 2000). Before technology is used in the classroom teachers focus attention upon their students. They want to know what impact it will have on students' learning outcomes (e.g., Higgins & Moseley, 2001). Teachers use technology because it motivates students and offers a different mode of presentation. Instead of using computers for drill and practice, more confident teachers use technology as an instructional tool to enhance students' learning (Lam, 2000). Successful technology adoption in teachers' classrooms is dependent upon school administrators providing an individualized, differentiated process of training and implementation (Gray, 2001) Glean (1997) commented, "Often districts rely upon a 'one size fits all' approach that meets the needs of only a few participants" (p.125). Teachers must see how technology fits within their localized classroom setting (Stein, Smith, & Silver, 1999). Teachers' technology beliefs are influenced by their philosophy. Resistance to adopting new technologies stem from teachers' existing teaching beliefs (Norton, McRobbie, & Cooper, 2000). For technology adoption to be successful teachers must be willing to change their role in the classroom (Hardy, 1998). When technology is used as a tool, the teacher becomes a facilitator and students take a proactive role in learning. Niederhauser and Stoddart (2001) noted a "consistent

relationship between teachers' perspectives about the instructional uses of computers and the types of software they used with their students" (p.27). Often, this change of teaching philosophy and methods focuses on learners-centered teaching and constructivist teaching practices (e.g. Rakes, Flowers, Casey, & Santana, 1999). In fact, Ertner, Gopalakrishnan, and Ross (2001) found that exemplary technology-using teachers exhibit more constructivist teaching practices. Successful integration of technology into teaching depends on transforming teachers' belief and philosophy concurrently (Windschitl & Sahl, 2002).

Teachers' perceptions towards use of computers are crucial.Teachers must be willing and able to use technology effectively in their teaching to realize the benefits that the technology can offer,(Luan et al ,2005).By incorporating computer education in classroom it makes teaching and learning easier ,enhances recall of previous learnt concepts , provide stimuli ,active leaner' response and provide feedback ,it influence carrier aspirations ,enhances creativity and improves performance. (Cox, Preston and Cox 2003) report that there is evidence that when teachers use their pedagogical knowledge, both of the subjects and how learnersunderstand and learn the subject, they maximize the effect of using ICT in terms of student ability. Rose et al (cited in Chan Lin 2007) point out that the curriculum issues related to the meaningful use of computers technology in specific instructional settings are often of most concern to teachers.

2.4 Summary
The review of associated literature has given an in-depth understanding on the use of computers, computer resources, and perceptions of teachers on the significance of computers. The review has clearly reviewed that computers are integrated in the teaching and learning process and that effective use of computers can only be possible if the teachers are trained to use the computers. The following chapter shall highlight research methods employed by the researcher to carry out the study.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the researcher focused on the research design, population and sample, sampling procedures, research instruments, data collection procedures and data analysis.

3.1 Research Designs

In this study, the researcher used the descriptive survey design. The researcher tookup this design because it assisted her to find the responseswhich were relevant to the study. The research design helped the researcher to explore on the use of computers by teachers at primaryschools.According to Cohen et al (2011) surveys gather data at a particular point in time with the intention of describing the nature of existing conditions. The descriptive survey design helped the researcher to elicit important data about opinions, attitudes and practices about the learning of computer use. The researcher used questionnaires, interviews and observation to collect data needed for the study. The descriptive design for this study comprised of both quantitative and qualitative methods of data collection. This is because the two methods complement each other.

3.2 Population

Charumbira (2009:36) defines a population as "the set of people or entities to which findings are generalised."In other words, population is simply a group of interest to the researcher. The population for this study consisted of five primary schools with computers of which the target population consisted of three hundred students, nine teachers and three school heads inMasvingo District, in MasvingoProvince.

3.3 Sample and Sampling Procedures

A sample according to Johnson and Christensen (2004) is a set of elements taken from a larger population. Thus; it is that part of population that would actually be observed by the researcher in the study. The sample of this study comprised of three urban primary school with computers. The rationale was that not all the schools in Shurugwi District use computers for the same purpose. At each of the school the sample consisted of one

school head, three teachers and twelve students.Overall, the sample consisted of three school heads, nine teachers and thirty-six students.

Out of the nine teachers who took part in the study six were female and three were male. There were many female teachers than male because the majority ofthe teachers in the schools in the study were women. All the teachers were qualified to teach at primary school because they had minimal qualifications needed for one to teach at primary school. The average years of teaching experience of the teachers were 0-15 years. Seven of the teachers had the average training with certificates obtained from private colleges while one obtained the certificate from a technical college and also the other one was at the novice level and was still learning the skill.

In order to protect identities of the schools, selected schools and the heads were given pseudonyms (e.g. A, B, C).School A and B are government schools while School C is a mine school. All the three primary schools are located within the town. On the basis of the systematic random sampling technique the researcher obtained the representation sample of the urban primary schools in Shurugwi District that participated in the study.

The respondents for the study in question were selected using the following techniques: simple random, stratified random and purposive sampling technique.Stratified random sampling was used to select the three participating schools from a population of five schools. This technique was used because the schools in the circuit were not of the same status. The stratified random sampling categorised schools into groups which are government primary and mine schools that enabled the researcher to come up with a representative sample .Simple random sampling was used to select learnerswho participated in the study. This technique was used by the researcher because she wanted to make sure that all the learnershad an equal and independent chance of being selected as members of the sample.

