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APPROVAL

This dissertation has been approved as partial fulfillment of the requirements for the award of the degree of Master of Education in Religious Studies of the University of Zambia.

Examiners; signatures:

Signature..... Date.....

Signature.....Date.....

SignatureDate.....

DECLARATION

I, Owen Mulima, hereby declare that this dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving references.

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidate for any degree.

Signed..... (candidate)

Date.....

DEDICATION

I dedicate this dissertation to my wonderful family, particularly my understanding and patient wife, Isabel, who has put up with these many years of research, and our precious daughters, Denise and Felicia, who are the joy of our lives. I must also thank my loving mother, terrific sisters and brothers who have helped so much with baby-sitting and have given me their fullest support. Finally, I dedicate this work to my late father, Frank Young Mulima and my late mother-in-law, Winnie W. Malaya, both of whom believed in diligence and pursuit of academic excellence.

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ABBREVIATIONS AND ACROYNMS

ADB	African Development Bank
AFP	African Future Projects
AIDS	Acquired Immunodeficiency Syndrome
CDC	Curriculum Development Centre
COL	Commonwealth of Learning
CPD	Continuous Professional Development
DEBS	District Education Board Secretary
DSTV	Digital Satellite Television
ECCDE	Early Childhood Care, Development, and Education
EBS	Educational Broadcasting Service
E-LEARNING	Electronic Learning
ECCDE	Early Childhood Care, Development, and Education
FTA	Free-To-Air
HIV	Human Immunodeficiency Virus
ICT	Information and Communications Technology
ICT4D	Information Communication Technology for Development
IICD	International Institute for Communication and Development
IRI	Interactive Radio Instruction
ILO	International Labour Organisation
JICA	Japanese International Cooperation Agency
KNC	Kabwe News Centre
MDGs	Millennium Development Goals
MESVTEE	Ministry of Education, Science, Vocational Training and Early Education
MOCT	Ministry of Communications and Transport
MOE	Ministry of Education
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NICP	National Information and Communication Policy
ODL	Open and Distance Learning

OSISA	Open Society Initiative for Southern Africa
R&D	Research and Development
RE	Religious Education
SNDP	Sixth National Development Plan
TV	Television
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nation Education, Scientific and Cultural Organisation
USAID	United States Agency for International Development
ZEBS	Zambia Education Broadcasting Services
ZICTA	Zambia Information Technology Communications Authority
ZNBC	Zambia National Broadcasting Cooperation

ABSTRACT

Information Communication Technologies (ICTs) are widely being integrated in most sectors of the Zambian society including secondary schools. This study thus investigated the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in three selected secondary schools in Kabwe District of Zambia. This was necessitated by the fact that so much has been said about the use of ICTs in Science-based subjects but little, if any, is known about the role of ICTs in the teaching and learning of RE.

The purpose of the study was to establish the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in three selected secondary schools in Kabwe District. The objectives of the study were, to establish the kind of ICTs facilities that were available in the selected secondary schools, to find out the levels of ICTs usage in the teaching and learning processes across the curriculum, and to establish the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in the selected secondary schools.

A qualitative approach and case study design were employed for the study. Data were collected through face-to-face interviews, focus group discussions, and non-participant observation. Data were mainly in form of views and opinions. Analysis of data was accomplished through thematic analysis which revealed recurring themes from the data.

The findings were that Computers, DSTV kits, DVD players, TV's, printers, and phones were the available ICTs in the three selected schools. The schools had computer programmes like Bible Pro, What the Bible Says, Bible commentaries, and the Bible in softcopy. The levels of ICTs usage varied from teacher to teacher, pupil to pupil, subject to subject, and school to school. Science-based subjects employed more usage of ICTs compared to other subjects, including RE, because sciences had more readily available materials. The perceptions of teachers and learners on the role of ICTs in RE were that ICTs were valuable pedagogical tools in enhancing the teaching and learning of the subject. ICTs were perceived to help RE teachers teach better and learners learn better. It was therefore, perceived that ICTs promoted participation, ambiance transformation in class, creativity, motivation, easier understanding, and higher retention levels among learners in RE. In other words, this study showed that teachers and learners consider ICTs as beneficial to RE as they create a more enabling environment that best fits the present social scenario of increased ICTs in Zambia.

In view of the foregoing, the study recommended that teachers of RE should acquire the necessary skills to enable them make full use of available ICTs in schools; CDC should integrate ICTs in the teaching of Zambian RE; and MESVTEE should formulate a deliberate policy for the creation of the position of Education Standards Officer-ICTs at district and provincial level to oversee the correct and safe use of ICTs in schools; Government and school Boards should provide schools with modern ICTs and not e-waste; and MESVTEE, ZEBS and ZICTA should formulate an effective e-safety policy to regulate the safe use of ICTs in schools.

CHAPTER ONE

INTRODUCTION

This chapter explains the background, statement of the problem of the research, and purpose of the study. It also states the objectives, research questions, significance of the study, its limitations, and delimitations. Finally, operational definitions of key terms used in the study are given.

1.1 Background

According to Pye (1963:3):

It was the pressure of communications which brought about the downfall of traditional societies. And in the future, it will be the creation of new channels of communication and the ready acceptance of new content of communications which will be decisive in determining the prospects of nation-building.

Information Communication Technology (ICT) is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters, (Bhati *et al*, 2011).

Information Communication Technologies (ICTs) have had an impact on the Zambian society and have changed the way people live, learn, work and play. Zambia has initiated the integration of ICTs in many sectors of nation-building. For instance, the Zambia Revenue Authority (ZRA) has introduced online tax-payers system which makes it easier to collect tax revenue. Another example is where most banks in Zambia now have e-banking and internet banking facilities. Furthermore, Open and Distance Learning (ODL) through e-learning has relatively grown in many Zambian education institutions. This revolution demands for basic ICT knowledge for some careers in order for one to be competitively functional in the Zambian society today. The future of Zambia will be dependent on the size and quality of its human capital. Therefore, it is the duty of our education system to equip learners with relevant ICT skills at all levels. “Gone are the days when Information Communication Technology (ICTs) was a luxury. The current times have called for

an integration of education with ICTs which are creating new learning and teaching possibilities....” (Sichone, 2011:9).

The debate is no longer whether to use Information and Communication Technologies (ICT's) in education in Zambia, but how to do so and how to ensure equitable access for teachers and learners, whether in urban or rural settings. Since Information Communication Technologies (ICTs) are becoming part of our everyday life, it is only natural that they become a central and essential part of teaching and learning. Learners are already engaging extensively with technology outside school and it is expected that it will be used in schools in the 21st century. Accordingly, teachers and learners are familiar with gadgets such as cell phones, Internet, computers, ipads, satellite media television, smart boards and projectors. IT hubs are increasingly being set up in Zambian schools.

The traditional methods of text books and personal experiences may soon be replaced with more technical methods of sharing knowledge between educators and learners. This in itself is a big challenge to a developing country like Zambia. Many secondary schools, colleges and universities in Zambia have integrated ICTs for teaching and learning purposes. Such schools include Kabulonga Girls Schools in Lusaka, Neem Tree Primary School in Kabwe, Mpunde Secondary School in Kapiri and universities such Nkrumah University College of Education in Kabwe, Copperbelt University in Kitwe and Mulungushi University in Kabwe just to mention a few. British Council (2011) The British Council Digital Ambassador, Isaac Katete who is also a Religious Education (RE) teacher has conducted numerous ICT training workshops in several Zambian schools including Kabwe District where he is stationed. Katete says ICTs are beneficial, especially in the area of education in the classroom. These ICT training workshops target both teachers and learners.

However, while so much has been said about the increased use of ICTs in improving teaching and learning in Science based subjects, very little is known about their (ICTs) role in the teaching and learning of Art based subjects like Religious Education (RE). It was in this light that this study investigated the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in three selected secondary schools in Kabwe District.

The three selected secondary schools are in three different zones. Caritas Secondary School is located in town centre area, Stephen Luwisha Secondary School is located in Mine area and Jasmine Secondary School is located in Luangwa Township. Caritas offers RE syllabus 2044, and has an ICT hub and two ICT coordinators. Stephen Luwisha also offers RE syllabus 2044, with an ICT hub and one ICT coordinator. While Jasmine School offers RE syllabus 2046 and does not have an ICT hub.

1.2 Statement of the Problem

In today's Zambia, Information Communication Technologies (ICTs) are on the increase almost everywhere, including schools. However, while so much has been said about how ICTs can be used to improve teaching and learning experiences in science based subjects, very little, if any, is known about the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE. It is this light that this study was conducted in three selected secondary schools in Kabwe District.

1.3 Purpose of the Study

The main purpose of the study was to establish the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in three selected secondary schools in Kabwe District.

1.4 Objectives of the Study

The study was guided by the following specific objectives:

1. To establish the kind of ICTs facilities that are available in the selected secondary schools.
2. To find out the levels of ICTs usage in the teaching and learning processes across the curriculum in the selected secondary schools.
3. To establish the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in the selected secondary schools.

1.5 Research questions

1. What kinds of ICTs facilities are available in the selected secondary schools?
2. What are the levels of ICTs usage in the selected schools?
3. What are teachers' and learners' perceptions on the role of ICTs in the teaching and learning of RE in the selected schools?

1.6 Significance of the Study

This study is important as it brings out the perceptions of teachers and learners on the role of ICTs in the teaching and learning of Religious Education, thereby contributing to policy development that will ultimately improve teaching pedagogies in Religious Education in Zambia. The findings of the study might help to enhance the status of RE in schools. Additionally, the dissertation will add to the much needed scholarly literature on Religious Education in Zambia.

1.7 Limitations

This study was confined to three selected secondary schools in Kabwe District of Central Province. Owing to funding challenges, the study could not be extended to all secondary schools in Kabwe and to all the ten provinces of Zambia. Therefore, the findings of the study may not easily be generalised to other provinces. Although this research was carefully prepared and reached its aims, there were unavoidable limitations. The study involved a relatively small sample size of forty-eight (48) respondents. For this reason, these findings cannot be generalised to the broader community based on this study alone. This calls for a future nation-wide study.

1.8 Delimitations

The study was restricted to Kabwe District, and was conducted at Caritas Girls Secondary School, Jasmine Boys Secondary School, and Stephen Luwisha Girls Secondary School.

1.9 Definition of terms

It is important from the outset to identify and define key words or terms used in the study so that the reader understands their contextual meaning. In this study, the key terms are: role, ICTs, levels of ICTs usage, internet, and convergence:

- a. *Role*: ‘Role’ generally refers to the responsibility of someone or something in an action or event. In this study, ‘role’ means the position or function of ICTs in the teaching of RE.

