

**Educators' Experiences of Information Communications  
Technology (ICT) policy implementation in Lesotho Secondary  
Schools: A Case study of the two schools**

BY

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## DECLARATION

I, **Florence Kolutsoe Marumo**, declare that the work contained in this dissertation is my own original work which has not been submitted previously at any university for any degree.

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*10.04.2008*

*10/04/08*

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## **DEDICATION**

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## **ABSTRACT**

This research focuses on the Information and Communications Technology (ICT) policy implementation at the secondary schools in Lesotho. This is a country where global disparities between technologically well-managed skills and uses of ICT in the education sectors are starkly evident. The researcher explores the educators' experiences on the use of ICT at their schools to determine how ICT is situated and contextualised in response to the government mission of Vision 2020 that all schools will be computer literate in 2015.

A Case study using the mixed mode approach was held at the two schools with the 'tools' merged in the Activity Theory to frame the study to construct real social change for the schools. To get to the insight of the schools, Semi-Structured Interviews were held between the Principals, the Deputy Principals (DPs), the Heads of Department (HODs) and the Subject Specialists from the core subjects i.e. English, Sesotho, Maths and Science. The classroom observations were held with ICT Subject Specialists to observe the application of ICT in the teaching and learning of the computer skills for implementation of ICT. Furthermore, documentary sources of the schools were analyzed to assess authenticity, reliability and theorization of the ICT policy implementation.

The findings of the study reported that many educators were positive that they would implement ICT policy in the schools but lack skills in ICT literacy. In reference to the ICT policy document as the 'tool' for transformation, its parts were too fragmented; ICT services did not fit neatly into the classrooms, implementation had been a top down process, and it needed restructuring. The study concludes that the government laid the foundation for reform. Therefore, training for educators on ICT should be accomplished and the ICT activities should be maintained. Mainly, being the revision of the current ICT policy, the procurement of funds to source the ICT infrastructure and to set a transition on ICT exploitation from Primary Schools to Secondary Schools in Lesotho.

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## Terminology

The following terms are defined according to the ways in which they were used in this research.

**Ministry of Education and Training (MoET):** The government institution responsible to perform services on all the educational issues for effective and efficient education.

**Educators:** Professionals engaged to promote the teaching and learning in the schools.

**Experience(s):** Knowledge acquired from work or in life, skills, attitudes, ideas and perceptions of a certain concept or a phenomenon.

**Subject specialists:** Educators specializing in the different fields of education to teach subjects in the area of their specialization to learners, for example, ICT.

**Heads of departments (HODs):** Educators responsible for different subjects taught in the school, even if they were not specialists in the particular subjects but used their general knowledge of the activities to promote the subject by performing different tasks: meetings, supervising, monitoring and maintaining discipline.

**Principal:** Head of school, an overseer, a manager and an administrator who sets and promotes the school Vision.

**Education officer(s):** The Ministry of Education and Training (MoET) officials performing educational duties at the district level. One of the main duties is the primary schools inspection.

**Inspector:** The experienced educator promoted to the civil service and placed in the central region. She/he has specialized in a particular subject, for example, English to

promote its teaching and learning, and to perform ministerial duties and to implement government policies at the secondary and high schools.

**Chief education officer (CEO):** The senior official in charge of the secondary schools inspectorate in the MoET.

**Central Inspectorate:** The secondary education department is operating under the central inspectorate covering the secondary and high schools, the special education section, the government and community schools and the advisory services for secondary schools.

**National Curriculum Development Centre (NCDC):** The curriculum developers' office for the subject specialists in primary and secondary schools in the MoET.

**Examinations Council of Lesotho (EcOL):** The responsible body for the running of the school examinations for the whole country.

**Proprietors:** School bodies who have a right of ownership to schools belonging to different religious affiliations, the private, the community and government owned schools.

**Stakeholders:** People who have a right in decision making and are affected by decisions formulated for a particular institution on public and non-governmental sectors.

**Junior Certificate (JC):** Post-primary school leaving certificate or examination in preparation for secondary education at the high schools.

**Cambridge Overseas School Certificate (COSC):** Post-secondary school leaving certificate or examination in preparation for tertiary education.

**Computer literacy:** Basic knowledge of computer skills.

**ICT literacy:** Basic knowledge to use technological devices in multi-media to acquire information for communication at all levels.

**Learners:** Students or pupils engaged in learning at the formal institutions i.e. schools.

# **Chapter 1**

## **1.1 INTRODUCTION**

This chapter is based on giving a clear focus, purpose, rationale and recognition of the problems encountered in the field of Information Communications Technology (ICT) at schools. The objectives of the research are clearly spelt out to address the research questions. The background of the study, statement of the problem, related review of literature, limitations of the research and how its organization is achieved are presented.

## **1.2 Focus and the purpose of study**

The study was undertaken to explore the experiences of educators with respect to the implementation of Information Communication Technology (ICT) policy in Lesotho Secondary Schools to provide ways, procedures, suggestions and guidelines that would lead to the use of ICT at schools. The focus of the study was mainly based on the Secondary Schools where the researcher was familiar with the education, culture and the environmental issues of the schools while conducting school visits during the inspection when she was at work. Her task, imposed on her by the Ministry of Education and Training (MoET) was to see that by the year 2015 all the schools should have successfully developed ICT skills. This could be maintained by ensuring that ICT literacy would be part of the core curriculum. Educators should expand access to education as well as improving the quality and efficiency of education in Lesotho by using ICT. The researcher believes that ICT is used to handle information and to aid communication by the use of computers, the internet, CD-ROMs, radio, television, video and digital cameras, to aid the educators' work in teaching and learning. To emphasize this, Marsh (1997) states that many countries during the 1980s and 1990s introduced technology into the curriculum as a new subject; the motive was to prepare learners for the 21<sup>st</sup> Century.

## **1.3 Rationale**

The visionary perspective of ICT policy formulation for Lesotho was a driving force for every educator in the Ministry of Training and Education (MoET) towards the implementation of the 2005 ICT policy stating that educational institutions must play a major role in improving mechanisms that develop a society that is ICT literate and

capable of producing local ICT products and services. In response to this the ministerial key goal for the achievement of Vision 2015 was to ensure that ICT literacy was a part of the Core Curriculum. As the Inspector for Commercial Subjects and Information and Communications Technology (ICT) in the Ministry of Education and Training. The researcher was assigned tasks and assignments by the Ministry of Education and Training (MoET) to undergo training in the Republic of South Africa at the University of KwaZulu-Natal (UKZN) to be equipped with the research skills for researching the implementation of the ICT policy at the Secondary Schools, and to implement the policy set by the government on the teaching and learning of ICT at the Secondary Schools. To accept this challenge, I felt a need to research the educators' experiences and perceptions in order to generate the correct guidelines and measures to implement ICT at the Secondary Schools. This study was not only for the benefit of the MoET but would be part of lifelong learning for the researcher to extend her professionalism in learning from being a Typewriting educator to diversify into the field of research and computers in Educational Technology.

The researcher, as an experienced educator and an Inspector of Schools, has noticed during regular school visits and through an analysis of results that the standard and quality of education in the Secondary Schools has deteriorated post independence. There was a high rate of failure in most schools since 1966 when Lesotho obtained independence from the British colonial regime. Junior Certificate (JC) or grade 10 and Cambridge Overseas School Certificate (COSC) or matriculation results became unsatisfactory to most Basotho students. To settle this concern, during the post – independence era, several attempts were made by all the education stakeholders to improve on the system. However, reasons offered for poor academic performance would be attributed to many factors such as politics and socio-economic status of the country. Another reason was that learners were taught subjects preparing them for “a white collar job” in future, the curriculum was not meant to train learners for their life skills and practical subjects. The then JC and COSC examinations were recognized as irrelevant for the needs of the country. Therefore, there was a need for a change in the curriculum as indicated that:

Until recently however, the curriculum has been largely academic. It was a curriculum that evolved in England in the early 20<sup>th</sup> century and it was appropriate for a time and a place. But it is 1976 now, and the

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place is Lesotho, not England. The curriculum was simply not appropriate (The Ministry of Education, Sports and Culture Annual Report 1974 / 76 cited in Nketekete 2001).

In 1980, the Lesotho Government Curriculum developers formulated a policy on implementation of ICT in schools that all learners should have the computer skills by 2015. A change on the curriculum took place in 1983 whereby JC Curriculum was aligned to COSC Curriculum to improve the performance on both examinations. However, the five year secondary education was introduced from Form A, B, C, D and E classes, together with the new syllabuses. Innovations on improving the system of education were made, enthusiasm for new technology raised hopes that ICT was good for teaching and learning. To acquire this change, a Southern African seminar on computers in education was held in 1996 at Maseru Sun sponsored by United Nations Educational Science and Cultural Organization (UNESCO). The report following a survey made by a researcher from the National University of Lesotho (NUL) was presented to find the way forward for the computers in education. The former Chief Education Officer (CEO) for the Central Inspectorate Mr Litsiba Mahloka in his presentation paper at the seminar reiterated that the MoET should formulate a well-articulated policy for ICT.

The researcher identified the work of educators on resource materials and their human resources, so that she could draw on the problems, attempted solutions and successes achieved by educators in ICT. Her concern was with teachers because she wanted to know how they implemented ICT and their experiences. Lastly, it was the researcher's intention that the study should be used to develop and improve the quality and efficiency in education. She assumed that the study would benefit the schools, the inspectorate and the curriculum specialists in decision making and goal development. It was envisaged that the research would be beneficial nationwide in the achievement of the mission on Vision 2020.

#### **1.4 Broad problems and issues in the field of study**

The researcher found it very disempowering not to have access to computers and other technological devices like a camera. In Lesotho most learners do not learn to operate cameras until they entered higher institutions of education. The system of learning, in terms of technological innovations in schools, appeared to lag behind those in first world countries. The impoverishment of the African continent was emphasized primarily by the

legacy of colonialism, the cold war and the inadequacies of and shortcomings in the policies pursued by many countries in the post-independence era. In emphasis of this,

Baumgartner (2003) contends that Radio France International speaks of a brutal battle in Africa and a desperate situation in technology, with the exception of South Africa. This constitutes a serious threat to global stability. Therefore, closing the gap of the poverty and backwardness the researcher felt that all the educators in Lesotho could facilitate the implementation of ICT at schools, if they were adequately empowered and resourced.

The intention of this research was to explore the experiences educators had of ICT implementation in Secondary Schools. The researcher used ideas from the United Nations Educational Science and Cultural Organization's conference held in Maseru in 1996, to which Ms Jeanette Vogelaar was sent as a representative of the United Nations Educational Science and Cultural Organization (UNESCO). Ms Vogelaar indicated that the priority of the organization was to promote lifelong learning on ICT in the Southern African region. Its aim was to create open learning environments in ICT, and to overcome barriers to socio-political and economic advancement in Africa. These barriers caused major problems in Lesotho, as the Chief Education Officer reported that out of 200 Secondary Schools there, only 14 offered Computer Studies. There were only six teachers offering the subject, of whom five were not Lesotho citizens. The Lesotho College of Education (LCE) and the National University of Lesotho (NUL) did not have computer skills training within their curricula. There was therefore a shortage of human and material resources and training for educators in ICT.

### **1.5 Objectives**

- **To investigate the educators' experiences of the implementation of ICT policy in Lesotho Secondary Schools.**
- **To generate guidelines for successful implementation of ICT policy in Lesotho Secondary Schools.**

In the year 2000 there was a mandate in all the Government Ministries to develop a long term vision that would guide all the national policies formulated for the transformation which was expected to take place throughout the country. This happened because it was realized by the policy makers that since independence in 1966, the country had been operating on short and medium term strategic plans for individual institutions whereas

there was no long-term strategic planning for the whole country. To address this need, the Report of the National Dialogue on the Development of a National Vision for Lesotho was issued by the Kingdom of Lesotho (2001) stating that a directive to the senior officials should be issued to draw up a framework and develop a national vision that accommodated all sectors. On the 8-10 March 2000 the senior government officials held the workshop at Oxbow Lodge to lay the foundation for a clear and well explicit vision for Lesotho into the year 2020. It was called “Vision 2020.” On 17-19 January 2001, it was reported that a forum consisting of the government and non-governmental organisations (NGO), business outlets, parliamentarians, political leaders and chiefs was held at Manthabiseng Senatsi Convention Centre whereby His Excellency the King Letsie 111 made a request in his speech on a call from the throne, stating that:

Development in all aspects of our life has stalled. It is for this reason that we need to come together and chart the way forward for our country for the next ten or twenty years. All sectors of our nation need to agree on plans and strategies to employ in order to achieve our long-term national development at the stated time (Kingdom of Lesotho, 2001, p. 4).

In March 2005 the Ministry of Communications Science and Technology formulated its ICT Policy, but the document did not go into detail concerning the Educational Sector or the part to be played by the MoET. The problems of implementing this policy emerged from the fact that there were no proper guidelines, and therefore different schools and educators implemented ICT in their own way. For instance, some schools taught Computer Studies as a subject while others had no access to computers at all.

### **1.5.1 Key research questions**

The study is intended to address the following questions:

- **What experiences do educators have of the implementation of ICT in Lesotho secondary schools?**
- **What guidelines can be generated to facilitate optimal ICT policy implementation in Lesotho Secondary Schools?**

### **1.6 The researcher’s stand on ICT**

The researcher’s stand on ICT was determined by her experiences, the related literature reviewed and the theories used to frame this study. Readers may therefore find it difficult

to position her because of the multiple roles she handled at work. The researcher was a practicing teacher a long time ago, before the emergence of new, multi-media technology in Lesotho. The only technological device used to facilitate learning was “a chalk board” and a typewriter to teach typewriting in modern schools. As the researcher was an experienced teacher who taught commercial subjects and typewriting at the secondary schools, and is at present an education officer and an Inspector for Schools she became an agent for change through the influences and challenges she experienced during her duties at work. She had a clear knowledge of the kind of education offered at schools, which tended to be a traditional or teacher-centred education. The main purpose of the researcher as regards the strategic goals and objectives set by the MoET in terms of the ICT Policy was to lay the foundations which would allow all schools successfully to develop ICT skills by the year 2015. This could most efficiently be achieved by ensuring that ICT literacy was given first priority by educators so that they can expand access to learners. This priority on the part of educators would be of utmost importance as it would improve the efficiency and quality of education, especially as regards computer-based education. The researcher believed that computer-based teaching and learning can help to bring about transformation as it deals with the unmasking of obsolete practices in the classroom situation.

The researcher is interested in change and would like to see change happen in the Secondary Schools of Lesotho. She is a Constructivist and has, in the present study embraced Constructivism theorists. Constructivism knowledge does not exist outside the human mind and that what human beings know of ‘reality’ is individually and ‘socially constructed’ being based on prior experience (Richardson 1997).

### **1.7 Review of the related literature**

According to Haydn and Counsell (2003) the former US President, Bill Clinton, declared in a political speech that introducing computers into schools would make education better. This notion was taken up by different countries of the world, and ICT implementation at schools was given high priority. In support of this policy, Putman (1996) cited in Haydn and Counsell (2003, p. 13) contends that “Bill Clinton’s declaration that the goal of education in the twenty-first century is to have a laptop computer on every student’s desk” deserves support from educators. Thus in Australia, Toomey and Ekin-Smyth (2001) state that in 1995 the Department of Education in the

state of Victoria launched the Support Schools Project on ICT and that the quality of learning has improved state-wide. In New Zealand the Education Review Office (2000) states that teachers were more confident in using ICT resources because of the availability of good quality materials and resources, for example, digital projectors and whiteboards. In the Southern African Development Community (SADC) countries, the Department of Education (2003) in South Africa mentions that the former Minister of Education Professor Kader Asmal aims at making every South African learner capable of using ICT confidently and creatively by the year 2013. In addition to this, the Minister of Education, Ms. Naledi Pandor, in her key note address states that the true spirit of 'Tirisano' (Working together) requires the private sector and the public sector to work together to promote high quality learning and teaching by the provision of ICT in education (Department of Education 2004).

Considering this widespread emphasis on ICT in education, my research focuses on how Lesotho is moving towards the goal of implementing ICT policy. By the year 2015 the country should have successfully developed ICT skills at schools. Educational institutions play a major role in facilitating ICT skills. This was achieved by ensuring that ICT literacy is part of core curricula (Ministry of Communications Science and Technology, 2005). Educators should expand access to education as well as improving the standard of education by using ICT.

Magetse and Wilhelm (2003) highlight that one of the main goals of curriculum developers in Botswana was to teach a basic computer awareness course to every learner. It was also stated that the senior secondary school educators should acquire computer literacy to prepare for effective implementation. The Botswana government anticipates that by the year 2016 the country will have achieved the development of ICT infrastructure and usage. Most of the SADC countries are facing transformation in schools, and the introduction of ICT has brought forth the benefits of the information age to young people who are capable of using the technological devices to improve the educational system. Gelbstein and Kamal (2003, p. 112) report that United Nations Secretary General Kofi Annan in the World Summit in Geneva on the Information Society in 2003 emphasised that "ICT is not a panacea or magic formula, but it can improve the lives of everyone on earth towards the millennium development goals."

Countries have tried to find a match between their educational systems and ICT implementation. Haydn and Counsell (2003), report that the Pacific Rim education system has been one of the earliest to realise that education is not mainly a question of filling up the classrooms with computers, but rather a need to focus on how children learn and the design of computer activities to support these needs. This stage involved thinking of what it meant to change. In this study exploring educators' feelings, ideas and perspectives in their different educational experiences would help understand how to move towards successful implementation of ICT in Lesotho schools. Using the researcher's experiences, it was realized that a set of experiences from educators played a vital role because it would give a clear guide of what was supposed to be done before implementation. Of course, that was "planning". In the implementation process, there must be clear goals and outcomes to determine the success of implementation. Organized strategies must be set to prepare for a new change which was expected to happen in the Secondary Schools.

## **1.8 Conceptual and the Theoretical frameworks**

The conceptual framework was structured in a manner suitable for the introduction of the concepts of the study. Those concepts were **ICT, ICT policy** and **implementation** explained thus:

### **1.8.1 ICT**

ICT is an acronym for Information Communications Technology and is used as a key term to indicate the dynamism that can be achieved with the convergence of computing and telecommunications. Putting the 'C' in the middle of the IT is important because it emphasizes the inclusion of communications between different devices used in technology. The present researcher believes that it is the combination of Information Technology (IT) and Communications Technology (CT) that adds major value to the use of the technology in educational interventions (UNESCO, 2000).

**1.8.2 ICT policy:** According to Collins English Dictionary (1994, p. 1203) a policy is "a plan of action adopted by an individual, government, party, business, etc." The Lesotho Government has developed the Information and Communications Technology (ICT) policy as a tool to enable Lesotho to achieve its development goals as highlighted in Lesotho Vision 2020 policy document. The purpose of ICT policy formulation was to

provide the nation with a vision and strategy for becoming a fully integrated member of the Information Society.

### **1.8.3 Implementation**

In this study the researcher refers to implementation of ICT policy in Lesotho Secondary Schools. The process was to implement the ministerial or institutional goals and to indicate how progress could be measured. It was also necessary to indicate a time frame (Ministry of Communications Science and Technology 2005).

The study was based in the Interpretivist paradigm whereby Fullan (1991) was regarded as the key theorist in triangulation with the 'Activity Theory' and Social Constructivism to make a thick frame of the study. As the focus of the study was on ICT policy implementation at schools, it dealt with the educational change, which Fullan (1991) regards as both simple and complex to define. The present researcher evolved her definition and defined the educational change which could result from implementation of an ICT-related policy. According to her view, based on Fullan (1991), the policy implementation was a result of learning in a social setting and was a function of observing behaviour. In this study human behaviour was observed from reviewing educators' experiences in their settings, the schools where the research was conducted. Fullan (1991) relates that educational change was a learning experience for adults such as educators and administrators, meaning that a change is easier when administrators and educators can associate it with their experiences.

The educators' experiences will be analyzed by the researcher and used to generate guidelines for policy implementation. Fullan (1991) however asserts that no single theory can serve to explain the complexity of policy implementation, while Kim (2001) argues that theorists like Vygotsky use 'social constructivism' to understand the implementation process. Social constructivist theorists state that development is achieved through environmental experiences. Educators' experiences therefore provided a very vital and explicit way to ICT policy implementation. Educators for fear of the unknown, in the face of technological skills which they were newly encountering, were a barrier.

Fullan (1991) mentions that educational changes were adopted piecemeal, without any thought as to whether the sum total of what was expected could be implemented. The

truth is that factors like resistance to change, uncertainty and lack of interest amongst educators, can impede educational change.

