The role /status of Information Communication Technology (ICT) in the rural Setlakgobi Area Project Office (APO) schools

A research report presented to the Graduate School of Business & Government Leadership

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Faculty of Commerce & Administration

By

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Declaration

I declare that this work is a direct result of personal effort. It is submitted in part of the requirements for the Master's Degree in Business Administration (MBA) at the North West University (Mafikeng Campus).

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Abstract

Despite growing global awareness and importance of Information Communications Technologies (ICT), little has been done regarding introduction of ICT in rural schools as a new way of creating path for learners and educators to engage in information selection, gathering, sorting and analysis.

This study explores the status/role of ICT in rural Setlakgobi schools by examining the needs, and support for school managers, and other senior managers in managing the integration of computers and related resources into teaching and learning activities in their schools. It researches five key problematic areas, namely, understanding context, clarifying purpose, identifying values, setting goals and developing vision.

The study amongst other things identifies lack of resources, language barrier, technical know how, and staff development as the main challenges of providing modern technologies to rural school in order to enhance quality of learning and teaching. Hence, the need to fast-track the e-learning by developing South African languages, providing physical and human resources, and support for professional development of educators in ICT.

Acknowledgement

Thanks to the Almighty GOD for saving and helping me through the challenges and obstacles of this planet earth.

I would like to extend my sincerest thanks and appreciation to those busy individuals who sacrificed their time to help complete this task.

My special thanks to my supervisor, Professor P.L.S. Ackerman who through his guidance, support, encouragement, and inspiration helped to complete this challenging assignment.

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Signed
Ntshimane Stephens Lefoka

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Chapter one : Orientation

1.1 Introduction/Background

The South African Constitution (SA 1996) entrenches the right of every citizen to receive or impart information or ideas. Information communication technology (ICT) can play a vital role in facilitating the upgrading of education, improving the quality of information available and by providing communities throughout the country with access to expertise and usable information.

South African leaders echoed the development and implementation of ICT since the early days of the African National Congress (ANC) led government, and they were convinced that ICT should be used to disseminate information to disadvantaged South African communities (for example via schools) and that this would become a positive force for social change (ANC 1994:2.8.1).

Naidoo (1998) for example states that there is direct positive correlation between access to communications and social development and telecommunication is no longer the consequence of development rather it is a necessary precondition.

The South African government supports the notion that there is a direct and positive correlation between access to telecommunication and socio-economic development in the Global Information Society, and that ICT can play a catalysing role in the functioning of the economic and social sector (Van Audenhove 1999:52).

The current economic revolution has, in part, been possible by advances in ICT, which have reduced the cost of and increased the speed of communications across the globe, abolishing pre-existing barriers of time and space, and affecting all areas of social and economic life, School net Toolkit (2004).

Education systems are under spotlight worldwide today. Many countries are grappling with significant development challenges such as meeting United Nations Scientific and Cultural Organization (UNESCO)'s Education for All (EFA) as well as other social objectives.

Department of Education (2004) share the same sentiment on the ICTs as the key enabler of knowledge society. Those who have easy and affordable access to ICTs and communication network can participate fully, while those without have fewer opportunities and remain trapped in pre-knowledge form of economic activity.

Education is, therefore one of the most important components in creating knowledgeable societies and economic growth prosperity. Education is not only the means by which individuals become skilled participants in society and the economy, it is also one of the key drivers in expanding ICT usage.

1.2 Objectives of the study

This study explores the opportunities, techniques and methods, challenges and status of South African schools with regard to ICT status. More specifically, the objectives are as follows:

- To help School Management Team (SMTs) and senior ICT managers how to approach the strategic planning management of ICT, and the role of government in the implementation process. Also the importance and role of costs analysis of resources (that is, human and physical) during planning stage.

- To find out from literature what role and impact will change in technology, budget, language policy, and access to telecommunications will have on the improved skills, and knowledge of educators to integrate ICT in teaching, learning and administration.

1.3 The Scope of the study

The Scope of the study is confined to the Setlakgobi Area Project Office (APO), of Mafikeng District in the Central Region of the North West Province. The study is conducted as part of compliance to the completion of a masters degree in the School of Graduate & Business Leadership at the North West University.