- b. *ICTs*: This is an umbrella term that includes any communication device or application, encompassing radio, television, cellular phones, computer and network hardware and software, satellite systems, all audio and video processing and transmission, and network-based control and monitoring. In this study, ICTs refers to any electronic device and technology that can be used to store, process or communicate information.

- c. *Levels of icts usage*: The general meaning of ‘level’ is amount, concentration or quality of something. In this study, ‘level’ refers to ‘access’ of ICTs in terms of quantity and time allocated to usage by teachers and pupils.

- d. *Internet*: A seamless and global network of individual, organisational, and national computer systems providing information to users across the globe 24 hours a day.

- e. *Convergence*: The general meaning of ‘convergence’ is the uniting or merging of groups or tendencies. In this study, ‘convergence’ will be used to denote the use of ICTs in classroom teaching and learning processes.

In conclusion, this introductory chapter has highlighted the background, statement of the problem, the purpose of the study, objectives of the study, the significance of the study, limitations and delimitations of the study, and finally the definition of key terms has been given. The next chapter will review literature related to this study.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews literature and studies that are related to the use of ICTs in education and RE. The chapter discusses the literature under the following headings: Global studies on ICTs in education, Literature on ICTs in Africa, and Literature on ICTs in Zambia.

2.1 Global studies on ICTs in Education

There are few studies that have been done on the role of ICTs in RE teaching. However, there are many studies that have been conducted in the area of ICTs and education in general. The past few decades have shown an increasing recognition globally of the role of ICTs in development efforts (Hewitt de Alcantara, 2001; Marker, McNamara & Wallace, 2002; ILO, 2001). Some have referred to this trend as the ‘information revolution’. Others have referred to what is called a ‘knowledge economy’, an economy in which knowledge and ideas promptly provided, lead to development of products, economic growth, and hence progress (Castells, 2001).

In addition, this rapid development of these new technologies coupled with the world-wide challenge to educate all children has led to a global reform and development of teacher education (Moon, 2004). The global reform and development of teacher education has motivated educational institutions to redesign and restructure their teaching methods such as to enable learners equip themselves for the future. This global reform in education is apparent in North America, South America, Antarctica, Asia, Australia, Europe as well as Africa.

One interesting and not uncommon observation from global studies is that knowledge of ICTs makes the learners better able to participate with and relate to classmates and society in general, meaning that they were not being left behind. However, and conversely, the potential for ICTs to provide access to inappropriate information or images, and contact with undesirable others is a strong and common negative belief relating to ICTs use. The next generation of students often referred to

as the 'Net Generation', are expecting the integration of Web 2.0 technologies into their learning and teaching programmes (Thompson, 2007).

In schools today, learners are carrying mobile electronic devices and if they do not have one they want one. They use them to communicate with friends and parents; texting is a way of life for this generation, and through this medium, they are communicating with purpose like never before. Through the internet and mass media, they are creating a shifting paradigm and a challenge for teachers worldwide.

For teachers, the challenge of facing the 21st century learner are not a laughing matter; learners are more disengaged and non receptive to the traditional classroom settings; learning is no longer about pen and paper as they demand to be plugged in to ICTs and to work in an engaging, collaborative manner. Learners want access to information and technology devices such as phones, iPods, notebooks, palmtops, laptops, and internet.

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) policy on ICT holds that ICTs can help strengthen democratic and transparent education planning and management. Communications technology can expand access to learning, improve equality and ensure inclusion. Where resources are scarce, judicious use of open-source material through technologies can provide the means to bypass the bottleneck of textbook production, distribution and updating (UNESCO, 1995).

The global studies on ICTs in education are important to this study in that they describe a similar trend in teaching and learning patterns that exists in Zambia today; teaching and learning patterns where ICTs are increasingly the order of the day in the classroom. These global studies on ICTs in education also offer a platform on which this study will build.

Saverinus (2008) suggests that the role of ICTs is rapidly ever changing, especially with the internet in education. Being aware of the role of ICTs in human life, especially in educational activities, education authorities should be wise enough in implementing the strategies to integrate ICTs in schools. Williams (2004) argues that

research clearly demonstrates the potential of ICTs to increase motivation and autonomy in learning and in improving retention. The use of multimedia to mediate directly to students, at their own pace, realities and experiences which would otherwise be text-based stimulates their interest and motivation to learn. Williams further states that it has been observed that when students collaborate in pairs on computers or other ICTs, they experience greater autonomy and self-direction, and teachers become less directive. In doing so, learners tend to experience independent learning which, in turn, fosters confidence in the learning process among them. Saverinus' and Williams' studies are significant to this study in that they show the emerging important role of ICTs in education. Their studies show that when used, ICTs are increasingly having a positive effect in education, such as increased motivation among learners and teachers, autonomy in learning and improved retention levels among learners. These effects are in line with the findings of this study.

On the same subject, Leask (1999) explains that the improved motivation of our pupils when using ICTs tools can be impressive. It can stimulate enormous creative energy, with students making very valuable suggestions for the development of their own learning. A study by Maimun Aqsha Lubis and others (2011) tries to look at the integration of ICTs in the teaching of Islamic Religious Subjects. Maimun's study stresses that ICTs may be used as a medium in teaching and learning to develop a more creative thinking in the integrated education process. Maimun Aqsha Lubis *et al* (2011) study is helpful to this study in that their major findings are similar to those of this study. Their main findings show that ICTs may be used in the teaching and learning processes to develop or stimulate more creative thinking among learners. Creative thinking is one of the mutual elements of this study as well.

Sallimah and Lampoh (2007:79) equally assert that the rapid development of Information and Communication Technology (ICTs) and related technology during the last few decades has had a significant impact on education in terms of improved motivation, innovation and higher retention levels. Even though access to ICTs is a challenge for most institutions and schools globally, the desire to have ICTs and use them is quite high. The point made by Sallimah and Lampoh here equally applies to

Zambia where many schools have very few or no ICTs at all even though there is increasing demand for their use.

Inayatullah and Leggett (1999) argue that the emergence of ICTs such as the Internet, computers, interactive multimedia systems, and digital telecommunications has dramatically altered theoretical and practical assumptions about the role of communication technologies in development. The role of the ICTs in developed and developing societies has become the subject of academic focus and research, regional and international seminars and conferences with a view that the new technologies would provide urgent solutions to present and future problems. ICTs are believed to be instrumental in addressing many problems and challenges being faced in various sectors of society in the sense that they offer easy and accurately measured solutions.

However, some pessimists disagree, pointing to the dangers and pitfalls of the communication technologies, such as: the marketing of pornographic products on the Internet; the damage to children in terms of creating a virtual world divorced from nature; the perpetration of organised crime; the likelihood that they may widen the existing gap between the 'information rich' and the 'information poor'; and furthering the cultural impoverishment through the one-way communication between North and South. A more central concern is creation of an information based economy and not a communicative society (Inayatullah and Leggett, *ibid*).

The pessimism expressed above is not entirely misplaced as similar sentiments have been expressed by few respondents in this study. However, this study takes the view that the benefits of ICTs in teaching and learning far outweigh the disadvantages put forward by the pessimists.

There is a paucity of literature on the role of ICTs in Religious Education. Much of the past as well as recent works on ICTs and education tend to focus on the science based subjects. Williams (2004) argues that the major journals in the field of Religious Education: *The British Journal of Religious Education*, *Religious Education Journal*, *Journal of Beliefs and Values*, *Christian Higher Education*, and *the Journal of Moral Education*, contain no relevant articles about ICTs and Religious Education.

However, Harrison (1998) recounts how converging ICTs and Religious Education has a resulting improvement in pupil motivation and interest. The main objective of her study was to find out the enhancement that ICTs effected on Religious Education learning. She found that RE lessons that were conducted with the use of ICTs generated a higher motivation attitude and interest from both teachers and learners compared to those that were not ICT integrated.

Based on this study conducted by Harrison, it is important to note that her findings are relevant to this study because when ICTs are used in RE lessons they generate motivation and interest among teachers and learners.

2.2 Literature on ICTs in Africa

Africa is a giant continent, the second largest of Earth's seven continents, covering 23 percent of the world's total land area and containing 13 percent of the world's population (Encarta, 2009). Africa lags behind both in economic development and the use of ICTs. Yet there is evidence that a handful of successful ICTs implementations are beginning to emerge in some African countries. However, research on the role of ICTs in Sub-Saharan Africa remains thin.

Compared to global trends, African education lags behind in many aspects such as education delivery, curriculum design, teaching methodologies, teaching and learning tools and resource libraries. Natural and human-made disasters and conflicts have placed extreme pressure on African educational systems, many of which are built on weak physical and institutional bases. In addition, many countries in Africa have been victims of austere structural adjustment programmes, which, among other consequences, have led to cuts in educational expenditure. This, together with increasing debt burdens, governance problems, an unsupportive global economic context, and the impact of HIV and AIDS, means that the basic human right of access to education has been denied to many (Sub-Saharan African Education for All Framework for Action, 1999).

However, most African countries have developed, or are in the process of developing a road map for the incorporation of ICTs in their education systems. Some have detailed implementation plans with priorities and timetables and measurable

indicators in place already. Most African countries have planned to enhance ICT accessibility in their national development plans (NDP) and African Future Projects (AFP). Various studies by the World Bank, UNESCO, NEPAD, UN, African Development Bank (ADB), Commonwealth of Learning (COL) and other organisations indicate that ICTs are fostering conducive teaching and learning environments for many countries in Africa (NEPAD, 2001).

Wagner (2001) states that ICTs are being considered a major tool for improving accessibility to and efficiency of education in developing countries. ICTs are also being viewed as a “flat world” enabler by providing access to the latest educational content developed all over the world. However, despite many promising efforts, there is still a significant digital divide between educational institutions located in developing and developed countries. This includes policy and infrastructure gaps, lack of training facilities and trained maintenance personnel, limited community participation, gender related issues, and ICT access issues.

It is important to note that, in general, the level of technology penetration in Africa is low compared to developed countries (US Internet Council, 2000). However, most of the African countries have identified the education sector as a priority area for the deployment and the exploitation of ICTs to broaden access to education, improve quality of educational delivery, promote efficiency in the administration of the educational system and reduce costs of education delivery (Dzidonu, 2010).

