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FACULTY OF EDUCATION

DEPARTMENT OF APPLIED EDUCATION

**RESEARCH TOPIC: THE EXTENT TO WHICH TECHNOLOGY HAS BEEN
HARNESSED IN THE TEACHING AND LEARNING OF HISTORY AT ORDINARY
LEVEL IN GWERU URBAN DISTRICT.**

BY

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**THIS RESEARCH IS SUBMITTED TO THE DEPARTMENT OF APPLIED EDUCATION IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE BACHELOR OF EDUCATION
DEGREE IN HISTORY.**

OCTOBER 2015

GWERU, ZIMBABWE

MIDLANDS STATE UNIVERSITY

RELEASE FORM

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TITLE OF RESEARCH PROJECT: THE EXTENT TO WHICH TECHNOLOGY HAS BEEN HARNESSSED IN THE TEACHING AND LEARNING OF HISTORY AT ORDINARY LEVEL IN GWERU URBAN DISTRICT

DEGREE FOR WHICH THESIS WAS PRESENTED: BACHELOR OF EDUCATION DEGREE IN HISTORY

YEAR DEGREE GRANTED: 2015

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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:

THE EXTENT TO WHICH TECHNOLOGY HAS BEEN HARNESSSED IN THE TEACHING AND LEARNING OF HISTORY AT ORDINARY LEVEL IN GWERU URBAN DISTRICT.

A research project submitted to the Department of Applied Education

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In partial fulfillment of the requirements of the Bachelor of Education Degree in History

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DEDICATION

This research is dedicated to my husband Tamuka Hove, our yet unborn baby, and to Chantelle, with love.

ACKNOWLEDGEMENTS

For the grace and everything else, I would like to thank the Lord Jesus Christ without whom I cannot live.

I owe sincere gratitude to the Ministry of Primary and Secondary Education for granting me the permission to carry out this study in its schools and the Midlands State University for allowing me to carry out this research in partial fulfillment of the requirements of my studies. I also wish to extend my acknowledgements to all the Heads, teachers and students of the sampled schools for the cooperation and assistance rendered during data collection.

I wish to sincerely thank my supervisor, Mrs Museva, for her invaluable support and guidance throughout this study. The success of this project owes to her tireless effort in supervising and encouraging me. Special thanks also go to all 2015 BED History students, my friends (Linda, Revai, Pelagia and Cynthia) for their moral support and encouragement.

Finally, I wish to extend my special thanks to Dr C. G. Msipa, my family, sister Berita and Uncle Tony for their love and financial support. Without these people, the project would not have been completed.

ABSTRACT

The purpose of this research was to investigate the extent to which technology has been harnessed in the teaching and learning of History at Ordinary level in Gweru urban District. The descriptive survey research design was used in this study. The sample constituted thirty 'O' Level history pupils, six history teachers, three H.O.Ds and three heads of schools in Gweru urban district. The researcher used questionnaires, interviews and observations for data collection. Data was presented in form of tables and graphs followed by a discussion of the findings. Findings revealed that the integration of ICT in the teaching and learning of History at Ordinary Level was minimal and where it was employed, lots of challenges stood in its way. Lack of ICT skills by teachers and learners, interrupted power supply, high costs of computer hardware and software, lack of educational software and lack of maintenance culture were the major problems that were revealed by the research. The research recommended servicing of teachers by the schools, development of affordable educational software by the Ministry of Primary and Secondary Education, government subsidies on ICT tools for educational purposes and also the government to ensure that teachers' colleges were obliged to integrate ICT in all their teaching and learning processes so that they produce teachers who were not technologically averse.

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CHAPTER 1

THE PROBLEM AND ITS SETTING

1.0 Introduction

Technology is rapidly becoming a more appealing tool in education and holds great promise to improving teaching and learning, and in shaping workforce opportunities. Computer illiteracy has fast translated into the new illiteracy. This has actually necessitated the desire to equip schools with computer facilities and qualified personnel necessary to produce technologically proficient and efficient students (Aduwa-Ogiebaen and Iyamu, 2005). Computers can undoubtedly aid the instructional process and facilitate students' learning, as supported by Burnet (1994) cited in Aduwa-Ogiebaen and Iyamu(2005), who advanced that many studies have found a positive effect associated with technology aided instruction. However, much research has been concentrated on identifying the benefits of ICT and the challenges that come with it, but little or nothing has been done to really investigate whether ICT is being integrated in the teaching and learning process, or it is just a policy on paper. As a result, the researcher saw it necessary to make an investigation into the extent to which technology has been harnessed in the teaching and learning of History at Ordinary level in Gweru urban. This chapter will look at the background to the study, statement of the problem, research questions, significance of the study, assumptions, definition of terms, delimitations as well as limitations of the study.

1.1 Background to the study

The modern system of education tries to take meaningful strides away from the traditional teacher centered approaches towards more learner centered approaches in teaching and learning at all levels. The incorporation of ICT in education seems to offer a ready answer to the

problems faced by history teachers i.e. having to dispense abstract information which the pupils fail to comprehend. It is of importance to note that the governments all over the world and of Zimbabwe in particular, do rally behind, encourage, support and promote ICT integration in schools. In Zimbabwe, the President invested in an extensive campaign for ICT in schools by donating computers and embarking on rural electrification for the benefit of rural schools.

The Nziramasanga Commission Report (1999) recommended the introduction and mainstreaming of computer based teaching and learning in the pedagogy of Zimbabwean schools, colleges, universities and other institutions of higher learning. This constitutes a key element of the national ICT policy. The following policy statements were adopted by the government of Zimbabwe in relation to ICT as provided by the Nziramasanga Commission Report (1999):

- Provide equitable access to ICTs enabled education and training in all parts of the country, including disadvantaged communities.
- Facilitate acquisition of basic, applicable and affordable ICTs equipment.
- Build ICTs capacity skills in the education sector.
- Promote stakeholder participation and partnerships.
- Promote training in software development, provision of ICTs service and ICTs resources development.
- Promote e-learning and use of e-learning materials in Zimbabwe.
- Standardize ICTs in the education sector.
- Embed ICTs literacy in the pedagogy of schools, colleges and universities.
- Encourage, promote and apply research and development in ICTs in all sectors of the economy.

Integrating technology in teaching and learning is not a routine; rather it is a medium in which a multiplicity of methods, approaches and academic philosophies may be implemented (Salehi and Salehi, 2012). This statement denotes that the effectiveness of information communication technology depends on how and why it is applied and integrated into teaching and learning. There is a wide range of tools and applications that can be incorporated in teaching and learning, some of which may be designed specifically for educational purposes while others are for more general use. The choice of resources and the way they are used depend on different learning theories which may be invoked and the benefits intended to be gained. Roblyer and Edwards (2000), cited in Salehi and Salehi (2012), asserted that the use of information communication technology in education evolved from two main approaches, namely the directed and constructivist instructional methods. Woolfolk (2013) believed that constructivism is a view that emphasizes the active role of the learner in building understanding and making sense of information. Bruning, Schraw, and Norby, (2011), cited in Woolfolk (2013) alluded that most constructivist theories agree on two central ideas: that learners are active in constructing their own knowledge and also that social interactions are important in this knowledge construction process.

The chalkboard and textbooks have been used for educational purposes over years, but none has quite impacted on the educational process like the computer. Similarly, television and film impact only on the audiovisual faculties of users, while the computer is capable of activating the senses of sight, hearing and touch of the users. ICT has the capacity to provide higher interactive potential for its users to develop their individual, intellectual and creative ability. Sharvinina (2001), cited in Aduwa-Ogiegbaen and Iyamu, (2005) stated that the main purpose of ICT comprises just in the development of human mental resources, which allow people to successfully apply the existing knowledge.” The collective, rigid and passive nature of the

learning associated with the use of chalkboard and lecture method do not contribute any innovative changes to traditional methods in the education system

In today's world people are surrounded by technology. Through technology people can access far and near places, information can be shared globally and school leavers can be more marketable on the job market, which is why it is of importance in education. Undoubtedly, one of today's realities is an extremely fast development of high-technology. This has resulted in a huge change of the individual's life in business and private settings, not to mention in social and economic circles. There is strong need to know and use modern technology in our social life, in the economy, in business and in education. Hence, the integration of ICT in schools is a cause for concern.

While at work related learning, the researcher noticed that even with the resources available for the incorporation of technology, teachers generally do not use ICT in the teaching process. It is against this background that the researcher found it necessary to look into the issue and analyze the extent to which technology has been harnessed in the teaching and learning of History at Ordinary level and to analyze the extent to which it has been put to effective use, in the process, unveiling the challenges that are encountered by teachers in using ICT in History at ordinary level.

1.2 Statement of the problem

There seems to be little effective use of technology in the teaching of History in Gweru urban district despite the availability of computers in schools, hence the need to carry out this research to establish the extent to which technology has been harnessed in the teaching of History in Gweru urban district.

1.3 Research questions

The study was guided by the following questions:

1. Is technology being used in the teaching and learning of History in secondary schools?
2. What is the impact of integrating ICT in the teaching and learning of History at Ordinary Level?
3. How can the challenges faced by teachers be addressed to integrate ICT in the teaching and learning of History at Ordinary Level?

1.4 Significance of the study

The researcher highlighted the importance of the study to mainly: -History teachers, the Ministry responsible, learners, other researchers and the researcher herself. For each group the researcher revealed the significance of the study.

1.4.1 History teachers

The study sought to raise awareness amongst History teachers in Gweru urban district of the importance of integrating ICT in their lessons. The use of ICT tools like the overhead projectors and videos could motivate the learners and reduce pressure from the teachers. The research also shed light to teachers on awareness of various ICT tools available that they could use to enhance their teaching and the importance of choosing relevant educational software.

1.4.2 Ministry of Primary and Secondary Education

The study identified the challenges encountered by Ordinary Level History teachers in integrating ICT in teaching and learning and recommendations were forwarded which would

enable the responsible authorities; the Ministry of Primary and Secondary Education and the government to devise ways to eliminate the challenges and to enhance the integration of ICT in teaching and learning.

1.4.3 Learners

The use of the Internet and other ICT tools benefited both the teacher and the learner. The ability to work at a time convenient to the learner is a motivational factor. The patience of the computer when testing and retesting learners for drill and knowledge is also of great benefit. A degree of individualized instruction is possible particularly if the learner is able to navigate the content and when properly constructed the computer-based learning is able to provide almost instant feedback. The learner also gains the ability to provide simulations prior to real-world experience. Hence the study revealed more benefits to the learners than those that they were already aware of.

1.4.4 The Researcher

The researcher also benefited from the research since it was carried out in partial fulfillment of the study she was pursuing; it was part and parcel of the researcher's studies. It also benefited the researcher by equipping her with more knowledge and empowering her as she enters her career, by becoming aware of the key computer tools that are available to help her with the task of planning instruction and preparing educational materials and learning experiences for the students of History.