1.4 Importance of study /Rationale

Despite the importance of assessing the role/status of ICT in schools, there is little research on the measure used to evaluate its implementation at school levels. The study should shed light on the role ICT plays in the transformation of education and learning. The results should indicate to what extent ICT is integrated on the various levels of education system-management, teaching, learning and administration, because it is not sufficient to have computer laboratories full of computers in schools without a system for monitoring, planning and implementation. Also of importance is the use of computers to learn how to work better, rather than just using them to become computer literate.

1.5 Study Environment

Secondary schools are selected in the Setlakgobi APO in the Central Region. The aim is to gather information about what school managers and senior ICT managers know about the role/status of ICT in schools. It is hoped that the study will add to what is already known about the role/status of ICT in schools, and inspire a change in how one can study and practice the implementation of ICT in our schools.

1.6 Clarification of concepts

1.6.1 Information Technologies (IT)

It is a term used to describe the items of equipment (hardware) and computer programmes (software) that allow one to access, retrieve, store, organise, manipulate, and present information by electronic means. Personal computers, scanners and digital cameras fit into the hardware category; database programmes and multimedia programmes fit into the software category (Dept. of Education 2003).

1.6.2 Communication Technology (CT)

It is a term used to describe communications equipment through which information can be sought, send and accessed- for example

phones, faxes, modems and computers (White Paper on e-Education 2004).

1.6.3 Information communication technologies (ICT) represent the convergence of information technology and communication technology. ICT are combination of network, hardware and software as well as the means of communication, collaboration and engagement that enable the processing management and exchange of data, information and knowledge. (Dept. of Education: 2003).

1.6.4 Information literacy:

The ability to locate, evaluate, analyse and synthesise information from a variety of sources (Toolkit: 2005).

1.7 Plan of study

Chapter 1 introduces the reader to an understanding of the objectives of the study. In chapter 2 the theoretical foundation of the study is given. The literature review dealing with present problem is presented in chapter 3. Chapter 4 defines the problem. An exposition of the research design and analysis is given in chapter 5. Chapter 6 reflects the results of the study. Discussions, conclusion and recommendations are dealt with in chapter 7.

Chapter 2 : Theoretical framework

2.1 Introduction

This section is intended to lay the theoretical framework for this research as well as to present the findings of a survey dealing with the present problem. It also indicates what has already been done throughout the world in terms of the role/status of ICT.

2.2 Policy on shared vision

The theoretical framework used in this study is reflected in S A (2003) policy on shared vision for ICT use. As the government policy on e-Education becomes a reality, more and more schools will have computers, computer centres, internal connection or, in some cases, wide ranging ICT facilities. Proper planning and management will therefore be needed to achieve this.

As the White Paper on e-Education (2004) puts it, in the same way as one might begin any long-distance trip with the help of a good map and guidebook, when planning to undertake the journey required implementing an ICT initiative, one needs the assistance of similar tools. The first and best guide is an ICT plan. This will serve both as a compass to point one in the right direction and as a map to show how to get there.

The first component of such a plan is a vision statement. According to Bialobrzeska and Cohen (2005), to get an ICT planning process started, a clear vision of what is needed to achieve this objective, and where the organisation wants to be in future should be established. Having a clear vision means understanding what one wants to achieve.

To an extent that people do understand and are committed to the vision, individuals are in a position to take responsibility, contribute their creativity and work together as a team. A shared vision guides and develops the strategic plan, giving all members of the organisation a common direction and enabling people to work together.

2.2.1 Step one : Why one is on the journey

The step in developing a vision starts with a big picture of why one is on the journey (Latchem and Hanna (2003)). This is regarded as a useful way of starting the process of building a vision. The bigger context in which schools operate and why is it important for schools to engage in ICT should be visualized. Both White Papers on Education and Training (1995) state that technological education for learners is very important, and that mastering of technology entrances the potential of individual and leads to economic productivity.

2.2.2 Step two : Understanding the context (where one is now)

According to Latchem and Hanna (2001), understanding the bigger picture does not help if one does not understand where one is in relation to this bigger picture. There is a need for a vision to be expanded in the context of what is possible in a particular school. This means starting with the school itself and doing a thorough audit of the current situation. It is important to be clear about where the school is before thinking about where it wants to be.