For instance, computers entered into Nigeria’s education system in the late 70’s and early 80’s, no concrete policy was evolved for its entry into the nation’s education system until the evolution of the National Policy on Computer Education in 1988 (Federal Republic of Nigeria, FRN, 1988). The 1988 document contains information on the application of computer at various levels of the country’s education, and with issues related to basic objectives, hardware and software requirements. The document also comments on teacher training, specifically, for the secondary school level. The implementation of the policy was kick started with a training programme conducted for 197 teachers from across the country. In addition, computer systems were introduced into the federal unity schools and armed forces secondary schools.

Studies have established positive attitude among educators in Nigeria towards computer education. For instance, Yoloye (1990) in his finding revealed that educationists at the University of Ibadan have positive perception and attitude towards computer and, in fact, would like to be trained to use it. Similarly, most teachers in Nigerian secondary schools have positive attitude towards computer education (Yusuf, 1998).

In an effort to keep up with these new ICT developments, the Kenyan Government, through its key ministries of Education, Science and Technology and Information and Communication Technology, has developed several policy and strategy documents to guide the integration of ICT in education (National ICT Policy, 2006; Sessional Paper No. 1 of 2005 and Kenya Education Sector Support Programme, 2005-2010).

The few African studies on the integration and role of ICTs in education above provide a general background to this study. Thus, this study goes further by establishing the perceptions of teachers and learners on the role of ICTs in RE teaching and learning. Considering the importance of religion in many African countries, this study focuses on the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in schools.

2.3 Literature on ICTs in Zambia

The history of ICTs in Zambia goes back to 1913 when the first manual phone was installed in Livingstone the then capital of Northern Rhodesia. Until the country's reversion to liberalism in 1991, the provision of ICTs was solely the monopoly of the state. However, since 1991, Zambia, like other Sub-Saharan African countries, has been integrating ICTs in various sectors of its economy.

In education, various ICTs technologies are shaping the way education delivery is being conducted. For example, Interactive Radio Instruction (IRI) provides access to education for children who do not have schools and teachers. Through IRI, basic education is being delivered to out-of-school children, in particular orphans and other vulnerable children. The programme is the result of collaboration between communities, churches, non-governmental organizations (NGOs), the Ministry of

Education's Educational Broadcasting Services (EBS), and United States of America Peace Corps. The radio programmes are developed and broadcast by EBS, which also develops supplementary materials such as mentor's guides. In 2000 and 2001, EBS produced and broadcast 30-minute lessons for grade one on a daily basis. These lessons followed the Zambian curriculum for Mathematics and English and the learners were guided in the process by a facilitator. Lessons for grades two and three have also been developed. Early evaluations suggest that the programmes had positive effects on learning (Bosch, Rhodes, & Kariuki, 2002). The study by Bosch, Rhodes, and Kariuki only stress that ICTs have positive effects on learning. Though important these studies do not bring out the perceptions of teachers and learners on the role of ICTs in RE. Therefore, this study fills this information gap by studying the perceptions of teachers and learners on the role of ICTs in RE.

Habeenzu (2010) says that in 2001, the Government, with assistance from the Japanese International Cooperation Agency (JICA) through the United Nations Development Programme (UNDP), embarked on the formulation of a National Information and Communications Technology (ICT) policy. The policy formulation process was completed in 2005. This prolonged process also served to raise general public awareness of the role of ICTs in fostering socio-economic development. The policy is oriented around thirteen pillars, of which the third relates to the education sector and reads, 'Education- To integrate ICTs in the education systems and nation's research and development (R&D)', (Habeenzu, *ibid*). It is evident that the Zambia national ICT policy also recognizes the potential role of ICTs in education as stated in the thirteen pillars and objectives of the policy document. In the recent years, ICTs have been introduced in a dynamic way in the Zambian society. With the support of the International Institute for Communication and Development (IICD), the Commonwealth of Learning (COL), and the United States Agency for International Development (USAID), the former Ministry of Education (MOE) together with the Ministry of Communications and Transport developed a National Information and Communication Policy (NICP, 2006) with a vision "to enable all schools in Zambia have access to ICTs by 2030. This was in order to provide and promote lifelong education and training to all." The ICT policy was formulated in line with the Fifth National Development Plan.

On 28th March, 2007, the Zambian Government launched the ICT national policy under the theme, 'ICT-For accelerated wealth and job creation'. The policy document emphasizes the significance of ICTs. Its objectives do not advocate stressing the importance of electronic devices or information technologies, but the role they play to open access to knowledge, information and communications for the Zambian society.

It is acknowledged in the National Information and Communication Technology Policy (MOCT, 2006: 3) that the Zambian Education system faces a number of challenges regarding the integration of ICTs in schools such as:

- Financial and technological constraints,
- Inadequate awareness on the benefits of integrating ICTs in the education sector,
- Lack of coordinated approach in the adoption and implementation of initiatives targeted at the deployment of ICTs within the educational system, and
- Shortage of teachers with ICT skills to meet the requirements of the schools, thus limiting ICT penetration within the education system.

The National Information Communication Policy also states that electronic media or broadcasting in Zambia dates back to 1941 when the colonial government opened a radio station in Lusaka. Until after the re-introduction of multi-party politics in 1991, radio and TV broadcasting was a preserve of the state, either as a Government department or as a statutory body. However, the enactment of laws to facilitate the liberalisation of the media industry has opened new avenues for radio and TV services across the country. The laws include Radio Communications Act of 1994, Independent Broadcasting Authority Act of 2002, and the ZNBC (Amendment) Act of 2002.

In Kabwe District, the benefits of Radio Communications Act of 1994 and the Independent Broadcasting Authority Act of 2002 are visible. Apart from the Zambia National Broadcasting Co-operation (radio and TV services), there are three (3)

independent community radio stations (Marantha, KNC and Cloud Community Radio stations) and two (2) independent television stations (TBN and Multichoice). These community radio stations are fairly being utilized by many public and private schools in Kabwe District for various educational broadcasting programmes. In addition to these, there are also over 250 Free To Air (FTA) satellite radio channels and over 300 FTA satellite television channels being accessed in Kabwe schools and homes.

In addition and more recently, the Zambian Government through the Zambia Information and Communications Technology Authority (ZICTA) has embarked on a project to enhance ICTs in the economy, including the education sector. Sichone (2011) explained that ZICTA was mandated under the ICT Act to establish the Universal Access Fund to finance projects that promoted and provided ICTs infrastructure and services to all unserved and underserved areas of the country at a cost of K24 Million. The project sought to promote the use of ICTs through enabling access to online educational resources to both teachers and learners through establishment of computer laboratories in all districts in its first phase. Clearly, the Zambian Government is committed to the growth of ICTs in the country in general and in the education sector in particular.

Zambia's Sixth National Development Plan (SNDP) echoes education objectives that are directed at increasing access to ICTs and quality education. Objectives number one and two state the need to increase access, efficiency, and equity to quality ECCDE and Secondary Education. The way to achieve this is through many strategies such as strengthening CPDs, introducing ICTs as a teaching and learning tool, and expanding alternative modes of education including ICTs (SNDP, 2011).

The Minister of Education, Dr. John. T.N. Phiri attended the Southern African ICT for Education Summit in January, 2012 in Zimbabwe, where he delivered a keynote speech about ICTs in Zambia. He stated that Zambia had recognized the role of ICTs as a potent tool in reducing poverty, extending health services, expanding educational opportunities and generally improving the quality of life. However, he explained that the penetration levels of ICTs in Zambia's education institutions

remained low. He further stated that most of the computers in schools were second-hand and refurbished (Phiri, 2012).

Clearly, the integration of ICTs in various sectors of the Zambian economy has been recognised to be of great importance. The keynote speech by the Minister of Education above shows how important ICTs are in the Zambian Education system. ICTs have been promoted as a platform for providing learners with opportunities in any field (King, 2002; Rovai, 2002). Similarly, Look (2005) cited that a review of 219 studies on the role of technology in education consistently found that students in technology rich environments experienced positive effects on achievement in all subject areas.

However, the availability of ICTs in schools still remains low and in cases where they are available they are mostly second hand. These points are partly in line with the findings of this study which will show that despite great interest in the use of ICTs in schools, this interest is frustrated by the lack of new ICTs and educational software programmes.

In conclusion, chapter two has reviewed literature related to the study of ICTs in Education and RE. Literature on the global, African and Zambian scenes has been discussed. The information gap on the perceptions of teachers and learners on the role of ICTs in the teaching and learning of RE in Zambia is the focus of this study. The studies discussed above provide a lot of insight into how ICTs are useful in enhancing the teaching and learning processes and will be very helpful in dealing with the remaining chapters of this dissertation. The next chapter explains the study design and methodology used.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter explains the research design and methodology used in this study to achieve the purpose and objectives stated in sections 1.2 and 1.3 of chapter 1. In doing so, the chapter discusses the following: the population, sample and sampling techniques, data collection methods and instruments, data collection procedures, ethical considerations, and data analysis.

3.1 Research design

This study was qualitative in nature and took the form of a case study of three selected secondary schools in Kabwe District. According to Kombo and Tromp (2006) a qualitative research is a form of research that involves description; it seeks to describe and analyze the culture and behaviour of humans and their groups from the point of view of those being studied. It is often used as a means to collecting verbatim statements from respondents in view of the fact that open-ended surveys allow respondents to offer responses within their unique context, and the value of the information provided can be exceptionally high. This approach was appropriate for this study which sought to solicit information and establish the perceptions of teachers and learners on the role of Information Communication Technologies in the teaching and learning of Religious Education (RE) in selected secondary schools in Kabwe.

Researchers who use qualitative methods seek deeper truth. They aim to study things in their natural setting, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Denkin, 1994), and they use “a holistic perspective which preserves the complexities of human behaviour” (Black, 1994: 425). The researcher attempted to observe, describe and interpret settings as they were, maintaining what Patton (1990: 55) calls, “empathic neutrality.” Patton further explains:

The neutral investigator enters the research arena with no axe to grind, no theory to prove, and no predetermined results to support. Rather, the investigator's commitment is to understand the world as it is, to be true to complexities and multiple perspectives as they emerge, and to be

balanced in reporting both confirming and disconfirming evidence (ibid).

3.2 Population

Bryman (2004) defines population as the universe of units from which the sample is to be selected. Kabwe District has 15 secondary schools which are divided into 3 zones. Accordingly, the population of this study consisted of administrators (school head teachers), RE teachers and RE learners in all the 15 secondary schools in Kabwe District. Kabwe District was selected for the study because it is the most central district in Zambia and therefore offers a suitable information linkage to other districts.