Purposive sampling was used to select both school heads and teachers. Purposive sampling enabled the researcher to access knowledgeable people with an-in-depth knowledge on particular issues by virtue of their profession, (Cohen and Manion,2000). The researcher felt that the respondents in the purposive sampling were chosen because they were believed to facilitate relevant information required in relation to the

problem under investigation. The major respondents for this study came to a total of forty-eight (48) respondents among which three are the school heads, nine teachers and thirty-six students.

3.5 Research Instruments

In this study data was collected using questionnaires, interviews and observation. Using the three methods was meant to counter the limitations of using one method.

3.5.1 Questionnaires

Questionnaires were used by the researcher to gather information in the study. Chiromo (2006, p.24) views a questionnaire as "that form of enquiry, which contains a systematically compiled and organised series of questions that are sent to the population samples." A combination of both open-ended and closed-ended questions was used in the study. According to Charumbira (2009) Open-ended questions generate details and allow the respondents to suggest a wide range of possibilities unknown to the researcher. This allowed the researcher to obtain information that might have been missed had she used closed- ended questions.Open-ended questions permitted the researcher to get information that reflected the perceptions and attitudes of teachers in the use of computer in their use of computers in teaching. With open-ended questions the respondent can freely state their opinions and have a feeling that their input is valuable to the study. However, open-ended questions have some challenges .Some questions may be left unanswered which may require some motivation on the part of the respondents.

On the other hand, closed-endedquestions minimises irrelevant answers by the respondent to obtain standardized answers. According to Charumbira (ibid) they provide the respondents with a limited set of response choices. However, if questionnaires are poorly constructed they may result in unfavourable and slow responses which may not give the desired responses. There is no way to tell how truthful a respondent is being. People may read differently into given question. In order to overcome some of the weaknesses it is important to avoid asking barrelled questions.

3.5.2 Interviews

Interviews were used as another tool for collecting information in this study. Borgan and Biklen (2007) view an interview as a purposeful conversation between two people. In

other words, an interview is a purposeful conversation where an interviewer asks questions and the interviewee responses. According to Fraenkel and Wallen (2003) the purpose of an interview is to find out what is in the mind of the respondent. In this study the researcher conducted interviews with three schoolheads. The researcher asked the school heads a series of questions and probed further for more information. The structured interviews gave the researcher an opportunity to clarify questions that the respondents were not familiar with.

Interviews may have some shortcomings. The interviewee may provide responses he or she think are wanted by the interviewer. In some instances the interviewee may not be willing to provide information which they considered to be sensitive and not for the outsiders to hear as a result they may decline to answer some questions. In some cases the interviewees may choose to provide false information which naturally compromises the validity of the findings. In this study the school heads gave the information willingly and they responded to all the questions provided on the interview guide. However, have their weaknesses. Interviews are time consuming in terms of setting up, interviewing and reporting. They may also be very costly.The interviewee may provide responses he or she thinks are desired by the interviewer .In other cases interviewee may consider withholding some information which he or she may consider to be sensitive and unfit for outsiders. Thus, they may decline to answer some questions. In worst cases, they may intentionally provide false information, (Charumbira, 2009).As a result this, compromises the validity of the outcome of the research.

3.5.3 Observation

This method is important in that it reveals what the people do or think and it is close to the real truth and situation. It is the most direct way of getting information but depending with the type of observation. Non participant observation was used in this study. The researcher observed and recorded behaviour but did not participate. Notes were taken during the observation. According to Cohen et al (2000) "Observation enables the researcher to gather data on the physical setting, human setting, the interactional setting and the programme setting. The researcher managed to collect information by looking at the physical setting of the computer laboratories, the computer resources in the schools and observation of how the computers were used by both

teachers and the learnersin the study. However, observation can be time consuming in that it can take researcher years to conclude.

3.6Data Collection Procedures

In this study, the researcher used an introductory letter from Masvingo State University (MSU) to seek permission from the Provincial Education Director (PED) of Masvingo Province to carry out a study in Zaka District .The letter from the PED was used to get permission from the District Education Officer (DEO) of Zaka District and the school heads of the selected schools.

The researcher sought informed consent from the respondentsbefore carrying out the study. She fully explained that the purpose of the study was purely academic and assured the respondents that the information gathered would be sorely for academic purposes only and that it would be accorded the confidentiality it deserved. The researcher personally administered nine questionnaires to the teachers who all responded and returned them.

The researcher asked the teachers to administer the students' questionnaires. Thirty-six of the learnerswho received the questionnaires responded and returned all of them. The researcher made appointments with the three school heads and carried out interviews. The researcher visited the schools and observed some lessons where the computers were being used by teachers in the teaching and learning.

3.7Validity and Reliability

Validity refers to the degree to which a measuring instrument measures what it is supposed to measure, (Chiromo, 2006). Reliability refers to "the consistency with which the same result can be replicated over time or by different observers," (Gays, Mills and Airasian, 2009p.113).

No one instrument can be relied upon. Theresearcher, used questionnaires, interviews and observation. In this study, (Cohen, Manion and Morrison, 2000) define triangulation as the use of two or more methods of data collection in a study. The main purpose was to prevent the limitation of using one instrument. The use of the three instruments by the researcher in this study enabled data triangulation thus, enhancing data validity and

reliability. The researcher also sought expert advice from her supervisor in constructing the instruments.

3.8 Data Analysis

The researcher used both quantitative and qualitative methods to analyse the collected data. Kumar (2005 p.341) postulates that "the analysis of data involve a number of closely related operations such as the establishment of categories, the application, the categories to raw data through coding."Data for this study was analysed according to research question. As a result the data that was acquired was coded and themes were established. The data was analysed using the countmethod,grouping,classifying and categorising. Descriptions were employed using information and extracts from the questionnaires and the observation schedule.