The MoET senior officials were all aware that change could make a difference in the education system and therefore, employing theories of social development would be fruitful for an exploration of educators' experiences of ICT implementation. Furthermore researchers of social development follow trails of evidence by examining the participants' experiences. This would allow the researcher to make recommendations and guidelines for implementing ICT in Lesotho Secondary Schools. According to Muwanga-Zake (2005) change was regarded as transformation by political leaders, meaning that it had a political connotation. Different countries implement policies to promote their political manifesto to set up the stability of their political parties. In Lesotho for example, the policy of automatic promotion for learners was implemented during the reign of the Basotholand National Party (BNP) in 1973 to set momentum for the ruling party. Automatic promotion was introduced, by which there were no failures from Form A-C (junior certificate) / Grade 8-10. All students enrolled in those classes were promoted to the next level of class even if a student's marks were very low. To emphasize this, Fullan (1991, p.65) quoted the outgoing Deputy Minister of Education speaking to a colleague saying, "Well, the hard work is done. We have the policy passed; now all you have to do is implement it." Fullan (1991) wants to show that policy implementation was made mandatory by politicians, without their making proper arrangements for the implementation. The researcher observed that the policy was entirely a political matter and inspectors were used as a rubber stamp. She also noticed that when making policies, people at grass-roots level were not consulted; therefore problems arose during implementation of that policy.

Within the theoretical frame of activity theory, the researcher has included constructivism, to make this study successful through the use of a diversity of theories. The theories have shown that predictions and assumptions were made by governmental authorities which cannot be guaranteed. Guidelines for ICT policy implementation in Lesotho Secondary Schools must be arrived at by exploring the educators' experiences encountered in education. Fullan (1991) and Kim (2001) make a strong argument that activity theory is suitable to determine policy implementation as it reflects the experiences of other people who have tried to solve similar problems. To make a rich



framework for this study, the Activity Theory on implementation of a policy will be employed. This theory is explained further in chapter 3 of the theoretical framework.

### **1.9 Research design and methodology**

Qualitative design was chosen as an approach to explore the educators' experiences by collecting data, analyzing data and recording procedures that would be applicable to the findings. According to Lincoln and Guba in Maykut and Morehouse (1994) Qualitative study "accumulates sufficient knowledge to lead to understanding", meaning that it allowed the important understanding to be discovered. The Case study methodology was used to conduct this research in three schools. As the study is an exploratory research, Bauer and Gaskell (2003) contend that the Case study involves collecting data through observations, interviews and documentations; therefore, the Case study would be used for data collection in this research. The research questions would be answered in relation with the findings on educators' experiences from the mentioned methods.

#### **1.9.1 Research methods and tools**

A triangulation on interviews, observations and documentation analysis would be used to answer the research questions.

#### **1.9.2 Sampling**

Non-probability sampling, which implies that the sample is chosen with a particular purpose in mind, underpins the study. As Khoza (undated) indicates, 'the different types of sampling on a non-probability basis were convenient, judgement and quota sampling'. For the purpose of the study convenient sampling was used as explained in chapter 4 (Sampling).

#### **1.9.3 Trustworthiness of the study**

Krefting (1990) postulates that truth; applicability, consistency and neutrality are found in qualitative research. To address the situation on trustworthiness, my study was limited to secondary schools only. Therefore, it would not be generalized in regard to primary schools and tertiary institutions. In this case, Guba's model of trustworthiness would be applicable in this research (Guba, 1990).

#### **1.9.4 Data Analysis**

Data would be organized in line with research questions formulated. The findings from the interviews, observations and documents would be analyzed systematically. De Vos (2002) regards the data sorted and arranged according to themes and categories as data management. Therefore, the analytic code should be employed for persistent words, phrases and themes to be sorted and retrieved by a personal computer.

#### **1.9.5 Design limitations**

The research was limited in two ways. The first limitation relates to the dual roles of the researcher as both researcher and inspector of schools. In particular, it was possible that some participants could be wary if they thought the researcher's role was one of ministerial watchdog and spy. It was thus important that a good rapport be established and a comprehensive explanation be given about the aim of the study.

The second limitation of the study came about because of government's decision related to the sequencing of the introduction of ICT in secondary schools rather than the apparently more logical starting point of primary schools. Secondary school educators normally build on foundation knowledge gained in the primary phase and thus many educators found it difficult to introduce a new subject area from basics. This was addressed by explaining to educators that keeping up with technological interventions requires life-long learning and that it will always be necessary to develop new skills in the area regardless of age, time or place. However, this resistance to new curriculum developments so late in the education system required careful handling to encourage "buy-in" from educators'.

**1.9.6 Ethical issues:** Respect for the rights of the participants is expressed by Cohen, Manion and Morrison (2000) as likely to obtain informed consent. Anonymity, privacy and confidentiality would be acknowledged by the researcher before data collection. To address all the ethics, the researcher would make the aim of this study clear to the participants and give respect to their ideas, views and attitudes. If ever the participants were not interested in the research, they were given chance to opt out.

## **1.10 Conclusion**

Chapter 1 of this research presents the topic of the study, the focus of the research, the objectives and the study purpose. Chapter 2 reviews the related literature with a citation of books, journals, newspapers, magazines, documents, audio-visual materials and online materials to support the rationale of the study. Chapter 3 locates the theoretical and conceptual framework by giving an explanation to the key theorists and the study concepts. Chapter 4 covers the research design and methodology, data collection, methods and tools used for data collection, the sample, the study pilot, the data analysis and the trustworthiness to find the rigor of the study, the design limitations and the ethical issues. Chapter 5 presents the study findings, and the discussion of the findings is in Chapter 6. Chapter 7 concludes the study and offers recommendations to the Ministry of Education and Training, as well as to the schools.

## Chapter 2

### Literature Review

#### **2.1 Introduction**

In this chapter the review of related literature was based on the exploration of Educators' experiences of Information Communications Technology (ICT) policy implementation in three Lesotho Secondary Schools. The literature focus would review the experiences on the implementation of ICT policy at schools from the national and the international perspectives. The purpose was to bring different strategies set for ICT policy implementation in different countries to draw the proper guidelines and strategies for Lesotho.

#### **2.2 Policy Making in Education**

Lesotho like other SADC countries had set priorities to meet their Vision 2020 requirements. These priorities include the need to improve the quality and standard of education as well as the need to develop a special emphasis on the use of ICT in Secondary Education. However, Lieberman and Mc Laughlin (1982, p. 249) warn “much of policy arrives complete with the myth on paper statements expressing broad goals but unrealistic [goals]”, and Marsh (1997) concurs by pointing out that senior officials lack experience in the day-to-day running of the schools and classroom activities. It is this fundamental gap between policy makers and the real school situation that this research intends to interrogate.

Policies were given as a mandate from the top hierarchy of the ministries to the subordinates to put into practice. A critical point here was that, mainly, the minister's focus was on the issue of a formulated policy without looking forward to making proper arrangements for the implementation. In his mandate he should have considered the strategies to be taken, a plan and a course of action to implement a policy. In support of this, Fullan (1991) contends that if an idea or a new concept is to be implemented to change the system of education the concept must be translated into practice. Knowledge from implementers played a vital role because it would give a clear guide of what was supposed to be done. In the implementation of (ICT), there must be clear goals and

outcomes to determine the success of implementation. Organised strategies must be prepared if a change is to be brought about in schools. These strategies must be coordinated in the form of activities and programmes, i.e. who is going to do what and when. Fullan (1991) argues that an educational change is a learning experience for educators and administrators, and if it is too difficult to understand, implementation will not occur. From this perspective, factors that caused and affected implementation of ICT in Lesotho Secondary Schools must be understood.

### **2.3 Implementation of ICT in the schools**

“The computer can be a fabulous tool. But the dirty little secret is that no one really knows what to do with this stuff” (Warhaftig quoted in Banks and Renwick, 1997 cited in Counsell and Haydn 2003, p. 249).

This statement highlighted the view that the learning of ICT through computer usage could be complex. Educators should take time to find the best approach in teaching and learning. In Lesotho the system of education since the country became independence in 1966 has prepared children for ‘white collar’ jobs, in order to develop the country. Educators and learners remained relatively backward technologically. Technical and practical work was seen as mainly the work of the uneducated people without certificates. Commercial subjects, mainly Typewriting, were offered as optional, against other subjects in the school curriculum, and was seen as leading to secretarial work for girls. This was inadequate and gender stereo-typed as it was available for both sexes, or for professionals or people with highly valued skills. Practical subjects were categorized as ‘blue collar’ and for the unskilled and the semi-skilled labourers. To find a solution to these problems the country tried several ways until the development of the ICT policy in 2005.

The Soviet Union had its own way of implementing ICT, and the researcher considers it as one of the most developed in computer usage and technology. All teachers in tertiary educational institutions were given courses in computer literacy. Basing views on this successful experiment, the researcher decided that exploring the feelings, ideas and perspectives of educators towards the implementation of ICT would lead to successful implementation. According to Lieberman and Mc Laughlin (1982) the development of good computer-based instruction is difficult and time consuming because of lack of

teaching methods and skills. Therefore, teachers should be trained in the field of computers to enable change to happen at the schools.

### **2.3.1 Computers in the Schools: Implications of Change**

Moskowitz and Birman (1985) have researched the use of computers in order to decide how to introduce the use of microcomputers in large city schools. Their research questions were as follows:

1. Do district officials have a clear plan for the implementation of the ICT in schools policy?
2. How do pupils, teachers and administrators view educational technology?
3. What role is played by the pupils, parents, teachers and the government in implementing computers in schools?

The answer to these questions can give significance and relevance of the study or a map to what kind of literature can be reviewed for the study. The literature would be based on issues concerning ICT and its implementation, comparative studies with other countries and different Case studies findings.

According to Moskowitz and Birman (1985), Case studies were conducted to give a clear representation, validity and reliability of the study. They indicated that the introduction of microcomputers in large city school districts and suburban school districts was a good start to implement ICT. The districts were chosen for their geographical position to determine differences in the use of microcomputers. Visits were made to the two districts, and information was obtained through interviews. The methodology used was ethnographic because it was suitable for visual research. However, there was triangulation in the application of methods used; for example, interviews, observations and tape recorders. This study was regarded interesting and beneficial to new researchers whose focus was on implementation of ICT. Novice researchers read and reviewed journal articles such as Moskowitz and Birman (1985) to obtain more evidence from different researchers and to find the correct measurements in this kind of research. The researcher thought that dealing with educators' experiences for the teaching and learning of computers at schools will bring change. The findings of Moskowitz and Birman (1985) implicated that Case studies should not be generalised as the schools differ in administration, location and resources.

Johnston (2001) postulates that the Chairperson of the General Teaching Council in Britain, David Puttnam, also supported a motion that ICT must evolve if schools were to benefit the world. Puttnam has held different high ranking portfolios in the United Kingdom (UK). In his keynote address to the General Teaching Council, he said “teachers make a difference to ICT at schools” (Johnston 2001, p.13). In answer to this, Walker (2001) indicated that Paula Goddard, an experienced teacher and a civil servant gave up her job at the office and became a motivator for schools in ICT implementation. Her sessions with learners were very cheerful, and it was very rare to find any learner who did not enjoy ICT.

To make ICT popular in schools, educators who had experience in the use of technology should motivate pupils about their career of which computing was likely to be a part. Goddard’s experience suggested that it was not easy for her to make path for ICT at schools. Instead, she encouraged other educators to make use of the equipment they had at school such as computers and write whatever they liked. Goddard used this as a technique to familiarize educators to use computers. Johnston (2001) adds that it is “insane” not to develop educational technology because it will be the platform for young children. In Lesotho facing implementation of ICT was a big concern.

#### **2.4 Technology Based Learning vs Traditional Learning**

Rushby (1987) says that the main objective of change in the Curriculum was to encourage educators to use technology to improve the effectiveness of their teaching. Most people were not sure of what was meant by “technology” nor did they know how and where it would function. Learning about technology does not necessarily mean computers only but learning about the material used in teaching biotechnology, medical technology, the environment, space and much more.

The importance of using different technological devices (multi-media) in the classroom is to render communication easier within an overall design for instruction. This can be achieved by use of television, digital cameras, videotapes, overhead projectors, scanners and printers. Developing children to use these devices would help them to acquire the information-handling skills in ICT. The reason was that, we live in a period of transition, whereby schools are designed to prepare pupils for life. Tiffin and Rajasingham (1995) recommend the strategy of pilot schools being used to quicken the process of

implementation. This point of view is strongly supported by the researcher, who believes that the piloted schools could be used as models.

The researcher thought that technology-based learning was essential as it was used to describe the equipment through which information is accessed, sent and retrieved. In contrast with the traditional learning process, whereby an educator was only a resource or tool in learning, the researcher found that in most schools, learners were not involved in an activity in teaching and learning. Chalkboards were used by educators to write notes and copied by learners; this promoted learning by rote. ICT was not used as a tool for learning, because learners were taught computer education as a subject. The advent of the internet has transformed communication and access to information for many people via the use of tools such as email and the internet.

Zhong and Shen (2002) state that in China a new education system emphasizing the integration of technology into curriculum was gaining a momentum. Professionals and educators were trying by all means to be engaged into computer literacy programmes to develop the skills in technology. The training package focused on the use of multimedia in the classrooms. This was very important for educators to disseminate the information to schools for classroom activities. Zhong and Shen (2002) contend that the emergence of technology integrated in the classrooms brought ideas, practices and new innovations to learning and teaching environment. However, despite these changes, problems can be experienced. It was necessary to undertake research that explored more about the educators experiences to know their perspectives, views, feelings and attitudes to a new 'construct' brought by change.

Many problems can be encountered in implementation of ICT in Lesotho schools, one of them being that traditional educators may resist change. They proved very reluctant and conservative in using new skills and methods of teaching. Therefore they required training to develop the skills in introducing ICT and multimedia usage to the classrooms. Teachers should also be encouraged to use projectors rather than traditional chalkboards to enhance teaching and learning. The best way to handle those challenges cropping with time was to take a close look on the facilities and resources available at schools and a method of approach to teach ICT. However, there were problems; Salin (2003) states that



teacher education programmes needed to incorporate technology for teaching and learning to educators to accept change.

## **2.5 Achievements nationally and internationally**

The Department of Education (2004) in South Africa realized that the creation of a high quality education system needed transparency, accountability and efficiency. The Department continued to develop programmes in areas of national needs; for example, Science, Maths and Technology. Different countries formulated policies that would lead to the achievement of their goals. To accommodate this, the Lesotho government “focus” on awarding of foreign scholarships was based on Maths, Science and Technology courses to address the needs of the country. There was a need for a curriculum change to implement technical and practical subjects to acquire the learners with life skills including ICT. To obtain quality in the teaching and learning of ICT, the Founding Document by the Council on Higher Education (2003) set indicators as:

- Fitness for purpose in relation to specified mission.
- Value for money.
- Transformation in developing potential and capabilities of learners especially at the secondary schools.

To evaluate the current policy on ICT, there was no section on resources and teaching methods and delivery. Different shapes and experiences would be applied by educators at different settings or schools for the implementation.

In South Africa, the Improving Teaching & Learning (ITL) Project was initiated in 2002 to promote the quality in education at the transitions from school to higher education. The “focus” was not on the quality as such but on the development of the curriculum suitable for all the learners. Education Review Office (2000) explains that in New Zealand teachers were much more confident in using ICT resources because of the availability of good quality digital projectors and smartboards which are electronically connected to computers. In places where educators were not trained, they still lacked confidence in using the resources. Such educators also lacked focus in development of the following:

- Objectives of the lesson and the ICT tasks (instruction)
- Guidance
- Teaching ICT skills
- Teacher intervention

- Recognition of pupils.

ICT was the best resource to promote learning because it engaged pupils' participation and increased stimulus. In an ICT class in New Zealand, educational inspectors easily observed the effect of the lesson because inspectors were thoroughly trained in multi-media. Tiffin and Rajasingham (1995) emphasize that in poor parts of Mexico, students watched a television lesson in a group of eight around a table, but at the end the whole group would have learned the skills that were taught. The Education Review Office (2000, p. 3) says "across the range of subjects inspected, ICT has a beneficial effect." However, in Lesotho, the use of ICT skills were not yet fully utilized when this research was conducted, instead, pupils were taught Computer Studies. It was confirmed in the ICT Policy for Lesotho that the implementation of ICT is to increase literacy in the whole country; therefore, all the stakeholders must play a major role in its implementation to improve teaching and learning.

The AIMS Media (1999) in their video training programme for computer literacy states that computer communication held the key to information age. Loubser (2005) pointed out that the youth of today are truly a media generation because children lived in a dynamic world where they experienced changes such as internet, mobile telephones, laptops and portable game consoles online. Loubser (2005) states that media was as much a part of life as eating and sleeping. Therefore, most of their time was spent on media, especially the computers.

These days computer software is becoming very popular, to the extent that even the schools benefit a lot in implementing ICT as it shortens the time for teaching and learning. Video programmes on computer literacy were used for, communications and networking and were very useful to the schools. The videos demonstrated all the activities required, and suggests the relevant packages for teacher training and development. It taught the terminology used in computer studies, such as 'hackers', 'download' 'upload', 'LAN, password', 'e-mail' etc., jargon which is called "computerese". The video also explained the type of services that online databases provide, computerized banking, school assignments, bulletin board services and home shopping.

## **2.6 ICT in the Ministry of Education and Training – Lesotho**

The Central Inspectorate in the MoET in Lesotho opened an ICT office running under the auspices of Commercial Subjects Department (CSD) in 2002. There had been a steady increase in the number of schools introducing computer education. However, the support services provided by the Central Inspectorate for the ministry were rather slim as the Inspector for ICT had undergone two years training at the University of KwaZulu Natal in South Africa. The only support was provided by the Subject specialist from the National Curriculum Development Centre (NCDC). Therefore there was not enough follow up made at schools. However, exploitation of ICT at schools was headed to promote the Vision 2020 mission by the MoET, Lesotho College of Education (LCE) and the National University of Lesotho (NUL). A series of workshops and seminars were held to utilize and exploit ICT within the formal sector in Lesotho. Nketekete (2005) points out that he would locate his presentation within the mission of the SchoolNet-Lesotho by analyzing its goals in promoting learning. He would also base himself on the findings of a survey undertaken by Mathot and Wittenberg at the National University of Lesotho (NUL). Nketekete (2005) offers background on the Lesotho Computer Education: it was started around the 1980s in Lesotho Secondary Schools, most of which were headed by European principals. According to Mathot and Wittenberg, eight out of 205 schools offered Computer Studies, of which five schools were examined by University of Cambridge Local Examinations Syndicate (UCLES) examinations. These schools were Machabeng, St Josephs, Moshoeshoe II, Morija Girls and Christ the King High School. Sacred Heart and Maseribana High School offered ICT as an extracurricular subject. In 1996 the UNESCO Southern African Seminar was held at which the Chief Education Officer (CEO) stated that implementation of ICT was diversified into the Lesotho College of Education (LCE), the Institute of Diploma in Continuing Studies (IDCS) and the National University of Lesotho (NUL). The statistics of secondary schools increased to 8 schools examinable at the Examinations Council of Lesotho (Ecol) for COSC level, Form D and E. Those schools were:

- Johnson Baker H. S
- Mabathoana H. S
- Morija Girls H. S
- National University of Lesotho H. S
- St Barnabas H. S
- St Catherine H. S

- St Josephs H. S
- Joy to the world secondary school

But even though the schools were examined for Computer Studies, the results were appalling.

In 2000 the Leland Initiative set a project by the name of Africa Global Information Infrastructure Project (AGIIP). The aim was to introduce ICT and to improve Internet studies at Lesotho schools. The committee was established by the MoET, and known as E-Education. The Minister of Trade and Industry was regarded as the chairperson. The committee identified the six schools to serve as pilots for the project to promote ICT, but the project collapsed because the chairperson belonged to a Ministry not concerned with Education. Initiatives had been made by the MoET to set education sector that would provide the quality education to learners by making availability of life – long education. The computer literacy programmes were offered at the Distance learning centres in the Institute of Continuing and Distance Studies (ICDS), these were NUL affiliates based in Leribe, Thaba-Tseka and Mhale'sHoek districts. In 2001-2003 the statistics of schools offering computer literacy increased haphazardly. Nketekete (2005) reports that in the survey that he held, 40 schools offering ICT 25 schools joined an illegal contract with private businesses called Bethel Computers. In such schools the agreement reached with the contractors was outside the boundaries of the Central Inspectorate of the MoET. Therefore, students were charged outrageous fees for the service performed by private teachers brought by those companies. There were a lot of problems and instability encountered with management and administration of such entities operating in schools. With this, the researcher's experience indicated that the ICT implementation would better be performed with a clear and explicit education policy to back up the national ICT policy in existence which the researcher thought that it was too general.