1.5 Assumptions

The assumptions in this research were that schools taught computers as a subject on its own but did not use it in the teaching and learning processes in other subjects. The other assumption was that teachers and pupils were not aware of the benefits of integrating ICT in the teaching and learning of History. Also, the schools were reluctant to source suitable ICT tools for use in teaching and learning and educationists were reluctant to implement technological innovations. It was assumed by the researcher that teachers and pupils alike lacked the necessary skills for the implementation of ICT in the teaching and learning process.

1.6 Definition of terms

The key words in this study were hereby defined in the context of this particular study, that is, what they meant in this research.

- **Information Communication Technology:** is the diversity of tools and resources used to communicate, create, disseminate, store and manage educational information.
- **Computer:** It is an electronically controlled device that works under the control of stored programmes that automatically process data/information.
- **Challenges:** are any barriers that impede the progress or achievement of effective ICT integration.
- **Integration:** refers to the use of Information Communication Technology in teaching and learning in History.

1.7 Limitations

Some of the limitations encountered by the researcher in her study were limited time, finance, human and material resources, and lack of experience on the part of the researcher. The study

was carried out using three sampled schools only because the researcher had limited time and resources to carry it out in the whole district. The other and probably the major limitation was that of lack of research experience on the part of the researcher. Lack of research experience led to spending more time on preparation of instruments and collection of data. As a way of dealing with this problem, the researcher constantly consulted her supervisor for assistance.

1.8 Delimitations

The research was limited to only three high schools offering History in Gweru urban District. The study covered the period from August 2015 to November 2015. The sample involved School heads, Ordinary level History students, History teachers and Head of Departments of the three stratified randomly sampled schools in Gweru Urban district.

1.9 Summary

The research problem outlined the investigation into the challenges encountered in using information communication technology in the teaching and learning of History at Ordinary Level in Gweru urban district. The study was premised on the assumption that a number of information communication tools and applications may be integrated in the teaching and learning of History. This was developed in the research questions. Chapter one then wrapped up by looking at the significance of the study to learners, teachers, responsible stake holders and the researcher. The following chapter focuses on the review of related literature.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.0 Introduction

The chapter concentrated on reviewed literature. It focused on a host of other similar cases reviewed internationally, regionally and locally. The order of the research questions were followed to find out what different researchers and authorities say about similar research problems. It was the intention of the researcher to outline what other scholars and researchers found out concerning the use of ICT in schools in different subjects and at different levels of education. The review of related literature also intended to look at the benefits of integrating ICT in teaching and learning, ICT tools available for teaching and learning, skills, challenges encountered in integration, and suggested solutions to the challenges.

2.1.1 ICT in the UK

McMullan (2002) developed and submitted a unique and distinguished report on ICT integration in the UK education system. The research focused on testing the government's commitment on ICT. The report forwarded that the government set out its vision for ICT in education in the paper 'Connecting the Learning Society' in October 1997, followed in 1998 by a vision for the National Grid for Learning in a document entitled 'Open for Learning-Open for Business'. In these publications, the targets set by the UK government included connecting all schools, colleges, libraries, universities and as many community centers as possible to the grid; ensuring that serving teachers felt confident and were competent to teach ICT within the curriculum, and that librarians were similarly trained; enabling school leavers to have a good understanding of ICT with measures in place for assessing their competence in it and making Britain a center of

excellence in the development of networked software content, and a world leader in the export of learning services, McMullan (2002).

McMullan (2002) further proposed four key tests to determine whether the UK education system was appropriately placed to benefit from the contribution IT made in improving the quality of teaching and learning. This was based on four major questions:

1. Are schools able to access an adequate, sustainable and manageable ICT infrastructure?
2. Are schools effectively connected to each other, to their community and to the internet?
3. Do teachers have easy access to a diverse range of educational online content?
4. Are teachers confident enough with their practice to know when and how to use ICT and when not to use it?

Findings from this report were that there had been a considerable investment in school infrastructure and substantial improvements in the number of computers in schools. Provision in England by then had an average computer-pupil ratio of 1:12 in primary schools and 1:7 in secondary schools. On manageability, findings alleged that the government was far too obsessed with the number of computers in schools rather than with the ease with which they could be supported and the effectiveness with which they could be used. McMullan (2002) recommended that schools should move towards the concept of an ICT 'managed service' where an IT specialist company would be responsible for providing an integrated service of equipment, software and support with the cost spread over three to five years. The advantage was said to be that the schools would be free to concentrate on the effective use of the technology to improve

the quality of teaching, learning and educational management. Government needs to address this issue so that it does not become a technological burden. On the issue of sustainability, it was recommended that not only must initial capital and running costs be affordable, but costs of regular updating and replacement must also be accommodated. The private sector should be encouraged to provide one stop shop managed services to education.

McMullan (2002) further expressed concern on the issue of effective connection. The report alleged that there was far too little access to broadband services. There is connectivity bottleneck and the quality of connection was very often far from satisfactory. The government was therefore recommended to make broadband provision for schools an immediate priority. Findings on the access to a diverse range of online content revealed that the government provided stimulation of the marketplace by commissioning digital materials to support Maths, Latin and Japanese, and earmarking some 15% of funding for digital content. A significant investment in the introduction of e-credits to stimulate demand for online educational content and courses was also recommended.

Teacher confidence was also found to be central to the effective integration of ICT in education. ICT training for teachers in the UK was funded at one time by the New Opportunities Fund, McMullan (2002). It was highlighted however that very significant work still needed to be done in relation to teacher enthusiasm about the use of ICT. Many teachers were said to view the introduction of ICT as merely a burden, but the reality was that ICT should be an opportunity, empowering teachers and making learning more rewarding for their students. Also, increased personal access to ICT was said to increase teacher confidence.

The research discussed above was carried out in the U.K, a developed country where technology usage in education was more advanced than in developing countries. Thus, its main thrust was to test the government's commitment to ICT integration in education and to suggest solutions to the problems that were highlighted. However, since the current study was carried out in a developing country, Zimbabwe, the researcher felt that there was need to first establish the extent to which technology has been harnessed in the teaching and learning process than to merely concentrate on the challenges when technology might not be really being integrated in schools.

2.1.2 ICT in the United States of America

Capuk (2015) discussed curriculum, pedagogy and approaches to curriculum development in the US, in line with issues affecting curriculum development in ICT. In the research, five ICT integration models were proposed, that is, ICT as a subject matter; ICT as a cultural, mediational tool in the activity system in which students and teachers construct and co-construct new knowledge; ICT as a subject matter (one of the content areas) that was integrated into a variety of other subject matters such as Maths, Science; Literacy and technology together as well as ICT as a mixed curriculum. From the findings of Capuk (2015), it was suggested that when approaching the idea of ICT integrating into teaching and learning, stakeholders should consider all the characteristics of its nature so as to make it easier for teachers who implement it. Issues affecting curriculum development in ICT should be deliberated on to achieve effective implementation. These findings complimented the researcher's interest in finding out if technology was being used in schools since such factors may impede its implementation.

2.1.3 ICT in Canada

Aube and Meyer (2014) recorded findings from an experiment carried out in Canada at the Saint-Ande school, whereby the integration of ICT was sponsored by the government to improve the science department. They forwarded that ICT integration was inspired by socio-constructivist orientation and was vital in scientific training. According to Aube and Meyer (2014), science was basically a collective endeavour that required regular exchanges and critical interactions with peers, hence the importance of ICT integration. More-so, scientists were deeply (and even morally) responsible for their own scientific contributions before society. The research emphasized that scientific inquiry progresses far more by inquisitiveness rather than by mere responding. As such, it was concluded that ICT integration was an essential part of science education. However, the findings were specifically based on science education but the researcher intends to find out if ICT was being used in the teaching and learning of History.

2.1.4 ICT in South Africa

Chigona (2014) carried out a research in the Western Cape to find out educators' motivation on integration of ICTs into pedagogy in disadvantaged areas. From the findings, it was concluded that educators' motivation to use technology for curriculum delivery could be impacted by satisfaction derived from using the ICTs, individual expectations, responsibility and a sense of achievement experienced when using the technologies. The research focused on motivational factors that drove educators to use ICT in teaching, but in this research, the researcher intends to actually find out if ICT was really being integrated into teaching and learning.

In South Africa also, Mbatha (2015) carried out a study in Orlando East on teachers' ICT integration challenges. It was a multiple case study of four schools in Orlando East that were

recipients of the Gauteng Online Laboratory Project and the participants were fourteen teachers using ICT for teaching and learning. The research indicated that teachers did not integrate ICT into teaching and learning effectively. It looked into the challenges faced by teachers in schools that affected meaningful ICT integration and how teachers could triumph over the identified challenges in order to effectively integrate ICT into teaching and learning. Mbatha (2015) alleged that challenges of ICT integration vary; some could be overcome by teachers while others could only be overcome by the education authorities at different levels.

However, the issue of challenges of ICT integration in Zimbabwe has been over-trodden and much has been said about it. But there seem to be no research on whether ICT was being integrated in the schools in the first place, and if it was, then what was the extent to which it was being integrated into the teaching and learning of History.

2.2.1 Benefits of integrating ICT in teaching and learning

The integration of ICT in the teaching and learning of history has many indispensable advantages. Although some history teachers do not agree with the fact, ICT plays a crucial role in the dispensation of Historical concepts as well as the impartation of basic skills for students of History. Brown and Purvis (2001), cited in Hennessey et al (2003) suggested that ICT and multimedia fit well with the multi-source nature of history. They can give a 'total picture' and can allow pupils to integrate evidence into their work. They further alleged that the use of ICT promoted collaboration between pupils and can contribute to the development of historical thinking.

Hennessey et al., (2003) also added that ICT helped to alleviate the constraints of writing and allowed pupils to concentrate on the specific topics of discussion, which encouraged reflection,

analysis and understanding. More-over, the use of computer-mediated communications (CMC), including online discussion groups, enabled students to better develop and communicate historical arguments, thinking and understanding. These skills could be transferred to essay writing as postulated by Thompson and Cole, (2003).

Nichol et al (2003) found that the use of hypertexts to investigate sets of historical documents and sources can help develop pupils' understanding and analysis skills and allowed pupils to see connections between historical issues. Taylor (2003) stressed out that computer simulations allowed complex historical processes to be represented in a more dynamic way, and allowed students to gain a better understanding of how key decisions in history were affected by the environment and the pressure of time. In other words, use of computer simulations simplifies the complexities associated with the nature of the subject History by bringing to life the topics under discussion.