3.3 Sample size

Three secondary schools, namely Caritas with 36 teachers and an enrolment of 524 learners, Jasmine with 31 teachers and an enrolment of 652 learners, and Stephen Luwisha with 35 teachers and an enrolment of 552 learners, were purposively selected. Participants were purposively selected from the target population in Kabwe on the basis of willingness to participate in the research and by virtue of being RE teachers and RE learners. The study sampled 3 schools, that is one from each zone for equal representation. Three school head teachers (1 from each school), 9 teachers of RE (3 from each school) and 36 pupils of RE (12 from each school). In total the sample size was 48 respondents, thus 16 from each of the three selected schools. As the study was more of qualitative nature a small number of samples size would suffice (Cohen et al, 2000). Sandelowski (1995) also points out that determining adequate sample size in qualitative research is ultimately a matter of judgment and experience on the part of the researcher, and researchers need to evaluate the quality of the information collected in light of the uses to which it will be put.

3.4 Sampling techniques

The study employed non-probability sampling procedures. Kombo and Tromp (2006: 81) explain that non-probability sampling procedure is a method of sampling that aims to be theoretically representative of the study population by maximizing the scope or range of variation of the study. Purposive sampling was used as the RE teachers and learners who were interviewed and observed were selected on the basis of homogeneous sampling strategy. All available teachers of RE were interviewed

who totalled to 9. Kombo and Tromp further explain that purposive sampling purposely targets a group of people believed to be reliable to the study. According to Patton (1990), purposively selected informants are preferred for the reason that they are likely to be more conversant or well-informed about the phenomenon the researcher is investigating, than random sampling where informants selected may not be well-informed about the phenomenon. For learners from grade 10 to 12, each grade was represented by at least four (4) learners and they totalled to thirty-six (36). The two best performing and two least performing learners from each class were selected for the study.

3.5 Data collection methods and instruments

In this study, the researcher used interviews and non participant observations; these methods provided adequate information to address the research questions. The methods of data collection for this study included semi-structured face to face interviews, focus group discussion and lesson observations. The adoption of multiple methods or triangulation in social research has been endorsed by various researchers because it helps to overcome flaws inherent in the use of one method. For example, Patton (1990) argues that combinations of interviewing, observation, and document analysis are expected in much social science field work because studies which adopt only one method are more vulnerable to errors linked to that particular method than studies that use multiple methods in which different types of data provide cross-data credibility checks.

The data collection instruments used were: face to face interview guides, focus group discussion guide and simple observation checklist. Face to face interviews proved to be very helpful in the clarification of data collected since the researcher conversed with the participants in person. Additionally, face to face interviews are ideal in cases where accurate information is to be obtained as they allow the researcher to probe for deeper information and opinions. Wherever possible, open questions were used. In addition to face to face interviews, focus group discussions were used. In focus group discussions, the researcher has specific topics to be discussed and a recording list of the discussions is made. A tape recorder is used to keep the records, (Kombo and Tromp, 2006).

Observation checklists provide a relevant criterion for observing a phenomenon against anticipated results or changes in the phenomenon. In this case, an observation checklist was used to observe the school environment and some lessons, checking for uses of ICTs in classroom teaching and learning. The researcher also used a tape recorder and digital camera as research tools to record all interviews and discussions, and to take relevant photographs.

3.6 Data collection procedure

Data were mainly collected from primary sources in form of interviews and observations in the three schools. Secondary data were also collected in form of document analysis.

Before embarking on the study, the instruments were piloted at Nkwashi School. In addition, consent forms for the participants were designed. The consent forms enabled the researcher to seek for permission from relevant authorities such as the Ministry of Education, Science, Vocational Training and Early Education (MOESVTEE), District Education Board Secretary (DEBS) for Kabwe and from the school head teachers. Before the interviews, the purpose of the study was explained to the respondents and confidentiality of the information to be given was assured to them.

The researcher started with face to face interviews with the head teachers, went on to conduct focus group interviews with teachers, then conducted focus group interviews with learners. Lastly, observations were carried out in the schools.

3.7 Data analysis and verification

Upon the completion of interviews all audio-taped data were transcribed into Microsoft Word format. Data collected were coded and then analyzed repeatedly involving re-reading the interview transcripts to identify themes emerging from the respondent's answers. Thematic analysis was employed using Microsoft Word (Find Tool) to reveal recurring themes from the data. A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set (Braun & Clarke, 2006). The data were categorized into three (3) codes, namely: kinds of ICTs, levels of ICTs usage, and teachers' and learners' perceptions on the role of ICTs in

Religious Education. Afterwards, the coded data were analyzed using a quick impressionist summary as well as a thematic technique corresponding to the emerging codes and research questions of the study.

Determining the accuracy of the account, discussing the generalizability of it, and advancing possibilities of replicating a study have long been considered the scientific evidence of a scholarly study (Creswell,1994). For credibility, an audit trail of the data collected was done through multiple perspectives to interpret a single set of data. For example, when each participant said or revealed the same thing as other participants in the interviews and it also showed in observations, then that was considered internally credible. The repeated peer review and data trail ensures reliability. Conducting repeated peer review of data helps the researcher to arrive at some resolution to the questions of the study. Thereafter, the researcher proceeded to write this study report.

3.8 Ethical considerations

In qualitative research, the most common methods used for data collection are interview and participant observation. The participants are therefore known to the researcher and anonymity is not entirely possible. The researcher must, therefore, assure participants that their identities would not be revealed to the reader and the raw data collected would not be released to any third party (Parahoo, 2006).

Before embarking on the study and interacting with the participants in the three schools, ethical clearance was obtained from the respective administrative offices at the Ministry of Education in Kabwe. Ethical clearance was obtained in order to ensure privacy, justice, respect and beneficence to participants. By ‘ethical clearance’ we mean informed consent from relevant authorities to conduct the study in the selected secondary schools. The respondents included head teachers, teachers and learners. Participants were required to sign an informed consent form and were also given an information sheet about the research (see Appendices A, B and C).

In winding up, this chapter has discussed the research design and methodology used in the study. The nature and type of study and methods of data collection have been explained. Also discussed are ethical considerations and data analysis. The next chapter presents the research findings.

CHAPTER FOUR

RESEARCH FINDINGS

This chapter presents the findings of the study. It details background information on the participants, emerging themes from the study, kinds of ICTs in the schools, levels of ICTs usage across the curriculum in the schools, and finally, teachers and learners perceptions on the role of ICTs in Religious Education (RE).

4.1 Background information on participants

This section presents background information on the respondents who were involved in the study. Additionally, there is some background information on the environment of the schools which served as research sites. This information is important and helpful in fully understanding the emerging issues and findings presented below.

Three school head teachers participated in the study. Two of the school head teachers were female and one was male. All the three school head teachers had access to ICTs both at home and at the office or school, implying that they were conversant with the subject of ICTs and the role of ICTs in administration and in classroom teaching.

Nine (9) teachers of Religious Education participated in the study that is four (4) males and five (5) females, all with over ten years of teaching experience in RE. Thirty-six (36) learners of RE participated in the study, that is twelve (12) learners from each of the three selected secondary schools in Kabwe District. Fourteen (14) learners were male and twenty-two (22) were female. All learners who participated in the study indicated having access to different kinds of ICTs at home and at school.

Two of the three selected secondary schools where data were collected offered RE syllabus 2044, while one school offered RE syllabus 2046; the two schools that offered syllabus 2044 were Caritas Secondary School and Stephen Luwisha Secondary School, while Jasmine Secondary School offered RE syllabus 2046.

Caritas Secondary school is a grant aided school run by Sisters of Charity; it runs from grades 8 to 12. Caritas School has an enrollment of about 524 learners and a total of 36 teaching staff. Similarly, Stephen Luwisha is also a grant aided school

run by Handmaids Sisters; the school runs from grades 8 to 12. It has an enrollment of about 552 learners and a total number of 35 teaching staff. Unlike the other two schools, Jasmine is a government run school. It also runs from grades 8 to 12. It has an enrollment of about 652 learners and a total number of 31 teaching staff.

4.2 Themes

The themes and headings used in presenting the data below are in line with both the objectives of the study and research questions.

4.2.1 Kinds of ICTs in the selected secondary schools

The secondary schools studied had a variety of ICTs available for both teachers' and learners' use. When checked, the ICTs were found to be in good working condition. However, only Caritas and Stephen Luwisha Secondary School had designated rooms for ICTs. Jasmine School had their ICTs kept in the staff-room and in the Guidance and Counseling Office. This was due to lack of room.

Two of the schools, Caritas and Stephen Luwisha had adequate stocks of ICTs facilities accessible to both the teachers and the learners of RE. Caritas had an ICT hub with the facilities shown in table 1 below.

School	ICT Facilities	Software Applications
CARITAS SECONDARY SCHOOL	31 Computers 2 Laptops 1 Overhead projector 2 Printers 1 Scanner 2 TV sets 1 DVD player 1DSTV kit(decoder, smart-card, dish, recorder) 1 Router i-connect internet connectivity (sponsored and maintained by One-World)	Microsoft Encarta Encyclopaedia Microsoft Office Package 2007 Chemistry Virtual Laboratory What the Bible Says Bible Pro Internet explorer

Table 1: ICTs available at Caritas Secondary School.

The school head teacher at Caritas, Mrs. Musole had this to say: “We have a computer lab in the school, internet service and of course we also have those other computers that cannot be used with internet but for basics, they are old ones. The ICT laboratory is accessible to all teachers and learners. RE pupils often use the ICT Hub for their home work and RE projects”. On the first day of investigation, the researcher observed two learners surfing the internet.

Some learners at Caritas also confirmed to carrying phones, iPods and MP3 players to school without the knowledge of teachers.

Figure 1 below is a view of the Caritas Computer Laboratory with 31 computers and the ICT Coordinator, Mr. Bright Tembo.



Figure 1.

The kinds of ICTs that they had at Stephen Luwisha in the ICT hub are shown below.

School	ICT Facilities	Software Applications
STEPHEN LUWISHA SECONDARY SCHOOL	38 computers 4 Laptops 1 Overhead Projector 1 Printer 1 scanner 1TV set 1 DVD player 1 Radio 1DSTV kit (decoder, smart-card, dish, recorder)-sponsored and maintained by Multi-Choice Zambia. 1 router ZAMTEL internet connectivity	Ubuntu Educational Program Package Ubuntu Office Package Adobe Ubuntu Education Wikipedia Internet explorer Physics Laboratory Chemistry Laboratory Cambridge Past Papers (Commerce) What the Bible Says Bible Pro World Religions Bible Commentaries Bible in softcopy

Table 2: Kinds of ICTs and software applications available at Stephen Luwisha Secondary School.