## **2.7 The New Partnership for Africa's Development (NEPAD)**

In their document entitled "NEPAD in brief", the role of NEPAD is described as follows:

The New Partnership for Africa's Development is a pledge by African leaders, based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development and, at the same time, to participate actively in the world economy and body politic. The

programme is anchored on the determination of Africans to extricate themselves and the continent from the malaise of underdevelopment and exclusion in a globalising world (NEPAD 2001, p.1).

As technology and human resources are some of the requirements for launching war on poverty and underdevelopment, NEPAD is consolidating and coordinating all the activities for Africa's improvement in terms of a common vision. In the African Union Summit held in Addis Ababa in 2004, NEPAD argued that ICT development is a priority action area to promote suitable conditions on the African continent for sustainable development.

Lesotho was tackling its digital divide problem by encouraging more ICT use in schools across the whole country. With the support of NEPAD, the MoET is putting together plans for a comprehensive new e-School programme in the country. ICT skills were the basic requirements for all educators and learners in schools. To facilitate this, the NEPAD e-School Initiative programme was established to coordinate all the SADC countries to implement the e-School learning. The commission held in Pretoria South Africa whereby Lesotho was represented, it made partners with a number of ICT companies and formed consortium with different companies such as ORACLE, Microsoft, HP and CISCO. 16 countries participating in the initiative programme selected 6 schools of their choice to be pioneered as a sample for SADC in e-learning. Out of the 6 schools in a country, one should be without electricity.

Lesotho was allocated ORACLE Consortia and Microsoft to improve and work on the six schools which were:

- Lesotho High School           ORACLE
- Bereng High School           „
- St. Cyprians High School     „
- Qachasnek High School     Microsoft
- Sechaba High School         „
- Sefikeng Secondary School   „           (a rural school without electricity).

Refurbishment of new buildings was carried out in these schools to prepare for the first installation in Lesotho where the Memorandum of Understanding (MOU) was signed as agreement between the government and the Consortia in the presence of the honourable

Minister of Education and Training and the honourable Minister of Communications Science and Technology.

### **2.7.1 Launch of e-School Initiative**

On the 25<sup>th</sup> August 2005, the e-School Initiative was launched at Lesotho High School by the Right Honourable Prime Minister Pakalitha Bethuel Mosisili with members of the cabinet, parliamentarians, diplomatic corps, senior officials and the public. The six schools were allocated:

- 25 computers
- 5 printers
- 1 server
- transmitter
- projector
- 74cm TV
- decoder
- VCR
- White screen

This was the beginning of the new era in the country. The computers were installed with Microsoft office including software with educational content in mathematics, physics, and chemistry, biology and business studies. There was PowerPoint, spread-sheet, database and a soft-ware on health issues such as HIV and AIDS.

In November 15-18<sup>th</sup> 2005, NEPAD sent a teacher and student from Lesotho to attend a World Summit in the Information Society held in Tunisia to attend an exhibition on e-Learning with member states of Kenya, Uganda and Ghana. Recommendations were made that there would be a project intended to reduce the costs of connectivity especially in the rural schools by connecting submarine cables along the West and East coasts in the whole of Africa. The project was scheduled to begin in 2007 and the outcome of the project was to set reliable network systems around Africa.

### **2.8 Conclusion**

Different literature sources were reviewed in this chapter to give examples of how the ICT policy implementation was obtained nationwide, regionwide and in overseas countries like New Zealand. But Niesbet, cited in Keeves (1988), relates that a policy has

a direct effect on current issues. It consists of a systematic attempt to understand and improve its efficiency by increasing researchers to investigate its orientation with the purpose to provide information for decision making. This kind of research can improve government policies and departments to eliminate problems. The reviewed literature relates to the flow and coherence of facts clarifying the focus of the study and supports the rationale of the study. This leads to the theorizing of the study in chapter 3.

## **Chapter 3**

### **Theoretical Framework**

#### **3.1 Introduction**

The study is located to Interpretivism paradigm in the view of Social Constructivism of Lev Semyonovich Vygotsky (1896-1934), Leontiv (1903-79) and Bernshtein (1896-1966) who posit that knowledge is built on personal interpretation of experiences (Wikipedia, 2006). In support of this statement, the researcher believed that exploring educators' experiences on ICT implementation in Lesotho Secondary Schools would provide a true reflection of the implementation process. To arrive at the correct measures to be taken for successful implementation of ICT, Fullan (1991) asserts that there is no single theory able to explain the complexity of policy implementation. The cultural-historical theory of activity will however be used as a frame for this study. Ryder's (2005) understanding of the psychological aspects from educators' experiences suggests the cultural-historical theory as a new theory from an artefact – mediated on an object-oriented action. Therefore, Activity Theory would be employed to frame this research underpinning ideas from Constructivists theorists like Kim (2001), Coupal (2004) Baumgartner (2003) and Walker (2001) who believe that 'tools' are objects made by a person to attain transformation. These theorists prove that the Activity Theory emphasizes the socially and culturally situated nature of mental activities, and defines learning as getting used to cultural practices and limitations caused by those practices. Those theories are called Vygotsky's brand of social constructivism because they pay an emphasis on the importance of culture in social context for cognitive development.

#### **3.2 Theoretical and Conceptual Frameworks**

In this research concepts vs theory to frame it with the Activity to show readers and people who would be interested in this study the importance of obtaining change through environmental experiences occurring in a social and natural setting from observed behaviour, attitudes and reactions of others. Constructivism is applied in this study as a theory of which constructivists believe that learning is a constructive and cognition development, meaning that people learn from and with other people's experiences.

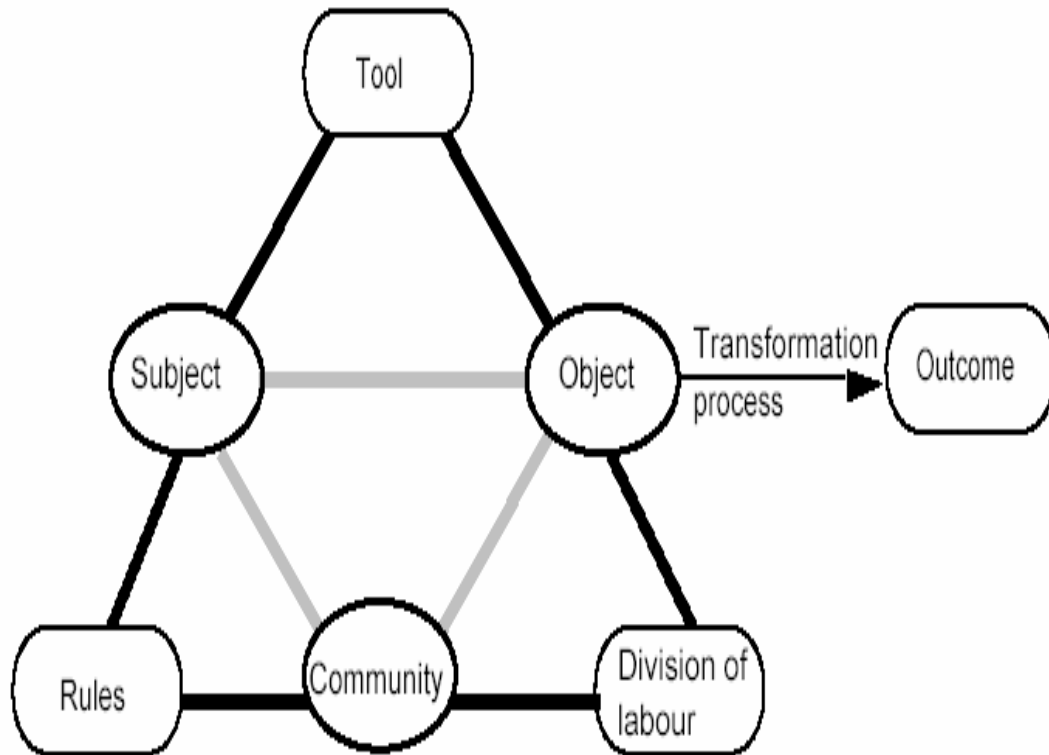
According to Walker (2001), there should be a net-work of activities, tools, objects, rules, community and division of labour to improve the teaching and learning of ICT in schools.



The Engestrom's 1987 model was used as the researcher believed would be suitable for ICT policy implementation in Lesotho Secondary Schools. The researcher thought that the framework would encourage educators to use the research to obtain change in the ICT classrooms and schools. Interchangeably, the conceptual framework linked to the whole research by using these words such as **ICT, ICT policy and implementation** frequently in the study would influence the aim and purpose of the study for the researcher to achieve the stated objectives in chapter one. Furthermore, the objectives formulated in the study were intended to express the content in terms of behaviour to determine the "SMART" in them.

S = Specific  
M= Materials  
A= Attainable  
R= Relevance  
T= Time bound

The attainable of the SMART in the objectives would lead the research to address the key research questions stated in chapter 1. The logic of framing this research was on an exploration of the educators' experiences of the implementation of a policy based on Richardson (1997) who regards a policy implementation as a general theoretical approach used by other theorists who do not focus primarily on the individual but view the social being as instrumental in both the construction and appropriation of knowledge. Meaning that within this framework the development brought by this study in obtaining the correct measures and guidelines in the implementation of ICT at the secondary schools in Lesotho relied not on individuals but on social interactions. It is within the Activity Theory Model (ATM) that culture would interact with the developmental forces like the community to bring change for a better system of education in the schools. The applied model was illustrated as follows:



**Figure 1 The Activity Theory Model (Engestrom, 1987).**

Figure 1 shows Littlejohn (2003) when he contends that Engestrom’s Activity-Theory Model defines the principle of engaging subjects (participants) towards achievement of a certain goal or objective. Engestrom (1999) relates that the activity is undertaken by human beings who are motivated towards the solution of a problem. The purpose of that activity is regarded as the object and is mediated by tools involving the community. Cultural factors are merged together with social factors, i.e. division of labour, rules and established procedures to achieve an outcome. These processes are explained as thus:

**Object**

It is regarded as educators’ experience influencing transformation.

**Tools**

They are the properties used for implementation. In this study tools are as follows:

- ICT policy document
- Text books and references
- Preparation books
- Scheme and record books

- Syllabus
- Time table

### **Subjects**

They are the research participants or educators who use the tools in implementing ICT.

### **Rules**

They are the ways, procedures and teaching methods used in implementing ICT into the schools

### **Community**

Littlejohn (2003) posits that the community is the people invited to assist in the implementation process. Those are the stakeholders from the government and non governmental agencies to make a change happen.

### **Division of labour**

These are the duties performed by different people responsible for implementation of ICT policy.

Outcomes: They are the expected results or development of the findings.

## **3.3 The Activity Theory**

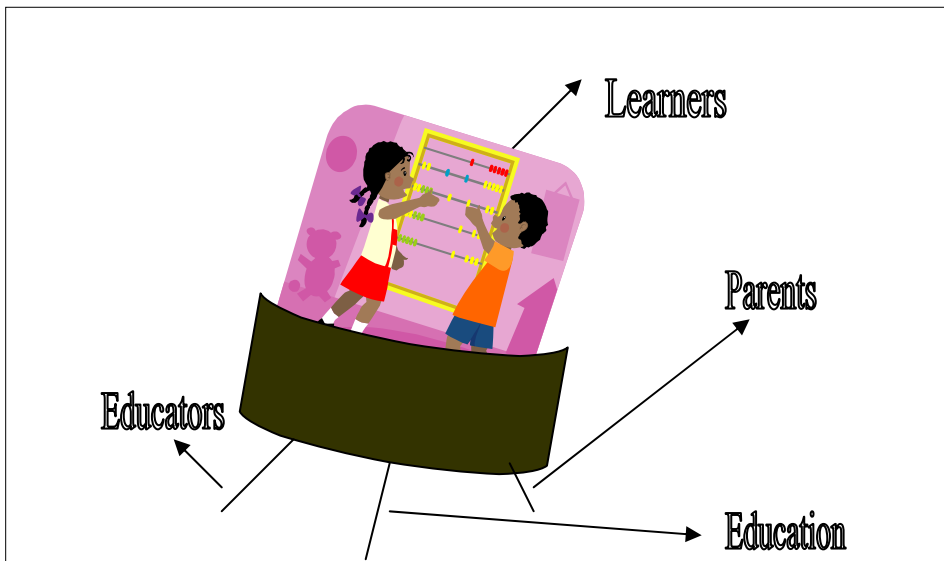
Rajkumar (2005) posits that Activity Theory is not a theory, but provides a broader conceptual framework to understand the goal oriented, socially and culturally to the people using computers.

The researcher believed that the Activity Theory provides a framework that would make readers of this research to understand activities, actions and duties performed by participants (educators) in the implementation of ICT policy at the Secondary Schools. This theory connects the psychological aspect of an individual, the cultural setting of the environment and the historical development. In relation to this study, policy implementation is an action of which its activities could be translated into a reality that was taking place at schools which were the natural settings of the environment. The subjects to be engaged to facilitate implementation process would be the school principals, heads of departments (HODs) and subject specialists. Exploring these educators' views, ideas and experiences concerning implementation, and not only of ICT but other government policies that took place at schools would be beneficial in finding appropriate guidelines and strategies for proper implementation of ICT at schools. Comparatively, the experiences explored from the educators and what was actually taking

place at our schools would be interpreted in this research to arrive at actions or proper measures to be taken, recommendations and solutions.

### 3.4 Factors of implementation

Fullan (1991) says that effective strategies for implementation require an understanding of the process, the complex of the change process made researchers to find different ways to a better implementation. However different strategies had been tried in different countries, this study was undertaken to underpin the factors affecting implementation of ICT policy in Lesotho Secondary Schools. This would be achieved by identifying key factors such as the roles played by educators in collaboration with the Ministry of Education and Training (MoET) together with learners and parents. Even though the learner-parents experiences were not explored in this study, a survey is essential to explore their experiences but due to limited time of this research, learners and parents were not researched. However, factor on the principle of ‘a three-legged pot’ in the Lesotho system of education is regarded the most important factor to facilitate implementation as parents were suppose to play a major role in decision making and also provide funding for their children. View the illustration below:



**Figure 2** The Three-Legged Pot model (Own design adapted from the Ministry of Education and Training, 1993).

Figure 2 explains that the Ministry of Education and Training (1993, p. 13) ensures that the Lesotho system of education is based on “fostering partnership of the three-legged

pot” to empower parents and the community to take a stake in educational matters concerning their children. The Ministry of Education and Training (1993) explains further more that parents should be consulted about changes in the curriculum. With the ICT policy implementation, it seemed parents did not fully participate in decision-making of how to implement this policy, yet they were the ones paying fees. Again Figure 2 illustrates the education system with two legs equal on educators and education, but the third leg representing parents was shorter. Therefore, parental involvement lacks in the ICT implementation.

### **3. 5 Theoretical Positions**

Withrow, Long and Marx (2000) claim that some thoughtful educators were expressing concern about making huge investments in making technology at the expense of everything else. However, Withrow et al. (2000) admit that technology, as an integral component of emerging global knowledge, must be part of the school experience. Dede (2000) contends that many schools achieved improved educational outcomes by the application of Information Technology (IT). The need to discover how to change the standard of education was the correct application of the technological knowledge and skills. In this report the researcher referred the readers of this research to the theoretical and the conceptual frameworks of the study whereby the study on exploring educators’ experiences was framed with defining the following concepts: **ICT, ICT policy and implementation**. The researcher wanted to build a clear knowledge and understanding of the concepts to acquire different experiences from the educators while implementing ICT policy at the school. In the findings, after the collection of data, it came to the notice of the researcher that the concepts such as **educators, experiences** and the **secondary schools** should not be ignored to give a thorough understanding and explanation to readers about a clear picture of the Lesotho ICT policy implementation.

#### **3.5.1 Experience(s):** Richard (1987) says that experience is:

- Knowledge or skill in a particular job which you have gained because you have worked at the job for a long time.
- Something that happens to you or something that you do, especially something important that affects you.

As the experiences were an important feature of this Case study, both definitions were applicable in the study. The researcher could also describe experiences as views,

perceptions, feelings, ideas and explanations of educators towards ICT policy implementation at Secondary schools in Lesotho. Research questions guiding the Case study about educators experiences were based on ‘what’ and ‘which’ to keep the researcher focused.

According to Khoza (2001) in his experiences with ICT, there were people who were cybophobic meaning that they had the fear of computers; others were technophobic, meaning that they had a fear of technology. The researcher also came across educators of this kind in her study. They were often traditional educators who did not want to implement change. However, some of the educators in the sample had a phobia concerning ICT in the classrooms. The researcher thought it was only the fear of uncertainty, as there were no proper guidelines formulated by the Ministry of Education and Training.

**3.5.2 Educator(s):** As used in this study, the researcher referred to school principals, deputy principals (DPs), heads of departments (HODs) and Subject specialists. The study did not distinguish educators with age, gender, qualifications or teaching experience. However, a distinction was explored between educators that were predominately perceived to use a traditional pedagogy and educators that used or were exploring computer based teaching methodologies.

**3.5.3 Secondary School(s):** They are Post-Primary schools preparing learners for tertiary education in Lesotho. Secondary education is offered from classes Form A-E; these schools are called High Schools. While in other schools Secondary education is offered from classes Form A-C (Grade 8-10). Most Secondary schools are owned by churches in Lesotho, there are no separate Secondary schools that offer Form D and E (Grade 11-12) only. Both categories were researched in this study.

### **3.6 Limitations**

The reviewed literature of the Activity Theory was extracted from internet sources whereby the information could not stay for a longer time, “it goes like feathers in the wind” (AIMS Media 1999). There was no clear step by step method to perform Activity Theory in practice. There was no uniformity to carry the process. However, it was good for policy implementation. Engestrom (1999) regards it as a conceptual tool as it could not offer ready made techniques and procedures for research. It also allowed long time

frames to understand users' objects as they change over time and to understand how they were related. Therefore, a researcher must have a commitment to understand factors from the users' point of view. The Activity Theory should be more meaningful if used by experienced persons on their field of study. But researchers interested in using this frame in the field of educational technology would find a great deal of discussion on Vygotsky's literature.

### **3.7 Conclusion**

The Activity Theory was better used in Case study methodologies where results would not be generalized. It was used for studies focusing on transformation as user needs should be understood, interpreted and to be constructed in the implementation process. The Case-study showed that the concept of Activity Theory was fruitful in studying the in-depth behaviour of humans and their different experiences at their own settings or surroundings. The interests and point of views of the participants who were educators in this research would be collected as data and analyzed to attain the findings. The research methodology would be dealt with in the next chapter.

## **Chapter 4**

### **Research Methodology**

#### **4.1 Introduction**

This chapter explains the research design, methodology; research methods used for data collection, tools, sampling, and trustworthiness of the study, data analysis, design limitations and the study pilot.

#### **4.2 Research design and methodology**

Qualitative methodology was chosen as a suitable approach for this research. However, the Quantitative approach was added to the design to indicate the problem studied.

##### **4.2.1 Qualitative research**

According to Henning, Rensburg and Smit (2004) in qualitative research ‘variables’ are usually not controlled so that freedom and natural development of themes that the researcher wished to capture can take place. The qualitative researcher wanted to understand thoroughly and also to explain the argument by using evidence from the collected data, and from the literature about the problem studied. De Vos (2002) relates that definitions of research designs from both qualitative and quantitative designs were ambiguous but it depends on the researcher planning the study. However, Charmaz in Denzin and Lincoln (2000) regards it as generating and interpreting data to answer questions on what others were doing and saying to transform that into public knowledge.

Qualitative research is characterized by using a Case study method and it typically investigates behaviour occurring naturally in the settings of the participants. The data consist of responses in the verbal descriptions rather than numbers or statistics.

##### **4.2.2 A Case study**

Bauer and Gaskell (2003) state that ‘Case study’ definitions depend on the context in which the research is taking place, for example, the education and the educational setting. Bauer and Gaskell (2003) further mention that defining a case depends on a claim and a circumstance that can refer to an individual, a group, an office, a class or a school. All



those were regarded as single cases. Moskowitz and Birman (1985) relate that there could be many such cases in a cluster of a number of schools in different districts

A case study is an extremely widely applied method of research in the social sciences. Case studies can be used in educational research to examine the characteristics of an individual unit, though not of a large sample or a total population. To arrive at a generalization, the study was extended to include a number as a sample. Case Studies are mainly carried out for training purposes especially by novice researchers. The advantage of it is that it can be conducted by a single researcher without the requirement of a full research team. It is the methodological approach that is simple and straight forward for new researchers. Cohen et al (2001) regard the Case Study as an approach with interpretive methodologies. Researchers could gather information, from a small group within a class, to the whole school, from family backgrounds, capabilities, attitudes and relationships. The disadvantage of a Case study can be that it yields a huge amount of information. ; The researcher thought its saturation was not easy to reach.