An audit may include a careful examination of the number of computers in the school and how these computers are used by:

- School managers
- Administrative staff
- Teachers (educators)
- Learners

Answering the question where on is now according to Latchem and Hanna (2001) involves thinking about possible resources in the community that could help the school get where it wants to go. These might include:

- Parents with particular business connections, and staff/parents with ICT experience/expertise to share.

2.2.3 Step three : Where does the school want to be in the future?

Researchers such as Latchem and Hanna (2001) describe various types of uses of computers in schools as aids to help in formulating a purpose. The school's purpose should include both where it is now and where it wants to be in the future. It is sometimes a good idea to write up the purpose for using ICT by sketching a word picture of how the school will be working with computers in five or ten years time. For example:

- Administrative staff and teachers use computers daily for administrative purposes such as attendance registers and entering of marks, as well as for communicating with business and/or parents using e-mail.
- Teachers prepare materials for lessons using computers in the staff-room and in departmental meetings in which teachers share information about good teaching and learning resources to be found on the web.
- Learners use computers to browse through the Internet in completing their assignments and research projects.

2.2.4 Step four : How will one work? (Identifying the values).

Thinking about the value or principles that underpin the school's vision for integrating ICT into their system, there is a need to ensure that they are consistent with the values contained in the school's mission statement.

Everything is driven by the values of the mission statement of the school as alluded by scholars such as Thurlow, Bush and Coleman (2003). For example, a set of overall values expressed in the school's mission statement might include the school's commitment to quality education. If the school's mission is emphasizing participation (consultative, inclusive decision-making), then the vision statement for the integration of ICT should also clearly reflect a commitment to fostering participation.

This may be reflected in the vision statement by stating the school's intention to work co-operatively with the community and/or to make the school's ICT resources accessible to the community.

2.2.5 Step five : Set goals: (how to get there)

Values and purpose are clarified; Thurlow, Bush and Coleman (2003) identify the next step as to set some goals or milestones that one expects to reach before too long. Goals need to be influenced by current reality. For example, if a school has two computers at the moment, it might want to continue using the computers for administrative work and keep them in the administrative offices.

The goals for the next two years may be:

- Maintain and upgrade the computers in the administrative offices.
- Purchase, install and maintain two computers for use by teachers in the staff-room for administrative purpose.

- **Provide an e-mail connection to support the school's administrative functions.**

In practical terms according to SAIDE (2003), this means setting up a contact for provision of an e-mail service with an Internet Service Provider (ISP) and purchasing and installing two computers for the use by teachers for administrative purposes. However, the issue of sustainability is crucial. For example, the contract with an ISP requires that sufficient funds be made available to sustain the contract from year to year. Ongoing expenses such as printer cartridges and the purchase of paper also need to be taken into account.

In developing a shared vision for the use of computers in a school, it is important to match what is ideal with what is possible. It is equally important to recognize that technological innovation is an ongoing process of change and that ICTs, both hardware and software, will change within an alternatively short period. This means that it is necessary to revisit the vision statement often, so that the vision can be adjusted to match changing conditions in the school and community at large.

Saluma-Mmekoa and Welch (2004) maintain that the key to implementation of a vision statement is effective strategic planning by the school. The plan must include improvement in educational standards, professional development for school staff and school leaders and ideally it should also involve and enhance

relationships with the wider community, and the acquisition of maintenance and replacement of ICT infrastructure. A holistic approach is required to link all the goals with the vision.

2.3 Conclusion

This chapter critically evaluated the underlying paradigm that has a bearing on this study. All relevant studies that have been conducted on the role/status of ICT in schools and other work done relative to the study have been examined and synthesised into an integrated review. However, it is important to keep the vision flexible, so that schools should not have a vision statement about ICT printed in full colour brochure or carved in stone. Visions are always evolving.

Chapter 3: Literature review

3.1 Introduction

A selected review of literature is used to put the research problem at hand in context, which accounts for the fact that school managers and other senior managers should know about developing and managing an ICT in their institutions. The literature review also attempts to establish the extend to which managing and developing ICT are influenced by goals set out in the South African Co-operation Programme in Education Sector-SCOPE (2003).