Figure 2 below is a view of Stephen Luwisha Computer Laboratory with 38 computers.



Figure 2.

Similarly, Jasmine Secondary School also had stocks of ICTs, although it was the least stocked as shown in table 3 below.

School	ICT Facilities	Software Applications
JASMINE SECONDARY SCHOOL	4 computers 1 laptop 1DSTV kit (decoder, smart-card, dish, recorder)-sponsored and maintained by Multi-Choice Zambia. 1TV set 1DVD Player 1 Radio	Microsoft Office Package Adobe Internet explorer Encyclopaedia Britannica Chemistry Laboratory

Table 3: ICTs available at Jasmine Secondary School.

The DSTV kit at Jasmine was operated from the staff-room while the computers were in different rooms. This made the utilisation of the ICTs at the school somewhat challenging for both the teachers and the learners.

The general kinds of ICTs available in the three studied schools were as follows:

General kinds of ICTS in the three schools	General applications in the three schools
Mobile phones Desktop computers Laptops TV sets Printers/Scanners Over-head projectors Radios DVD Players DSTV Kits Internet connectivity	Microsoft Office Package Ubuntu Office Package Microsoft Encarta Encyclopaedia Bible Pro What the Bible Says Bible Commentaries Encyclopaedia Britannica Bible

Table 4: General kinds of ICTs available in the three schools studied. Unfortunately, the researcher noticed that most of the ICTs seemed to be in the e-waste category.

4.2.2 Levels of ICT usage across the curriculum

ICTs were used across the curriculum in the schools. When the Stephen Luwisha head teacher was asked about the levels of ICTs usage in the school, she had this to say:

We use ICTs almost everywhere in our school. The secretary uses a computer for all correspondences, the bursar's office uses a computer, the statistician, the library, the staffroom, we even have internet here...In fact the pupils are the ones that use ICTs more because they even have their computer lab with all sorts of educational programmes... ICTs are very well suited for all subjects.

She went on to state that the school had two teachers that provide ICT expertise to both teachers and learners. However, she acknowledged that it was not all the teachers that were keen to use ICTs in the school; a few teachers were hesitant or simply not interested in ICTs.

At Caritas, the head teacher explained the levels of ICTs usage in the following words:

Usually, it's just Microsoft and Word, exposing the children to the basics and then of course we have projects in Geography research work. Since we have internet, the pupils go and use it for their projects...the Business Studies Department sometimes does invite the teachers for CPDs, that is Continuous Professional Development in ICTs. For us, we have taken every subject on board, we started with Social Sciences and then later on our other teachers were trained by One-World.

The internet service was accessible to both the teachers and the learners, the learners paid K30 per year, and teachers paid K50 per term, towards the maintenance, while the Organisation One-World, met the service charges.

For Jasmine school, the school head teacher confirmed the use of ICTs across the curriculum by stating as follows:

ICTs carter for all subjects, you cannot just say RE, no; in all other subjects you can actually do this, I know that Mathematics, Science ...but the reality is that even Civic Education or other subjects can use ICTs to improve lesson delivery. In fact it makes work easier, you can research...teachers have access to the computers but the numbers are not encouraging. The challenge we have is that pupils don't have much access because of the limited numbers, so when resources are available we want to restock the computer laboratory.

Furthermore, the teachers at Stephen Luwisha confirmed the frequent use of ICTs across the school curriculum. Two RE teachers said: "Yes, like recently we called an ICT specialist from Kitwe and had an ICT training workshop for the whole school for three days. Now as a department again we are soon going to have a training programme for Social Sciences Department".

Teachers at all the three schools indicated that the actual use of ICTs across the curriculum was relatively well spread starting from school administrative use, and in many different subjects. Teachers in five core subjects: English, Mathematics, Science, Geography and Civic Education indicated the use of ICTs. However, Science, Geography and Mathematics were more fortunate in that they had more ready-made materials for teaching with ICTs.

The learners at Stephen Luwisha pointed out that they had access to ICTs in the school computer laboratory and in the school library. One of them explained with an example: "For example, when we came to the library we were learning English from the Television set...Yes they do give us homework that we can use ICTs to solve." Similarly, when asked if they carry ICTs to school, the learners confirmed that they carried ICTs such as phones and iPods, which they used for other purposes like playing games, playing songs, taking photos and communication. When asked if they were allowed to carry such ICTs to school, they stated that they hid them during lessons because they were not allowed carry phones or ipods to class. When asked if teachers use ICTs during class, they responded in the affirmative. They mentioned

Physics, Chemistry, Biology, Commerce, Agriculture Science, Office Practice, Book- Keeping, History, Geography and Literature as the subjects where teachers frequently used ICTs for teaching. When asked, how ICTs were used in these subjects, they said: they said, “For example in Agriculture Science we watched a video on how Onion is planted and how it grows...in History we watched a movie on Shaka Zulu”.

Table 5 below shows the learner-computer ratio in the three sampled secondary schools.

School	Total number of learners	Average number of pupils per class	Number of computers in school	Average learner-computer ratio
Caritas Secondary School	524	40	31	17:1
Jasmine Secondary School	652	55	4	163:1
Stephen Luwisha School	552	30	38	15:1

Table 5: Learner –Computer ratio per school

It can be concluded from the ratios that access to ICTs is fairly good for Caritas and Stephen Luwisha learners. The levels of ICTs usage in the studied schools clearly indicated that both teachers and learners fairly used ICTs across the school’s curriculum. However, the levels of ICTs usage varied from teacher to teacher, pupil to pupil, subject to subject and school to school. Science-based subjects recorded more usage of ICTs than other subjects, including RE, because sciences had more readily available ICT teaching and learning materials.

4.2.3 Teachers' and Learners' Perceptions on the Role of ICTs in Religious Education

All the three sampled schools indicated that teachers did use ICTs in teaching Religious Education (RE). The head teacher at Caritas School indicated that ICTs were used in RE in the following words: “My teachers do use ICTs in RE, it is just like any other subject... With us as I am telling you, we have taken everyone on board”. The learners also confirmed the use of ICTs in RE. From all three schools, 34 out of 36 pupils sampled confirmed the use of ICTs in RE with responses such as: “Yes ICTs are being used in RE; they make it easy for us to understand and remember lessons”.

An RE lesson observed at Caritas Secondary School clearly demonstrated how ICTs were being used in RE lessons. The teacher introduced the topic, ‘Justice in Society’ to grade 10B by playing a song from his mobile phone for the lesson introduction; the song by Black Eyed Peas was titled, ‘Where is the love?’. The song talks about the disintegration of society’s values, telling listeners what this world is turning into without love, true genuine love. It states various awful things that are going on in the world. It encourages the making of peace not war. The class was lively with use of the phone in class. The learners seemed excited to listen to the song played on the mobile phone as some of them started dancing while sited on their desks. The relevance of the song to the topic of study was very clear. The learners were able to give reference to the song to explain the present day situation in society that is disintegrating due to robberies, killings, sexual molestations, and corruption.

After the lesson, the teacher had this to say: “You know most pupils nowadays are knowledgeable about ICTs. Like what we did with the phone in class, it would be difficult for them to forget the concept because even when they listen to the song elsewhere they will recall what they discussed during the lesson”. Another practical example of the use of ICTs in RE was by a teacher at Stephen Luwisha, who used his mobile phone and the school internet to access information on Hinduism to consolidate his lesson on ‘Loyalty to Society’ with his grade 11 class. During the lesson, the teacher asked a learner to come in front of the class to read information accessed on the mobile phone internet about the way Hindus express loyalty to society.

Learners at Jasmine divulged to the researcher that they often carried ICTs to school such as phones, ipads, notebooks, and MP3 players which they said they used for searching the internet for RE information and other activities like playing games. Those at Stephen Luwisha also indicated carrying phones, notebooks, ipods and gaming devices to school which they would put on vibration or silent, which they used for communication or simply played with them when the teacher was not in class. When asked how they used phones in class, one learner was open to say: “You sit at the back of the class and you Google for answers on the internet or you look at least information on fashion like shoes and clothes”.

Learners at Caritas Secondary School also revealed that they often carried phones, iPods, and MP3 players that they used for playing music, playing videos, playing games, exchanging photos and accessing the internet. Clearly, e-safety policies are lacking in the investigated schools. The computer laboratories were the only area fairly supervised by the teachers in terms of e-safety. Therefore, the role of available ICTs for both RE teachers and RE learners in schools fundamentally depended on their defined uses. Otherwise, if not appropriately used, the disadvantages of ICTs could outweigh the advantages or the positive roles pointed out by head teachers, teachers, and learners.

Thirty-four out of thirty-six RE learners interviewed at all three schools stressed that ICTs should be used more in RE because it was easy to remember lessons learnt with the use of ICTs. They also said ICTs improved concentration in class. Nevertheless, two out of the thirty-six disagreed strongly, with one from Caritas arguing that most learners would become lazy in doing their work because ICTs provided easy answers for them; learners would not personally work out solutions to problems. The second learner at Stephen Luwisha argued that RE did not need the use of ICTs because all that one needed was to consult the Bible. She, however, supported the use of ICTs in subjects like History, Agriculture Science, Physics, Chemistry, Biology, Geography, Commerce, and Literature.

While the one learner said: “They should buy us ICTs; most of the neighbouring schools have all sorts of ICTs that help them learn better...so instead we use our phones to browse the internet for answers even though phones are not allowed in

class”. However, the two learners; one from Caritas and the other from Stephen Luwisha had reservations about the use of ICTs in RE and other subjects. The learner from Caritas had this to say: “Most pupils have become lazy in doing their work so ICTs should stop being used...when we had an RE lesson in the computer laboratory some of my friends were just playing Zuma game instead of paying attention”. While the other learner from Stephen Luwisha also expressed her concerns by saying this: “I think pupils should not get used to using ICTs anyhow because they may become lazy”.

A teacher from Jasmine School gave the following explanation: “If resources allowed, a lot of ICTs could be used in RE. For example, at this school we have syllabus 2046 and most of it can be dramatized. Then we can use some video tapes or compact discs (CDs), children can see it visually and they can understand better. So RE can also use ICTs”. Regarding the use of ICTs in RE, the Jasmine School head teacher had the following to say:

“...it actually improves the quality of teaching, you know traditionally it is the teacher who is always in the forefront in imparting knowledge, but with ICTs the teacher will do less work and will give more work to the learner and that actually helps in improving the quality of learning because nowadays we are in an era where at times it’s difficult to use a text book and so forth, but with ICTs it’s easier to have access to information, instead of buying a text book the child can just get their own information”.