The purpose of conducting a case study for this research is expressed by Maykut and Morehouse (1994) postulate that the Case study gives opportunity for a problem to be studied in some depth within a limited timescale. Cohen et al (2001) contends that a case study is a specific instance that is frequently designed to illustrate a more general principle. It is the study of an instance in action, for example, a school. It provides a unique example of a real situation making readers to understand the focus of study more clearly. Case studies investigate events, human relationships and other factors in a unique circumstance. Therefore, they do not generalize, meaning that the findings in this research would not be generalizable. Maykut and Morehouse (1994) postulates that the Case study acknowledges the complex characteristics of human and social behaviour in the problem studied.

In this study the researcher focus was the ICT policy implementation and it was addressed by these key research questions.

### **Key research questions**

- **What experiences do educators have of the implementation of ICT in Lesotho secondary schools?**
- **What guidelines can be generated to facilitate optimal ICT policy implementation in Lesotho Secondary Schools?**

### **4.3 Research methods and tools**

Interviews, observations and documentation analysis were used in triangulation to answer the key research questions. Semi-structured interviews would be carried out with principals, deputy principals and heads of departments (HODs) using a tape recorder to gather the responses. In using this tool, the researcher believed that a good technique was to ask the participants questions which could be followed by probes. The key question saying, “What experiences do educators have of the implementation of ICT in Lesotho Secondary Schools’”? The question would obviously be answered by responses from educators. A similar research question would also be answered by conducting classroom observations with educators (subject specialists) using an observation schedule. The key research question saying, “What guidelines can be generated to facilitate optimal ICT policy implementation in Lesotho Secondary Schools’”? The key question would be answered by the interviews from educators, and from classroom observations together with documentary analysis of schemes and record of work, preparation books, lesson planning, time-tables, text-books, reference books, guides and other supplementary materials used in the teaching and learning of ICT. This triangulation of methods allowed the researcher to study a case of three schools in their natural settings that would allow her to investigate the implementation of ICT in different school settings.

After carrying out semi-structured interviews, the researcher transcribed the accounts of their experiences offered by the participants. The researcher made notes on classroom observations and analysed the documents available, such as the ICT policy document for Lesotho, timetables, records of preparation and of work undertaken. .

#### **4.3.1 Semi-Structured Interviews**

In this research the semi-structured interviews were held between the researcher and the educators. The researcher was the one leading the interview and asked participants

probing questions. The participants came up with open-ended responses relating their experiences of the ICT of which the researcher made long transcriptions after the semi-structured interviews. According to De Vos (2002) semi-structured interviews are likely to be lengthy, and to contain a high degree of engagement; for this reason they are likely to be of considerable interest.

The researcher could not find problems in handling these interviews as she studied the questions well preparing for the pilots she held before conducting the research. The interviews were conducted in English as both schools were using English as the medium of instruction and communication. This made the transcription work much easier for the researcher. During interviews some educators claimed that they were not comfortable with the recording done by a tape-recorder especially on the policy-related issues concerning the government because the researcher was the government agent, therefore, she would be bias in her report. However, the researcher applied the idea of handing the interview questions to the participants to make a choice of the questions they wished to answer. But all the questions were open-ended and straight-forward. In the result, the participants came up with a lot of useful data not expected by the researcher. However, the researcher 'kept an open eye' to ensure that all the responses would focus to the study and address the critical research questions.

As the researcher was familiar and well known to the participants, she was aware of the power relations she had with the participants. Sometimes they would in exchange ask her questions concerning her position as an inspector at work. Instead, she made friends with them and sympathised with the common interests of educators, such as lack of coordination and support by the government, issues on professionalism and transformation to raise the morale of participation.

#### **4.3.2 Observations**

The researcher used observation schedule to observe the situation in the classroom. This method is very powerful to gain an insight of the real situation. This method is favourably used by researchers on mixed mode design (qualitative and quantitative) to ensure validity and reliability. The observation schedule had the following features to observe:

1. Physical features
2. Sitting arrangement

3. Materials / teaching aids
4. Educator Learner involvement
5. Conclusion
6. General comments

**See Appendix II**

#### **4.3.3 Documentary analysis**

McCulloch (2004, p. 36) says “documents were literally all around us,” therefore, they were the integral part of our daily lives and our public concerns. In this research the educators’ official documents would be analysed by the researcher to give an insight of the study and to increase the rigor in using other instruments. The documents analyzed were the ICT policy document, preparation books, texts and references, syllabus, scheme and records, minute book and a budget.

The document analysis assisted the researcher with real insights of the ICT policy implementation in the Lesotho Secondary Schools. The other documents gave a clear picture of what educators do to implement ICT at schools. Through document analysis, the researcher identified problems encountered by educators in the implementation of the ICT policy.

#### **4.4 Piloting the study**

The pilot study is defined as “the process whereby the research design for a perspective survey is tested” (New dictionary of social work 1995, p. 45 cited in De Vos 2000, p. 179). Therefore, very few literature resources can be viewed on this issue as the researcher pilot tested the study to obtain an overview of the concrete field experiences before data collection.

The pilot for this study was held at the Edgewood Campus in the University of KwaZulu Natal on four student educators being the two principals the other serving in Lesotho and another serving in KwaZulu Natal (KZN) province in South Africa. The other two educators were teaching the ICT in one of the schools in South Africa whereas another educator did her teaching practise in one of the schools with ICT in Lesotho. This sample was purposefully chosen for comparative reasons as the educators from the two different countries were involved.

#### **4.4.1 Pilot findings**

The researcher used the semi- structured interviews to pre-test the tool to be used in the study. The strengths of the pilot indicated that information was provided freely without the participants being threatened or intimidated. This was in line with Cohen and Manion (1994) postulating that the purpose of the interview in life had many aspects of finding the participants' opinions. In the process, the researcher came across different experiences encountered by educators in the ICT policy implementation. But in return, the researcher was asked questions by the participants until one participant asked the researcher a direct question which was close-ended to an answer such as "yes or no". For example, do you have experience in ICT policy implementation? Again the researcher noticed that to arrive at the answer to that question, further prompts to investigate more on the experiences of educators on ICT would be helpful. Therefore the open-ended questions with open-ended responses assisted the researcher to go in more depth into the investigation. Open-ended questions were advantageous and flexible; they encouraged cooperation and allowed the researcher to make real assessment of the problem to be studied.

#### **4.4.2 Validity of the study**

Since she was a novice, the researcher found it very difficult to test the validity in the semi-structured questions; Lovell and Lawson (1970) say that no technique possesses universal validity. A technique could be valid for use in one country but invalid in another country. However, in this study validity could be measured in the reliability of the study as 'trustworthiness' to indicate Guba's model (Guba 1990).

#### **4.4.3 Generalizability**

Generalization was not possible as the responses given by South African educators were different from the Lesotho educators. These showed that implementation of ICT policy was differently done. Therefore, it was not possible to generalize the findings. The researcher experienced that open-ended questions were not generalizable especially in the research with few sampling.

#### **4.4.4 Pilot limitations**

The researcher felt that even though semi-structured interviews had strength in testing the participants' knowledge, they also had limitations of long transcriptions to be made after the interviews. Therefore, it would be wiser to deal with semi-structured questionnaires to speed up the process as the time interval was too short to obtain and correlate the two sets of interviews from Lesotho and South Africa. But time constraint did not favour the researcher to re-structure and set the questionnaires. Also, as a result of this pilot, the critical questions of the study were revisited; the number of semi-structured questions was reduced hoping to acquire some additional data through the use of observations and documentation analysis.

#### **4.5 Data Collection**

The system of data collection proved appropriate to facilitation of the analysis. The data was kept safe, organized and accessible to the researcher. The instruments for the research (semi-structured interviews, documentary analysis) were used at this stage to ensure trustworthiness of the study.

##### **4.5.1 Field work experiences**

Working in a field was a very onerous job. The reason was that, as the study was exploring the experiences of different educators of the ICT policy implementation; the participants had a different understanding towards the researcher's work. Some would think that the researcher was a detective attempting to spy on their work. Rapport was established several times before carrying on the research. This process was time-consuming as the time for data collection was exceeded almost by six weeks; it was really a fascinating exercise. With these, the researcher had to bear in mind the issue of power relations, meaning that she had to come along to the level of the participants by simplifying, adopting their style and closing any gap between the researcher and the participants.

##### **4.5.2 Visiting the schools**

###### **School C**

It was 03 May 2006 when the researcher visited the school C. The weather was so cold that there were traces of snow in the Maluti Mountains. The researcher wore her  
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traditional blanket and got to the school before the school started at 08.00hrs. The clerk of the school being the first person met gave a glance at her without uttering a word. The researcher greeted her only to find that she was busy making her desk ready for the work of the day. The researcher introduced herself and asked for permission to see the principal. It was not possible until I told the clerk the purpose of my visit to school. She gave me a reception in the staffroom while she was fixing my appointment. Educators in the staffroom gave the researcher a warm welcome and the atmosphere made her relax while educators were busy with their individual's school work.

After three hours the clerk called the researcher to meet the principal at her office where introductions were made and explained to her the purpose of the visit, and gave the consent letters asking for permission to conduct a research at her school. At the first meeting the principal understood about the study and was positive. The researcher quotes her verbatim:

“Yes ‘m’e [madam] we make good results of computer education”.

The principal's task was to inform all the staff and gave the participants letters of consent. The meeting with them was scheduled for the next visit on the 08 May 2006 at 10h40.

On the specified day the researcher entered the doors of an office clerk looking different from the previous day. She was wearing western-style clothing; and she carried a file and a laptop bag hanging from her shoulders. That brought change to the prevailing situation of waiting and the researcher went quickly to the staffroom. The principal was not around in the school premises. Instead, the researcher met the Commercial Subjects head of department (HOD). She was familiar, as she had been inducted, supervised and monitored by the researcher when she was an intern (teacher trainee) at one of the schools where the researcher taught. The HOD seemed not to know about the mission of the researcher but looked interested. In their discussion she asked the researcher a question: “Why did you make a choice for this school?” The researcher tried to explain to her about the purpose of the research, the type of sample and reasons for selecting that particular sample. As the qualitative researcher, I learned many things about the culture of the school C, the type of educators and even the principal. The information was important but would not be covered by the interview questions. The HOD explained that she would not

participate in the research because the principal did not give permission for the research to be conducted at her school.

The researcher met different types of educators and established a good rapport with them until one took me to the deputy principal, who claimed not to know her or her visit. Subsequently she found that the principal had left all my correspondence with the clerk to collect it with the letters that were written to the school because they were busy. The researcher thought of the tactics to grab this opportunity to take indirect interviews with this educator through the informal talks. The researcher asked an open-ended question:

How do you feel about change?

Deputy Principal (DP): I don't know. What change?

The researcher: Any change?

DP: There are changes all over, oh! Change in technology? We all need it but our government ... did not give a support to teachers. Hey, let me go.

The researcher picked some important facts in that informal talk, she discovered that the problem with innovations was considered to be raised by the government. Further resistance to participation resulted in this school's was being excluded from the research process.

### **School B**

On the 03 May 2006 at 14.00hrs, the researcher walked to the school B. Educators were in the staffroom. They greeted her and the researcher was given a warm welcome and the educators were very curious about her visit to their school. The researcher introduced herself and the Deputy Principal took her to the office. The researcher told him about the purpose of visit and explained about her research. Therefore, she asked for permission to conduct the study at their school. The DP did not have much to say as the Principal was not around at school. The next meeting was on the 08 May 2006 when the principal, assistant administrator, two educators and head of department established a friendly rapport and were willing to assist the researcher about the success of her research.

### **School A**

The researcher made her way to school A at 08h45 where she introduced herself to the three clerks of the school and established the rapport. One lady went to ask permission from the principal about meeting the researcher in her office. The clerk reported that the principal said she was busy. The researcher, in terms of her training, knew she must enter



the office without permission, but in a friendly way. As she was personally known to the principal from twenty-five years back while they were teaching at the same school, the researcher told her that she just wanted to say 'hi' to her. Instantly the principal gave her a warm reception and was very interested in discussing private life and family affairs. After a lengthy chat, the researcher shifted from private affairs to professional and academic issues. They discussed schools and how to effect school change and their contribution as experienced teachers to the solution of the problems that they encountered.

The conversation created an opening for the researcher to talk about the research that she wanted to conduct at her school of which the principal, head of department – Commercial subjects, the deputy principal, four subjects educators from the core subjects (English, Maths, Sesotho and Science) and the ICT specialist would act as participants for the research. The next visit was planned for 10 May 2006 at 10:40.

#### **4.6 Sampling**

Cohen et al (2000, p. 93) claim that “there is no clear-cut answer for the correct sample size that depends on the purpose of the study and the nature of the population under scrutiny.” Therefore, the researcher chose non-probability sampling based on Khoza (undated) when he mentions the different types of non-probability sampling as convenience sampling, judgement sampling and quota sampling. Khoza (undated) states that convenience sampling is when the most convenient chances or accessible elements of the population are selected. The three schools chosen by the researcher were urban schools with reliable electricity connections, and were physically accessible. They also had the teaching facilities, such as buildings and resources like computers. All three schools had access to internet<sup>1</sup>. Cohen et al (2000) contend that sampling is determined by the style of research. In Qualitative Case study, the sample size would be smaller than in Quantitative style or rather in Survey methodology of which statistics were to be calculated, for example, census. In this case study the researcher had to consider time, money, stress, administrative support and resources, because ICT was a new field of study in Lesotho Secondary Schools, and most educators were not even computer literate. Therefore, she had to begin with a small sample, consisting of eight educators per school.

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<sup>1</sup> Although three schools were originally selected, the final number in which the researcher worked was two, as one of the three was eliminated because of the hostility of the staff, as described above,

The sample consisted of a principal, deputy principal, HOD, ICT subject specialist and subject specialists from the core subjects (English, Maths, Science and Sesotho). The whole sample for the two schools was 16 educators.

#### **4.7 Trustworthiness of the study**

Maykut and Morehouse (1994) posit that the features of a research that gave confidence in the outcomes was the research report that provided clear and detailed information about the purpose of study, the participants, the data collection and analysis procedures used and the findings. This view point is supported by Krefting (1990) when he quotes Guba (1990) that truth, applicability, consistency and neutrality found in qualitative research provided readers with a scenario of finding the credibility of a study. The four aspects are very important as they increase the rigor in qualitative research by providing an assessment in the findings. To address the situation on trustworthiness, the researcher applied Guba's model that her study was limited to secondary schools; therefore the findings would not be generalizable in regard to primary schools or tertiary institutions.

#### **Guba's model of trustworthiness**

##### **Truth**

The value on truth of the research is found in the prolonged engagements in the field to come up with different field experiences indicated by using interview techniques to collect data. Different techniques used like keeping of the field journal and notes enabled the researcher to establish the entire authority over the research to add up coherence to the study.

##### **Applicability**

The findings on the study could not be applicable to the other educational institutions as the sample was purposive and judgemental. Therefore, it could not be transferable or generalizable. Instead it could be a useful starting point for another research in form of a survey.

##### **Consistency**

The use of multiple methods used for data collection kept the consistency and the reliability of the study. However, the researcher believed that it was very rare to have reality in the study. But the researcher piloted this study to test the measure on reliability.

## **Neutrality**

The filling of the informed consent letters by the participants freed the research from bias as the participants were given an option not to carry on with the research. Again the field notes written by the researcher were neutral and descriptive.

To increase the epistemological assumption of the researcher and the ontology found in the trustworthiness of this research was not an easy job; therefore, the researcher used ideas from experienced researchers postulating that:

For educational practice, actually making an impact on what was going on in schools was very difficult indeed. I began to develop my understanding of educational research as research that improves the education of children and students (Griffiths, 1998).

Therefore, employing a combination of different methods for data collection would enable the researcher to gather the experiences from educators to compile notes and transcripts from the field to increase the likelihood that the phenomenon of interest was being understood from various points of the research.

## **4.8 Data Analysis**

Mixed mode of analysis was used to present the findings in tables and graphics to illustrate the data presented in a simple way to give readers of this research a clear picture and understanding of ICT policy implementation in the secondary schools in Lesotho. Cohen, Manion and Morrison (2005) opine that there were many ways of analyzing data like generating units of meaning in the themes, classifying and categorizing data, and or interpreting the interview data and other means. Therefore, in this study the researcher made a focus on the interview questions to get responses from educators and analyzed the findings. Again she used the conceptual and the theoretical framework of the study to analyze the 'tools' used by educators to implement ICT. The explanations given on the discussion of the findings were focused from Lesotho. The researcher was a non participant observer but sometimes she participated in some lessons to ease the tension experienced by the researcher, educators and learners as their first experience on the observation of ICT classrooms.

#### 4.9 Design Limitations

The researcher proposed three schools as a sample for her research. It was a purposive sample for a number of reasons, of which one was the fact that one of schools was under the management of women. It was not that the researcher was a feminist but as a woman, she used to admire all the women on power and embraced their good work. To contend to this, in China, Bush (2003) posits that in their research there were no women principals in three countries of Shaanxi province. However a drastic change took place after a Beijing conference. Unfortunately the principal in one of the schools was reluctant and resisted participation in the research. The researcher tried to explain to her about the purpose of her study so much that the comments made by the principal would be very useful and appreciated for her data but the principal was very resistant. According to Maykut and Morehouse (1994) much qualitative research focused on people's words, their thoughts, perceptions, attitudes and experiences that could come to life when their words were read aloud. Meaning that if the principal's comments would be written down, it would give her chance to voice her views.

Other constraints that can limit the sample and analysis is on time limit, resources of time and money run out and expected realities. The qualitative researcher is advised to follow the carpenter's rule meaning that costs would increase and the time would double. Therefore analyze purposefully to accommodate for the constraints (Maykut and Morehouse 1994, p. 145).

With this citation, the researcher applied the "the carpenter's rule" and limited the study to two schools because informed consent letters for School C were not signed by the principal and educators as they were returned to the researcher after a long period of time waiting for the permission from the principal. The two schools were regarded as School A and School B and to report school C as the main limitation for research.

The data was collected during the winter time. Therefore, other classes did not take place because of snowfall. Classes were dismissed early for safety reasons, and because the educators and learners had to travel long distances. However, the researcher managed to observe one lesson per visit per day.

Time constraints affected the study as it was initiated in April 2006 during a statistical census of the whole country when educators closed schools for two weeks to be engaged

on the process. The researcher continued in May 2006, but again there were constraints, as educators were too busy preparing for the first term examinations. However, the researcher managed to collect data from the interviews by using different data collection tools, i.e. note-taking for educators who did not want to be tape-recorded.

#### **4.10 Ethical Issues**

De Vos (2002, p. 75) defines ethics as “a set of principles with widely accepted morals suggested by an individual or group. Ethics offer rules and behavioural expectations to subjects, respondents, employees, sponsors, researchers, parents and students”. These are conflicting factors between two parties being the researcher having the right to research and the participant having the right to secure privacy and dignity of being researched. The rights of the participants are expressed by Cohen et al (2000) as informed consent, anonymity, privacy and confidentiality. These were acknowledged by this researcher before data collection.

#### **Ethical dilemmas**

McCulloch (2004) posits that ethical dilemmas could also emanate from the researchers using a certain tool on their research, for example, documents. Sometimes researchers could be stressed up in analyzing the documents that may spoil or damage the name or ‘goodwill’ of their organizations or institutions. The researchers would be at risk of being stigmatized racially, socially and politically. But McCulloch (2004) states that those researchers were ‘whistle-blowers’ because organizations would re-structure, change or improve on their harmful practices. It should be borne in mind that if researchers would be dealing with sensitive and personal information from the participants beyond their ethics, the nature of the study should be changed to avoid emotional harm. However, with this study, the researcher evaluated his conduct as she was going to research the educators. Therefore, as an experienced educator who had a lengthy service of twelve years teaching and twelve years in the inspectorate she used ethical guidelines (professional codes) applied in the teaching profession to respect the freedom of the participants not to feel compelled to participate, and also to respect time for the participants and to ensure them about confidentiality and valid reasons of undergoing this research. To achieve these, the researcher issued the informed consent letters to the Principal Secretary (PS) of the Ministry of Education and Training in Lesotho to ask

permission to carry the research at the schools, to the Principals and educators who participated in the research.