3.9 Ethical Consideration

Velasquez, Andre, Shanks and Mayor (2008) Ethics refer to well based standards of right and wrong that prescribe what humans ought to do, usually in terms of rights, obligations, benefits to society, fairness or specific virtues .The researcher made sure that the ethical issues were considered when she sought permission through writing a letter to the Provincial Education Director to carry out the study in Shurugwi District.

The researcher acquired the verbal consent from the participants after informing them that they had a right to agree or disagree to take part in the activities and that their identities would be protected to avoid harm which may be caused due to the research .Respondents were ensured that their contribution would remain confidential .Permission to tape record the interviews for the school heads was sought from the participants ,but they all raised objections which for this reason the researcher opted to take notes.

3.10 Summary

This chapter focused on the research design, population and sample and sampling techniques. Research instruments, data collection procedures, validity and reliability and data analysis were also a point of focus in this chapter. The chapter identified the population and sample used for this study.A sample of three schools was randomly selected from a population of five schools in Zaka District. Sampling techniques that were adopted in the study were outlined. The researcher also gave reasons for using

the sampling techniques. The plans for data collection were laid down and the measures taken by the researcher in order to guarantee validity and reliability of the study. Thefollowing chapter will dwell on data presentation, analysis and the discussion about the study.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 INTRODUCTION

The chapter focuses on the presentation; analysis and discussion of data. The research sought to highlight the use of computers by the teachers in Shurugwi urban primary schools in Shurugwi District. The data was collected through questionnaires, interviews and observation of learnersand teachers teaching use of computers. The data was presented according to research questions.

4.1 Computer resources available in Shurugwi urban primary school.

Data collected with regards to computer resources available in the primary schools in the study show that schools in Shurugwi urban are not well resourced with computer hardware, relevant software and peripherals. Those computer resources that is computer hardware, software and other computer related resources are presented below.

4.1.1 Computer hardware

As regard computer hardware, Schools A and C had at least ten functional computers respectively while school B had thirteen. This was also confirmed by the researcher in her observation. This shows that on average the student to computer ratio were five as to one for school A, six as to one for school C and two as to one for school B. The school heads in their interviews also commented on the issue of ratio. When the school heads were asked to give their view on the challenges faced by teachers and learnersin the teaching and learning of computers at their schools, school head A and C indicated in their responses that the ratio of learnersper computer were too big and were a result of big enrolments in their schools as a result most learners failed to have full access to computers.

In addition, school B and C possessed desktops only while school A had laptops only. The information above was summarised in table 4 below.

Table 4.1 shows inventory of computer resources available in schools.

FACILITY/RESOURCE	SCHOOL A	SCHOOL B	SCHOOL C
Total number of computers	10	17	10
Total number of functional computers	10	13	10
Total number of computers not functional	0	4	0

4.1.2 Software available in the school.

All the teachers from the three schools used applications software like Word processors (Ms Word, Ms Word perfect), Spread sheet packages,(Ms Excel) and leisure games like solitaire and pinball. The researcher gathered from the teachers' responses that there was no educational software in the schools. The teachers therefore, resorted to use of computers as a subject only and did not incorporate computers in the teaching and learning process of academic subjects offered primary school since there were no appropriate educational software. In the interviews, the school heads mentioned the challenge of scarce educational software in the schools. The teachers made use of software application like Word processors, Spread sheet packages and that for leisure games.

4.1.3 Other computer related resources.

The data collected show that there were no computer accessories like printers available n three schools. The researcher noticed that there were land line telephones at all the schools. Only one school out of the three was connected to internet. School B which was connected connects to internet using WIFI and the bandwidth was 3g gsm data connection. The responses gathered from the teachers show that internet was accessible to teachers only not for students. The teachers in their responses revealed that internet was meant for teachers' use only.

Schools B and C possess computer laboratories while school A had none. The researcher noticed that the laboratories at these two schools were not proper. There was small staff houses turned into computer laboratories from the researchers' findings. The conditions of the laboratories were not conducive for proper learning. The desks

were crowded such that the sitting arrangement left learnersnot properly seated during computer use. There was not enough aeration for the learnersin the computer laboratories. School A stored their laptops in the strong room when not in use since there was no computer laboratory.

There was no computer policy or syllabus at all the schools. The researcher found out that from the three school heads response when they had been asked whether there was a computer policy pertaining to the use of computers by teachers in their schools and they indicated that there was neither a policy nor a syllabus. This was an indication that the teachers did not have proper guideline for reference in their use of computers hence; it limited the effective use of computers by the teachers. Table 4.2 below indicate a summary of other computer related resources available of information above.

Table 4.2 Other computer related resources available

FACILITY/RESOURCE	SCHOOL A	SCHOOL B	SCHOOL C
Computer laboratory	0	1	1
Internet connections	none	yes	none
Total number of computers connected	0	1	0
Total number of computers not connected	10	12	10
Computer policy	none	none	none

4.3 Use of Computers by Teachers.

In this section data on computer usage is presented. Generally the data shows that the main software application like Word processors, Spreadsheet and Leisure games are mainly used in teaching computers as a subject. The researcher made observations in practical lessons where the teachers taught learnersuse of computers. Grade five, six, and seven were observed during lesson delivery which assisted the researcher to have an overview of the use of computers by teachers.