Another teacher at Jasmine School explained that some teachers did not use ICTs in RE even though they considered ICTs to be very useful. She attributed this to insufficient stocks of ICTs at Jasmine Secondary School. Another teacher at the same school also stated that the use of ICTs in RE teaching was low because of inadequate ICTs in the school. The third teacher at Jasmine said she was still new in the school, so could not comment on the question of ICTs use in RE and across the curriculum. She was only four weeks old in the school.

At Stephen Luwisha the teachers' responses on the use of ICTs in RE were on the positive side. One teacher in particular had this to say: "Teachers are very enthusiastic when it comes to using ICTs in class". In addition, another teacher at the same school said: "Three quarters of the teachers are computer literate, so they are always eager to use ICTs in RE and other subjects". With an abundance of school and personal laptops, a well stocked computer laboratory with 38 computers and with regular CPDs on ICTs, the teachers had easy access to ICTs and were compelled or encouraged to use ICTs in class.

The teachers at Caritas Secondary School also indicated being keen to use ICTs. The head teacher had this to say: "Yes, they usually use Power-Point, they use computers for planning their work, for teaching, preparing tests and other projects". One of the teachers in charge of the computer laboratory at the school also said: "I see most teachers coming to the laboratory from time to time. Actually, there's only one person I have not seen much at the ICT laboratory. So teachers do use ICTs in teaching RE and other subjects".

All the RE teachers interviewed stressed that ICTs such as internet, Encarta, Britannica when used in RE make the learning process less abstract and more relevant to everyday life situations. For instance, a grade 12 RE lesson observed at Stephen Luwisha Secondary School shows how internet assisted lessons in RE can be less abstract. The teacher conducted the lesson in the school computer laboratory where she introduced the topic, 'Man's Turning Away from God in Hinduism' using the internet. The teacher asked the learners to state ways in which people turn away from God. Learners gave various answers such as stealing, killing and adultery. The teacher explained that there were consequences to turning away from God. She then asked the learners to open Bible Pro on the computers and search for Isaiah 59:2. One learner was asked to read it aloud: 'But your iniquities have separated between you and your sins have hid his face from you...' The teacher then instructed the learners to open the internet search engines on the computers and search for 'Man's turning away from God in Hinduism'. The learners were able to find out from the internet that in Hinduism the aspect of turning away from God is through actions that create negative karma and by violating ethical codes of dharma. The teacher then explained further that the consequences of negative actions were a rebirth in lower

caste. The use of internet in this lesson showed how useful online information resource can be utilised in RE.

After the lesson, the teacher said: “The use of internet in my RE lessons makes it easier to engage the pupils into looking for answers to questions I ask them, they are also able to see pictures and videos online that are related to the topic” The learners were involved in the lesson discussion. This is in contrast to memorisation or rote learning, which is the typical feature of traditional pedagogy; ICTs-enhanced learning promote increased learner engagement and concentration as ICTs take the role of ‘assisting tools’ in the teaching and learning processes.

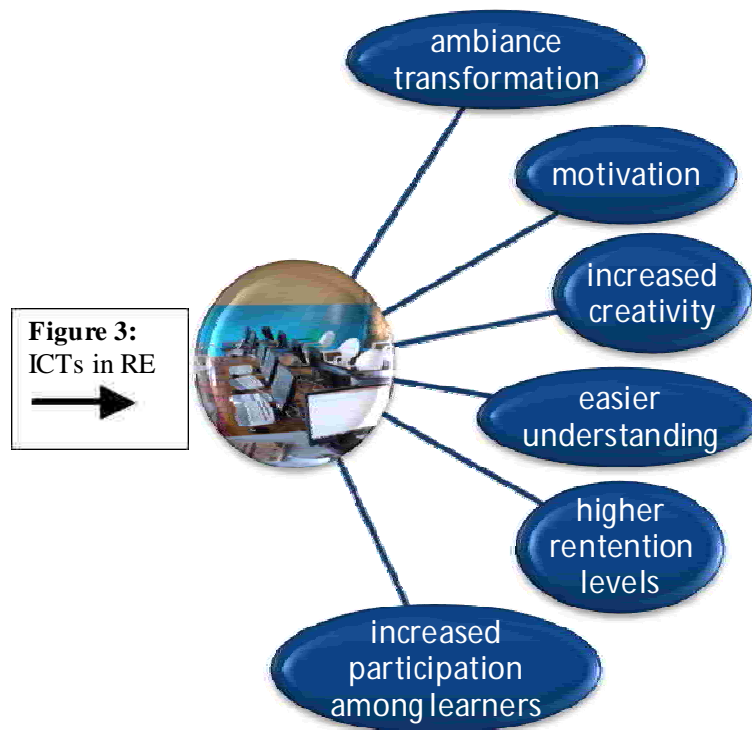
Most RE teachers pointed out that, ICTs play a major role in improving the efficiency of RE lessons and broaden access to quality lesson preparation and lesson delivery. For example, a teacher at Jasmine Secondary School, said: “Pupils are able to understand the lessons better when ICTs are used in RE...Pupils easily grasp and understand the concepts in detail...ICTs are in every aspect of learning these days, and when it comes to result analysis we also use excel on computers to interpret pupils results. It makes work easier and more accurate”.

Another RE teacher at Jasmine Secondary School stated: “In my experience, ICTs do enhance the understanding of the children, because it’s common knowledge that what children see, they will remember most of it other than just hearing. So when I use visuals I am positively sure children will be able to recall most of the things they learn. When using the computer for example, the information learners get on their own from the internet they will be able to recall about 75% of that information”.

In the same line of thought, a teacher from Stephen Luwisha Secondary School stated that with the use of ICTs in the school computer laboratory the pupils were able to add to what was learnt in class. In his words he said: “For example when you look at our RE syllabi you find that our text books are so scattered on certain information on religions but when pupils use the programs like Wikipedia, World Religions, Bible Pro, What the Bible Says, Microsoft Encarta, and Bible Commentaries in the computer lab they are able to add to what has been learnt in class...concentration is high and pupils generally feel involved in the learning process”.

Another teacher from Stephen Luwisha , in the same line of thought stated that: “Instead of the pupils always listening to the teachers’ voice for motivation, it becomes monotonous, when I use ICTs pupils get motivated so much, when I say we are going to use the TV set or the computer lab, Ha! Ha! Ha! , you will find the whole class is full and seated in anticipation”. Clearly, the role of ICTs in RE is perceived to provide both the teacher and the learner with a newer and alternative source of information and knowledge.

The school head teachers, teachers’ and learners’ perceptions about the role of ICTs to teaching and learning RE could be summarised by the emergent ideas from the respondents. These emergent ideas or perceptions were that ICTs in RE promoted the following in class as shown in figure 3 below:



With regard to ambiance or atmosphere transformation in class, the learners interacted more among themselves and with the teacher; they were more engaged in the lesson. Motivation levels were observed to be higher in lessons where ICTs were used. There was a record high in interest and motivation in the lessons where teachers used ICTs. The various media tasks that ICTs offered in terms of pictures, videos, sounds, and maps fascinated the learners and challenged them to get creative with using ICTs. All groups of teachers and learners interviewed commented on the element of easier understanding and higher retention of what was taught or learnt in

RE lessons when ICTs such as computers, DSTV and the internet were used. Learners and teachers in all groups and schools reported how the use of ICTs in RE enabled them to quickly, reliably and accurately seek information and solve problems in RE. Therefore, increasing the effectiveness of the teaching and learning in RE.

The head teachers, teachers, and learners brought out many positive perceptions about the role of ICTs in RE and other school subjects in general. However, it was also evident that learner e-safety was not entirely oriented to their educational needs, expectations, attitudes and interests. The ICTs training programs in the investigated schools were mainly focused on building ICTs skills for teachers and learners, without intense sensitization about the dangers of ICTs.

The three investigated schools lacked strong school policies to protect the learners and teachers from digital risks. Most learners openly stated that they had access or were associated to social media websites such as Facebook, Moboo, Twitter, Mig33, Whatsapp, YouTube, Skype and many more. This implies that learners were in danger of viewing unsuitable content such as adult content, online bullying, susceptible to very distracting habits, addictive, waste of time, non-educational and could disturb the learners' social life altogether.

The findings also suggest that the participants had concerns related to the use of ICTs in RE and across the schools in general. For example, a teacher from Jasmine had this to say: "How I wish there could be a deliberate policy where all schools could be compelled to use ICTs. As such you will find that the teaching of RE would be interesting. So, if children are taught using visuals and they see what you are talking about or transformed in a dramatized way, it would make learning much interesting and easier. So it all dwells on availability of ICTs, the interest of teachers is not much of a problem because everyone is interested in technology, but it's not there in some cases." Another teacher from the same school added: "Government should support and supply the ICTs materials. They should make sure classrooms are well secured, friendly and pupils should be fewer in class to have adequate access to ICTs".

The head teacher at Caritas Secondary School raised another concern. She stated: “In the future we would like to see ICT being examinable; even the curriculum should change to include ICT like we have it at our school”.

Teachers from Stephen Luwisha also had their concerns; one teacher stated: “For me, the integration of ICTs in RE is long overdue. I am saying this because the use of ICTs make learning easier and even teachers advance more with the use of ICTs.

There was a consistent response of around 94% (34/36) of learners from all the three schools who believed that ICTs such as computers, Internet, phones, and application programs like Microsoft Encarta, Wikipedia, World Religions and Bible Pro in RE played a positive role in making learning much easier to understand. While all teachers (9/9) that took part in the study believed that ICTs improved both teacher and learner effectiveness in RE lessons.

In concluding the presentation of findings, compared to other school subjects, the usage of ICTs in Religious Education (RE) is a growing phenomenon. All the administrators, teachers, and learners were of the view that if or when properly utilised, ICTs can enrich the content and learning of RE through various medias such as video, audio, pictures, internet, Power-Point and social media networks. A majority of teachers believe that ICTs offer advantages to classroom teaching and learning, but may struggle with adequate access. Additionally, some teachers have challenges on how to integrate ICTs in their teaching methodologies. The findings show that teachers do understand the benefits of ICTs usage in RE and other school subjects. They do realise that technology is more relevant to learners now than ever before. However, teachers’ positive attitudes towards the use of ICTs do not necessarily lead to its adoption in daily practice as observed at the three selected schools. Data further shows that RE teachers were keen on using ICTs both in class and outside. The reason behind this enthusiasm was that ICTs tend to lessen the work of the teacher and that the learners were more willing to participate and interact in an ICT propelled lesson.