**See Appendix III.**

#### **4.11 Informed consent**

Informed consent implies that the participants must be legally and psychologically competent to give consent and must be aware that they would be at liberty to withdraw from the investigation at any time. However, in some cases deception occur, if the participants are not told the whole truth or are misled. According to De Vos (2002) deception could occur if researchers failed to disclose the purpose of the study. To avoid this malpractice, the researcher explained to the educators that her research was not carried for financial gain or income. The participants were not promised money in favour of participating in the research. Artificial inducements, such as financial rewards, were not offered by the researcher, nor did she expect any such financial reward herself.

#### **4.12 Conclusion**

It came to the notice of the researcher that choosing a suitable methodology was not an easy practice. Therefore, the contents in the research proposal could change in practise and the engagement in the field. With these experiences, mixed mode of research design was used as an approach for this study. The next chapter (5) presents the findings.

## **Chapter 5**

### **Findings**

#### **5.1 Introduction**

This chapter deals with findings from the research undertaken on a Case study exploring educators' experiences of the ICT policy implementation at the secondary schools in Lesotho. Tables and graphics were used as illustrations to analyze the data collected. The researcher believed that she presented data in a very simple way to give readers of this research a clear picture and understanding of the research in line with obtaining data from the interviews, the classroom observations held and document analysis obtained from the school documents.

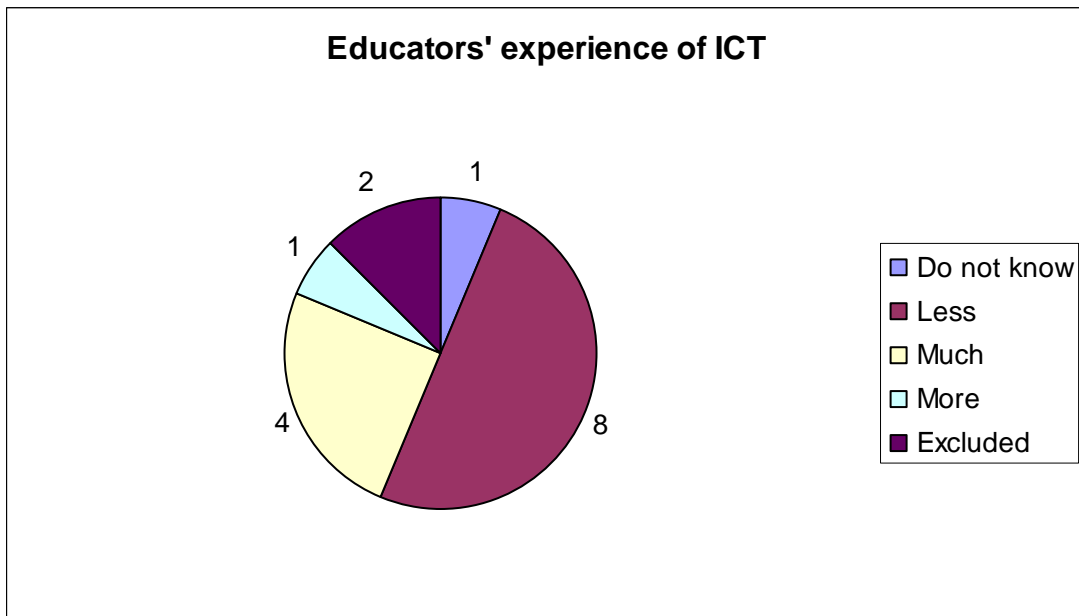
The researcher interviewed fourteen (14) educators from the two schools of which they were Principals, Deputy Principals (DPs), Heads of Department (HODs) of Commercial Subjects and the subject specialists from the core subjects being Sesotho, English, Mathematics and Science. The classrooms observations were carried with the two educators (ICT specialists). The whole sample of the study was sixteen (16).

### 5.2.1 Semi-structured Interview questions

Semi – Structured questions were asked from educators and the findings were as follows:

See Appendix I

#### 5.2.1.1 What are your experiences towards the implementation of Information Communications Technology (ICT) at the secondary schools?



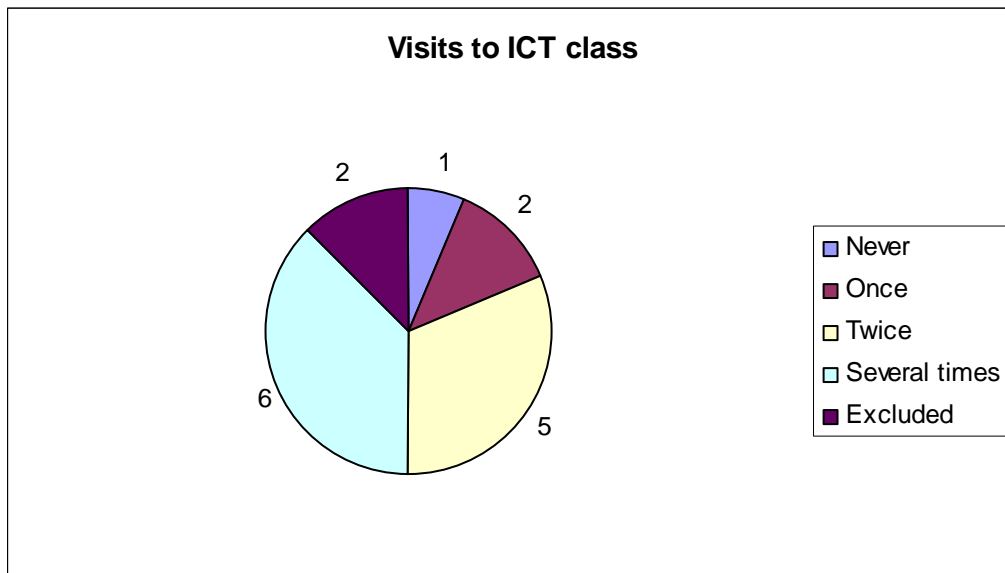
**Figure 3**

Figure 3 shows that of the sixteen (16) educators, one (1) of them was not knowledgeable about ICT skills, and was indicated with 'Do not know'. Another educator who had computer literacy skills was indicated by 'More'. Four (4) of the educators had skills above literacy and indicated by 'Much'. Eight (8) of the educators were knowledgeable with insufficient skills in computers as part of ICT. These educators had only computer literacy course.

Two ICT specialists were not interviewed.



### 5.2.1.2 How many times do you visit an ICT class?

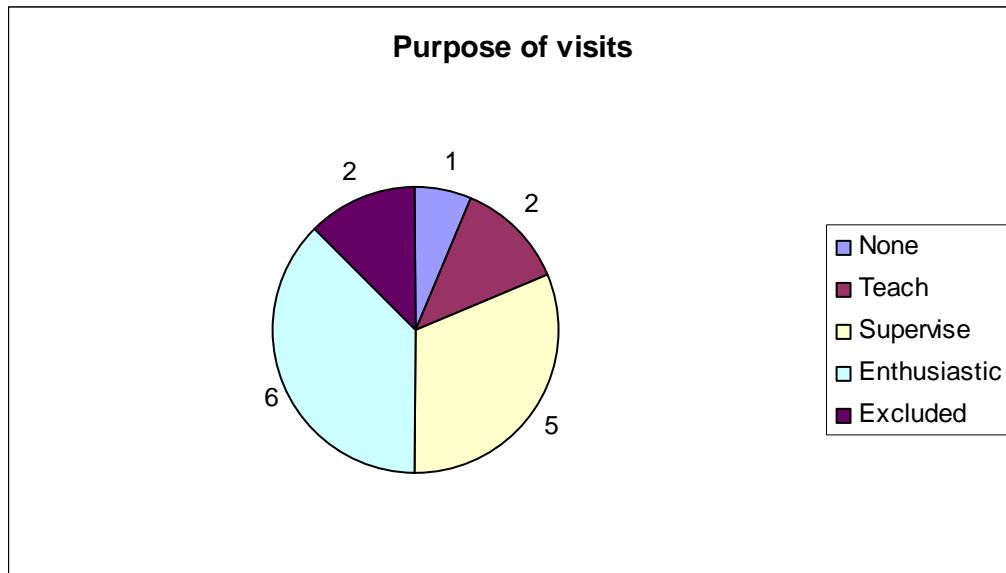


**Figure 4**

Figure 4 shows that one (1) out of sixteen (16) educators had never visited an ICT class. Two (2) educators visited an ICT class once the implementation started. Five (5) educators visited an ICT twice and six (6) educators visited an ICT class several times since implementation. Meaning that one educator showed no interest in the ICT implementation.

The two (2) ICT specialists were excluded.

### 5.2.1.3 What is the purpose of your visit to ICT class?



**Figure 5**

Figure 5 indicates that one (1) of the educators did not visit ICT class. Two (2) educators went to teach learners about computers. Four (4) of the educators went to supervise ICT classes as they held the computer skills. Six (6) educators visited ICT because they were enthusiastic on the teaching and learning of the new field.

Two ICT specialists were excluded.

### 5.2.1.4 What problems have you encountered in regard to ICT implementation at schools?

#### a) Resources

The rest of the educators interviewed have problems on limited resources for ICT as the only resources available were inadequate computers used to teach computer literacy.

#### b) Staff

Five (5) educators excluding two ICT specialists were computer literate while nine (9) were not. For this reason it was not easy for them to implement ICT.

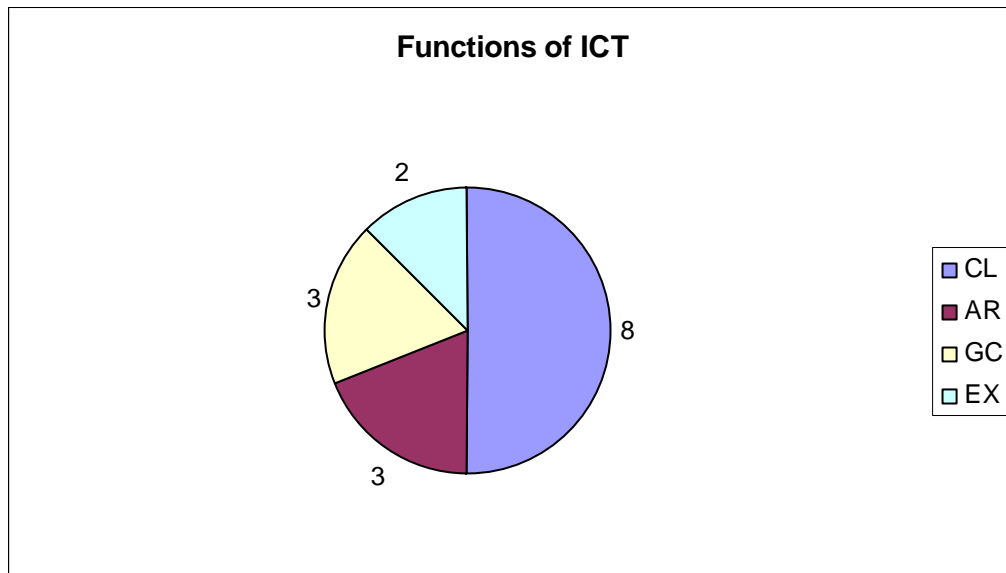
c) Learners

Educators encountered different problems with learners of which School B learners were introduced to computers at the Primary School. Learners from School A were not introduced to the field at primary level but were taught computer literacy at the Secondary School; this caused a lot of problems to start introducing computers at the secondary level of education.

d) Delivery mode (teaching and learning)

Most educators could not use ICT skills as they were not knowledgeable in this field. The delivery mode used to implement ICT at schools was the teaching of computer literacy. Therefore, ICT was not used as a tool to facilitate the teaching and learning in the secondary schools.

**5.2.1.5 What are the important aspects of implementing ICT at the schools?**

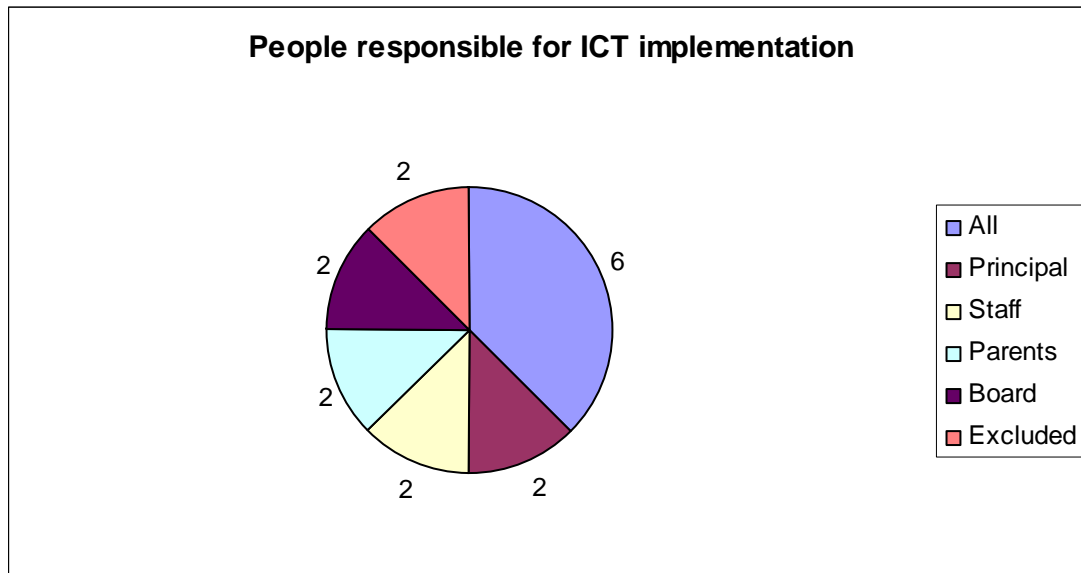


**Figure 6** Important aspects of implementation

Figure 6 indicates that eight (8) educators regarded computer literacy (CL) as an important aspect in the ICT implementation. Three (3) educators regarded ICT as an important aspect of making resources available (AR) at the schools. Another three educators regarded ICT important factor for Global Competition (GC).

Two ICT specialists were excluded and indicated by (EX).

### 5.2.1.6 Who are the people responsible for implementing ICT at your school?

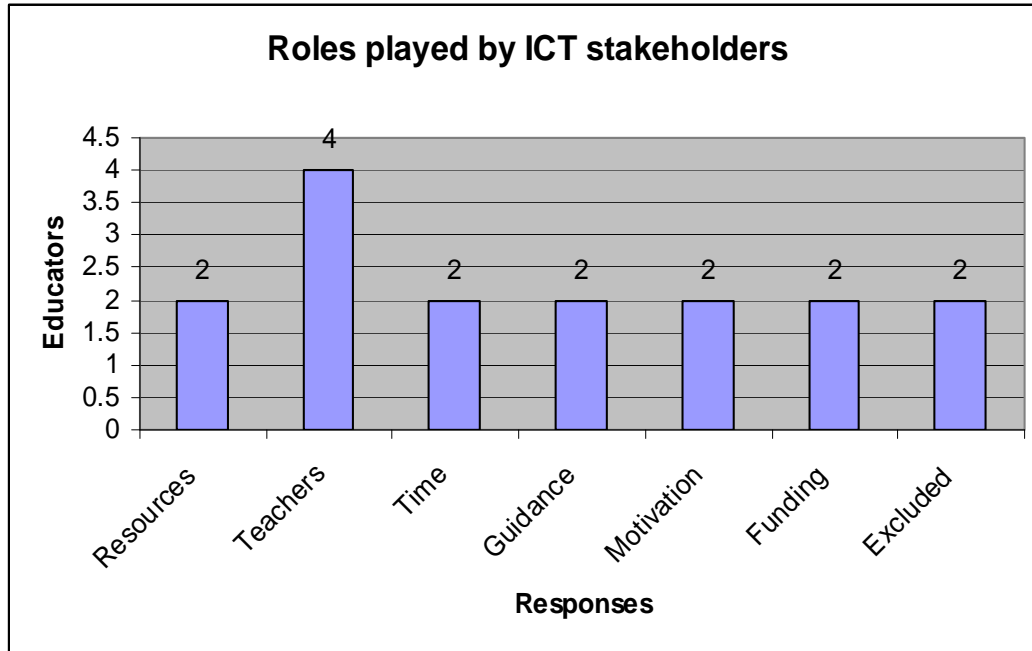


**Figure 7**

Figure 7 shows that two (2) educators believed that the School Board as the Management Committee (MC) was responsible for ICT policy implementation. Other two educators thought that parents were responsible as they paid school fees inclusive of fees for the computer education. The other two educators said that the staff was responsible for implementation of the ICT policy to bring change to the schools. Another two of the educators thought that the principal as an overseer of all the activities at the school was responsible for the implementation. Six (6) of the educators claimed that 'all' the parties mentioned were responsible for proper implementation of the ICT policy. All the parties had a stake as the implementation process did not require individuals but a team of all the stakeholders.

The two ICT specialists were excluded as they were observed in the classrooms..

### 5.2.1.7 What are their roles and duties concerning the implementation process?

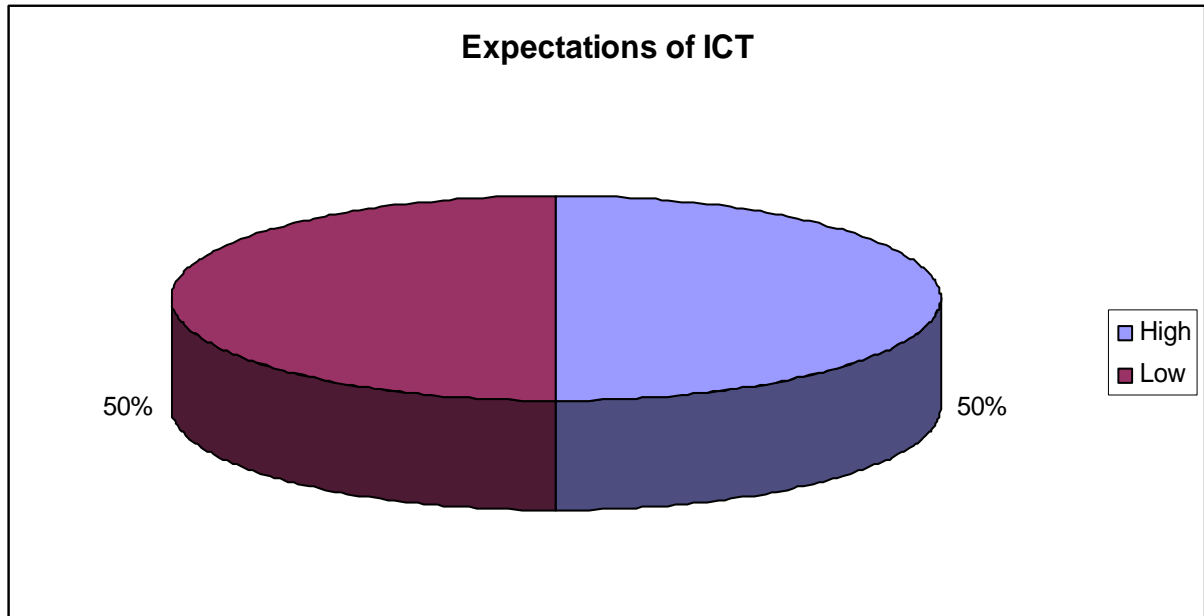


**Figure 8**

Figure 8 presents the two (2) educators who responded that the roles and duties played by people responsible for ICT policy implementation or stakeholders were to ensure about the availability of resources and facilities. Four (4) educators said that the role of people implementing ICT was the provision of teachers. Two (2) educators claimed that time should be managed for the implementation. Two (2) educators responded that monitoring and guidance for ICT policy implementation should be practiced two (2) of the educators expected the policy formulators (MoET) to give motivation in form of reward to implementers for recognition of hard work at the grass roots level where the policy was practised. Two (2) educators said that the government should provide funding for the implementation process.

The two ICT specialists were excluded as they were observed in the classrooms.

### 5.2.1.8 What are your expectations towards the successful implementation of ICT policy implementation?



**Figure 9**

Figure 9 indicates that there was an even divide between educators' perceptions of the chances for successful implementation.

### 5.2.1.9 Basing yourself with the experiences that you have, what are your recommendations on the successful implementation of ICT at your schools?

Three (3) educators claimed that the improved computer laboratories with facilities should be built. One (1) educator said that the government should build the Community based centre for computers. Three (3) educators recommended the installation of internet at schools. Three (3) educators said that the provision of funding for implementation should be made clear to the schools. Three (3) educators recommended that teachers' training on ICT should be held. One (1) educator said that he/she did not know anything about ICT policy implementation. 14 educators were interviewed and obtained 14 responses.

Two ICT specialists were not interviewed as they were not included in the semi-structured interviews.