The teachers in the three schools used software application which includes Word Processors (Ms Word, WordPerfect), Spreadsheet (Ms Excel), and leisure games like and also leisure games that include playing cards. Word processing was the most used software application. School A indicated that they made use of spread sheets for creating graphs and tasks. Leisure games like playing cards were also frequently used. The researcher gathered from the teachers that there was a projector at the school which the teachers could have used for Power point in their use but the teachers did not use those Presentation packages. School B mostly used word processing for typing paragraphs using spell check, saving documents and drawing. Internet was available at the school but was for teachers' own use. With spread sheet the teachers taught learnershow to create graphs and tables and using the formulas .School C also used Word processing likewise for typing sentences, using the synonym check on spellings and saving documents. Spread sheet was mainly used for creating graphs and inserting pictures.

This indicates that teachers are teaching computers as a subject. Responses gathered from the school heads' interviews when they were asked what the computers are used for by the teachers and learnersthey all said that computers are used as a subject and that their learnerswould acquire the computer literacy which they would use after completing school in the industry .The school heads also indicated that absence of educational software restricted the schools from incorporating computers into academic subjects to enhance learning. The table 4.3 summarise the use of computers by teachers in the teaching and learning.

Table 4.3 Use of Computers by teachers

School	Computer Packages (software Applications)	Use
A	Word processing (Ms Word, Word Perfect)	- Typing using the keyboard, drawing and also saving the documents
	Spreadsheet packages	- Creating graphs and tasks. Use of calculator on addition of small numbers so that they could be able to use the calculator.
	Leisure games	- Playing cards, solitaire and pinball
B	Word processing	- Typing, saving documents, spell check.
	Spreadsheet	- Creating graphs and tables, using formulas
	Internet	- Used by teachers only
C	Word processing	- Typing, keyboard use, drawing, inserting pictures.
	Spreadsheet	- Creating graphs and tables using formulas

The researcher observed and recorded the behaviours of learnersduring use of computers and also the use of computers by teachers in the primary school. Word processing was the most used software application by all teachers in the lesson delivery though different topics. At school A the lesson involved typing using certain keys of the key board to set the date and time. The objectives of the lesson were achieved to some extent, although the learnersperformed the task and managed to set the date and time, only one student out of five used the computer to carry out the teacher's instruction while others observed other learnersdid not use the computer during the lesson. This

was due to the high ratio of 5:1 learnersper computer as pointed out earlier by the school heads in their interviews as a result it hinders the effective use of computers .

At School C, the researcher also observed lesson deliveries. The student ratio was 6:1. During imitation of the demonstrated concept by the teacher only one student used the computer as others helped with other information like which proper keyboard keys to use. Only one student practically used the computer. Learnerswere typing paragraphs as instructed by the teacher. The objectives were also met to some extent through use of instructional cards as learnerswere able to type paragraphs, use space bar keys and spell check the typed work. The teacher was a facilitator throughout the process as learnerscollaboratively worked together assisting each other on what to do next.

The researcher also observed lesson deliveries in grade seven at school B. The teacher taught children computer use using Word processing to design patterns .The objectives of the lesson were partially fulfilled as most of the learnersfailed to follow the demonstration by the teacher despite the cards of instruction which had been presented to the learnersby the teacher. The class ratio was 2:1 and all the learnershad access to the computer and were involved in designing patterns. Most of the learnerscould not follow steps to designing patterns. From the researchers' observation, the teacher was not very clear during her instruction hence, learnersended up mixing stages which they were supposed to follow and most of them failed to complete the task. This was an indication that showed the need for the teachers to have staff development workshop or in-service on computer use.

The responses from the school heads interviews when they were asked whether their schools conducted staff development workshops, two of them responded that they had never had any workshop on use of computers while only one school indicated that they only held a workshop.

Generally from the observations made teachers were not using computers effectively. The teachers kept repeating the same teaching ways using Word-processing, Spread sheet and pleasure games. The teachers had neither a school syllabus nor a computer policy to guide them in computer use. When the researcher further probed the teachers they indicated that they did not prioritise much the teaching of computer use like they

did with other academic subjects since they were not tested at the end of the year. The teachers' major concern was on students' literacy on the use of computers and in other classes the teachers let the learnerstake turns to play solitaire and pin ball. Internet was not used for teaching purposes but mainly for teachers' use and administration purposes only at school B.

4.4 Access to computers by students

All the thirty- six learnersindicated that they had access to computers through booking at school. This was an indication that all learnerswould be able to get a chance to use computers considering that in their responses they indicated that they had full access to the computers.

4.4.1 Access to computers at home by students

Most of the learnersindicated that they had access to computers at home. Nineteen learnershad access to computers at home while seventeen did not. A large number of those who had access showed that learnersalready had computer literacy hence, teachers would not face difficulties in teaching the learnersuse of computers. Access to computers at home by learnersis an indication of the support by parents in which school heads had been asked whether parents had been supportive towards use of computers. Another head said that some parents buy computers at home for their children. This helped a lot as learnersshowed that they were at least literate enough to quickly catch up on the teachers' instructions as indicated from the researcher's lesson observations. Student quickly imitated the teacher's demonstrations well. Another school head indicated that the parents had been supportive through buying of computers in the school. Table 4.4 summarise the number of learnerswith and without access at home.

Table 4.4Access to computers at home by students
N=36

Access to computers at home	Frequency
Yes	19
No	17

4.5 Use of computers by students

All the thirty–six learnersin their responses indicated that they could operate a computer. This is an indication that learnersare literate enough to use computers. This is in line with the school heads' responses in the interview on what learnersuse computers for and all the school heads indicated that computers are mainly used for literacy in their schools.