In the next chapter some of the foregoing findings of the study will be discussed further in relation to literature.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

This chapter discusses the findings of the study. The discussion will be done under the following headings: ICTs in education, levels of ICTs usage across the curriculum, and teachers and learners perceptions on the role of ICTs in RE.

5.1 ICTs in Education

ICTs are electronic technologies for collecting, storing, processing, and communicating information. They can be separated into two main categories: (1) those that process information, such as computer systems, and (2) those that disseminate information, such as telecommunications systems (Gunton, 1993: 150). ICTs do not only refer to the latest computer and internet based technologies, but also to simple audio visual aids such as tape and cassette recorders and radio; video cassettes and television; and film. These older and more familiar technologies are referred to under the collective heading of “analogue media” while the newer computer and internet based technologies are called the “digital media”. There are various kinds of ICTs that particular schools and teachers may prefer to adopt as teaching and learning tools and informational resources. The use of ICTs in the teaching and learning processes can be termed as technological convergence.

In general, convergence is a coming together of two or more distinct entities or phenomena. In information technology, convergence is a term that refers to the combination of two or more different technologies in a single device into a ‘user experience’ that is accessible to everyone; in this case the ‘user experience’ refers to the teaching and learning processes in education. Taking pictures, videos and surfing the internet with a cell phone are two of the most common examples of this trend (Whatis.com, 2013). When such convergence or blend of ICTs is used in a classroom situation it plays a crucial role in supporting the delivery of educational resources, particularly syllabus materials.

The adaptive nature of ICTs means that technology can easily support traditional teaching patterns in school subjects. As such, the three studied schools do indicate

that they are determined in lobbying and advocating for the use of ICTs for both administrative and classroom teaching and learning purposes. Caritas, Stephen Luwisha, and Jasmine schools all have cooperating partners who assist in financing and realising the ICT vision of these schools. Caritas is being assisted by OneWorld and Multichoice Zambia, Stephen Luwisha by British Council Connecting Classrooms and Multichoice Zambia, and Jasmine by Multichoice Zambia. The local cooperating partners that provide ICTs assistance to both public and private schools in Kabwe include Maranatha community radio station, KNC community radio station, and TBN television station. Thus ensuring access to the schools in terms of ICTs.

In Watson's (2001) description, ICTs have revolutionized the way people work and are now transforming education systems. As a result, if schools train children in yesterday's skills and technologies they may not be effective and fit in tomorrow's world. This is a sufficient reason for ICTs to win global recognition and attention. For instance, ICTs are dependable tools in facilitating the attainment of one of the Millennium Development Goals (MDGs), which is the achievement of universal primary education by the year 2015.

Kofi Anan, the former United Nations Secretary General, points out that in order to attain the goal of Universal Primary Education by the year 2015; we must ensure that ICTs unlock the door of education systems. This indicates the growing demand and increasingly important place that ICTs could receive in education. Since ICTs provide greater opportunities for teachers and learners to adjust learning and teaching to suit individual needs, society is forcing schools to give appropriate response to this technical innovation.

Papert (1997) identified the following positive effects on students of ICTs in education: enhanced motivation and creativity when confronted by the new learning environments, a greater disposition to research and problem-solving focused on real social situations, more comprehensive assimilation of knowledge in the interdisciplinary ICT environment, systematic encouragement of collaborative work between individuals and groups, ability to generate knowledge, capacity to cope with

rapidly changing complex and uncertain environments, new skills and abilities fostered through technological literacy.

Similarly, Hepp, Hinojosa, Laval and Rehbein (2004) state that the roles ICTs play in the educational system can be pedagogical, cultural, social, professional, and administrative:

- *Pedagogical Tool Role:* ICTs provide a new framework that can foster a revision and an improvement of teaching and learning practices such as collaborative, project based and self-paced learning.
- *Cultural, Social, and Professional Roles:* The cultural, social and professional roles of ICTs are exercised primarily through an effective use of the vast amount of information sources and services available today via Internet and CD-based content for the entire educational community: students, teachers, administrators and parents.
- *Administrative Roles:* ICTs have important roles to play in making school administration less burdensome and more effectively integrated to the official information flow about students, curricula, teachers, budgets and activities through the educational system information pipelines.

Like all innovations that we have come to accept, ICTs also have strengths and weaknesses. Some of the strengths of the ICTs include: Individualization of learning; this means that people learn as individuals and not as a homogenous group. ICTs allow each individual to relate to the medium and its content. This kind of relationship promotes distance education at all levels since access to information becomes relatively easy offering new learning opportunities.

On the other hand some scholars have advanced weaknesses linked with ICTs use. Some issues cited include, high infrastructure and start up costs: It costs money to build ICT systems and to maintain them. ICTs also tend to create a new class of knowledge rich/knowledge poor; those who have access and knowledge through the media become richer and those who do not become poorer, widening the “knowledge or digital gap” between rich and poor. In addition, some pessimists have argued that ICTs are a danger to learners because they promote the creation of a virtual world

that is divorced from nature. They also argue that ICTs are a source of crime such as online fraud, hacking and pornography.

It is true that 'some' learners may end up abusing ICTs to access and view pornographic content through the internet. Others may attempt online fraud and other crimes. While this could happen, especially if ICTs are used by a 'bad' teacher or 'bad' learner, this should not be arguments against the affordances of the ICT tool itself. The fact is that a poorly used ICT tool does not suggest that the ICT is poor or bad in itself. My understanding is that ICTs, when used appropriately and effectively, can enhance teaching and learning. Therefore, this should not be negated by 'bad' teachers and learners who are unable to use the ICTs effectively. I still strongly feel that with adequate supervision and security measures to block undesirable websites, ICTs still remain a rich and vital resource for educational information especially in RE.

5.2 Levels of ICT usage across the curriculum

A great diversity of technical skill levels existed amongst head teachers, teachers and learners of RE. Whenever and wherever an opportunity arose to use ICTs for teaching, learning, and or other purposes, the majority of those interviewed indicated a high willingness to use them. Sometimes this even amounted to some learners using internet enabled mobile phones under the desks during class to browse the internet for information without the consent or permission of the teacher as observed by the researcher in one RE lesson. The performance of learners is sometimes compromised by the distractions of social networking sites such as Facebook, Blackberry Messenger (BBM), Migg, Mixit and Moboo during lessons. These social networking sites have become platforms for 'cold war' among the learners whenever they were in conflict with others.

The main challenge for learners is striking a balance between school work and other competing distractions associated with the use of ICTs in class and outside the class. One problem that many teachers face at the three sampled schools is that learners tend to use ICTs primarily for gaming and social networking. Though this is a common issue, some clever teachers can use this to their advantage by orienting their teaching to supervised gaming and social networking.

While the challenge for teachers is the task of enforcing an effective e-safety policy at school level that should prevent and protect learners from the distractive practices mentioned above. The other challenge teachers may face is the danger of getting hooked on the technology aspect, rather than the subject content. What this means is that the teachers may end up losing their basic research skills and ICTs would enhance library skills for lesson preparation and lesson delivery. However, it is important to note that at two of the three sampled schools, ICTs were moderately and evenly used across the curriculum. The levels of usage varied from teacher to teacher and pupil to pupil as this went with the skill and enthusiasm for ICTs. And like any other educational tool or mode of educational delivery, ICTs do not work for everyone, everywhere in the same way, so you expect a varying usage among teachers and learners.

In his work, Bowers (1988) focuses on the ubiquitous computer and its growing use in instruction. He argues that its use reinforces and strengthens our historical-cultural view of knowledge as power, as the harbinger of progress, and our view of the individual as autonomous and self-directed. Teachers at the three schools sampled stated that ICTs were good tools for teaching and learning but placed more demands on their time. Teachers noted that extra time was needed to learn new software and also to create new teaching materials because greater expectations were being placed upon them. However, in my view, I see the idea of creating their own teaching and learning materials as a positive sign in education. I say so because having their own teaching and learning materials means they have more control over the material used in the classroom than they had the past. I believe ICT use should be adequately planned so as to avoid the feeling that ICTs need extra time for a teacher to create teaching materials. In this case, ICTs should not be used as the sole source of teaching and learning materials.

5.3 Teachers' and Learners' Perceptions on the Role of ICTs in RE

The teachers and learners from the three sampled schools expressed valuing the role of ICTs to be a panacea to the teaching and learning challenges in RE and other school subjects. The researcher agrees with the views of Mitropoulou (2005), who says that the use of ICTs in RE supports and confirms learning processes and changes the negative attitudes of weak pupils into a positive direction.

In line with what Mitropoulou says, and the findings of the study show that ICTs in RE support effective learning by promoting ambience transformation in class, motivation, higher retention levels and increased participation among learners. What is meant by ambience transformation is that the typical atmosphere or mood of the class changes. The change in atmosphere or mood of the class changes in a positive manner as learners and teachers get motivated to work with ICTs. Therefore, once motivation rises in a learning process, the participation levels also automatically go up. This in turn stimulates retention levels to go up among learners. Teaching in such an environment makes learning more interesting and easy to understand concepts.

There were common views that ICTs do help RE teachers teach better and learners learn better. However, there was no straightforward assurance that when ICTs are used then they were simply going to make a positive difference. The findings suggest that on average, Christianity had more application programmes available for teaching and learning in RE. Most computers in the three schools had programmes like Bible Pro, What the Bible Says, Bible Commentaries, and the actual Bible in softcopy. This therefore entails that the way the teachers and learners handle ICTs is what would make a difference in terms of effective lesson delivery in RE.

Given numerous perceptions about the role of ICTs in RE, there are strong grounds to believe that ICTs do improve RE pedagogy. Thus, ICTs are often used as a substitute for RE text books, Bible, and the teachers' exposition. Such intricate but ideal substitutes certainly facilitate the easier learning and teaching process of RE. ICTs in RE increase the concentration levels of learners, participation, ambience, motivation and easy understanding. It was clear that learners and teachers of this age could handle sophisticated pedagogical tools in RE lessons such as ICTs for learning purposes. Through such teaching and learning methodologies, the learner's understanding of RE was greatly increased. Apart from the positive aspects, it was also observed that the use of ICTs could also cause relative disturbance to lessons if not properly handled by teachers or learners. Similarly, Noss and Pachler (1999) also observe and state that, technology has the potential to both enhance and disturb the social interactions upon which the processes of learning primarily depend.