### 5.2.2 Classroom observations

The Classroom observations were conducted on two ICT specialists of whom the researcher was a non-participant observer and took notes on the following aspects.

See Appendix II

#### 5.2.2.1 Physical Features

##### Classroom environment

ASPECTS	SCHOOL A	SCHOOL B	COMMENTS
Computer laboratory	√	√	Not up to standard as there was no free space in School B
Lighting	√	√	Electricity not reliable in School A
Doors	√	√	Well fixed with burglar proofing for proper security.
Equipment	√	√	In both schools learners share computers.

**Table 1**

Availability of an aspect is indicated by √.

Table 1 indicates that both schools had similar aspects but School A did not have reliable lighting on electricity. Again in both schools the computers were inadequate.

### 5.2.2.2 Materials / Teaching aids

Neither of the classrooms observed had teaching resources to support learning in form of charts or pictures hanging on the walls in School A and B.

### 5.2.2.3 Mode of delivery (teaching and learning)

#### Educator learner involvement

The activities that the researcher observed in the methodology used in the ICT class showed that learners were highly involved as they explored their computers to learn the skills. There was not enough motivation in learning because learners who did not grasp the skill quickly were left behind, meaning that they did not finish their tasks. There was no eye contact because the size on both of the classrooms was very big, and it was difficult for both educators to focus on the rest of the classrooms. Time frame was well managed but evaluation of the lesson was never reached by School A educator.

Both educators were similar in their modes of teaching but there were a few differences caused by their backgrounds and experience. School A educator had one and half years teaching experience while School B had three years.

### 5.2.3 Documentary analysis

#### Official School Documents for ICT Department

DOCUMENT	SCHOOL A	SCHOOL B	COMMENTS
ICT policy for Lesotho	x	x	There was not a trace of the ICT policy at the schools.
Syllabus:JC(2005) COSC	√ x	√ √	COSC syllabus was not yet developed by the NCDC. Therefore, School B used the Computer Studies (7010) G.C.E Ordinary Level School Certificate for Form D-E classes



			(Grade 11-12) syllabus.
Time Table	√	√	
Scheme and record books	√	√	The schemes and record of work were not done in School A. In School B records were not up-to-date for Form E.
Preparation books	x	√	Not covered in School A
Texts and reference books	√	√	There were no prescribed texts and guides for MoET. Educators chose different texts and references.
Minute book	x	x	Not kept by the HODs to indicate that departmental meetings were never held.
Budget	x	√	There was no departmental budget in both schools; however the educator in School B used the budget prepared for the whole school for ICT.

**Table 2**

Table 3 indicates that the document analysis method evidenced that there was not a trace of the ICT policy at the schools. However, the policy document issued by Ministry of Communications, Science and Technology (2005) contained a slight portion for educators reading as thus:

- Educational institutions must play a major role in improving teaching and learning mechanisms that develop a society that is ICT literate and capable of producing local products and services.
- They must ensure that ICT literacy is part of core curricula.
- They must use ICTs to expand access to education as well as improving the quality of education.

**See Appendix IV**

The researcher ‘appendixed’ only the part of the ICT policy relevant to schools as the whole document was mainly for all the sectors in the country and it was too large.

### **Syllabus**

The educators from School A and School B had a current syllabus for Junior Certificate (JC) and used it to teach classes from Form A (grade 8) to Form C (grade 10). The educator B used the Computer Studies (7010) G.C.E Ordinary Level School Certificate for Form D-E classes (Grade 11-12). Educator A did not have the syllabus to teach Form D and E because the syllabus for senior level was not yet developed by the National Curriculum Development Centre (NCDC).

### **Time table**

Three classes per week were allocated for teaching of computer skills per class per stream, with time allocation of 35-40 minutes in both schools. There were few double periods in comparison with other practical subjects like Agriculture etc. In School B computer class for Form E (Grade 12) was offered on Friday at 14h20-15h00 with much interference caused by end-of-week activities like sports and excursions. In both schools educators and learners were very punctual and kept time for lessons well. However, educators did not evaluate their lessons as the time allocation on single periods was very short to round up the lesson. In the ten classes with 2-3 streams per class, the researcher observed one lesson per visit per day as scheduled from the Time-table. It was not possible to observe all the streams.

### **Schemes and record books**

Educators for Schools A and B kept scheme and record books well, but it was only School B educator who did some work and records in an official way accepted by the MoET. However, the Form E class record was not up-to-date. The researcher noticed that it was difficult for educators to do their daily records because they did not understand the proper way of handling ICT.

### **Preparation books**

There was no preparation book in School A but were used in School B.

### **Text and references books**

There were no text books prescribed by the MoET to teach computers at the Secondary Schools. Therefore each educator used texts and references of his/her own choice.

### **Minute book**

There were no minute books for the departments in both schools.

### **Budget**

There were no departmental records on finances for both schools. Therefore HODs and educators could not draw the departmental budgets. However, in School B, the researcher was shown the budget document drawn for the rest of the school with the computers costing M100, 0000.00 for the year 2005.

## **5.3 Conclusion**

The research findings were presented with the analysis on semi-structured interviews, classroom observations and official school documents. The discussion of the findings is covered in the next chapter to analyze the experiences from educators whether they were rewarding, challenging and contributing to the successful achievement of the objectives of the study given as follows:

- 1. To investigate the educators' experiences of the implementation of ICT policy in Lesotho Secondary Schools.**
- 2. To generate guidelines for successful implementation of ICT policy in Lesotho Secondary Schools.**

Even though the targeted time for ICT policy implementation was based on the Vision 2020 that all educators and learners would be computer literate and had acquired the computer skills by the year 2015, some educators were interested, others were resistant and others were hostile to the implementation.

## **Chapter 6**

### **Discussion of Findings**

#### **6.1 Introduction**

The discussion of the findings is presented according to the activities employed on the theoretical framework of the study. The activities were located in applying the ‘tools’ for ICT policy implementation at the Secondary Schools in Lesotho to strive to draw a distinction of how the schools implement ICT. This is in line with the Ministry of Education and Training (MoET) strategic plan that the strategic goal for improvement of teaching and learning processes in schools by 2015 was to “develop an ICT policy and [strategies] for secondary schools” (Ministry of Education and Training 2005, p. 63). In this research the target was on educators as they were the ones faced with this challenge to meet transformation and be changed agents. However, Moursund (2002) contends that this had been applicable in the United States of America (US) that by adding technology to educators assisted them to move from their traditional approaches to the constructivist approach that would make the best practice in teaching and learning. This ensures “ICT being a disruptive force in education [and] large changes will occur and many schools that will follow the traditional path of the past decades will not prosper” (Duit 1995, cited in Moursund 2002, p. 35).

#### **6.2 Activities for ICT policy implementation**

- Tools
- Subjects
- Rules
- Community
- Division of labour
- Object

### **6.2.1 Tools**

These were the tools set for ICT policy implementation to theorize the study. They were ICT policy document, text books and references, Preparation books, Schemes and record books, Syllabus and Time Table.

#### **6.2.1.1 Information and Communications Technology (ICT) policy**

The main tool which was a policy document for Lesotho ICT policy implementation was not known at the schools where the research was carried out. The policy document published by the Ministry of Information and Communications Technology (2005) never set guidelines for educators to implement ICT at schools. The Activity theory model indicated that the artefact or the “tool” for ICT implementation was null and void; therefore the process was not clear.

There were no prescribed text books to be used as material resources in the computer-based classrooms. Therefore, the process was operating on the first level which the researcher could call the initiation stage of which Rajkumar (2005) regards it as the Activity stage. The researcher found that awareness had not been created by the MoET about the ICT policy implementation. This was witnessed by the researcher from his previous job experience that the campaign workshops for the principals were not held to set ground well for the implementation process just like other ministerial policies, for example, Free Primary Education (FPE) policy. Many educators were blank and did not know about the existence of the ICT policy as a document for schools. They did not know how to handle problems of implementation. ICT policy offers a set of conceptual tools, therefore the successful implementation comprises from the need to understand and predict changes in peoples’ behaviour in different situations. The researcher found the ICT policy document very difficult to be used as a ‘tool’ for transformation at the Lesotho Secondary schools.

#### **6.2.1.2 Text books and references**

In observation of the other tools like text books, materials and other references in ICT, School B held a large number of books, journals and audiovisual materials but did not have a link to the internet. It had an impressive collection of teaching resources and materials to aid teaching and learning of ICT. The school also performed the service of

assisting the community nearby with the computer services, constructing documents in Microsoft Word. In both schools the appropriate software was installed to provide learners with computer literacy programmes. With this, the researcher acknowledged this effort made by educators as a positive way for ICT implementation.

#### **6.2.1.3 Preparation books**

Preparation books in School B indicated that ICT lessons were prepared through the guide of the syllabus to keep in touch with the educational aim for achievement of Vision 2020. The researcher commends this as an indicator for good practice.

#### **6.2.1.4 Schemes and record books**

The scheme and record of work books in School B indicated that even though they were up-to-date, the work was done haphazardly in a hurry to be presented to the researcher. In school A the work was not done completely. This showed that educators were disinterested as the workshops for ICT scheming were not held for staff development. Therefore, educators were not introduced to scheme and record for ICT. However, the Ministry of Education and Training (1995) posits that the preparation of these schemes required much careful thought on planning to be used by the subject educators for preparation of an ICT lesson. For record of work, it was the educators' responsibility that books were kept up-to-date so that records should be checked by the authorities to relate the coherence of the ICT lessons taught.

#### **6.2.1.5 Syllabus**

The content and structure of the JC syllabus used was topic-centred, the main topics were presented as themes divided into sub-topics that were good for a start into teaching computer literacy. Different experiences could be accommodated from learners who may be lucky enough to have personal computers (PCs) at their homes through the guide of this syllabus. Knowledge from learners could also be demonstrated, meaning that learners would be free to develop more knowledge than what was required by the syllabus. Walker (2001) indicates that the constructivist view of learning emphasised that learners are active and create or construct their own knowledge through acting on and interacting with the world. He adds that he draws this information from Appleton (1995), Dawson (1994) and Tobin (1990).

#### **6.2.1.6 Time Tabling**

The targeted time for the Lesotho ICT policy implementation at schools would be the year 2015. The researcher acknowledged that and regarded it commendable as time was a very important factor to determine implementation of a policy. But the time allocated for the teaching of computer skills in the time table for both schools was not enough, for example, 35-40 minutes single periods in three classes per week. There were few double periods in School A. There were few periods in the time table compared to the other practical subjects like Agriculture (Agric). The researcher made a comment on this issue that to satisfy the 'breath and balance' requirement for timetabling, meetings were to be held with all the educators to adjust enough time for ICT policy implementation.

#### **6.2.1.7 Minute book**

As a result that meeting for the Commercial Studies Departments were not held where the ICT teaching and learning was located; there were no recordings on the minute books. It clearly showed that there was no interest on the ICT policy implementation from the HODs. There was no reporting to the principals on serious issues cropping from the implementation. The subject specialists reported that they only get criticisms in the informal meetings from the other educators who were interested in the field that they implement ICT the wrong way. The only way was to integrate ICT in all the subjects. The researcher found this unfortunate, as it could cause stress for the subject specialist who were the only implementers of ICT policy at schools. As the Ministry of Education and Training (1995) regarded the HODs' meetings invaluable, they should be linked to the 'staff' meeting as they involved a group of experienced educators to provide guidance and policy decisions that affected the school. These could have a negative impact in the teaching and learning of ICT.

#### **6.2.1.8 Budget**

A budget is a financial management planning tool to make best use of the funds available. Therefore a budget was a necessity of the school (Ministry of Education and Training, 1995). The purpose of the budget was to provide educators with the funds required for running of the programmes to meet certain requirements from the government such as implementing policies.

Through the documentation analysis method, it was revealed that School A operated a Commercial Studies Department without a budget. This was very complicated as ICT implementation could not happen without the sufficient funds. The Ministry of Education and Training (1993) puts an emphasis that pupils were encouraged to undertake projects to promote the curriculum for working life. Dede (2000) also witnessed that schools required policies and practices fostering pilot projects for small-scale educational improvement. He finds that evaluating the effectiveness of technology initiatives, “systemwide reform involves moving from using special external resources to configuring budgets for the innovation purpose” (Dede 2000, p. 45).

However, the schools used different measures to raise funds for ICT teaching and learning. Schools financed the computer laboratories from the school coffers being money paid by parents. School A operated without a budget while School B held a departmental budget of which the school administration responsible for management of funds did not allocate funds for it. The researcher saw evidence that the internet was budgeted for the year 2005-2006 in School B but it was not yet installed. It was only through the budget that parents and the community would be informed about the schools’ future plans.

## **6.2.2 Subjects**

Educators were the participants in this research, and they acted as the subjects of the study. In this research, educators who had an experience in using computer technology were few. Many educators did not have computer skills and were inexperienced. Even though educators had a positive feeling towards the implementation, lack of knowledge in utilizing ICTs would make the implementation process difficult.

### **6.2.2.1 Principals and Deputy Principals (DPs)**

School principals, as managers and leaders of their educational institutions, were responsible for setting the vision for the schools. They inspire the educators, learners and of course parents to implement educational policies through analysis of strengths, weaknesses, opportunities and threats encountered in the process. However, with ICT policy, this body of administrators were interested but lacked the ICT skills, which made it very difficult for them to promote the set policy. Out of two principals and two DPs, only one DP was uninterested and reluctant to voice her concerns for ICT policy



implementation. Of the responses studied, she was the only one who did not want to be a change agent.

#### **6.2.2.2 Heads of Departments (HODs)**

HODs are considered very important in schools as they are responsible for all the activities involved in running the subject department. In the Lesotho secondary schools, the HODs are not necessarily educators with special knowledge of the subject but experienced educators in the teaching profession. Their responsibility was to look forward to the well being of the departments, and to promote the good practice in teaching and learning. They perform many services for the departments, one of them being developing materials for learning. The HODs focus was not only on the material resources but also human resources development. With all the responses acquired from HODs, they only visit and not have skills to supervise the ICT implementation well. This was a draw back on ICT policy implementation.

#### **6.2.2.3 Core-Subject specialists**

Some of the subject specialists from other fields, like Sesotho, English, Maths and Science (core subjects) were computer literate and had some computer skills, while some were totally illiterate. But they were ambitious to have the skills and to improve on their subjects to teach with a new technology for the betterment of education. Therefore, these educators constructed their own meaning in looking at the implementation as there were no guidelines to integrate computers at schools. According to Wilson, Breuleux, Gibbons and Andruske (2001) the successful implementation of ICT depended mostly on staff competence in the integration of ICT into instruction and learning.

#### **6.2.2.4 ICT subject specialists**

In this research the ICT subject specialists were educators practising computers in their lessons. The two educators observed were unqualified educators who did not hold any 'teachers certificate'. These educators were professionals in the field of computers and were knowledgeable about the computer skills. One educator had one and half years teaching ICT and another educator had three years of experience teaching ICT. The academic qualifications and nationality were outside the frame of this research; therefore, they were not recorded. There was no uniformity in their teaching as they faced different situations in terms of the ICT knowledge and background from learners. School B

learners were offered computer literacy in the primary school whereas School A did not experience computers in the primary school. As both schools were situated in the same urban area less than 10 kilometres (kms) from one another, their enrolments were almost the same. The schools held a 'teacher pupil' ratio of 1:40 in five classes with different streams. This revealed that the workload, in the area of computer studies, for these educators was too high.

### **6.2.3 Rules**

The beginning of the literature review of this study indicates that a procedure used to implement ICT in the two schools was the teaching of computer skills. Marsh (1997) posits that many countries introduced Technology into the Curriculum as a new subject during the 1980s and 1990s. The inclusion of technology in the Curriculum was done to prepare students for the 21<sup>st</sup> Century. In return, the Government of Lesotho, through the MoET, made a draft of a policy on the implementation of ICT at schools in 1980. The Curriculum stated that every child leaving school after a completion period must at least have a basic skill for life. But the final 2005 ICT policy did not make the rules clear for implementing of ICT in the schools.

#### **6.2.3.1 Information Communications Technology (ICT) development**

Sampled schools relied on the educator's resourcefulness and knowledge of the computers. These educators interpreted the syllabus according to their ability and the knowledge of the subject i.e. the computer studies. They used different guides and manuals extracted from the computer centres, for example, Quadrant Training for computers, Computer Solutions and Lesotho Institute for Public Administration Management (LIPAM). There were no hanging visual aids on the walls to support learning. As an experienced educator and an Inspector the researcher found this odd as the Ministry of Education and Training (1993, p. 8) states that the "teachers support subject presentation with wall displays, charts and [artefacts]". The main objective of their lessons was to train learners on the syllabus. The experiences were not utilized to see ICT learning as a life process but rigid and it implied that it could not be achieved easily by learners.

### **6.2.3.2 Pedagogical Design - Nationwide**

Rules symbolized the ways, practices and teaching methods used to facilitate e-learning. In this study technology inefficiency was experienced in the observation of a lesson whereby an educator did not do practical in the computer laboratory due to shortage of electricity that required phase upgrading. Instead, the educator used the traditional system to teach learners about the computer hardware by nominating one student to write notes on the traditional chalkboard. The mode of delivery for teaching and learning was completely boring. Many students lost interest and fiddled with some other things; others did not have note books to write on. Instead the teacher took turns to ask them one by one about the computer hardware. 40 minutes ended up being wasted and there was no evaluation for the lesson. In contrast with a case study of Crocodile Valley Secondary School in Canada, Wilson et al (2001) indicate that for the successful implementation, computers should be used as a tool rather than simply in teaching computer science. Despite teaching students the computer studies in Lesotho, using computers as tools create opportunities to work easier and more efficiently with the computer. Therefore for students to become knowledgeable about computers they would use the machine the same way as using a pencil and a paper to draw if the technology was used within a certain subject. With these evidences, the researcher found that to achieve quality implementation for ICT in Lesotho would not easily be achieved as Wilson et al (2001) point that working across different subjects was referred to as the broad model for implementation. In Lesotho schools, learners are taught Computer Studies as a subject on its own, regardless of whether or not it is examined.

### **6.2.3.3 Pedagogical Design - SADC**

According to Daniel (2000) UNESCO aimed to ensure that all developed and developing countries had access to the best facilities necessary to prepare learners to utilize ICT fully. Development of the ICT skills led to changes in the job situations that required competencies in the following:

- Critical thinking
- Expertise
- Decision-making
- Teamwork
- Effective communication

To acquire these competencies Chapman (2000) shows that in South Africa Information Technology (IT) was given higher priority by the Department of Education regardless of whether or not schools had the necessary equipment (Department of Education, p. 2001). Learners were expected to access and use information in a variety of ways. But if the government wanted educators to teach learners how to use computers at schools without electricity the policy for implementation would fail. ICT implementation would not happen without proper guidance; therefore serious measures should be taken to resource the schools with computers rather than learners crowding on one computer to learn a method on PowerPoint presentation. Some educators may argue that group method was good for learning but ICT gave opportunity of independent learning. In other ways, a television (TV) could be a simple device for teaching and learning. In the sampled schools, which the researcher had selected as the better resourced schools in the country, there was no TV in the ICT block; instead in School B a TV was placed in a private room where educators very seldom watched it at their leisure time and do not use it as a resource. This suggested to the researcher that ICT is not utilized fully.

#### **6.2.3.4 Researcher's experience with ICT**

According to the researcher's experience, as an experienced educator who taught technology to facilitate typewriting, she noticed that schools with technology in the form of computers nevertheless struggled to make a classroom for technological learning because educators do not teach with technological devices such as TV, radio and cameras. But educators had a need for change so that was the reason they phased out typewriting and opted for computers as a new technology in their schools. The responses from the educators revealed that educators had a positive feeling about the ICT policy implementation but the most difficult part of it was on how to implement it. Educators constructed their own ways in trying to implement ICT, but not to use it as a tool to facilitate learning but for learners to use computers for their future at work. The researcher admired that as the best start mostly because there were no guidelines for proper implementation. The educators interviewed expressed that they were interested in a new method of teaching even though facilitating ICT environment needed the rules to be followed which were non existence at the two schools. To put an emphasis on this Ho (2004) relates that recent theories suggested that cognitive approaches to teaching and learning foster active learning. He adds that the Computer-aided instruction (CAI) supported students' motivation and enhances the quality of learning. This method of

teaching would function well if it would be applied in an environment conducive to teach with technology.