According to Wolfrum et al (2001), digital video can provide students with a model for gathering oral history before they conduct their own oral history interviews, allowing them to develop and retain the required skills more effectively. Thus, students benefit in the sense that they develop skills necessary for research as Historians. Another generally overlooked benefit of ICT integration was that of accessibility of a broader surface of information. ICT (particularly the internet), gives teachers access to a wide range of information, historical sources and media types, which would otherwise not be readily available, Brown and Purvis, (2001). Being a teacher does not imply that one has all the knowledge, and since history is a dynamic subject, it is necessary that teachers have access to the internet to be able to get hold of the most current of information and also to access online forums where historical issues will be debated.

Wellman and Flores cited in Thompson and Cole (2003) reiterated that the use of computer-mediated communications (CMC), including online discussion groups, allowed teachers to identify misconceptions in pupils' historical thinking, which might not otherwise have been apparent in more structured classroom discussions. It could be derived from the contributions of Wellman and Flores (2002) that ICT integration best enabled teachers to put across historical materials using the methods most suited to individual and personal needs. In this view, ICT caters for all learning styles and all levels of intellect. Masterman and Rogers (2002) alluded that ICT could be used to help teachers support, or scaffold, the development of historical thinking and understanding at all levels.

Aduwa-Ogiegbaen and Iyamn (2005) carried out a research that focused on the benefits of ICT. From their findings, there were numerous good prospects for the use of ICT in teaching and learning in secondary schools. A teacher could teach a large class using an overhead projector and PowerPoint. Also the computer could enhance problem solving skills of learners and can be used for individualized learning in secondary schools, and despite large classes and differences in individual learning styles and speed, computers would allow pupils to progress at their individual paces and get constant assessment response and corrections for errors made.

Ogiegbaen and Iyamn (2005) also postulated that computers can change the teachers' approaches to teaching in schools. Computers permit more independent investigation, more individually modified activities, more collaboration and less didactic coaching. The part of an educator for that reason changes from information distributor to that of information supervisor, from authoritative spring of information to a guide of self-propelled discovery, (Aduwa-Ogiegbaen and Iyamn: 2005). The results also discovered that computers offer educators development in the techniques of research.

Patil (2012) had the following as ICT benefits to the students: Computers could advance self-regulating access for students to education whereby students could surf the Internet on their own, in their own spare time whether at school or at home, as long as they had access to ICT tools. Pupils with special learning needs were able to carry out tasks working at their personal time. They were able to re visit the assignment, to go through worked examples and with other instructive software they could complete their tasks and have them marked by the computer and they could also do corrections through the computer. ICT tools could build greater passion for learning amongst pupils, who could learn with fun that is through games, puzzles and quiz, especially in History, a subject mostly considered to be abstract.

Patil (2012) further asserted that visually impaired pupils could access information on the internet alongside their sighted peers. Students with profound and various learning difficulties could correspond more easily using ICT and students using voice communication aids could get confidence and public standing at school and in their society. Increased ICT assurance among students could motivate them to use the internet at home for school work and leisure time. ICT provided distance learners nationwide by means of online instructive resources and with supplementary resources.

2.2.2 ICT tools available for teaching and learning

Word processing, spreadsheets and presentation programmes were three of the most widely used software support tools according to Roblyer and Doering (2013). They were considered to be an indispensable part of daily work. Roblyer and Doering (2013) asserted that software tools like word processors, spreadsheets and presentation

programmewere used by most professionals in education. In their argument, they pointed out a number of benefits derived from using such ICT tools.

The Compact Disc (CD) is a standard format used in educational settings, which stores sounds as digitalized bits of information and could hold up to eighty minutes of audio information. Users of CDs can quickly tracechoices on the disc and programme them to play in any preferredorder. Information can be selectively retrieved by learners or programmed by the instructor. A major advantage of the CD is its resistance to damage. If a scratch does not affect the quality of the audio signal, a resin is available to restore the disc. Many computers are equipped to create or burn audio, making it easy for teachers and students to create CD recordings, (Smaldino et al: 2012).

Smaldino et al (2012) further elaboratedthat students can record information gathered from a field trip on portable devices. On returning to the classroom, students can play back the record for discussion and evaluation. Students can also record themselves presenting a speech, performing music and so on. They can then listen to the recording or have the performance appraised by the teacher or other students. Audio adds a dimension to classroom environments that expands and deepens students' learning experiences. Also it caters for those who learn by hearing.

According to Nugent cited in Smaldino et al (2012), many teachers use videos to present a topic, to assess content, to provide remediation, or forenhancement. Videos are appropriate in all instructional situations and works with whole classes, small groups and individual students. Videos can take the learner almost anywhere and extend student's interests beyond the walls of the classroom. Objects too large to bring into the classroom are studied as well as those too

small to see with the naked eye, in as much as events too dangerous to directly observe or rather impossible to re-live, such as the Great triangular slave trade, are studied safely. From a historical perspective, videos allow the pupils to experience events of a distant place and time, for instance, the world wars or the reign of Tshaka. Videos are available on almost any topic for every type of learner in all the domains of instruction (Smaldino et al, 2012).

Hoole et al (2005) defined multimedia as the ability to process graphics, sound and text together to produce real world effects. Graphics are usually always existent on every computer. When you buy multimedia capability with your machine, it usually involves speakers, a microphone, and sometimes a camera. The speakers could allow teachers and learners to play music on the CD drive. Hoole et al (2005) said that multimedia is acute if you use the Internet which has sound and even movie clips or play games which usually involve sound- based instructions. Digital cameras allow users to take photographs or movies and load them on the machine.

According to Pitler et al (2007), in addition to learning from multimedia such as educational games and interactive simulations, students can learn with multimedia by creating their own projects at home or at school to develop their understanding and practice skills. When students create multimedia projects, they undertake many of the project tasks outside of class. This creates more opportunities for creativity than what the typical classroom and school has to offer. Another example of creating multimedia for homework and practice is teacher or student construction of power point games.

Hoole et al (2005) further emphasized the view that the internet is a powerful tool that enables people to communicate, share resources, tap into the vast repositories of information and become content providers themselves. Among the most popular services provided by the Internet are the

World Wide Web (www) and email. Browsers are software programmes that enable teachers and learners to view online documents and access the Internet. There are several browsers available such as Microsoft, Internet explorer, Netscape Navigator and Mac web. Text only viewing browsers such as lynx are also available, (Hoole et al,2005).

Newby et al (2011) view a computer as a productive tool to assist the worker in the work place. Thus, teachers and students use computers in schools in the same way that they are used in other workplaces. Students can use computers as assistants when doing homework. Teachers can use the same tools to prepare instructional materials and manage the instructional process.

According to Newby et al (2011) word processors are the most widely used computer personal productivity tools. Newby et al (2011) defined a word processor as a computer application that allows you to enter, edit, revise, format, store, retrieve and print text. He also says that word processors today permit you to include graphic and tabular materials along with the text. Nearly all word processors have spelling checkers; some correct spellings as you enter text, and some do basic grammatical and syntactical checking. Other word processing programmes are available via the Internet (Newby et al, 2011).

Teachers could use word processors for preparing lesson plans, handouts, worksheets and other instructional materials. Word processors can also record ideas during in class brainstorming sessions and create quizzes, tests and other forms of student assessment. They are also useful in writing letters, permission slips, newsletters and other forms of communication with parents, students and administrators. Word processor uses for students included writing papers and other assigned written work as well as performing prewriting activities such as brainstorming, note

taking, and idea collection. Students could also use word processors for typing handwritten notes to reinforce learning or when studying for the examination (Newby et al, 2011).

2.2.3 ICT skills necessary for integration

According to Buabeng-Andoh (2012) computer competence is defined as being able to handle a wide range of varying computer applications for various purposes. Teachers' computer competence is a major determining factor of integrating ICT in teaching. Teachers cannot manage a digitalized class if they themselves are not confident enough with their skills. The starting point therefore is to equip teachers with the necessary or relevant skills for ICT integration.

In a qualitative multiple case-study study on proficiency and confidence level concerning the use of ICT in teaching conducted in five European countries, Peralta and Costa cited in Buabeng-Andoh (2012), found that technological competence influenced Italian teachers' use of ICT in teaching. Pedagogical and didactic competences were found to be significant factors if successful and proficient educational interventions were expected to be implemented. Buabeng-Andoh (2012) says in Portugal, teachers reported diverse views concerning the most essential competencies for teaching with ICT. Among the views were the call for technical skills and attitude, curriculum and instructive competencies, technological competence and educational efficiency as important to integrate ICT in teaching and learning processes. Teachers who have had more experience with computers have greater confidence in their ability to use them effectively.

2.2.4 Challenges encountered in using Information Communication Technology in teaching and learning

Most developing countries, and some developed countries too, encountered a lot of challenges in ICT integration. These included insufficient funds, since most schools would require government funding for them to harness ICT. Also, the problem with the internet in most developing countries was that of poor access and in some schools no connection due to the high fees charged by internet providers, which posed a great challenge to the effective implementation of ICT. Mndezebele (2013) believed that many schools in developing countries lacked equipment for ICT use while they also fall short of the financial ability to maintain and upgrade the computing equipment. To add on, teachers also lacked time to effectively plan, design and deliver lessons that logically employed ICT.

Aduwa-Ogiebaen and Iyamn (2005) suggested that impediments to the successful use of information and communication technology in teaching and learning of different subjects in secondary schools were due to cost, weak infrastructure, lack of skills, lack of relevant software and limited access to the Internet. This could be likened to Zimbabwe where there are high costs of ICT tools, lack of skills among educators and lack of relevant educational software. Also, access to the internet has been a challenge due to high fees charged by service providers.

The findings of Aduwa-Ogiebaen and Iyamn(2005) alleged that in Nigeria, electronics equipment such as radios, television sets; video recorders and even computers have been damaged due to irregular power supply. In rural Nigeria, most inhabitants do not have access to electricity, thereby denying rural secondary schools opportunity to benefit from the use of

electronic equipment such as radios, television sets, video recorders and computers. This is consistent with the current Zimbabwean situation because although the government has extensively tried to electrify the rural areas, power outages are rampant and most of the day time, there is no electricity supply even in the urban schools.

In their research, Ogiegbaen and Iyamn (2005) also mentioned that lack of human skills was another challenge encountered in integration of ICT into secondary school education. They added that to use information and communication technology in secondary schools there was need for locally trained workers to install, maintain and support the systems. They mentioned that there was shortage of trained personnel in application software, operating systems, network administration and local technicians to service and repair computer facilities. Those who were designated to use computers did not receive adequate training, at worst they did not receive any training at all. The teachers were also said to be lacking the skills to fully utilize technology in curriculum implementation hence the traditional chalk and duster approach still dominated in secondary school pedagogy (Aduwa-Ogiegbaen and Iyamn: 2005). This is consistent with the Zimbabwean situation whereby educators are said to lack the pre-requisite skills necessary for ICT integration.