Looking across the respondents at the three schools represented in this study, the researcher gained a broad picture of the kinds of ICTs available in the sampled schools, and the levels of usage. Furthermore, the respondents clearly stated what they perceived were the roles that ICTs played in the teaching and learning of Religious Education. Therefore, the implication of this study is to help the schools and stakeholders that are responsible for providing education services especially RE, to seriously consider the provision and extension of ICTs to teachers and learners of RE in Zambia. As this would greatly benefit RE teachers and learners to become more informed and challenged with RE.

The next chapter presents the conclusion of the study and puts forward recommendations for future research.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

This chapter presents the conclusion and recommendations of the study for future research.

6.1 Conclusion

Religious Education is an extremely sensitive and important subject which needs careful preparation before teaching. In this case, to meet the many challenges and pitfalls that may arise, the growing phenomenon of ICTs offer a solution. ICTs offer a chance to reform the Zambian RE teaching methodologies along ICT lines.

Following the findings of the study from the three schools investigated, the kinds of ICTs mainly available were: mobile phones, desktop computers, TV sets, Educational DSTV kits, printers/scanners, internet connectivity, projectors, CD/DVD players, and various software applications such as Microsoft Encarta, Ubuntu Wikipedia, Encyclopaedia Britannica, Bible Pro, What the Bible Says, Bible Commentaries and the Bible in softcopy.

The levels of ICT usage across the curriculum in the three investigated schools show that head teachers used ICTs for various administrative works such as correspondences, accounts, statistics, and the library. In addition, the teacher's at all three schools used ICTs for various works such as departmental CPDs, internet library, lesson preparation, and actual lesson delivery. The teachers at all the three schools indicated that the use of ICTs across the curriculum was well spread. The learners at all the three schools also indicated using ICTs for various school work and social networking purposes.

It is evident to say that head teachers, teachers and learners of RE in the three investigated secondary schools believe that ICTs play a major role in RE. They believe that ICTs enhance learner engagement and increases the quality of lesson

delivery and learner performance. When used to support teaching in Religious Education, ICTs can positively contribute to the learners' way of learning, including strengthening their higher-order thinking skills (critical thinking, creative thinking, problem solving) and collaborative and interpersonal skills. This study has established teachers' and learners' perceptions on the role of ICTs in RE to be beneficial to both the learners and the teachers in creating a more enabling environment that best fits the present social scenario of increased ICTs in our daily lives. The study revealed much about increased motivation in lessons, easier understanding, higher retention levels, real-life experiences, transformed ambiance and increased creativity that ICTs brought to the RE lessons.

6.2 Recommendations

On the basis of the findings above, the following recommendations are made:

1. Teachers of RE should acquire the necessary skills to enable them make full use of available ICTs in schools.
2. Government and school boards should provide schools with modern ICTs and not e-waste.
3. The Ministry of Education should formulate a deliberate policy for the provision of the position of Education Standards Officer-ICTs at district and provincial level to oversee the correct and safe use of ICTs in RE.
4. The Curriculum Development Centre should recognise the vital role that ICTs play in RE by integrating ICTs in the Zambian RE syllabi.
5. The Ministry of Education, Zambia Education Broadcasting Services and the Zambia Information Communications Technology Authority should formulate an effective e-safety policy to regulate the safe use of ICTs in schools.

Further research could focus on the effects of ICTs on performance in examinations in Religious Education.

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APPENDIX A
INFORMATION SHEET

Researcher: Owen Mulima, School of Education: The University of Zambia.

I am a Masters Student in Education, (Religious Studies) at The University of Zambia. The study I am undertaking is exploring the perceptions of teachers and learners on the role of ICTs in the teaching/learning of Religious Education (RE). The University requires that informed consent be obtained from participants.

I am inviting administrators, teachers and learners to participate in this study. Participants will be interviewed face to face and also observed. Should any participants feel the need to withdraw from the study, they may do so without question at any time before the data is analysed. Just let me know at the time.

Responses collected will form the basis of this research study and will be put into a written report on an anonymous basis. It will not be possible for you to be identified personally. Only grouped responses will be presented in this report. All material collected will be kept confidential. No other person besides me and my supervisor, Dr M. Simuchimba will see the raw data. The thesis will be submitted for marking to the School of Education and deposited in the University Library. It is intended that one or more articles based on the information obtained will be submitted for publication in scholarly journals.

If you have any questions or would like to receive further information about the study, please contact me on 0977804687 or my supervisor, Dr M. Simuchimba, at the School of Education, The University of Zambia, P.O Box 32379, Lusaka.

Owen Mulima

Signed: _____

APPENDIX B

INFORMED CONSENT TO PARTICIPATE IN RESEARCH-TEACHER

My name is Mr. Owen Mulima. I am from The University of Zambia, Great East Road Campus. From the Department of Religious Studies (DRS).

Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate. We are asking you to take part in the research study because we are trying to learn about your perceptions on the role (position/function) of ICTs in the teaching and learning of RE.

1. There are no risks in taking part in this study. Taking part in the study will make you a contributor to the possible improvement of how RE is taught and learnt.
2. If you do not want to be in this study, you do not have to participate. Remember, being in this study is up to you and no one will be upset if you do not want to participate or even if you change your mind later and want to stop.
3. You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me on +260977804687 or ask me next time.
4. Signing your name at the bottom means that you agree to be in this study.

Name and signature of participant

Date:_____

APPENDIX C

INFORMED CONSENT TO PARTICIPATE IN RESEARCH-PUPIL

My name is Mr. Owen Mulima. I am from The University of Zambia, Great East Road Campus. From the Department of Religious Studies (DRS).

Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate. We are asking you to take part in the research study because we are trying to learn about your perceptions on the role (position/function) of ICTs in the teaching and learning of RE.

1. If you agree to be in this study we shall ask you questions about how you learn RE.
2. There are no risks in taking part in this study. Taking part in the study will make you a contributor to the possible improvement of how RE is taught and learnt.
3. Please talk this over with your parents before you decide whether or not to participate.
4. If you do not want to be in this study, you do not have to participate. Remember, being in this study is up to you and no one will be upset if you do not want to participate or even if you change your mind later and want to stop.
5. You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me on +260977804687 or ask me next time.
6. Signing your name at the bottom means that you agree to be in this study.

Name and signature of participant

Date: _____

APPENDIX D

FACE TO FACE INTERVIEW GUIDE FOR HEAD TEACHERS

Interviewer: _____

Interviewee: _____ School: _____ Date: _____

Place: _____ Start Time: _____ Archival #: _____

Please note that this is a purely academic study which seeks to investigate the perceptions of teachers and learners on the role ICTs in Religious Education.

1. What are the levels of ICTs usage in your school?
2. What kinds of ICTs facilities are available in your school?
3. Do you as a school have any ICT training programme for teachers and pupils?
4. Do you have a particular teacher in charge of ICTs in your school?
5. Do teachers use ICTs in their teaching?
6. Do you use ICTs across the school curriculum?
7. In your view, are some school subjects better suited for use of ICTs compared to RE? If yes, which subjects?
8. What benefits do you think come with the use of ICTs in teaching?
9. What is your view about the use of ICTs in teaching RE and learning?

10. Is there anything else you would like to share regarding the role of ICTs in teaching?

11. How would you describe the attitude of RE teachers towards the use of ICTs?

End Time: _____

Thank you for your time and participation in this study.

APPENDIX E

FOCUS GROUP INTERVIEW GUIDE FOR TEACHERS

Interviewer: _____

Interviewee: _____ School: _____ Date: _____

Place: _____ Start Time: _____ Archival #: _____

Remember, this is a purely academic study which seeks to investigate the perceptions of teachers and learners on the role of ICTs in RE teaching and learning. The information you give will not be use against you or the school in any way.

1. How would you define technology integration in the classroom?
2. What kind of ICTs facilities are available in your school?
3. How do you use ICTs in RE lessons? What ICTs do you use?
4. Are some school subjects better suited for use of ICTs compared to RE? If yes, which subjects? Why?
5. When planning to use ICTs in RE lessons, do you consider whether the ICTs are going to add value to the lesson/activity? If yes, explain.
6. How can ICTs support knowledge acquisition in RE?
7. How can ICTs support comprehension in RE?
8. How can ICTs help with the cognitive needs of RE pupils?
9. Do ICTs enable the learning objectives of the lesson to be achieved more effectively?
10. How can ICTs be used to present, comment on and discuss learners work?

11. Do you receive any kind of support on the use of ICTs from the administration and the Ministry of Education?

12. How can ICTs support assessment in RE?

13. Is there anything else you would like to add concerning the use of ICTs in RE teaching and learning?

End Time: _____

Thank you, sir/madam, for taking some time off your busy schedule to participate in this interview.

APPENDIX F

FOCUS GROUP INTERVIEW GUIDE FOR PUPILS/LEARNERS

Interviewer: _____

Interviewee: _____ School: _____ Date: _____

Place: _____ Start Time: _____ Archival #: _____

1. What ICTs are you familiar with?
2. What ICTs facilities do you have in your school?
3. Do you have access to ICTs in school and at home?
4. Do you or some of your friends in school come with ICTs to school?
5. If yes, do they use the ICTs for learning purposes?
6. Does your RE teacher teach using any of the ICTs facilities in your lessons?
If yes, explain.
7. Should ICTs be used in RE lessons? Why?
8. Do ICTs improve learning in RE?
9. Do other teachers in other subjects use ICTs? Give examples.
10. How often do you use ICTs in RE compared to other subjects?
11. When ICTs are used in RE, do you understand the lessons better or not?
Explain.
12. Does the school teach you how to use ICTs?
13. How often do you use ICTs in RE projects, exercises or homework?

End Time: _____

Thank you for your time and participation in this study.

APPENDIX G

LESSON OBSERVATION CHECKLIST FOR RE LESSONS

Observer: _____

School: _____ Class _____

Lesson: _____

Date: _____ Time _____ Archival #: _____

	INDICATOR	YES	NO	COMMENT
1	Availability of ICTs as teaching/learning aids?			
2	Actual use of ICTs in the classroom?			
3	Learner opportunities to use ICTs as a source of information?			
4	Teacher encouragement for pupils to use ICTs for problem solving?			
5	Does the homework given promote use of ICTs in finding solutions?			
6	Do teachers challenge and inspire pupils to work with ICTs?			
7	Are the teachers an effective role model for pupils in their use of ICTs?			
8	Are pupils own ideas and experiences of the use of ICTs used by the teachers?			