### **6.2.3.5 The current situation in the schools**

According to the Ministry of Education & Training (1993, p. 6) “providing a suitable curricular experience for children of the 1990s requires the curriculum policy [that] ensures provision is made for all pupils of all abilities.” The current ICT policy conformed to the other fields outside education and schools; there was no provision for the teaching and learning of learners with special needs and disabilities. Educators did not support learning with wall displays, charts and artefacts. There were no audio-visual aids such as radio, TV and overhead projectors. The researcher asked herself whether formulators of ICT policy for the whole nation saw integration of learning as a lifelong process or not. Despite these, ICT infrastructure varied according to the well being of the schools in terms of money and resources. However, the schools researched were purposefully chosen by the researcher as the better schools with facilities, but the computer laboratories were still appalling.

### **6.2.4 Community**

Walker (2001) states that it was within the Activity Theory Model (ATM) that culture would interact with the community to bring change to the schools by implementing ICT. In this research, “community” composed of the following stakeholders:

1. Ministry of education and training
2. Parents
3. Learners
4. Technicians

#### **6.2.4.1 Parents**

In the schools visited, good communication existed between the parents and schools as there was evidence of parents meetings, open days and cultural days. Parents were the sources of income as they paid school fees and the computer fees. It is indicated in the quality development criteria for inspection that parents are given chance to inspect their children’s work at meetings or open days. This was done in a way that parents were given non-technical explanations of ICT and schools used a simple language for parents to

understand the requirement of ICT in schools (Ministry of Education and Training, 1993).

#### **6.2.4.2 Learners**

In this study the learners were not included in the sample, therefore they were not interviewed. This may be seen as a shortcoming in the study of ICT, as learners were the ‘users’ of the new technology but the focus of the researcher was to explore the educators’ views of the ICT policy implementation.

#### **6.2.4.3 Technicians**

There was one technician out of 16 educators sampled. This demands a new way of thinking as the computers cannot be operated without a technical knowledge. With limited funding from schools, employment of technicians would not be a serious problem if educators were trained to operate the machines. In the schools visited there were a number of machines not in use due to technical breakage and without maintenance.

This tendency to excuse poor performance by lack of technical assistance is not unique to Lesotho and is explained as follows:

This is rather disconcerting taking into account that these respondents could be underachieving as far as the enhancement of teaching and learning is concerned. They could use the lack and unavailability of teaching machines and gadgets as their defence in giving reasons as to their underachievement in their respective classrooms. Without teaching gadgets and machines there could be no meaningful and effective learning and teaching taking place (Govender 1997, p. 98).

Govender (1997) mentions educators using the lack of equipment “gadgets” as an excuse for poor teaching. Sometimes educators would have the necessary skills and therefore would not be able to use, the lack of technicians as an excuse. Some educators responded that they were not provided with technicians as the educators were unable to maintain the machines and gadgets.

#### **6.2.5 Division of labour**

In order for a ‘tool’ to function, labour should be divided accordingly to specialization of work.

### **6.2.5.1 Partnership of the three-legged pot**

This showed that labour was not shared accordingly.

### **6.2.5.2 Roles, duties and responsibilities**

According to the system of education in Lesotho, there were certain roles, duties and responsibilities played by the MoET, schools proprietors and the community.

#### **6.2.5.2 (a) Roles played by the Ministry of Education and Training (MoET)**

- Liaise with the other educational sectors, for example, non-governmental agencies (NGOs) or private sectors to build strong ties and good relationship to arrange for funding of the ICT policy implementation.
- Improve access to secondary schools
- Improve quality in secondary education
- Develop an efficient management system for secondary education
- Provision of resources

These roles were taken from the current strategic plan 2005-2015 indicating what the government and the MoET should do to implement ICT in the schools. However, there were loopholes on the following:

- ▶ Funding was not arranged for the implementation of ICT at the sampled schools.
- ▶ Transition from primary schools to secondary schools was done on learners who were ICT illiterate. There was no clear evidence that ICTs in the secondary schools were used to support the educational requirements of special needs learners, or that the ICTs were set up in such a way that special needs learners were able to use them, for example, learners with vision impairment.
- ▶ Improvement of the quality secondary education was not strengthened in the introduction of ICT at schools, for example, the educators' training on ICT. Learners were taught by the unqualified educators with no skills and methods of teaching.
- ▶ Strengthening and decentralizing of supervision, monitoring and follow-up support services on ICT policy implementation from the school inspectors was not accomplished.
- ▶ Provision of human resources, financial resources and material resources for ICT policy implementation was not maintained.

### **6.2.5.2 (b) The school proprietors' roles**

These were the owners of the schools under the different religious affiliations, private school owners, the community and the government owned. School proprietors were not organized to engage their services for the improvement of ICT in terms of resources and infrastructure. There was no coordination of ICT activities for any input or assistance they provided.

### **6.2.5.2 (c) The Community roles**

For purposes of this study the community can be defined as the learners, parents and businesses within the school area. The schools visited stated that they respected the 'leg' of the community and there was generally a good relationship between parents and school, with parents involving themselves in their children's education. But the community was not drawn into the implementation of the ICT educational policy except for the use of their money to purchase equipment. Expertise from the community could have been used for the repair of faulty equipment and technologically literate learners could have been trained to install software in much the same way it was done at Crocodile Valley Secondary School in Canada (Wilson et al, 2001). This community involvement could be rewarded by sharing the equipment with participating members provided this did not break any legal licensing agreements<sup>2</sup>.

In addition maintenance of computers is not simply a matter of knowing the computer software and hardware it also requires the updating of skills regularly as the technology develops and changes rapidly. As a result, life-long commitment to upgrading skills is required. It is problematic to demand such commitment from educators who already have full time jobs but if knowledge is shared both among the educators themselves and the community at large and there is enthusiasm for the use of technology this problem is not insurmountable.

It came to the researcher's notice that labour was not divided well for ICT implementation at schools. There was not enough supervision from all the spheres of education. HODs did not visit ICT classes to give assistance to the subject educator and

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<sup>2</sup> Some software licenses are specific about who may use the software and under what conditions; any suggested extension of use should take this into consideration.



learners. Educators from other area of specializations like the core subjects visited ICT class aimlessly without a purpose. Principals visited ICT class to observe without having the computer skills. There was no clear demarcation of duties. Who was doing what, when and why? There was not even a representative from the MoET to give motivation and support to schools that implemented ICT. The principal from School B told the researcher that once their school was visited by the Subject specialist from NCDC and made comments that they were not implementing ICT correctly. However, the researcher made a point that what was performed at schools was a good start; it only required skills to build on. In support of this, Walker (2001) indicates that in this kind of situation in United Kingdom, Paula Goddard, a specialist who held a high-tech qualification opted to teach ICT in primary schools and diversified her career in teaching ICT also to the secondary schools in UK.

#### **6.2.6 Object**

In this research an object is the educators' experiences in the implementation process.

As the Activity Theory model is hierarchically structured, it flows between the levels. In this Case study the researcher found that in the first level 'Activity' is whereby the process of implementation is transformed into an 'object' to work towards the targeted outcome. In support of this, UNESCO (1996) states that there was a motive in Lesotho mandated by the minister of education the Honourable Mr Lesao Archibald Lehohla in the official opening at Maseru Sun on the 16 December 1996 to implement an ICT policy at the schools. In his remarks, the minister appealed to the participants to work towards demystifying computer usage. Therefore, more assistance was invited to all the stakeholders to facilitate the process. The help required by the minister was not only from the MoET but from all the sectors in the governmental, non-governmental and the community. By so doing, the minister engaged the ICT policy in an 'Activity' level. Ryder (2005) in agreement of this said that Activity level was the engagement of subjects towards a certain goal or objective. Again he posits that an activity was only taken by people who were motivated to solve a problem.

The level on the 'Action' was goal-oriented. In this case it is whereby a relationship between the participants or educators at the secondary schools were trying several ways

of using a 'tool' to implement ICT policy, but they encountered several problems of which more help is required.

The level on 'Operation' was when educators used a tool with all the assistance from different sectors. Therefore, everything was well managed with the availability of human and material resources. In some other cases, this level is called the 'Automatization'. In this level, there is a net work of all the activities discussed in the theoretical framework of the study. According to Rajkumar (2005) if this level was reached in the implementation process, the activities would function well together with the 'community'. In this Case study the community was not part of implementing ICT at schools; its involvement was not well defined. Even though parental involvement at the schools visited was practiced, there was no emphasis on ICT policy implementation. This was in line with Czerniewicz and Carr (2005) suggesting the effectiveness of educational technology within the SADC required the growth of effective community of practice amongst all stakeholders. The object of change that was influenced by the implementation of ICT policy required the community to be highly involved in the process.

In rounding up all the activities of the implementation process, the researcher found that most activities did not operate fully for the proper implementation, for example, educators. Even the 'tool' itself was regarded null and void to the schools. In the implementation of ICT policy in China, Zhong and Shen (2002) relates that professionals and educators tried by all means to be engaged in various studies of technology to upgrade their skills in teaching and learning of ICT. In South Africa Czerniewicz and Carr (2005), report that the sense of engagement in a community was expressed in statements, for example, the White Paper on e-Education. Therefore, the researcher thought that if examples could be taken from countries such as Canada, China and South Africa the implementation of ICT would be achieved by the year 2015.

In Lesotho implementation as a result of the set policy raised a critical point mainly because strategies were never set for ICT policy implementation at schools. Taking to consideration Fullan's (1991) views, the researcher noted that although the schools' educators and principals were cognisance of the importance and need for educational change it appeared to be too difficult a task for them to undertake without proper guidance. He believes that if an idea or a new concept is implemented to make change, for instance, in the educational system, that change must be met by all the parties

concerned. Those were the educators, board of the governors, community and the MoET officials. Organisation of strategies, planning and coordination of activities must be well known by the implementers to achieve the objectives of the plan. According to Fullan (1991) it came to the notice of the researcher through the observations made at schools that even though an educational change was an important factor to consider, it was too difficult to understand. There were no set strategies, as they would give clear guide of what was suppose to be done.

In this activity “object” means there should also be clear goals and outcomes to determine the success of implementation. However, Fullan states that converging factors that did not go hand in hand would end up into pitfalls. Implementing ICT in the Lesotho schools needed a clear plan.

It was encountered by the researcher through Documentation Analysis that School A operated a Commercial Studies Department without a budget. The researcher found this very complicated as ICT implementation could not happen without adequate funds. The Ministry of Education and Training (1993) manual for Inspectors, Head teachers and School Managers puts an emphasis that ‘pupils are encouraged to undertake projects’ to promote curriculum for working life. Therefore, any of the schools were not resourced with computers by the MoET to prepare for the implementation. Dede (2000) requires policies and practices fostering pilot projects for small-scale educational improvement to touch every dimension of the school to improve on the school premises, resources and funding. This was evidenced by Dede (2000, p. 33) when taking a research on “Evaluating the Effectiveness of Technology Initiatives” finds that system wide reform involves moving from using special external resources to reconfiguring existing budgets to free up money for innovation”..

The sampled schools did their own fashion in raising funds for ICT teaching and learning in their schools. School purchased computers from school funds contributed by parents. School B was given donation of computers as an aid from United States. Parents also contributed by paying fees. But the computers were depreciated through wear and tear. There was no maintenance or repairs made to the machines. There was no Budget in School A to determine the future of ICT implementation. In school B the departmental budget was available but the school administration did not follow it, for example, the

internet was budgeted for but not yet installed. Generally educators from both schools blamed the MoET by saying that the ministry did not plan for ICT policy implementation for schools. A Sesotho language educator comments:

It was not like implementing Free Primary Education (FPE) where the government officials used loudspeakers to inform the community. They also held ‘pitsos’ for public address.

This statement was regarded true by the researcher as she was involved in implementing FPE policy while she was a District Education Officer (DEO) some time back. This comparison of the two policies added more knowledge on both the researcher and the educator’s experiences.

In this regard, the researcher was able to draw these guidelines which would be generated in the form of recommendations for the Ministry of Education and Training (MoET), School proprietors, educators, community and other stakeholders such as non-governmental agencies to improve on the implementation process of ICT in Lesotho schools. These guidelines were generated from the findings in line with this research.

### **6.3 Conclusion**

The sampled schools raised funds for ICT on their own expenses. In accordance with the discussion of the findings, the activities used as a tool to implement ICT policy in the Lesotho secondary schools were very much intertwined. This means that what the schools had achieved for now could be acknowledged by the researcher as commendable as a good start, being a fact that educators operated without a plan or a guide to involve them in this huge task.

Bearing in mind the **key research questions**,

- **What experiences do educators have of the implementation of ICT in Lesotho secondary schools?**
- **What guidelines can be generated to facilitate optimal ICT policy implementation in Lesotho Secondary Schools?**

**Key research question 1**

In answering the key question one, the researcher set to explore on the educators' experiences through semi-structured interviews whereby the findings of the study related that educators have different experiences of ICT. Some were knowledgeable but most educators were not. However, there were loopholes to be filled, for instance, in the activities mentioned, the current ICT policy lack focus on education and the schools, educators were not trained to facilitate the process.

**Key research question 2**

The key research question two was answered through observations and documentary analysis that there were no set rules and guidelines in the teaching methods, the division of labour and specialization was not clearly detailed to carry on some work of ICT policy implementation. The documents analyzed entailed a number of considerations, for example, they assumed not to represent reality in a straight-forward way to insemminate the ICT culture of the schools.

Finally, with all the discussions in this chapter, conclusion of the whole study would be based on the next chapter and the recommendations

## **Chapter 7**

### **Conclusion and Recommendations**

#### **7.1 Introduction**

In this chapter the conclusion of the whole study of an exploration of educators' experiences of Information Communications Technology (ICT) policy implementation in Lesotho Secondary Schools would be drawn by using the researcher's own view point based on all the chapters in this research. The recommendations would be drawn from the findings of the investigation illustrating the guidelines and strategies generated for all the stakeholders to facilitate optimal ICT policy implementation on different profiles held by the Ministry of Education and Training (MoET) and the educators who were the implementers of the ICT policy.

#### **7.2 Conclusion**

Zucker (2001) indicates that the goal of the Case study method was to describe as accurately as possible the fullest, most complete description of the case. An important activity was to craft useful approaches to collect meaningful data. As this research was exploratory, it was not easy for the researcher to find tactics for generating meaningful data from educators' experiences of the implementation of ICT policy in Lesotho secondary schools. To obtain this, the researcher used interpretive ways of fact finding and referred to her experiences like Jansen (2001, p. 28) who claims that "it is difficult to provide concrete [facts from educators' experiences on educational change] without reference to one's biographical experiences." With this, the researcher managed to have adequate experiences to draw the conclusions and recommendations of the study.

The case study conducted by the researcher indicated that the theoretical and conceptual frame work of the study indicated that the artefact or a 'tool' for ICT policy implementation was null and void to all the educators in the sampled schools. This was witnessed by the researcher on the responses made by educators during interviews that they were not even aware of the process. They were only teaching computer studies or ICT mainly for their interest not to comply with what was mandated by the MoET. As a government policy, educators required to be well informed.

The Document analysis method of the research evidenced that there was not a trace of the ICT policy document experienced by educators. Therefore, the researcher introduced to them the ICT policy for Lesotho documented by the Ministry of Communications Science and Technology (2005). However, there was only slight portion for educators written as thus:

- Educational institutions must play a major role in improving teaching and learning mechanisms that develop a society that is ICT literate and capable of producing local products and services.
- They must ensure that ICT literacy is part of core curricula.
- They must use ICTs to expand access to education as well as improving the quality of education.

The MoET did not make clear the tools for setting the ground well, there were no clear statements of their expectations for implementation. Awareness had not been created to principals, heads of departments (HODs) and educators in general. This was witnessed by the researcher on the following **indicators** for the access of ICT at the researched schools.

### **7.2.1 Goals**

1. Establishment of the ICT policy formulation and operation in the secondary schools for achievement of Vision 2020 mission.
2. Review of the ICT policy document.
3. Provision of ICT culture in the secondary schools.

### **7.2.2 Targeted outcomes**

- Monitoring of the quality of ICT within the schools
- Revising the ICT policy documentation
- Ensuring the availability of funding

### **7.2.3 Planning**

According to Fullan (1991) planning plays a very important role in the implementation because it will give a clear guide of what was supposed to be done before implementation. An effective plan keeps the stakeholders to be in the boundaries of the implementation to perform the activities for the success of ICT policy implementation.

### **7.2.3.1 Activity(s)**

- Creation of awareness to the schools
- Mobilization of all the stakeholders to participate in the implementation
- Close examination of the documented ICT policy
- Training and staff development
- Liaising with other ministries, private agencies and publishers
- Allocation of funds and resources to schools
- Arranging for proper accommodation at schools
- Financial management and budgeting

### **7.2.3.2 Strategies on monitoring the quality of ICT policy**

Monitoring and supervision for quality in ICT policy implementation should be achieved by holding:

- Workshops
- In-house seminars
- Pitsos (community gatherings)
- Conferences
- Meetings

### **7.2.3.3 Strategies on the review of ICT policy document**

The ICT policy document can be reviewed by the senior management through the publication by issuing the following documents to the community and the public.

- Journals
- Documents
- Periodicals
- Newspapers
- Magazines
- Memos
- Television
- Handbooks
- News letters



#### **7.2.3.4 Strategies to instil the ICT culture at schools**

Ho (2004) reports that in Hong Kong the government proposed a five-year strategic plan to entrench 'Quality Education' in ICT at schools by focusing to the staff development and training. The use of ICT in teaching and learning can improve the traditional pedagogical methods. The MoET should positively motivate all the educators faced with this challenge. Those are the professionals from Central Inspectorate, National Curriculum Development Centre (NCDC), Examinations Council of Lesotho (EcOL), Principals, HODs and Subjects Specialists.

### **7.3 Recommendations**

These recommendations would address the efficacy of influencing the ICT policy integration through the MoET, the educators and reach the policy makers.

#### **7.3.1 Ministry of Education and Training Profile**

- Should compile a simple and well explicit ICT policy in line with educational needs.
- Should consult with all the education stakeholders including the communities, before finalising and implementing ICT policy for the MoET
- The MoET officials, for example, the District Education Officers (DEO) and Inspectors (Central Inspectorate) should promote the implementation process by paying regular visits and follow-ups to the schools for proper guidance.
- Establishment of an ICT office for MoET at Central region of the districts to ensure co-ordination of ICT policy implementation is strongly recommended with this structure:

Director (Dir)

Deputy Director (DD)

4 ICT assistants

Secretary

Clerk

Technician

Driver

Cleaner

Messenger

- Coordination of ICT policy activities to the districts should be the first priority.
- Should open the Teacher Learning Centre (TLC) in ICT for staff development under the auspices of MoET.
- Training for the Inspectors, Curriculum specialists, Education officers and school educators should be maintained on short-term courses and long-term courses for ICT literacy, computer literacy and lifelong education.
- Should provide scholarships to educators for the Under-graduate and Post-graduate Degrees in ICT education and to research in SADC and First World Countries.

### **7.3.2 Schools' Profile (educators)**

- Should provide ICT culture in the schools by holding in-house seminars and inter-school visits to propagate change.
- Integration of subjects into ICT pedagogy should be highly recommended.
- Should develop guides and materials to teach ICT.
- Should cater for the learners with special needs and those that are differently abled.
- Should liaise with the publishers.
- Should integrate ICT in the practice of the other schools policies on gender, HIV and AIDS.
- ICT department should liaise with other departments, such as English for proper implementation of ICT in all fields of study.
- Installation of Internet / Intranet in the computer laboratories should be the first priority of the schools.
- There should be the schools community-based ICT centre to strengthen the third (3<sup>rd</sup>) leg of the Lesotho system of education.
- Schools should draw a budget for ICT implementation.
- Educators should research on policy issues to break the barrier between policy formulators and implementors.

## **7.4 Conclusion of this chapter**

Chapter 7 sets the conclusion and recommendations of the research. Goals have been set as indicators that ICT policy implementation was not well maintained by the Ministry of Education and Training and the schools did not implement the policy well. A set of new objectives were formulated by the researcher to draw the proper guidelines and strategies to be followed in the implementation process at the secondary schools. Different activities were captured as guidance to the stakeholders for a successful implementation of ICT policy. Lastly, the chapter sets the profiles on recommendations affecting the MoET and the schools. The researcher believed that if the recommendations could be followed, ICT policy would be correctly implemented and there would be change to the schools, the system of education and for the whole country.

### **7.4.1 Evaluation**

The Ministry of Education and Training (1995) believes that the ICT policy implementation like the other policies of the government had in its nature the directive of the executive authority. The researcher also believed that those directives had the force of law because they were vested in the ‘Ministry’ to be exercised by the officials. The legal aspect of the inspectors on this policy was to ensure that standards of ICT implementation were maintained according to the set standard. With the concluding remarks and recommendations from this chapter, further research should be conducted by the inspectors to explore the experiences from the learners, community, parents, board of governors and the MoET officials. And or another research in form of a survey on the extended sample should be conducted for generalizability and representation of the whole country.