The other obstacle that was mentioned was lack of relevant software. There was no doubt that the ultimate power of technology was the content and the communication. There was a great discrepancy between relevant software supply and demand. There was a clear indication that the supply of relevant and appropriate software was a major bottleneck obstructing wider application of the computer. The cost of producing relevant software for the country's educational system was enormous. There was dearth of qualified computer software designers and to overcome that people needed to train in instructional design (Aduwa-Ogiegbaen and Iyamn: 2005)

Limited access to the Internet was also said out to be a challenge encountered when integrating ICT in teaching and Learning in secondary schools. In their research on using Information and Communication Technology in Secondary Schools, Aduwa and Iyamu(2005) also found out that there were few Internet providers to provide Internet services. Many of these companies provided poor services to customers who were often exploited and defrauded. The few reputable companies which rendered reliable services charged high fees thus limiting access to the use of the Internet. Nigeria was said to be lagging behind other African countries like Uganda, Senegal and South Africa which were already helping secondary school students to become better information users. All Internet service providers in Nigeria were based in urban areas. Thus, most developing countries are not financially positioned to meet the fees charged by ISPs.

Buabeng-Andoh (2012) also carried out a research on factors influencing teachers' adoption and integration of information and communication technology into teaching. In his literature review, he came out with factors like personal characteristics of teachers, teachers' attitudes, ICT competence, computer self-efficacy, gender, teaching experience, institutional characteristics, professional development, accessibility, technical support, leadership support and technological characteristics. Buabeng-Andoh(2012) mentioned that personal characteristics such as educational level, age, gender, educational experience, experience with the computer for educational purposes and attitudes towards computers can influence the adoption of a technology.

2.2.5 Suggested Solutions to Challenges encountered in use of ICT in teaching and learning

According to Moore cited in Hennessy et al., (2003), pupils need to be taught how to interpret information and make judgments and inferences about it, in order to make historical research

using electronic sources more effective. When using a word processor to investigate a text, teachers must ensure the activity encourages effective comprehension of the content, and that it is not only a mechanical reading or cutting and pasting activity, as suggested by (Prior and John, 2000).

Bhasin (2012) believed that it is a well-known fact that professional teacher development is a key to successful integration of ICT in the teaching and learning process. In line with the same view, Carlson cited in Bhasin (2012) said that teachers remain gatekeepers for students' success to educational opportunities afforded by technology. He further stated that teachers cannot and should not be ignored. However, providing technical skills training to teachers in the use of technology is not enough. Teachers also need professional development in the application of these skills to improve the teaching and learning process. Bhasin (2012) purported that the starting point of a digital classroom is the teacher. Teachers must be trained to effectively use the technology for planning student instruction. The role of a teacher has subtly shifted from being a sole provider of knowledge to being a facilitator as the students explore for themselves the vast information now available. The key skill required is learning how to learn. The learning management system harnesses the potential of technology to improve learning outcomes and to prepare students for the accelerated changes in the world in which they live.

Effective use of ICT into teaching and learning in schools depends mainly on the availability and accessibility of ICT resources such as hardware and software obviously, if teachers cannot access ICT resources, then they will not use them. Therefore, access to computers, updated software and hardware are key elements to successful integration of ICT in teaching and learning (Buabeng-Andoh, 2012).

A study by Yildrim cited in Buabeng-Andoh (2012) found that access to technological resources was one of the effective ways to teachers' pedagogical use of ICT in teaching. Access to hardware and software was not only important, but also the use of suitable kind of tools and programme to support teaching and learning. To encourage student centered technology learning, it was necessary that learners had access to quality technology resources.

Jones cited in Buabeng-Andoh (2012) reported that the breakdown of a computer causes interruptions and if there is lack of technical assistance, then it is likely that the regular repairs of the computer will not be carried out resulting in teachers not using computers in teaching. The effect is that teachers will be discouraged from using computers because of fear of equipment failure since no one would give them technical support in case there is technical problem. Becta (2004) reiterated that if there is a lack of technical support available in a school, then it is likely that technical maintenance will not be carried out regularly, resulting in a higher risk of technical breakdowns. Therefore, if there is no technical support for teachers, they become frustrated resulting in their unwillingness to use ICT. Technical support in schools can influence teachers to apply ICT in classrooms without wasting time in trouble-shooting hardware and software problems.

The reviewed literature revealed that much effort had been put towards identifying the challenges that supposedly hindered the integration of ICT in the teaching and learning process and also ways of rectifying them. Studies carried out in developed countries concentrated on the manageability, sustainability and effective connection of computers in schools, as well as government support for effective ICT integration in the United Kingdom and ICT integration models in the U.S. Other researchers in developed countries focused on ICT integration in the sciences department in Canada. Literature reviewed from developing countries such as South

Africa, Nigeria and Swaziland revealed that researchers had looked at the challenges of ICT integration in disadvantaged communities and educators' motivation on the integration of ICT into pedagogy. The current research stood out because it focused on finding out whether ICT was being integrated in the teaching of History at Ordinary Level in Gweru urban district in Zimbabwe, a developing country. The gap that this particular research intended to fill was to investigate whether ICT was being incorporated in teaching History at Ordinary Level and whether technology was being put to effective use in teaching other subjects in the first place.

2.3 Summary

This chapter looked at five aspects of ICT applicable to teaching and learning. The aspects include tools and resources available for ICT integration, challenges to ICT integration, ICT skills among teachers, ways of addressing challenges in integration and benefits of using ICT in teaching and learning of History. Researchers and authorities all over the world have supported the ICT integration into teaching and learning. Resources and tools available for integration have been described, challenges encountered have been outlined, lack of ICT skills in most of the teachers have been identified, ways of addressing the challenges have been suggested and the reasons why ICT is to be incorporated in the teaching and learning has been highlighted. The next chapter looks at research designs and methodology which were employed in this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

This chapter described the research methodology that was used in this study. It explained the research design, population and sample, instrumentation, data collection procedures and data analysis plan, justifying their use in this study. The chapter also looked at the validity and reliability of this research as well as ethical considerations.

3.1 Research Design

According to Orodho cited in Kombo and Tromp (2006), a research design is the scheme, outline or plan that is used to come up with answers to research problems. Thomas (2009) viewed a research design as the plan for the research, which has to take into account the researcher's expectations and context. Cohen et al (2011) stated that the elements of a research design include a clear statement of the problem or need that has given rise to the research. In this research, the researcher used the descriptive survey design.

3.1.1 Descriptive Survey Design

According to Orodho cited in Kombo and Tromp (2006), a descriptive survey is a method of collecting or gathering data through interviews or administering questionnaires to a sample of individuals. Chiromo (2010) asserted that descriptive survey type of research is the one in which analysis of data will be used. It means describing what you are seeing over and beyond the horizon. This means that descriptive research design is a type of research method that is used when one wants to get information on the current status of a person or an object. It is used to describe what is in existence in respect to conditions or variables that are found in a given situation.

The researcher chose the descriptive survey design for this study because it focused more on describing and interpreting what is actually taking place, hence it was the most suitable for this study. It also gives the original data for purposes of describing a population large enough to observe directly. Also, descriptive surveys are the best in measuring attitudes and orientations common in a large population. The researcher also made use of the descriptive survey design because it allowed the researcher to select a small group to deal with as long as the sample was fully representative of the total population.

3.2 Population and Sample

3.2.1 Population

Fraenkel and Wallen (2008) define population as the group to which the researcher likes the results of the study to be generalized. Thus, population refers to all the individuals, units, objects or events that would be considered in a research project. In this research, the population comprised thirteen high schools offering History at Ordinary level in Gweru urban. The population of interest is also called a target group.

3.2.2 Sample

Springer (2010) defines a sample as a subset of a population. A sample is made up of those individuals who actually participate in the study. Due to limitations like expense, time and accessibility, it is not always practical to study the whole population. Therefore, researchers should collect information from subsets of the population in such a way that the knowledge gained is representative of the population. According to Johnson and Christensen (2004), a good sample is one that is representative of the population it came from. As such, a representative

sample resembles the population that it came from on all characteristics. A representative sample is like the population, albeit smaller.

3.2.2 Sampling Techniques

This study employed the purposive sampling technique for the sampling of school heads, teachers and HODs. Cohen et al (2007) asserted that in purposive sampling, researchers handpick the cases to be included in the sample on the basis of their judgment of the typicality or possession of the particular characteristics being sought. It was further stated that in many cases, purposive sampling is used in order to access knowledgeable people i.e. those who have in-depth knowledge about particular issues, maybe by virtue of their professional role. Therefore, since the researcher was specifically targeting these individuals, purposive sampling was the most suitable.

The stratified random sampling technique was used to select the schools, whereby schools were put into strata based on their responsible authorities, i.e., government, mission, council; and then one school was randomly selected from each stratum. According to Cohen et al (2007), a stratified random sample is a useful blend of randomization and categorization. The study employed the stratified random sampling technique because access to ICT resources vary depending on the type of school so by use of stratification, the results can be generalized

Pupils who made up part of the sample in this study were randomly selected using the simple random sampling method. According to Springer (2010), simple random sampling is a method in which each member of the population has an equal and self-determining chance of being selected for partaking in the study. A sample that is chosen in a random manner is free of bias and in most cases representative of the population, which is why this particular research adopted simple

random sampling of pupils. This was also done because all Ordinary level pupils in the sampled schools were studying History. Thirty Ordinary Level History students who were randomly picked made up the sample of pupils. The ten randomly sampled students per school were sampled by means of the stratified random sampling technique, whereby they were first grouped into two categories based on gender and then the hat technique was used, where ten small pieces of paper were written yes and the rest were written no. The ten students who picked the pieces written yes made up the sample.

3.3 Instrumentation

This research was qualitative and heavily relied on interviews and questionnaires. The study adopted three different research instruments to collect data from the respondents. The reason was to facilitate a strong line of inquiry by which more than one instrument would provide more measures of the same phenomenon. The researcher used questionnaires, interviews and observations to collect data. This was done to allow for triangulation, which is, according to Cohen et al (2007), the use of two or more methods of data collection in the study of some aspects of human behaviour. In this study, this was also done to improve reliability and validity of the results. The researcher made use of observations to check the correctness of what was said by respondents in the interviews and questionnaires.

3.3.1 Questionnaires

Maddon (2000) asserted that a questionnaire is a statement that contains a series of questions that will be asked respondents by the researcher to obtain information for a study. It should be designed basing on the research objectives and questions. In addition, Barlet (2005) defined questionnaires as research tools used to collect data of specific matters of concern.

The researcher used questionnaires in this study because they could be answered anonymously and therefore respondents could give information on ICT inadequacy or under-usage without challenges or fear. Also, questionnaires were employed in this study because they were economic and allowed the researcher to collect data from a diverse and large group of people at the same time. Hence its use in this study saved both time and money.