3.2 Literature focusing on the managing of change and ICT

The literature suggests a definite shift away from managing purely basic computer literacy to managing Information Communication Technology (ICT) (SAIDE, 2003; D D Warrick, 2000; Bialobrzeska et al, (2004)). Not only does one observe a shift as such, it is becoming patently evident that along with this shift is the emphasis on managing ICT in schools.

To achieve full utilization development and managing ICT in a school, as (Bialobrzeska et al (2004)) argues it is to take a good hard look at the ICT situation in the school at present, and decide how to make the best use of what one has. It is very important to be realistic about what one can and cannot do, not forgetting to put an eye on what one wants in future.

Bialobrzeska et al (2004) also emphasize project organisation which entails careful planning, especially the technological change. The guiding principle they maintain is the convergence of communications and computer technologies in the information revolution, while tending to personnel and facilities. They further maintain that IT is becoming cheaper and more powerful, inviting radical trade-offs in the use of human resource in production and management work.

Careless introduction of technology may, however be both misguided and expensive, and authors such as (Scot-Morton, (1999) and (Anstey, (1997)) remind people that its introduction is essentially a social question, requiring careful timing and consideration of organisational and employee issues. New efficiency (with regard to administration, teaching and learning) heightened managerial co-ordination and improved services do not simply happen.

They require new training and redesign of work process, and new dependences on new categories of educators and/or administration workers. This is even more imperative if one takes into account what SAIDE (2003) asserts that new problems are emerging as regards intellectual properly abuse, invasion of privacy and data thievery, thus aligning new technology with organisational (school) transformation, corporations exporting ICT and ICT peripherals lie squarely in the massive use (or misuse) of ICT in developing world. Without a clear plan, developing nations are on the risk of diverting massive resources to ICT without realizing any gains.

3.3 Technology policy

There is also technology policy literature, which focuses on the interpretation of social, an economical and political goal of the nation (SAIDE, (2003); D D Warrick, (2000); NEPAD, (2003); Snyman and Snyman, (2003)). In this type of literature, focus seem to be on technology policy impacts and the operationalisation of objectives set out in these policies as a vehicle for interpreting and applying ICT strategies that would help achieve national socio-political and economic objectives as set for instance in White Paper on e-Education (2004).

This can be demonstrated and achieved by providing hope for overcoming barriers of social and geographical isolation, increase access to information and education, and enable the poor to participate in the decision making that have an impact on their lives. If South Africans are to participate in the knowledge economy, every effort must be made to prevent social exclusion.

A similar view was expressed by South African Finish Co-operation Programme in the Education Sector -SCOPE (2003) and National Institutes of Higher Education-NIHE (2002) in Mpumalanga and Northern Cape. They recommended that the Government endorse the principle of public investment in science and technological development. Amongst others to achieve the following objectives:

- **To support management and planning of ICT integration at national, provincial and institutional levels.**
- **To extend and improve skills and, knowledge of educators to integrate ICT in teaching, learning and management, and**
- **To extend and improve the learners' competencies using ICT in learning.**

SCOPE (2003) and NIHE (2002) are supposed, as indicated earlier, to be responsive to the goals or objectives as set out above if they are to play a positive role in the management and development of technology (ICT in particular) that will serve national reconstruction as well as the economic, human and social development in South Africa. Regarding management and planning, SCOPE (2003) participated nationally in formulating both the *National Strategy for ICT in Education (2001)* and at present contributes to the *White Paper on e-Education (2004).*

Policy in South Africa has moved a long way towards promoting and understanding the role of ICT in society in general and in education in particular (DoE, 2000h: 54). Beyond coverage, delivery and regulation of ICT infrastructure, national education has focused on three key areas, namely:

- A growing emphasis on mathematics, science and technology,
- Educational broadcasting, and
- The use of ICT in schools.

3.4 Conclusion

It is apparent from the literature that computers are part of our daily lives. Each time a cashier scans a barcode in a shop, a customer uses ATM to do banking, or one query an account at local council offices, a computer is involved.

Chapter 4: Statement of the problem

4.1 Introduction

The legacy of apartheid can clearly be seen in the so-called 'digital divide' in South Africa. Only 56% of South Africans have access to electricity (Gilwald, 2000:1). Nine percent of households have a telephone-90% of white households, 11% of African household, and only 1% of rural households (SIARR, 2000:181).