4.5.1 Usual use of computers by students

Most used software application was Word processing. Typing, saving documents, inserting pictures and spell checking were highly used during computer use. Leisure games were used often by the learnersand it complies with the teachers' responses that playing cards are used also most of the time. Summary of the usual use of computers by learnersis presented in table 4.5 below

Table 4.5 The usual use of computers by the learnersin the study

N=36

Usual use for computer	Frequency
Playing games	22
Word processing	36
Surfing net	0
Drawing	24
Painting	22

4.5.2 Most users of computers in the classroom

All thirty-six learnersindicated in their responses that they were the most users of computers. They also indicated that all of them found computers easy to operate. All the learnersresponded that they use computers once a week and they agreed that the one hour allocated per week for them was enough

4.5.3 Learners find the following activities easy to operate.

From the results gathered, thirty-five learnersagreed that Word processing activities like typing, spell checking, saving documents, painting were easy to operate. This was in line with all the teachers' response on Word processing software which was the most used hence, learners found typing easy. Thirty-six learnersagreed that it was true that computers were fast and quick with getting information needed.

4.6 The teachers' perceptions on the significance of computers in their teaching.

The teachers value computers greatly hence they acknowledged the importance of their use. The majority of the teachers strongly agreed that computers are important in processing and accessing of information. They indicated in their responses that computers contribute highly to students' motivation, collaboration and positive attitude. Collaboration was witnessed by the researcher during lesson deliveries where learnersgathered on one computer but directing the one on the computer with ideas on what to do next. The teachers also indicated that learnershave positive attitude towards use of computers and this is shown by the excitement learnersshow each time they attend the computer lessons.

4.7 Discussion

4.7.1 Computer resources available in Shurugwi urban primary

The responses from the teachers and school heads interviews show that although computers are available in Shurugwi but they are very few. Chitsanga (2000) cites that the number of computers in schools were not enough for both the computer and non-computer teachers to use effectively. This suggests that computers are few and are only kept as a preserve of the computer studies only. According to research, many teachers find hardware and software availability are limited in the schools.Many schools planning do not consider the costs of upgrade, support and training, hardware and software. Usually technology is placed far from the classrooms and much of the hardware is too old to handle the new software applications, (Byron, 1999 cited in Herzig, 2004).

Kuwadza (2012) reported that the Presidential scheme of donating computers needed to be complimented by the corporate world and well-wishers. In the school heads' interviews, responses indicated that the school's SDAs and responsible authorities acknowledged and complimented the Presidential effort and they are trying by purchasing more computers. The involvement and support of the parents was brought to light as other parents are involved in the purchase of computers. This clearly indicates that school authorities are aware that computers are not enough for use by all stakeholders at the school hence, need to supplement.

The responses from the teachers show that teachers face other challenges on the ratios of learnersper computer which are high, no internet connections, no educational software, and lack of other computer accessories like printers. This complements what Hennessey et al (2010), points out when they said the major barriers to use of computers are lack of hardware, software and reliable internet connections. This suggests that teachers are not using computers in the way they should as there are lack of computer hardware, educational software and other computer accessories like printers and internet connections.

Presidential e-learning Programme (2012) the President says "computing devices and even more importantly, access to the internet provide a whole new world of support and means for individuals to pursue their passions, learn and empower themselves" In my view,computers in schools are not used fully to realise their full potential in the field of

teaching and learning. Failure to integrate computers in the teaching and learning of academic subjects by the schools would deny teachers and learners the opportunity to realise the capabilities of computers in the event that they use the proper educational software like computer assisted instruction. Research cite that technology's use in the classroom can have an additional positive influence on learnerslearning goals are clearly articulated prior to technology use, (Ringstaff, 2000, Schacter, 1999).

Teachers indicated that there were no internet connections in their schools except for one school but the internet was not meant for pedagogical use rather they were meant for the teachers' own purpose as a result computers are not used effectively   in enhancing teaching and learning. This diverts from the President's wishes according to, E-learning programme (2012) the President urged that schools should be connected to internet and they should not take computers as typewriters. The schools seem to be backward in terms of technological advancement with the growing of technology globally the schools still hang on the traditional ways of teaching despite the changing of the times. Albirini, (2006) indicates that the adoption of computers into education has been premised on potential of this new technological tool to revolutionise on old – fashioned educational system and such better prepare the learnersand citizens for the information age and accelerate national development efforts. The resources in schools are not fully utilised to enhance learning and educational growth. "The internet offers a wealth of resources but learnersdo not have the appropriate information seeking skills or domain specific knowledge and vocabulary to enhance them to utilise these resources effectively.

4.7.2 Use of computers by teachers

The school heads, the researcher's observation and the teachers' responses on use of computers indicated that computers are used as a subject and the main aim for teaching use was for literacy sake. According to Petty (2004)" There is hardly a hobby now that does not involve the use of computers."Learnersare being taught literacy because in the world of work learnerswill encounter a world that is dominated by word processors, spreadsheet, presentation packages, internet and databases. While it is good to use computers as a subject, computers may also be used effectively to enhance learning when they are integrated in the teaching and learning process of academic subjects. Newhouse (2008: p.3) argues that today computers in schools are

both a focus of study in themselves (technology) and a support for teaching and learning (educational technology). Gulbaher and Guben (2008) further argue that ICT integration in schools is needed in order to achieve many objectives and improve the value of lessons in all subject areas.

In their interviews, the school heads when asked whether they had conducted any staff development workshops they noted that there were no staff development meetings held in two schools except for one school on the use of computers. Although the teachers had received some training from colleges, with the advancement of technology, there is need for teachers to have further training to advance their skills on of computer use. Becker and Riel (2000) postulates that "The more professionally involved the teachers were the more likely to use computers in exemplary ways, emphasizing cognitively challenging tasks,(reflective writing ,teacher questions calling for deep thinking ,problem solving tasks and emphasize active engagement in learning. Chan Li (2007) alluded that teachers must be willing and able to use technology effectively in their teaching to realize the benefits that the technology offers. Teachers must therefore, be properly trained to use technology.