The use of closed ended and open ended questions to reap views in this study allowed for comparability by the researcher. Open ended questionnaires enabled the researcher to collect data on the feelings and attitudes of the respondents, while on the other hand it also promoted critical thinking and increased the respondents' participation. Questionnaires allowed for individual opinion since they were not answered in pairs or groups. This reduced the rate of bias and provided close to truthful answers that the researcher could use for comparison. Questionnaires also enabled collection of qualitative and quantitative data through the use of open ended and closed ended questions as supported by Cohen et al, (2011).

The researcher also made sure that the rate of return of questionnaires was hundred percent and this was made possible by self-administration of the questionnaires by the researcher. Also, the presence of the researcher enabled queries and uncertainties to be addressed immediately and the researcher ensured that all questions were completed.

3.3.2 Interviews

According to Oatey (2009), an interview is a purposeful conversation in which one person asks prepared questions and another answers them. This is done to gain information on a particular topic or particular area to be researched. In this study, interviews were used by the researcher to

collect data from heads of schools on the integration of ICT in teaching and learning, challenges faced and also suggested solutions.

Chiromo (2009) explained that interviews were particularly useful for getting the story behind a participant's experiences. An interview was unique in that it involved the collection of data through direct verbal interaction between the interviewee and the interviewer. Through the respondent's comments, facial and body language, tone of voice, gestures, reactions, feelings, attitudes, evasiveness and non-cooperation, the researcher could obtain information that would not be conveyed in any other way, which gave it an edge over other methods of data collection because of its flexibility. Chiromo (2009) adds that many on the spot improvements, explanations, adjustments or variations could be introduced in the data gathering process. Interviews have the advantage that they can be either structured or unstructured. The use of interviews gave the researcher room to clarify a question there and then if the respondent did not understand. The researcher could obtain all the relevant information by establishing a good rapport between the respondents and her. Interviews allowed the researcher to ask one question at a time and to wait until the question was adequately answered without interruptions. Respondents also had time to elaborate on their ideas especially on unstructured questions. The interviews however consumed a lot of time since each interview lasted for a minimum of thirty minutes.

The limitations of interviews were minimized by carrying out these interviews as complements to questionnaires and observations. The other solution was to balance the questions by including both types, unstructured and structured, questions on the interview guide.

3.3.2 Observations

Chiromo (2009:27) suggested that “observations seek to ascertain what people think and do by watching them in action as they express themselves in various situations and activities”. Duibe and Nkunda (2010) say that observation is recognized as the most direct means of studying people when one is interested in their overt behaviour. In questionnaires and interviews, the researcher realized that respondents could easily submit what they think they do, which may ultimately be different from what they actually do, or they may tell you what they think you might want to hear which may also be different from their actual behaviour, but observations provided closer to truthful information. As such, observation is at once the most refined of modern research techniques, (Duibe and Nkunda (2010)).

In this research, observations were used to compare the findings from interviews and questionnaires with what was actually on the ground as observed by the researcher. The researcher observed ICT tools available in schools, both functional and dysfunctional, sources of power, records of costs as well as lesson plans.

However observations were regarded by some respondents as unethical and they were reluctant to allow the researcher to carry out the observation process. The observation process was also time-consuming and the researcher could not determine past scenarios basing on what was currently on the ground, i.e., a computer that was functioning the day before could be dysfunctional by the time the observation was carried out. Also, attitudes and perceptions could not be studied with the help of observations. The limitations of observations were curbed by combining them with questionnaires and interviews to compliment for each other and get close to true information.

3.3.3 Validity and Reliability

The researcher used stratified sampling for the sampling of schools so that the sample would represent all types of schools in Gweru urban district. Also, the use of triangulation ensured valid results from the findings since the data collection methods complimented each other.

3.3.4 Ethical Considerations

Mckcown and Weed (2004) wrote that ethics to with logical choices –with moral weight about what ought to be done because it is a right thing to do. Greener (2002) highlighted that because of this it is hard to lay down a set of rules to cover the whole spectrum. In conducting this study, the researcher obtained a stamped letter from the sampled schools. This was done after the researcher acquired a supporting letter from the chairperson of the Department of Applied Education and another one from the Ministry of Primary and Secondary Education requesting such permission. Copies of the authorization will be in the appendicessection of the project.

The anonimity and confidentiality of respondents was guaranteed to them while they were also at liberty to participate or not.

3.4 Data collection Procedures

The researcher was offered an introductory letter by the Faculty of Education at Midlands State University. Data collection was carried out by the researcher with permission from the Ministry of Primary and Secondary Education, the Provincial office for Midlandsand also from the school heads and Heads of Departments for History in the sampled schools. The researcher carried out interviews with the teachers, school heads and heads of departments making use of the interview guide. The researcher also carried out some observations in the schools while lessons were in

progress to establish the challenges and also to see the ICT tools that teachers use in teaching History. The researcher administered questionnaires to History teachers, Heads of Departments, school heads and students. The researcher administered questionnaires and waited in the staffroom while the respondents were answering them and the rate of return of the questionnaires was hundred percent because of the strategy used by the researcher. Soon after the completion of the questionnaires, the researcher carried out her interviews with the school heads, finishing off by observations. The researcher visited only one school per day.

3.5 Data Analysis Plan

Qualitative and quantitative methods were used to present data obtained from the research instruments. Quantitative method was used to present data statistically into numbers, percentages and illustrated in form of tables and graphs, such as respondents' personal details, their views on benefits of ICT and their basic ICT skills. Data collected on availability of ICT tools in schools and levels of competence on basic applications was also presented quantitatively.

Information from open ended questions in questionnaires and interviews as well as data obtained from interviews was presented using the qualitative method and all historical data was analyzed qualitatively. The raw data was first coded then interpreted using themes.

3.6 SUMMARY

The chapter described the methodology employed in this study. It described the research design, the population, sample and sampling techniques used. Instruments used for data collection in this study were defined and their use in this study justified. Steps taken to improve validity and reliability of the results obtained using the instruments were also discussed.

The next chapter covers data presentation, analysis and discussion.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 INTRODUCTION

The previous chapter focused on the research design, population and sample, instrumentation and the justification of their use in this study. In this chapter, the researcher will present and analyze the data as well as discuss the findings. Tables and graphs will be used for data presentation. Findings were discussed in line with the main research questions of the study.

4.1 DATA PRESENTATION AND ANALYSIS

4.1.1 Demographic Data

Table 4.1: Qualifications of teachers, H.O.Ds and Heads of Schools

N=12

QUALIFICATION	TEACHERS	H.O.Ds	HEADS	TOTAL	%
C.E	0	0	0	0	0
DIPED	1	0	0	1	8.3
B.E.D	4	2	2	8	66.7
M.E.D	0	0	1	1	8.3
P.G.D.E	1	1	0	2	16.7
TOTAL	6	3	3	12	100

Table 4.1 above showed data collected on teacher qualifications. Of the six teachers that participated, one held a Diploma in Education, four were holders of Bachelor of education degrees and one had a Post- Grad Diploma in Education. Two H.O.Ds had B.E.D degrees while

one had a Post Grad Diploma in Education. Two Heads of schools had B.E.D degrees while one had a Masters’ Degree in Education.

From the data provided, it can be derived that most of the teachers were qualified and were capable of implementing new approaches to teaching and learning.

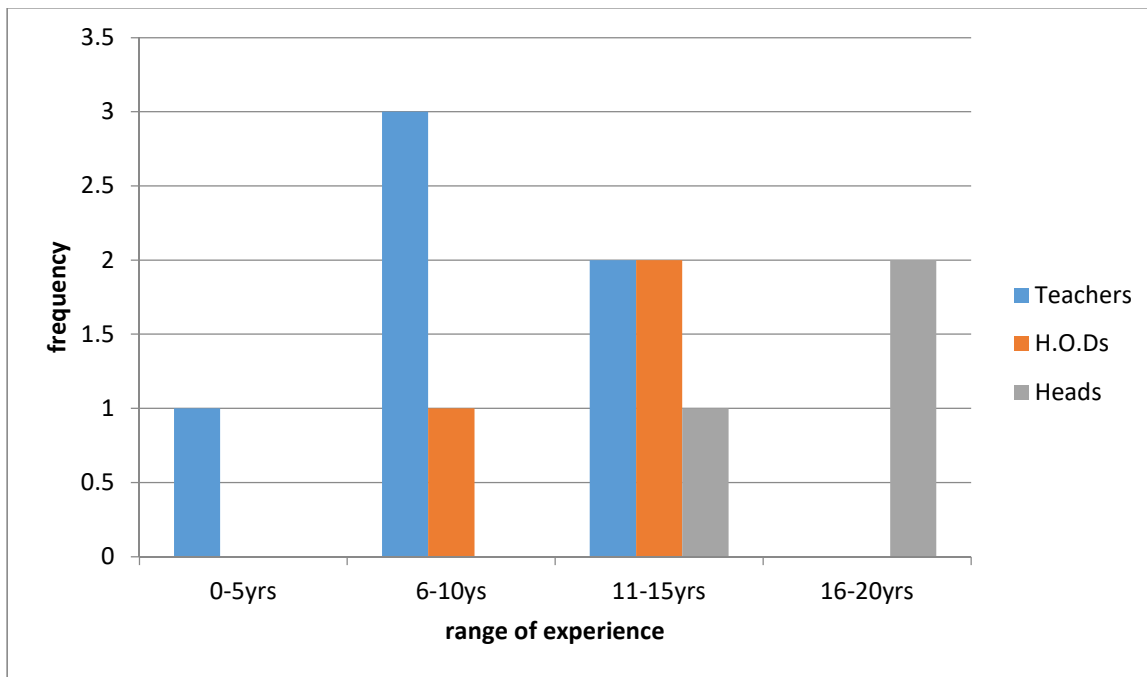


Fig 4.1: Teaching Experience

From the data presented in fig 4.1, only one teacher fell between the 0-5years range of teaching experience. Three fell between 6-10 years and two fell between 11-15 years of teaching experience. One H.O.D fell within the 6-10 years range while two fell between 11-15 years of teaching experience. One school head had had between 11-15 years’ experience while two fell between 16-20years experience. The data may suggest that most of the respondents had a lot of teaching experience.