A recent survey of ICT in South African schools (DoE, 2000g: 157) suggests that approximately 13% of schools in South Africa have one or more computers, 89% of schools with one or more computers are urban based, and 76% of school with no computers are rural based. Of the schools with computers, substantial proportions have over ten computers (44%) or over thirty computers (38%), indicating 'computer lab' type facilities. There are large discrepancies between the type of computers, with some schools accessing a high number of Pentiums (up to 60) and others dominated by older machines (some older than 486s).

Of the 13% of schools that have computers, as reflected by SIARR (2000) the most important source of ICT funding (including maintenance) is school funds and school fundraising. Among these schools, only 20% indicated that they would use school funds to subsidise training for

educators. Only small portions of schools with computers have attained high levels of usage. High levels of usage correlated with low learner ratios, and sophistication and number of computers available.

From these statistics by DoE (2000), schools that do not generally have computers also lack complementary technologies (such as tape recorders, radios, TVs, VCRs, DVD players and highly technological MP3. The most important factors preventing schools from acquiring computers as shown by SIARR (2000), are an absence of electricity (28%), lack of funding (22%), insufficient building space (14%), lack of available staff (13%), and poor security (6%). Private sector initiatives to assist schools without computers have been marginal; only 13% of schools, mainly in urban areas, have experienced any overture, as yet unfulfilled, in this regard.

Thus in view of Education in global Era (2000), the provision of ICT to schools has been largely relegated to the market. The patterns of provisioning have served to entrench (and even widen) quality discrepancies between schools, reflecting the socio-economic context of parents.

4.2 Research question one

In a context where minimum basic materials are inadequately supplied, access to ICT in schools is largely relegated to private or better-resourced public schools. The impact of ICTs in schools has been uneven, with

worrisome trends concerning educators' capacity and training, as well as limited applications.

One of the most important questions emerging from this experience by education in global Era (2000) is how the government should manage the widening gap between public and private schools in ICT provisioning. Creative and purposeful solutions must be found. Currently one promising strategy is an effort to link broadcasting and cellular licence negotiations to the social obligations of these enterprises.

As outlined by NEPAD (2001), Africa has poor ICT infrastructures, combined with weak policy and regulatory frameworks and limited human resources, which has resulted in inadequate access to affordable telephones, broadcasting, computers and Internet. Service costs are also high with connection costs averaging 20 per cent of GDP per capita; North West Department of Education (Setlakgobi APO) is not an exception to these challenges.

The NEPAD (2001) seeks to build on and celebrate the achievements of the past, as well as reflect on the lessons learned through painful experience. In so doing, the challenge is for the people and governments to understand that development is a process of empowerment and self-reliance.

Van Rensburg (2004) argues that in the past, management of Information System (IS) has been mainly the job of the technician, but it is increasingly

becoming an important part of the responsibility of managers and information workers at all levels of the organization.

Thus, managing Information communication technology (ICT) effectively is difficult without knowledge of indispensable role of IS in business operations, managerial decision-making, and strategic success of organizations.

4.3 Research question two

Human capital also continues to be the most important leverage point for organizations seeking to improve their competitive position in an increasing global market place. Yet it continues to be an illusive component in terms of how organizations manage and use this important resource (Computing Vol. 24(13) 2005: 18).

The White paper on e-education (2004) further alluded that; the challenges of providing modern technologies to schools in order to enhance the quality of learning and teaching will require significant good leaders and good management.

Smith and de J. Cronje (1992) argue that most, if not all organizations, (schools included) inevitably face the need for change; this could reflect the impact of environmental circumstances or the advent to innovate technology.

During 2002 and 2003, South African Institute for Distance Education (SAIDE) undertook an extensive research project on the use of computers for teaching and learning in South African schools. This project shows that one of the reasons why Information and communication technology (ICT) projects in schools do not succeed is that school managers (including deputies, heads of the Department, and senior ICT manager or educators) are often not properly informed about what ICT can or cannot do, thus hampering their ability to manage the introduction and development of ICT in their schools.

The White Paper on e-Education (2004) showed that overall 39,2% of schools in South Africa had computers. However, there are huge disparities between rich and poor provinces and or regions. For example, in Gauteng, which is largely urban and one of the more affluent of the nine provinces, 88,5% of schools had computers compared to the Eastern Cape, one of the largest rural and poor provinces, with only 8,8 % of schools having computers as shown by Table 4.1. Included in this table is the North West province with only 30.5% of schools with computers and with only 22.9% of schools where computers are utilized for teaching and learning, and it is the area of the study where Setlakgobi APO in the Central Region is situated. This poses a serious challenge for both the department and private sectors.