The heads and the teachers' responses show that the schools do not possess computer policy and syllabi to use as guide line in their use of computers and they are advocating for the responsible authorities to address the issues on policies. Shafika (2007) pointed out that the country developed a national ICT policy in (2005) but the policy did not cover education curriculum. There was no defined training plan for education as a result teachers are just using the skills they acquired from their training as a result there is no way to measure whether they are teaching use properly .There are no guidelines as to which topic starts and what follows. Each teacher teaches in the way he/she feels is suitable for his/her class. Typing is the most used compared to other activities and leisure games are often played indicating that teachers simply instruct learnersto play while the hour passes by. In my own view, teachers did not take seriously achieving objective because these computers were not examinable just like other academic subjects.

4.7.3 The teachers' perceptions on the significance of computersin their teaching.

The findings revealed that teachers 'perceptions towards use of computers are critical. Teachers' perceptions of implementation of computer technology into classroom are often derived from their experiences, personal beliefs and professional development,(Zhao, 1998; Kanary et al 2005).The teachers' responses show that they believe in the importance of computer use in their teaching and learning. The majority of the teachers strongly agreed that computers are important in processing and accessing of information. Rose et al (cited in 2007) argue that access to technology increase teachers 'opportunities for successful teaching experience .The teachers regarded computers as important and that they contribute to the aspects like motivation, collaboration and positive attitude.

But in my view, from the results gathered in the research, motivation, collaboration and positive were not fully realized in the three schools visited. The computer use was limited since the schools did not have educational software and internet which could be used to enhance learning and effective use .Since the teachers lacked in –service training in the use of latest models of technology the teachers would not be able to use them effectively. One school in the study had laptops which use windows 8 and its functions differ from the Windows 7.May result as a challenge if the teacher does not know how to use the computers in an effective way. Hannessy et al (2010) reported that there is substantial evidence that in the right hands and used fittingly for specific contexts, ICT can be an effective tool in supporting teaching and learning.

4.8 Summary

Findings of this study revealed that computer use is limited in Shurugwi urban primary schools. The facts that there were no educational software teachers were not using computers effectively. Lack of in-service training and further training by the teachers and the absence of the computer policy or syllabus challenged effective use of computers. The lack of computer resources like computers affected the ratio per computer as a result as revealed in the researcher's observations only a few learnersparticipated in the use which actually de- motivated other learners who could not use the computers. Some solutions pointed out by the respondents included in-service training, workshops, acquisition of the educational software, provision of the computer policy and the primary syllabus which serve as guideline for effective use. The next chapter will focus on the

summary of the study, presentation of the conclusions reached at as a result of the findings and the recommendations to be considered by the researcher.

CHAPTER 5

5.0 Introduction

The previous chapter four, focused on data presentation, analysis and discussion. This chapter focuses on the summary of the study, presentation of the conclusions arrived at as a result of the findings and any necessary recommendations to be considered by the researcher will be discussed.

5.1 Summary

The main focus of the study was an investigation into the use of computers by teachers in Shurugwi urban primary schools in Shurugwi district. In the first chapter the background of the study, statement of the problem, research questions, significance of the study, delimitations of the study, limitations of the study, definition of terms and a summary were outlined.

The reviewed literature revealed what various authors said about computer resources and the use of computers in the teaching and learning. The literature clearly reviewed that computers are integrated in the teaching and learning process of academic subjects and that computers are used as a subject. The literature also reviewed the perceptions of teachers on the significance of computers in their teaching.

The research adopted the descriptive survey research design which permitted the researcher to use the questionnaires, interviews and observation in the collection of data. The description survey design assisted the researcher to extract valuable knowledge about opinion, attitude and practices on the use of computers by teachers. The researcher used the qualitative and quantitative methods of data collections which were the appropriate for gaining a profoundly understanding of the phenomena. These necessitate the use of words to explain social characteristics to gain a better understanding of a given theme.

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Out of five schools in the population, three schools participated in the study and they were chosen using stratified random sampling. Stratified random sampling was used because the schools were not of the same status; two were government schools and the other was a mine school. As a result, the sampling technique enabled the researcher to come up with a representative sample of the schools in the circuit. The respondents included three school heads, nine teachers and thirty-six students. Teachers and learnersresponded to questionnaires while the researcher interviewed the school heads. The researcher explained the purpose of the study to the respondents and assured them that the information they provided would be assembled and used specifically for the purpose of the study. The researcher then asked for the respondents' consent to participate in the study. The researcher made interview appointments with the school heads. The researcher self-administered the questionnaires to the teachers and requested the teacher to administer questionnaires to the learnerswhich the researcher collected after completion. A total of 45 questionnaires for the teachers and learnerswere answered and returned.

Data was analysed and presented in chapter four. The main findings of the research were that computers were not effectively used. The teachers relied on the use of Word processors, Spread sheet packages and leisure games only. The other packages like the presentation packages, simulations and internet were not used. From the observation of practical work done the researcher noted that learnersspent most of the time typing and playing solitaire and pinball. The teachers revealed in their responses that the computers were not tested at the end of the term or year as other subjects in the curriculum therefore; they taught children computers for literacy sake. The researcher discovered that there were no proper educational software as a result the teachers resorted to computer studies only without integrating computers in the teaching and learning process of the primary subjects. The school staff did not do any in-service training or staff development workshops except for one school which the head teacher indicated that they only did once. With the change of technology everyday it becomes imperative for teachers to keep being staff developed so that they move with the times. Lack of training contribute to ineffective use of computers as teachers would not be able to operate the computer as a result computers will end up being used for playing cards only.