4.1.2 Research Question 1: Is ICT being integrated in the teaching and learning of History in Secondary schools?

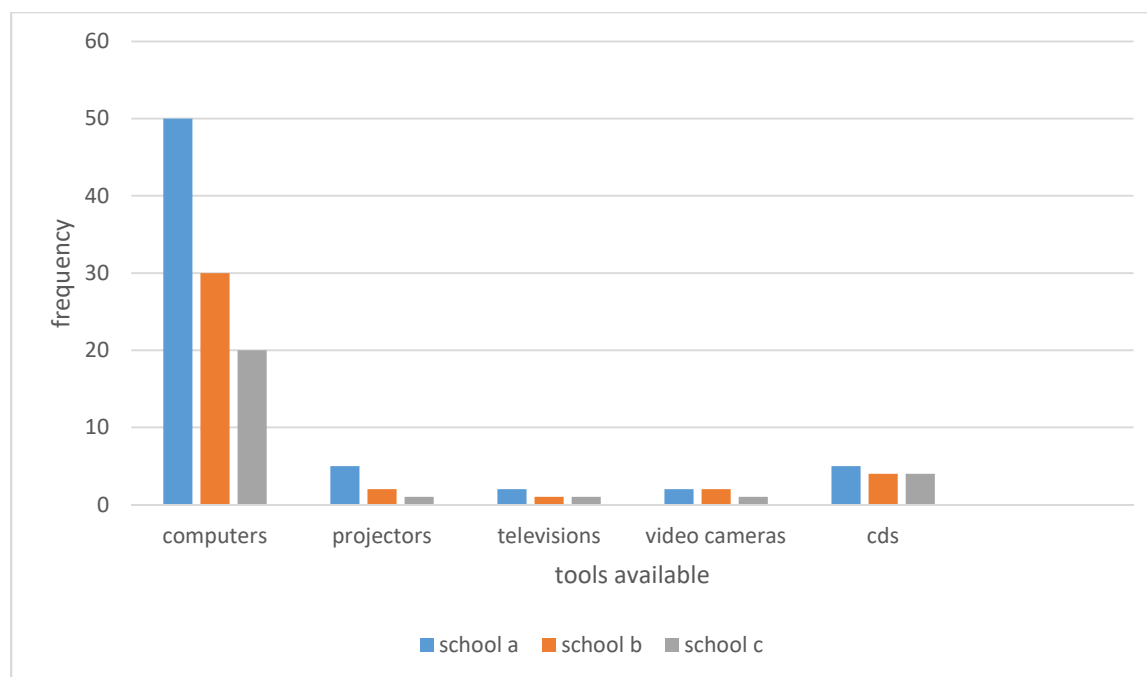


Fig 4.2: Availability of ICT tools in schools

Information observed in schools as presented in fig 4.2 above showed that school A had fifty computers all in all, five projectors and two television sets. School B had thirty computers all in all, two projectors as well as one television set. School C had twenty computers, one projector and one television set. Two schools had two video cameras each while the third had one. One school had five compact discs while two had four each. The researcher observed that the schools were also connected to the internet.

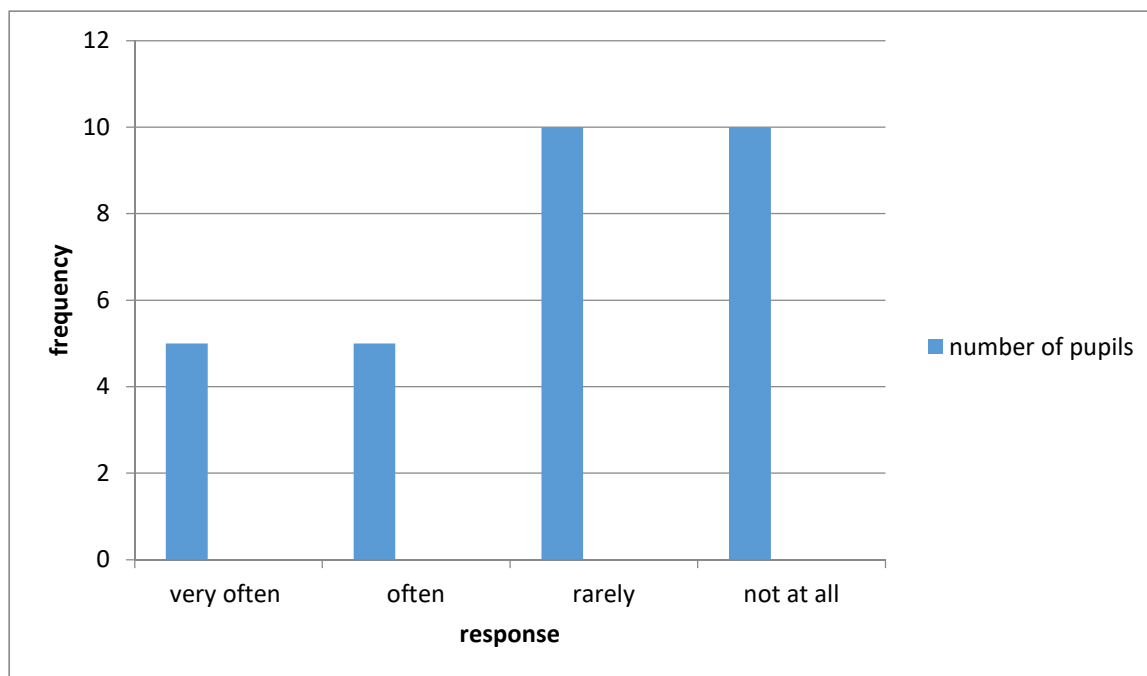


Fig 4.3: Use of ICT in the classroom

Data in fig 4.3 showed that of the thirty pupils that participated in the study, five pupils claimed that their teachers use ICT in the classroom very often. Five indicated that their History teachers employed ICT often enough. Ten pupils noted that their teachers rarely used ICT while the remaining ten claimed that teachers did not use ICT at all. Of the six teachers who participated, four provided that they used ICT in some of their History lessons while two said they did not. All three H.O.Ds and three Heads of Schools mentioned that they encouraged the integration of ICT in the teaching and learning process. The data may suggest that ICT was not being effectively integrated in the teaching and learning of History.

Table 4.2 Teachers and H.O.Ds competence in using basic computer applications

N=9

SKILL	EXCELLENT	VERY GOOD	GOOD	FAIR	NO CAPACITY
Word processing	0	2	5	2	0
Spreadsheets	0	2	5	2	0
Presentation tools (i.e.ppt)	0	0	4	5	0
Basic e-mailing	0	0	5	4	0
Basic internet browsing and use of chatting platform	2	7	2	0	0
Use of word processing, spreadsheets etc in classroom teaching and learning	0	2	0	5	2
Use of various applications for doing assignments and lessons	0	2	2	5	0
Use of internet resources to prepare homework, lessons, research or for collaborative school projects	0	2	2	3	2

Data presented in table 4.2 above showed that of the nine, seven were good with word processing while two were fairly competent. Seven were also good with spreadsheets while two were fairly competent. Four stated that they were good with presentation software like powerpoint, but four indicated that they had challenges and were only fairly able to use presentation software. All nine respondents competent in basic internet browsing. Only two indicated their capability in

using word processing and spreadsheets in the classroom but the other seven indicated that they could not. Four indicated that they could use internet resources to prepare homework, lessons and research or for collaborative school projects but five indicated their incapability. This may suggest that ICT is not being effectively employed in the teaching and learning process since the teachers cannot do it without the relevant skills.

4.1.3 Research Question 2: What is the impact of ICT integration in the teaching and learning of History in secondary schools?

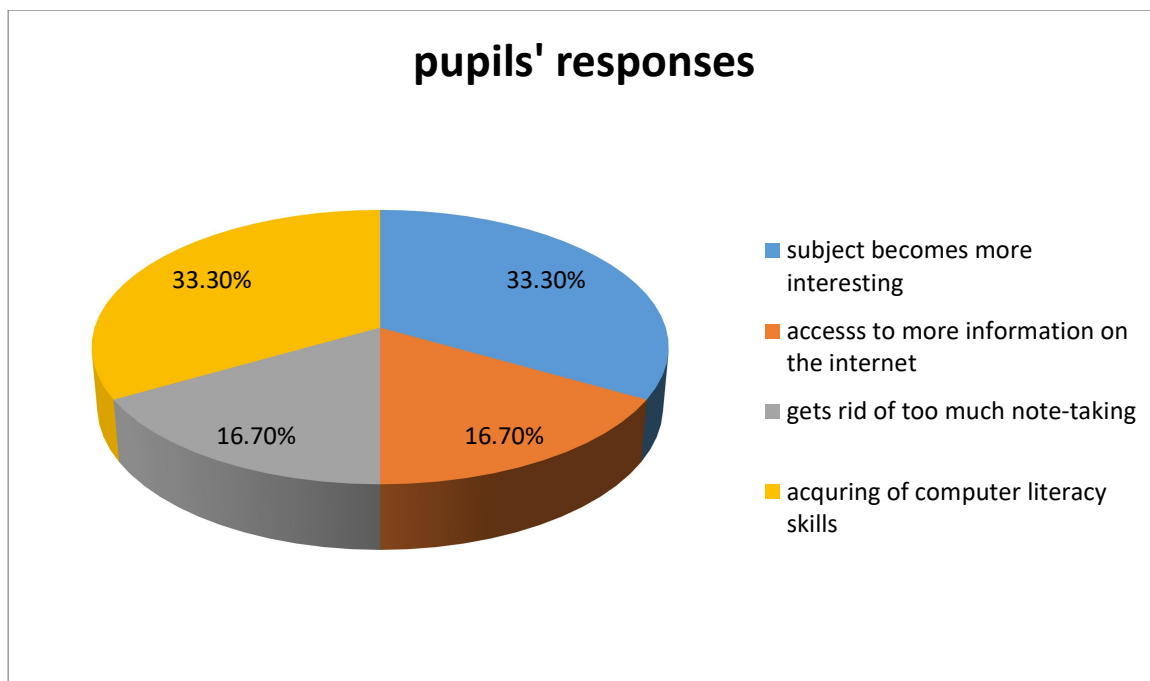


Fig 4.4 Benefits of ICT integration as indicated by pupils

Data provided by pupils as represented by fig 4.3 above indicated that ten pupils (33.3%) viewed that ICT integration could make the subject more interesting. Five pupils (16.7%) indicated that use of ICT in History classes could do away with too much note-taking. Another five pupils

(16.7%) felt that by integrating ICT, pupils could access more information on the internet while the remaining ten pupils (33.3%) were of the view that they could gain computer literacy skills through ICT integration. This data indicated that the pupils preferred the use of ICT over other methods of teaching.

The following was recorded from the information provided by teachers, H.O.Ds and school heads on the benefits of ICT integration:

- *ICT integration minimizes manual work like use of the chalkboard and enables teachers to teach larger classes effectively.*
- *Use of technology in teaching History makes the subject less abstract and easier to comprehend, through use of software like simulations.*
- *Use of ICT in the teaching and learning process develops an independent learner and encourages critical thinking.*
- *The internet can be used for research, communication, interaction and simulations.*
- *Use of ICT captures the attention of the learner thus providing more learner contact.*
- *ICT integration allows pupils to acquire computer literacy skills and collaborative skills.*

This data reflects that the views of pupils on the benefits of ICT were in agreement with those of the teachers, heads and H.O.Ds.