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# Appendix I

## Semi-Structured Interview Questions

Time of Interview: 30 minutes

**Principals and Heads of Departments (HODs) questions on Information and Communications Technology (ICT) implementation at the Secondary Schools in Lesotho.**

NAME:.....

DATE.....

POSITION:.....

### SECTION 1

1. As a Principal / Head of department (HOD) what are your experiences towards the implementation of Information Communications Technology ICT at the Secondary schools?
2. How many times do you visit an ICT class?
3. What is the purpose of your visit to ICT class?
4. What problems have you encountered in regard to ICT implementation at schools?
  - a) Resources
  - b) Staff
  - c) Learners
  - d) Delivery mode (teaching and learning)
5. What are the important aspects of implementing ICT at the Schools?
6. Who are the people responsible for implementing ICT at your school?
7. What are their roles and duties concerning the implementation process?
8. What are your expectations towards the successful implementation of ICT?
9. Basing yourself with the experiences that you have, what are your recommendations on the successful implementation of ICT at your schools?

## Appendix II

### OBSERVATION SCHEDULE

**NAME OF EDUCATOR:**

**CLASS:**

**SUBJECT:**

**DATE:**

This schedule is intended to observe educators experiences of the Information and Communications Technology (ICT) implementation of the classroom interaction.

#### 1. PHYSICAL FEATURES

- Computer laboratory
- lighting
- position of seats
- doors (e.g., at front or back)
- blackboards and other equipment
- general noise level (does room echo; is there street noise, air conditioning noise, etc.)
- ventilation (stuffy, cold, hot, etc.)

#### 2. Sitting arrangement

- where do students sit?
- disruptions if people come late? (having to find a seat in middle, squeaky doors, etc.)
- where are handouts placed?
- number who attended (compare to enrollment)

#### 3. Materials / teaching aids

- material on the board (outline of the day)

#### 4. Educator learner involvement

- activities
- eye contact
- motivation
- feedback

#### 5. Conclusion

- accessibility of the lesson
- transitions between sections
- time frame
- readiness and flexibility of the educator
- variation of voice and pauses

**General Comments:** .....

.....

## Appendix III

University of KwaZulu Natal  
Faculty of Education  
Edgewood Campus  
Private Bag X03 Ashwood  
27 April 2006

The Participant

.....  
.....

Leribe – 300  
Lesotho

Dear Participants

### ***Permission to give information for research***

This serves as a request to provide me with information for my research. The research is mainly on the exploration of the educators' experiences of the ICT policy implementation in Lesotho Secondary Schools. The aim of the study is to investigate the educators' experiences of the ICT policy implementation to set strategies, and to achieve the guidelines for the successful implementation of ICT policy in our schools.

The research was identified from the perspective of Vision 2020 that the goal of the Ministry of Education and Training must ensure that all the educators and learners must be computer literate by the year 2015. Therefore, the Lesotho ICT policy (2005) was set for all the schools to implement it. To achieve this goal, my target group are the Secondary Schools educators of which are the Principals, Heads of Departments and Subject specialists. This study is a part fulfilment of Degree of Masters in Education whereby I am registered as a student in the University of KwaZulu Natal in South Africa. To process this research, the participants will be interviewed and classroom observations will be held. The responses from the educators will be tape-recorded and after the analysis of the data the cassettes used to store the information will be destroyed after three years to protect the rights of the participants while the information provided will be kept confidential. Real names of participants will not be used to assure confidentiality and anonymity, however X and Y will be used. After completion of this research, the school is to be provided with the copy of my dissertation of which you will use it as a

tool to implement the ICT policy. However, there will be no payment for the research as the study is not proposed for financial income. Therefore a participant has an alternative to carry on a research.

For further information please contact my research supervisor *SB Khoza (Bheki)*  
at: [khozas@ukzn.ac.za](mailto:khozas@ukzn.ac.za)  
<http://myweb.absamail.co.za/bhiza/B>  
Phone: 031 260 7595

Wishing you good luck at your work.

Yours faithfully

Florence Kolutsoe Mankhahle Marumo  
Inspector – Commercial Subjects, Information Technology and Typewriting. (MoET)  
Phone: +26622313628 (w) +26622401418 (h) 0834041952 ©  
eMail address: [mankhahlem@yahoo.co.uk](mailto:mankhahlem@yahoo.co.uk)

I.....(full names of participant)  
hereby confirm that I understand the contents of this document and the nature of the  
research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so  
desire.

**SIGNATURE OF PARTICIPANT**

**DATE**

.....

University of KwaZulu Natal  
Faculty of Education  
Edgewood Campus  
Private Bag X03 Ashwood  
27 April 2006

The Principal

.....  
.....

Leribe – 300  
Lesotho

Dear Madam / Sir

### **Permission to do Research**

This serves as a request to ask for permission to conduct research on the educators' experiences of the implementation of Information and Communications Technology (ICT).

My topic is on the "Educators' experiences of the implementation of Information and Communications Technology (ICT) in the Lesotho Secondary Schools." The aim of the study is to investigate the educators' experiences of the ICT policy implementation to set strategies, and to achieve the guidelines for the successful implementation of ICT policy in our schools.

The research was identified from the perspective of Vision 2020 that the goal of the Ministry of Education and Training must ensure that all the educators and learners must be computer literate by the year 2015. Therefore, the Lesotho ICT policy (2005) was set for all the schools to implement it. To achieve this goal, my target group are the Secondary Schools educators of which are the Principals, Heads of Departments and Subject teachers. This study is a part fulfilment of Degree of Masters in Education whereby I am registered as a student in the University of KwaZulu Natal in South Africa. To process this research, the participants will be interviewed and classroom observations will be held. The responses from the educators will be tape-recorded and after the analysis of the data the cassettes used to store the information will be destroyed after three years of study to protect the rights of the participants while the information provided will be kept confidential. Actual names of participants will not be used; instead X and Y will be used to assure anonymity. After completion of this research, the school is to be provided with the copy of my dissertation that you will use it as a tool to implement the ICT policy. However, there will be no payment for the research as the study is not proposed for financial income. Therefore a participant has an option to carry on a research.

I will provide you with a report and a copy of my dissertation at the end of my study period.

Please inform the teachers about this process.

For further information please contact my research supervisor *SB Khoza (Bheki)*  
at: [khozas@ukzn.ac.za](mailto:khozas@ukzn.ac.za)  
<http://myweb.absamail.co.za/bhiza/B>  
Phone: 031 260 7595

Yours faithfully

Florence Kolutsoe Mankhahle Marumo

Inspector-Commercial Subjects, Information Technology and Typewriting (MoET)

Phone: +26622313628 (w) +26622401418 (h) 0834041952 ©

E Mail address: [mankhahlem@yahoo.co.uk](mailto:mankhahlem@yahoo.co.uk)

cc: Chairperson-Board of Governors (Management Committee)

I.....(full names of participant)  
hereby confirm that I understand the contents of this document and the nature of the  
research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so  
desire.

**SIGNATURE OF PARTICIPANT**

**DATE**

.....

University of KwaZulu Natal  
Faculty of Education  
Edgewood Campus  
Private Bag X03 Ashwood  
27 April 2006

The Principal Secretary  
Ministry of Education and Training  
P. O. Box 47  
Maseru -100  
Lesotho

Dear Madam / Sir

***Permission for Research in the Secondary Schools***

This serves as a request to ask for a permission to conduct research at the three secondary schools offering Information and Communications Technology (ICT). Those schools are Leribe English Medium, Joy to the World and St Boniface High School.

My topic is on the “Educators’ experiences of the implementation of Information and Communications Technology (ICT) in the Lesotho Secondary Schools.” The aim of the study is to investigate the educators’ experiences of the ICT policy implementation to set strategies, and to achieve the guidelines for the successful implementation of ICT policy in our schools.

The research was identified from the perspective of Vision 2020 that the goal of the Ministry of Education and Training must ensure that all the educators and learners must be computer literate by the year 2015. Therefore, the Lesotho ICT policy (2005) was set for all the schools to implement it. To achieve this goal, my target group are the Secondary Schools educators of which the Principals, Heads of Departments and Subject teachers. This study is a part fulfilment of Degree of Masters in Education whereby I am registered as a student in the University of KwaZulu Natal in South Africa. To process this research, the participants will be interviewed and classroom observations will be held. The responses from the educators will be tape-recorded and after the analysis of the data the cassettes used to store the information will be destroyed after three years of study to protect the rights of the participants while the information provided will be kept confidential. Actual names of participants will not be used; instead X and Y will be used to assure anonymity. After completion of this research, the school is to be provided with the copy of my dissertation that you will

be used; instead X and Y will be used to assure anonymity. After completion of this research, the school is to be provided with the copy of my dissertation that you will use it as a tool to implement the ICT policy. However, there will be no payment for the research as the study is not proposed for financial income. Therefore a participant has an option to carry on a research.

Please inform the Principals of the concerned schools about this process.

For further information please contact my research supervisor *SB Khoza (Bheki)*  
at: [khozas@ukzn.ac.za](mailto:khozas@ukzn.ac.za)  
<http://myweb.absamail.co.za/bhiza/B>  
Phone: 031 260 7595

Yours faithfully

Florence Kolutsoe Mankhahle Marumo

Inspector – Commercial Subjects, Information Technology and Typewriting. (MoET).

Phone: +26622313628 (w) +26622401418 (h) 0834041952 ©

e Mail address: [mankhahlem@yahoo.co.uk](mailto:mankhahlem@yahoo.co.uk)

cc: Chief Education Officer (CEO) - Secondary  
Principal Secretary - MoET

I.....(full names of participant)  
hereby confirm that I understand the contents of this document and the nature of the  
research project, and I consent to participating in the research project and give  
permission to be carried.

I understand that I am at liberty to withdraw from the project at any time, should I so  
desire.

**SIGNATURE OF PARTICIPANT**

**DATE**

.....



**Appendix IV**

**ICT POLICY FOR LESOTHO**

**FINAL**

**4 March 2005**

## **2.2 Vision**

“To create a knowledge-based society fully integrated in the global economy by 2020.”

This ICT vision anticipates that by year 2015, Lesotho will have successfully developed and deployed ICTs that:

- Respond to national needs and priorities.
- Reduce inequalities between the sexes, and decrease the digital divide between urban and rural areas and the haves and have-nots.
- Improve governance and deepen democracy.
- Develop the human capacity needed to drive and sustain an information economy.
- Support its economic activities at home and throughout the world.

## **2.3 Mission**

*“To fully integrate information and communications technologies throughout all sectors of the economy in order to realise rapid, sustainable socio-economic development.”*

As Lesotho charts its course to join and fully participate in the global economy, it must embrace strategies to develop and deliver information to all its citizens. Thus, the vision and mission of the Government must be to create knowledge to fuel all sectors of the economy and enrich the intellectual capital of the nation.

This policy strives to incorporate ICTs in the everyday life of the Basotho, so as to realise the vision of a Lesotho that is fully integrated in the global economy. A parallel goal is to promote the use of appropriate, scalable ICT services and applications so as to eradicate poverty, strengthen democracy and improve quality of the life for all.

## 2.4 Goals

The overall ICT policy goals are to:

- Increase wealth creation and improve lives through the adoption and use of ICTs.
- Promote affordable, universal access to ICT products and services.
- Promote effective regulation of the sector by establishing rules and regulations that promote competition, protect and educate the consumer, create a level playing field among operators and service providers and encourage local and foreign investment in the ICT sector.
- Increase ICT literacy levels in the country.
- Coordinate the implementation of ICTs throughout the economy.
- Develop the human resource capacity in ICTs to meet the changing demands of the national and the global economy.
- Develop standards, practices and guidelines to support the deployment and exploitation of ICTs.
- Provide mechanisms for empowering local participation of Basotho in the ICT sector.

## 2.5 Objectives

The overall objectives of the ICT policy are to:

- Create awareness among all stakeholders; Government, the private sector, civil society and the general public, about the importance of integrating ICTs in Lesotho's development process.
- Facilitate the deployment of a national *broadband* backbone network to enable the delivery of ICT services and products, to meet universal access goals.
- Mobilise resources, attract investment and establish innovative financing mechanisms needed to realise ICT policy goals.
- Facilitate the broadest possible access to public domain information.

- Promote the development and dissemination of local ICT products and services.
- Promote usage of ICTs throughout all sectors of society including disadvantaged groups.
- Strengthen the existing ICT institutional, legal and regulatory framework.
- Create a conducive and secure environment for producers and consumers of information over electronic networks.
- Promote collaboration and co-ordination among all sectors of the economy and at regional and international levels.

## **2.6 Strategies**

To drive and channel the development of an *Information Economy*, Government as a leader, in collaboration with other stakeholders, is committed to the following overall strategies

1. Establishing legal and institutional mechanisms to ensure the successful implementation of the ICT policy by:
  - Developing an enabling legal and regulatory framework that balances the interests of consumers with creating an environment that fosters a robust and profitable ICT sector.
  - Enacting new laws to promote trust and confidence in a digital environment.
  - Putting in place a sustainable institutional framework to coordinate, support and monitor the implementation of the ICT policy, strategies and plans.
  - Ensuring that policies, rules and regulations developed for the ICT sector advocate regulatory transparency, protect the consumer, promote competition and support technological neutrality.
  
2. Providing leadership in ICT development by:
  - Establishing a coordination mechanism to ensure implementation of the ICT policy.

- Improving access to credit facilities and availability of capital.
  - Encouraging businesses to go on-line in order to expand customer bases both within and outside the country.
  - Lowering barriers to entry for entrepreneurs/small and medium enterprises (SMMEs) by reducing tax and duty rates on computers, accessories and other information and communication technologies.
  - Providing incentives for entrepreneurs/SMMEs to become local developers and providers of ICT products and services.
6. Ensuring universal access to ICTs by:
- Promoting the development and adoption of international standards to ensure that consumers can easily access ICT services worldwide.
  - Promoting the development of affordable, user-friendly ICT products and services that are appropriate to local needs.
  - Establishing ICT public access points in places such as post offices, schools, libraries and rural health care clinics among others.
  - Encouraging the deployment of innovative, scalable technologies that can reduce the cost of service.
  - Paying attention to the special needs of marginalised groups of society, including women, youth, the disabled, the disenfranchised and the elderly.
7. Guiding infrastructure expansion needed to support the delivery of ICTs by:
- Ensuring that ICT infrastructure is widely available at an affordable price to support the delivery of telecommunications, broadcasting, postal and multi-media services.
  - Ensuring that the deployment of ICT infrastructure is not constrained by inadequate transport and energy infrastructure.
  - Encouraging all Government and public sector institutions including educational institutions, health centres, post offices and Government ministries and departments to get connected to ICT infrastructure.
  - Supporting the rollout of ICT public access telecentres in each district capital.

8. Promoting regional and international cooperation by:
- Pro-actively collaborating with development partners and regional and international organisations to encourage technology transfer and capacity building.
  - Becoming a leading participant in global ICT initiatives and projects in order to channel funds needed to promote the diffusion of ICTs in Lesotho.
  - Disseminating information regarding international best practices and experiences of other countries in use of ICTs for development.

## **2.7 Role of Stakeholders**

All stakeholders will need to work together to ensure that the ICT policy achieves its full potential. This includes; to build capacity, increase confidence and security in the use of ICTs, create an enabling legal and regulatory environment, and encourage international and regional cooperation.

### **2.7.1 The Government**

- **Government's role is to provide the vision and policy with a legal and regulatory framework that will guide the activities of all stakeholders.**
- Establish institutional mechanisms to ensure the successful implementation of the ICT policy.
- Government must also play a key role in channelling resources to invest in the supporting infrastructure for ICTs in partnership with national and regional businesses and development partners.

### **2.7.2 The Regulator**

- The regulator for the sector shall monitor market demand and supply capacity of service providers and shall intervene to correct imbalances or market distortions in favour of users. The regulator though accountable to the Ministry of Communications, Science and Technology, shall have the necessary independence from stakeholders to ensure impartiality, flexibility and transparency.
- The mandate of the regulator will be limited to the regulation of Telecommunications, Information and Communication Technologies as well as Broadcasting, Radio frequency and Postal Services.

### **2.7.3 The Private Sector**

- The private sector will play a key role in the development and expansion of ICT infrastructure and provision of ICT services and products.
- It must also endeavour to exploit new business opportunities presented by ICTs and spread the use of ICTs as a lever for the development of business.
- The private sector will be called upon to improve product and service quality to ensure competitiveness in the world market.
- It will also be asked to support and participate in national efforts to contribute to the general spread of ICT literacy and development of human resource capacity.

### **2.7.4 Educational Institutions**

- Educational institutions must play a major role in improving teaching and learning mechanisms that develop a society that is ICT literate and capable of producing local ICT products and services.
- They must ensure that ICT literacy is part of core curricula.
- They must use ICTs to expand access to education as well as improving the quality of education.

## Appendix v



RESEARCH OFFICE (GOVAN MBEKI CENTRE)  
WESTVILLE CAMPUS  
TELEPHONE NO.: 031 – 2603587  
EMAIL: ximbap@ukzn.ac.za

---

6 JULY 2006

MRS. FK MARUMO (205521263)  
EDUCATION

Dear Mrs. Marumo

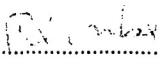
ETHICAL CLEARANCE: "EDUCATORS' EXPERIENCES OF INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) IMPLEMENTATION IN LESOTHO SCHOOLS: A CASE STUDY OF THREE SCHOOLS"

I wish to confirm that ethical clearance has been granted for the above project, subject to permission to undertake the study being obtained from the Department of Education:

This approval is granted provisionally and the final clearance for this project will be given once the conditions has been met. Your Provisional Ethical Clearance Number is HSS/06153

Kindly forward your response to the undersigned as soon as possible

Yours faithfully

  
.....  
MS. PHUMELELE XIMBA  
RESEARCH OFFICE

PS: The following general condition is applicable to all projects that have been granted ethical clearance:

THE RELEVANT AUTHORITIES SHOULD BE CONTACTED IN ORDER TO OBTAIN THE NECESSARY APPROVAL SHOULD THE RESEARCH INVOLVE UTILIZATION OF SPACE AND/OR FACILITIES AT OTHER INSTITUTIONS/ORGANISATIONS. WHERE QUESTIONNAIRES ARE USED IN THE PROJECT, THE RESEARCHER SHOULD ENSURE THAT THE QUESTIONNAIRE INCLUDES A SECTION AT THE END WHICH SHOULD BE COMPLETED BY THE PARTICIPANT (PRIOR TO THE COMPLETION OF THE QUESTIONNAIRE) INDICATING THAT HE/SHE WAS INFORMED OF THE NATURE AND PURPOSE OF THE PROJECT AND THAT THE INFORMATION GIVEN WILL BE KEPT CONFIDENTIAL.

cc. Faculty Research Office (Derek Buchler)

cc. Supervisor (Mr. BS Khoza)



## Appendix VI

### Detailed budget for the study

(Costs involved in completing study – linked to design and methodology)

### Budget

ITEM	QUANTITY	PRICE	TOTAL COST
<b>Running Expenses</b>			
Stationery	20	R 50.00 @ ream	R1, 000. 00
Photocopying, typing and printing		R1, 000. 00	R1, 000. 00
Tape Recorder	1	R300. 00	R0, 300. 00
<b>Travel</b>			
Road: Durban to Lesotho to Durban.	2days	R200. 00 per single trip	400. 00
Road: Schools	5days x 6weeks	R 60. 00 Return per day	R1, 800. 00
<b>Subsistence</b>	2days + 6weeks	R 50. 00 per day	R0, 100. 00
		R250. 00 per week	R1, 500. 00
Use of telephone	5days x 6weeks	R 30. 00 per MTN card	R0, 900. 00
		R 10.00 ,, Econet (Lesotho) card	R0, 300. 00
<b>Grand Total</b>			<b>R7, 300. 00</b>

## Appendix VII

English Studies  
Memorial Tower Building  
Howard College Campus  
University of KwaZulu-Natal  
23 July 2007

### To Whom It May Concern

Mrs Florence Marumo and I have worked together on her MA thesis from 16 July until the present date, and have completed her corrections as indicated, as well as giving some attention to the expression in which the marked passages occurred.

We have now completed the work. On the bibliography, a request is marked that Mrs Marumo list, as far as possible, the latest edition of each work referred to. Since changes in pagination and contents may have occurred in editions other than those which Mrs Marumo used, I have suggested that she retain the references as they are in this respect.

Best wishes



Professor M M Lenta.