The absence of the computer policy and syllabi contributed to ineffective use of computers by teachers in the study as they had no proper guidelines to use computers. Only one school out of the three schools was connected .The teachers at the school which had internet connections used computers for their own use and for administration purposes. The internet was not for pedagogical purpose, learnersdid not have permission to use the internet.

5.2 Conclusions

Based on the findings obtained, the researcher concluded that computers were not effectively used in secondary schools of Zaka District. With the challenges which impede the use of computers it may take long before computers are fully utilised in primary schools. Lack of computers, educational software and unavailability of a computer policy in education both at national and local level, are hindering progress of the use of computers by teachers.

5.3 Recommendations

On the basis of the above findings and conclusions, the study made the following recommendations.

5.3.1 Teachers and administrators must not only know how to use the system, they must

understand how it will empower them to provide more effective lessons for their students and show them where additional resources can be found to enhance their teaching.

5.3.2 Enhance preparation and professional development for pre-service and in-service

teachers.

5.3.3 The government and the corporate world should come in on the provision of internet

links to schools at low rates for schools to be able to meet the expense of these internet services

5.3.4 Provide opportunities for leadership development for principals, central office staff

and literacy coaches, using the online blended model of professional development when appropriate

5.3.5 The government should also work on developing a computer policy in education.

5.3.6 The curriculum implementers in the Ministry of Primary and Secondary Education should work on integrating computers in the teaching and learning process of the academic subjects in primary schools.

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APPENDIX 1

QUESTIONNAIRES FOR TEACHERS

My name is Takaendesa Judith, a student at Midlands State University (MSU) in the Department of Applied Education, currently reading for a Bachelor of Education Degree in English, I am carrying out a research on how teachers use computers packages in the classroom teaching in primary schools .This research is purely for academic purposes and the information I am gathering will be treated as confidential .Please take a moment to fill and give honest answers to questions below. Thank you in advance.

PART A: DEMOGRAPHIC INFORMATION

(Please tick in the appropriate box)

1. **GENDER:**

    MALE ☐   FEMALE ☐

2. **AGE:**   18-25 years ☐   41-50 years ☐
         26-30 years ☐   51-59years ☐
         31-40 years ☐   60 years and above ☐

3. **ACADEMIC QUALIFICATIONS**
    Ordinary level ☐   Advanced level ☐

4. **Professional Qualifications**
    Cert. /DipEd. ☐   B.Ed. ☐
    PGCE ☐   Masters Education ☐

5. **Teaching Experience:**
    0-5 years ☐   6-10years ☐
    11-15 years ☐   16years and above ☐

6. **Computer Literacy level:**

    Novice ☐   intermediate ☐   Advanced ☐

    none ☐

APPENDICES

APPENDIX 1 Questionnaire for T

7. How many computers do you have in your classroom?

       ☐

8. In your view, are they adequate for your class?

       Adequate   ☐   not adequate   ☐

9. What number of pupils have you allocated per computer in your classroom?

       ☐

10. How many working computers are available in your classroom?

       ☐

11. How many are not functional?

       ☐

12. Do you have a computer technician for computer services at your school?

       ....
       ....
       ....

13. How often are your computers serviced?

       Often   ☐   not often   ☐   not at all   ☐

PART C: Use of Computers.

14. Indicate by ticking computer packages used in your classroom?

Computer Package	Tick	Comment on use
Word processing (Ms Word)		
Presentation Packages (Power Point)		
Spread Sheet (Ms Excell)		
Database(Ms Access)		
Simulation Packages (Inspiration)		
Instructional games		
Leisure Activities		

15. What problems have you encountered in using computer packages below?

Computer Package		Comment
Word processing (Ms Word)		
Presentation Packages (Power Point)		
Spread Sheet (Ms Excell)		
Database(Ms Access)		
Simulation Packages (Inspiration)		
Instructional games		

Leisure Activities		

PART D: Teachers' perceptions on the significance of computers in their teaching.

16. Computers are important in the processing of information during my teaching.

(Please indicate with a tick where appropriate)

Agree	Strongly agree	Not sure	Disagree	Strongly disagree

17. Computers are important in accessing of information during my teaching.

True ☐   False ☐   Not sure ☐

18. My computers contribute to the following aspects in learning.

ASPECT	YES	No
Motivation		
Collaboration		
Positive attitude		

19. My students find computers user friendly during my lesson.

Agree ☐   Disagree ☐

APPENDIX 2 Questionnaire for Primary School Students

My name is Takaendesa Judith, a student at Midlands State University (MSU) in the Department of Applied Education, currently reading for a Bachelor of Education Degree in English, I am carrying out a research on how teachers use computers packages in the classroom teaching in primary schools .This research is purely for academic purposes and the information I am gathering will be treated as confidential .Please take a moment to fill and give honest answers to questions below. Thank you in advance.

PART A: DEMOGRAPHIC INFORMATION

(Please tick in the appropriate box)

1. **GENDER:**

   Male ☐   Female ☐

2. **GRADE:**   5 ☐   6 ☐   7 ☐

PART B: The Computer Resources Available.

3. Are you able to access computers at your school?

   Yes ☐   No ☐

4. How do you access computers at your school?

   By booking ☐   anytime ☐   no access ☐

5. How many will you be on one computer?

   ☐

6. Do you have access to computers at home?

   Yes ☐   No ☐

PART C: Use of computers

7. Do you know how to operate a computer?

    Yes ☐   No ☐

8. What do you usually use computers for in your classroom?

Playing games	
Word processing	
Spread sheet	
Surfing the net	

    Other, specify

    ....
    ....
    ....