Data was also collected on the challenges faced in ICT integration in the sampled schools. The following was recorded.

Table 4.3: Challenges faced by schools in ICT integration

N=12

Challenges	Teachers	H.O.Ds	School Heads
Teacher incompetence	6	3	3
Inadequate infrastructure	1	0	0
Lack of relevant infrastructure	4	2	2
Unreliable power supply	6	3	3
High costs of connectivity	2	1	3
Dysfunctional tools due to lack of a maintenance culture	3	3	0

The data presented in table 4.3 above showed what teachers, H.O.Ds and school heads viewed as the main challenges that hindered the effective integration of ICT in teaching and learning. All respondents mentioned teacher incompetence and unreliable power supply. One teacher indicated inadequate infrastructure. Four teachers, two H.O.Ds and two heads mentioned lack of relevant infrastructure. Two teachers, one H.O.D and three heads indicated the high costs of connectivity. Three teachers and three H.O.Ds indicated dysfunctional tools due to lack of maintenance culture. The data may suggest that there was no meaningful ICT integration in the sampled schools due to the several challenges indicated by the respondents.

4.1.4 Research Question 3:How can challenges faced by teachers be addressed to effectively integrate ICT in the teaching and learning of History at Ordinary Level?

Data was also collected on the ways that could be used to overcome difficulties faced in the integration of ICT in the teaching and learning process. Fig 4.5 below showed suggestions made by teachers, H.O.Ds and school heads on the strategies to mitigate the challenges of ICT integration:

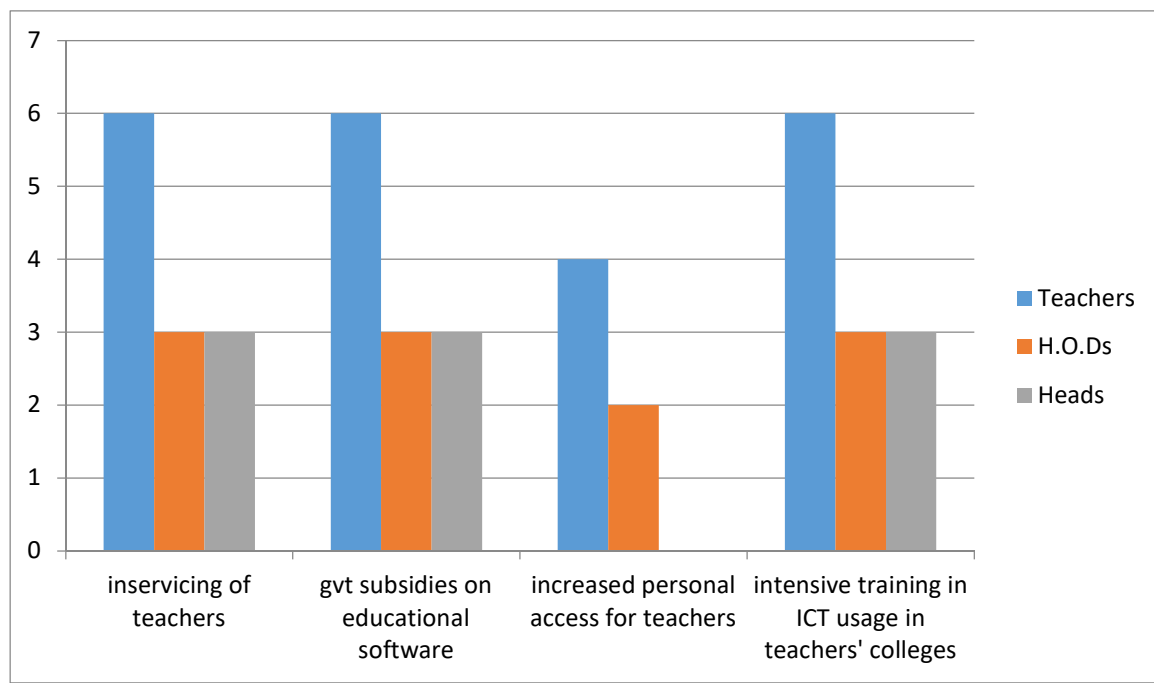


Fig 4.5: ways of mitigating the challenges of ICT integration as suggested by teachers, H.O.Ds and heads of schools.

From the data provided in fig 4.5 above, all teachers, H.O.Ds and school heads suggested that teachers should be in-serviced on the use of ICT in teaching and learning, there should be government subsidies on educational software and also intensive training in ICT usage in teachers' colleges. Four teachers and two of the H.O.Ds felt that there is need for increased

personal access for teachers. This reflects that there were measures that could be put in place for effective ICT integration to be achieved.

4.2DISCUSSION

4.2.1 Research Question 1: Is ICT being integrated in the teaching and learning of History at Ordinary Level?

From the demographic data collected, it was evident that all teachers who participated in this study had the relevant qualifications. Only one had been in the field for less than five years and as such, these teachers had accumulated experience. Previous researches had been silent on teacher qualifications when investigating the use of ICT in education.

Findings revealed that most teachers did not often use ICT in teaching History as evidenced by responses from pupils which showed that some teachers used ICT often enough, some rarely did while others did not use ICT in teaching History at all. Literature on ICT integration had been silent on this issue.

Findings provided by responses from teachers and H.O.Ds revealed that most teachers did not possess the adequate skills necessary for ICT integration therefore logically, it can be derived that they did not use ICT in their teaching. Headmasters insisted that ICT was being integrated in the teaching and learning process and that they supervised it, but went on to state that most of their teachers did not know when it was and when it was not necessary to integrate ICT in their lessons. These findings agreed with Bhasin (2012) who suggested that teachers needed professional development in the application of technological skills to improve the teaching and learning process.

From the observations made by the researcher, History teachers rarely used ICT in their lessons because their documents did not suggest so, i.e. lesson plans. Also, records of departmental meetings did not have any traces of such suggestions as to the use of ICT in teaching History. The tools available in the schools were also limited and did not suggest any meaningful integration of ICT. Most of the computers were down. The schools also relied on one source of power which currently was very much unreliable and this impeded ICT integration. Therefore, much of the findings revealed that to a larger extent, ICT was not being integrated in the teaching and learning of History in Secondary schools.

4.2.2 Research Question 2: What is the impact of ICT integration in the teaching and learning of History at Ordinary Level?

Findings from the study revealed that pupils knew the importance of ICT integration in the teaching and learning process. Some stated that ICT integration reduced note-taking and made the subject more interesting while others said integration allowed them to access more information and to gain computer literacy skills. From the findings, teachers perceived that the integration of ICT into the teaching of History reduced manual work like the use of the chalkboard and enabled the teacher to teach larger classes effectively. These findings are consistent with the assertion of Ogiegbaen and Iyamn (2005) who said that a teacher can teach a large class using an overhead projector and PowerPoint.

Findings also revealed that since the subject history was generally perceived as abstract, integration of ICT breathes life into the subject; making the content more comprehensible. Use of ICT simplifies the complexities of time and distance. In other words, History teachers viewed that when using technology or software such as simulations, one could bring events that

happened a thousand years ago, and also in other continents, to the classroom. This view was consistent with the findings of Taylor (2003), who asserted that computer simulations allowed complex Historical processes to be represented in a more dynamic way, and allowed students to gain a better understanding of how key decisions in history were affected by the environment and the pressure of time.

The research revealed that ICT developed an independent learner and encouraged critical thinking. Teachers also believed that ICT integration enabled pupils to acquire computer literacy skills and collaborative skills. The above findings go hand in hand with the findings of Brown and Purvis (2001) who asserted that the use of ICT contributes to the development of historical thinking and promotes collaboration between pupils. The findings highlighted above were also in consistence with the findings of Thompson and Cole (2003), who reiterated that the use of computer-mediated communications, including online discussion groups, enabled students to better develop and communicate historical arguments, thinking and understanding, and these skills could be transferred to essay writing.

Research findings also revealed that ICT integration was faced with a lot of challenges in the teaching and learning process. Teachers pointed out the lack of relevant educational software for use in teaching History. This was in line with the allegations of Aduwa-Ogiegbaen and Iyamn (2005), who observed that the cost of producing relevant software for the country's educational system was enormous and the supply of relevant and appropriate software was a major bottleneck obstructing wider application of the computer especially in developing countries.

Teachers, H.O.Ds and Heads of schools pointed out that electricity interruption was the major disruption that hindered ICT integration. The individuals who participated in the study mentioned that normally they experienced power outage during the day and having no other alternative

sources of power, they failed to integrate ICT. In most cases, other sources of power like generators were used for administrative purposes only. In line with the above findings, Aduwa-Ogiegbaen and Iyamn (2005) observed that ICT integration was often hindered by the lack of adequate power supply especially in developing countries.

The research gathered that computers were there in schools but most of them did not function due to lack of maintenance. More than half of the computers in schools did not function and were just on display. McMullan (2002) reiterated that the U.K. government was far too obsessed with the number of computers in schools rather than with the ease with which they could be supported and the effectiveness with which they could be used. This observation was similar to the above findings.

It was also revealed that schools were not effectively connected to the internet and that they struggled to meet the costs of paying the service providers. This hindered the effective integration of ICT since the internet was the most vital component of ICT.

Findings on the competence of teachers in using basic computer applications revealed that most teachers did not have sufficient skills necessary for ICT integration. This was noted as the greatest obstacle that hindered the use of ICT in teaching History. These observations were consistent with McMullan (2002) who found that teachers were not confident enough with their practice to know when and how to use it. Aduwa-Ogiegbaen and Iyamn (2005) also observed that in Nigeria, teachers lacked the skills to fully utilize technology in curriculum implementation.

4.2.3 Research Question 3: How can the challenges faced by teachers be addressed to effectively integrate ICT in the teaching and learning of History at Ordinary Level?

From the findings, teachers needed to receive proper training in the use of ICT in teaching. Most teachers stated that there was need for teacher training and in-servicing specifically in relation to ICT integration. This view had been reiterated by Bhasin (2012) who observed that the starting point of a digital classroom was the teacher, and therefore teachers must be trained to effectively use technology for planning student instruction. Carlson cited in Bhasin (2012) had also suggested that providing technical skills training to teachers was not enough, but teachers also needed professional development in the application of these skills to improve the teaching and learning process.

From the findings, teachers also suggested government subsidies on educational ICT tools. This would help to overcome financial challenges in integration. This implies that ICT tools should be made accessible because if teachers cannot access ICT resources, then they cannot use them. Buabeng-Andoh (2012) also confirmed the findings when he said that access to computers, updated software and hardware were key elements to the successful integration of ICT in teaching and learning.

4.3 CONCLUSION

The chapter focused on data presentation, analysis and discussion. Data was presented with the use of tables and graphs. Findings revealed that ICT integration in schools was hindered by several challenges and suggestions to solve such were indicated. The next chapter focused on summary, conclusions and recommendations.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

The previous chapter focused on data presentation, analysis and discussion. With reference to the findings of the study obtained in chapter four, the research was summarized, conclusions were drawn and recommendations were made.

5.1 SUMMARY

The main thrust of this study was to find out the extent to which technology was being integrated in the teaching and learning of History at Ordinary Level. The idea was to find out if technology was being used at all, to discover the impact of technology on the teaching and learning process, to identify the major challenges that impede ICT integration and be able to suggest solutions on how these can be mitigated to realize effective ICT integration.

A sample of six History teachers, thirty pupils, three H.O.Ds and three headmasters taken from three secondary schools in Gweru urban district was used. The descriptive survey design was used in this study. Headmasters were interviewed, teachers, H.O.Ds and pupils responded to questionnaires. The researcher also observed some ICT components in the schools such as the tools available, availability of power and records of costs.

The reviewed literature revealed that in the U.K, ICT integration was at an advanced stage but there was a call for the government to initiate effective integration and concentrate on the ease with which educators could integrate ICT in teaching and learning. McMullan (2001) experimented with four key tests on whether the U.K education system was appropriately placed

to benefit from ICT integration. In the U.S, Capuk (2015) proposed five ICT integration models as discussed in chapter two. In Canada, the research by Aube and Meyer (2014) was specifically focused on the integration of ICT in the science department. Researches carried out in Nigeria and South Africa had their bearing largely on the challenges faced by disadvantaged schools in ICT integration. In Zimbabwe, most studies focused on the challenges faced in ICT integration and the benefits that could be accrued from the use of ICT in education, but little had been done to try and investigate whether ICT was being integrated at all in the teaching and learning process especially in the humanities, i.e. History.

Findings indicated that most teachers are qualified but lack the relevant skills necessary for ICT integration. All stakeholders who participated; teachers, pupils, H.O.Ds and school heads were aware of the benefits of ICT integration, but highlighted that there was limited access to ICT resources, lack of relevant educational software and insufficient skills on the part of the teachers. Power outages were identified as another major challenge as well as limited internet access. Strategies to mitigate the stated challenges were suggested such as improving teacher training on ICT integration, in-servicing of teachers, providing more ICT resources in schools and maintaining them as well as availing relevant educational software for use in the process of teaching and learning.

5.2 CONCLUSIONS

The researcher drew the following conclusions from the study:

The integration of ICT in the teaching and learning process was minimal basing on the fact that teachers who participated were worried about their lack of skills in the use of technology especially for educational purposes. Therefore, where the teacher was incapacitated, no

meaningful integration takes place. Teachers were not even confident enough on their capacity to use ICT in teaching and learning.

It also emerged from the study that there was a limited number of ICT tools ready for integration. In most instances, the tools, eg computers, were often dysfunctional. This indicated lack of a maintenance culture. Thus ICT integration cannot be effective. In some cases, computer-pupil ratios were so high that their usage becomes a burden to teachers.

Observations made by the researcher indicated that schools rely on one source of power and they did not have alternative sources of power. As such, power outages disrupted the use of technology. Also, it was concluded that schools had limited access to the internet as they were not financially positioned to meet the high costs charged by I.S.Ps.

All in all, the conclusions drawn from this study showed that ICT integration was minimal owing to the several challenges discussed above.

5.3 RECOMMENDATIONS

In light of the above conclusions, the following recommendations were made:

Recommendations to the Ministry of Primary and Secondary Education

- There is a dire need to enhance teachers' competence in the usage of ICT applications for students' instruction. Teachers need to be in-serviced or provided with proper training specifically professional development in the application of technological skills to improve the teaching and learning process.

- Teacher training colleges should train teachers how to choose relevant educational software, when and how to integrate ICT and ensure that at the end of their courses, they are confident enough in ICT usage especially for educational purposes.
- There is need for government subsidies on ICT resources and educational software so that they are accessible and ready for use by the teachers.
- The government should put in place measures that uphold the maintenance culture and should not be merely obsessed with the number of computers in schools, but about whether they are functional or not. Schools should therefore have technicians ready to attend to technical faults so that teachers don't feel the burden of using ICT.

Recommendations to Schools

- School heads and H.O.Ds should encourage and also supervise the integration of ICT in the teaching and learning process.
- Staff development and in-servicing of teachers should be done to improve ICT integration in the teaching and learning process.

Recommendations to Teachers

- Teachers need to upgrade themselves and update their technological skills so that they do not remain technologically averse.

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APPENDIX 1

QUESTIONNAIRE FOR PUPILS

My name is Nancy Mushonga, a final year student at the Midlands State University. I am studying for a Bachelor of Education Honors’ Degree in History and currently carrying out a research entitled: The Extent to Which Technology Has Been Harnessed in the Teaching and Learning of History at Ordinary Level: A Case of Gweru Urban Schools.

Your response to this questionnaire will be of great importance and meant for academic purposes only. A high level of confidentiality will be maintained. Do not write your name or the name of your school on any part of this questionnaire.

Section A: Demographic Data

- 1. Age yrs
- 2. Gender M F

Section B

- 3. Does your school have a computer laboratory? yes no
- 4. What ICT tools are available for teaching and learning at your school?-----

5. What are your favorite activities when using computers?

ACTIVITY	YES	NO
Downloading music		
Chat		
Surf the internet		
Use educational software		
Play games		
E-mail research information		

6. Do your History teachers use ICT in the classroom? If yes, how often; if no, why?-----

7. Do you consider the internet and other ICT tools important for learning and why?-----

8. What challenges have you encountered during technology usage in learning?-----

9. What do you think should be done to overcome the above challenges-----

THANK YOU

APPENDIX 2:

QUESTIONNAIRE FOR ORDINARY LEVEL HISTORY TEACHERS

My name is Mushonga Nancy, a final year student at Midlands State University studying for a Bachelor of Education Honors Degree in History. Currently I am conducting a research on:

The extent to which technology has been harnessed in the teaching and learning of History at Ordinary Level: A case of Gweru Urban Secondary Schools.

To make this research a success, I kindly request you to assist me with data by responding to questions in this questionnaire. The data will be used for academic purposes only and a high level of confidentiality shall be maintained. Your participation is fully voluntary.

Section A: Demographic Data

1. Age years

2. Gender M F

3. Highest Qualification

C.E DIPED B.E.D M.E.D

OTHER (specify)

4. Teaching Experience

0-5yrs 6-10yrs 11-15yrs 16-20yrs

21yrs+

Section B

5. Does your school have a computer laboratory?-----

 6. What ICT tools are available for teaching History at your school?-----

 7. Do you use ICT when teaching History? If no, why? If yes, how often?-----

8. Please indicate your level of competence in the use of the following computer applications:

Skill	Excellent	Very Good	Good	Fair	No Capacity
Word processing					
Spread Sheets					
Presentation tools Power point					
Basic E-mailing					
Basic internet Browsing					
Use of Chatting Platform					
Use of Word processing, spreadsheets, etc) in classroom teaching and learning					
Use of various applications for doing assignments and lessons					
Use of internet resources to prepare homework, research, lessons, or for collaborative school projects					

9. What are the benefits of using ICT in teaching History at Ordinary Level?-----

10. What challenges do you encounter when using ICT in teaching History?-----

11. Suggest solutions to the challenges above.-----

THANK YOU

APPENDIX 3:

QUESTIONNAIRE FOR HEADS OF DEPARTMENTS

My name is Mushonga Nancy, a final year student at Midlands State University studying for a Bachelor of Education Honors Degree in History. I am currently conducting a research on:

The extent to which technology has been harnessed in the teaching and learning of History at Ordinary Level in Gweru urban.

To make the research a success, I kindly request you to assist me with data by responding to questions in this questionnaire. The data will be used for academic purposes and high levels of confidentiality shall be maintained

Section A: Demographic Data

1. Age years

2. Gender M F

3. Highest Qualification

C.E DIPED B.E.D M.E.D

OTHER (specify) -----

4. Teaching Experience

0-5yrs 6-10yrs 11-15yrs 16-20yrs
21+

Section B

5. Does your school have a computer laboratory with ICT tools ready for use? -----

6. What ICT tools are available for teaching and learning at your school?-----

7. Please indicate your level of competence in the use of the following computer applications:

Skill	Excellent	Very Good	Good	Fair	No Capacity
Word processing					
Spread Sheets					
Presentation tools Power point					
Basic E-mailing					
Basic internet Browsing					
Use of Chatting Platform					
Use of Word processing, spreadsheets, etc) in classroom teaching and learning					
Use of various applications for doing assignments and lessons					
Use of internet resources to prepare homework, research, lessons, or for collaborative school projects					

8. Do you encourage teachers in your department to use ICT in teaching History? If so, how often do they employ it?-----

9. What are the benefits of using ICT in teaching History?-----

10. What challenges are normally faced by your department when integrating ICT in the teaching of History?-----

11. Suggest solutions to the above mentioned challenges.-----

THANK YOU

APPENDIX 4:

INTERVIEW GUIDE FOR SCHOOL HEADS

My name is Nancy Mushonga, a final year student at Midlands State University studying for a Bachelor of Education Honors' Degree in History. I am carrying out a research on the topic:

The Extent to Which Technology Has Been Harnessed in the Teaching and Learning of History:

A Case of Gweru Urban Secondary Schools.

For the success of this research, I kindly ask you to assist with data by responding to questions in this interview. Your participation is entirely voluntary and your responses are meant for academic purposes only. High levels of confidentiality shall be maintained.

Section A: Demographic Data

1. Age
2. Gender
3. What is your highest qualification?
4. How long have you served as school head?

Section B

5. Do you have a computer laboratory at your school with ICT tools ready for integration in teaching and learning? If so, mention some of the tools.
6. Do you supervise the integration of ICT in teaching and learning by teachers in your school? How often do they employ it?
7. What are the benefits of integrating ICT across the curriculum, (i.e.in teaching other subjects)?
8. What is hindering the use of ICT in the teaching and learning process?
9. What do you think should be done to overcome the challenges that impede the effective integration of ICT in the teaching and learning process
 - (a) At home,
 - (b) At school level,
 - (c) At national level?

THANK YOU

APPENDIX 5:

OBSERVATION GUIDE

My name is Mushonga Nancy. I am a final year student at Midlands State University, studying for a Bachelor of Education Honors Degree. Currently I am conducting a research on:

The extent to which technology has been harnessed in the teaching and learning of History at Ordinary Level in Gweru urban.

To make this research a success, I kindly request you to assist me with data by allowing me to access the following as stated in this observation guide. The data will be used for academic purposes and high level of confidentiality shall be maintained.

Availability of ICT tools -----

Availability of computer laboratories-----

Main source of power-----

Alternative power -----

Records of Costs incurred -----

Record of ICT usage in teaching history-----