9. Who mostly uses the computer in your classroom?

    Teacher ☐   Students ☐

10. Do you find the use of computers easy to operate?

    Yes ☐   No ☐

11. How often do you use computers?

    Everyday ☐   once a week ☐

    Twice a week ☐   not at all ☐

12. Do you think time given to using computers is enough?

    Enough ☐   Not enough ☐

13. Does your teacher use computers when teaching?

Yes ☐   No ☐

PART D: Children's' perceptions on the significance of computers in their learning

Learners find the following activities easy to operate.

ACTIVITIES	(Tick where appropriate)
Typing	
Saving documents	
Playing cards	
Painting	
Drawing	
Internet surfing	

14. Computers are fast and 1 quickly gets the information 1 want.

Agree ☐   Disagree ☐   Not sure ☐

APPENDIX 3 Questionnaire for School Heads

1. What level of computer literacy have you attained?

2. What level of computer literacy are your teachers

3. What is the source of your computers?

4. Who services your computers?

5. How many slots do computer studies have on the school timetable per week?

6. Why have you allocated that particular time?

7. Does your school have a policy pertaining to use of computer in the teaching process at your school?

8. What challenges are faced by the following in teaching and learning of computers at your school in your view?

      i.   Teachers

     ii.   Students.

9. What are the computers used for by teachers and children in your school?

10. Have you conducted any staff development workshop where the uses of computer packages in the teaching have been discussed?

11. What support has the Ministry given to your school with regards the use of computers?

12. How supportive have the parents been towards the use of computers in your school?

13. In your own view, what do you think should be done to improve the teachers and students 'use of computers in their teaching?

APPENDIX 4

OBSERVATION SCHEDULE: INVENTORY OF COMPUTER RESOURCES AVAILABLE IN SCHOOLS.				
FACILITY/RESOURCE	**SCHOOL A**	**SCHOOL B**	**SCHOOL C**	**TOTAL**
Computer laboratory availability				
Total number of computers available at school				
Total number of working computers				
Total number of computers not functional				
Total number of computers available for the students 'use				
Internet connections				
Total number of computers connected to internet				
Total number of computers not connected to internet				
Computer policy				

APPENDIX 5
RESEARCH LETTERS

04 APR 2014

P. BAG 901 ZIMASCO
SHURUGWI

All communications should be
addressed to "The Provincial
Education Director"
Telephone: 054- 222460

Fax: 054- 226482

Ministry of Primary and Secondary Education
P.O Box 737
GWERU

2/04/14

SELUKWE PRIM SCHOOL

04/04/14

P.O. BOX 22, SHURUGWI

Mr/Mrs/Miss: ......TAKANDESA......

......JUDITH......

1977 NEMOSHO, GWERU

DEPUTY HEADMASTER
CHURLES BRAITH
GOVERNMENT PRIMARY SCHOOL

03 APR 2014

P.O. BOX 93 SHURUGWI

Dear Sir/Madam

APPLICATION FOR PERMISSION TO CARRY OUT AN EDUCATIONAL RESEARCH IN SELECTED SCHOOLS IN MIDLANDS PROVINCE

Permission to carry out a Research on:-

An investigation into how teachers use computer packages in the classroom teaching in Primary schools

In the Midlands Province has been granted on these conditions.

1.   That in carrying out this you do not disturb the learning and teaching
     programmes in schools.
2.   That you avail the Ministry of Primary and Secondary Education with a copy of
     your research findings.
3.   That this permission can be withdrawn at anytime by the Provincial Education
     Director or by any higher officer.

The Education Director wishes you success in your research work and in
your University College studies.

Education Officer (Professional Administration And Legal
Services)
FOR PROVINCIAL EDUCATION DIRECTOR: MIDLANDS

APPENDIX 5 Research letters

MIDLANDS STATE UNIVERSITY

P. BAG 9055
Gweru
Zimbabwe

Telephone: (263) 54 60404/60337/60567/60460
Fax: (263) 54 60233/60311

FACULTY OF EDUCATION
DEPARTMENT OF APPLIED EDUCATION

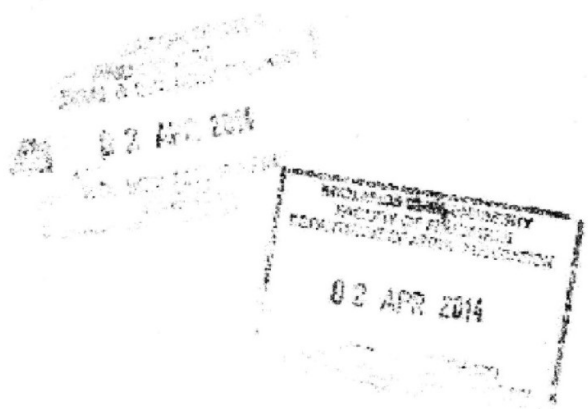### TO WHOM IT MAY CONCERN

The bearer....TAKAENDESA.....JUDITH................is a B Ed/
MED/PGDE student at this University. She / he has to undertake research on the title
.....An....investigation....into....new....teacher's
....use....computer....packages....in....the....classroom
....teaching....in....Primary....schools
He/she is required to present a Research Project in partial fulfilment of the degree
programme.

In this regard, the university kindly requests both your institution and personnel's
assistance in this student's research endeavours

Your co-operation and assistance is greatly appreciated

Thank you

Dr Chauraya M
(Chairperson – Applied Education)

02 APR 2014

SSM/cm/07-02-14