Table 4.1. Schools with computers by provinces in 2002

Province	% of schools with computers	% of schools with computers for teaching and learning
Eastern Cape	8.8 %	4.5 %
Free Sate	25.6 %	12.6 %
Gauteng	88.5 %	45.4 %
Kwa-Zulu Natal	16.6 %	10.4 %
Mpumalanga	22.9 %	12.4 %
Northern Cape	79.3 %	43.3 %
Limpopo	13.3 %	4.9 %
North West	30.5 %	22.9 %
Western Cape	82.4 %	56.8 %
National	39.2 % %	26.5 %

Source : Department of Education 2003

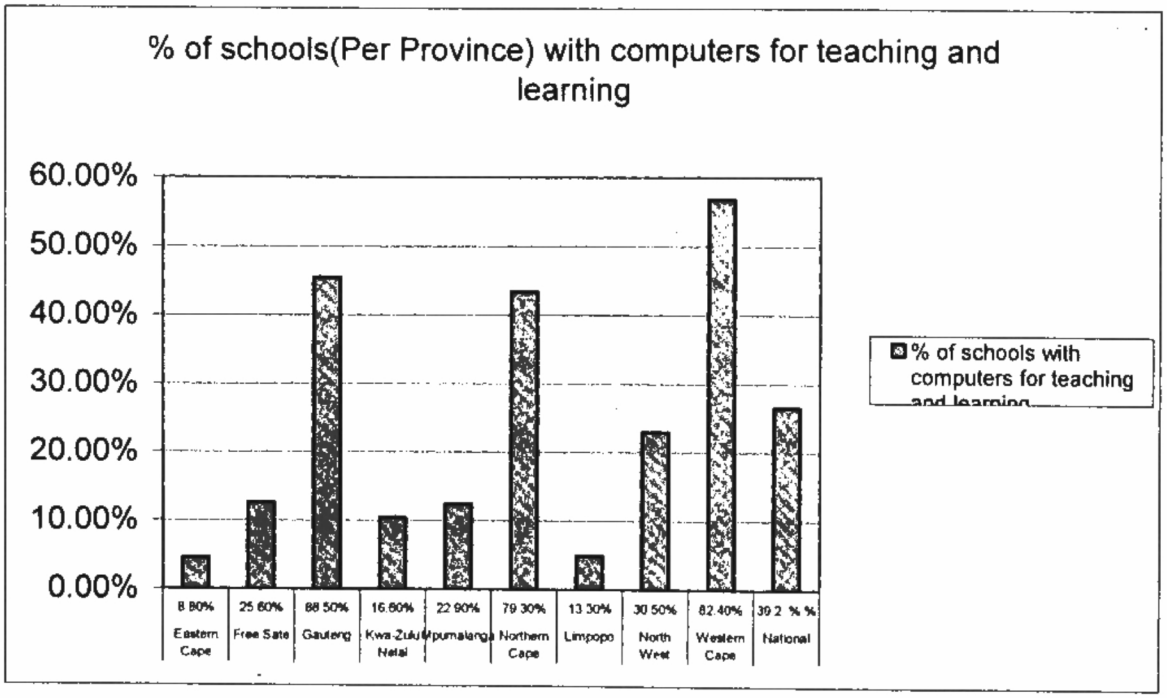

Figure 4.1 Schools with computers for teaching and learning

Other studies conducted by various organizations including SAIDE (2003) found that many schools that have computers had experienced problems with connectivity costs. This had resulted in many of these schools either restricting access to the Internet or disconnecting completely. Another research study by SAIDE (2003) also indicated that in many of these schools, teachers lacked basic computer skills including Internet skills.

In South Africa, higher education statistics on access to computers are hard to find, and it seems that one sixth (1/6) of all South African users are in the academic sector. Only 57% of students and staff in higher education were Internet users in 2002, that is the view by Czerniewicz et al (2005). However, indications are that through various initiatives, schools and institutions of higher learning in these provinces continue to get computers. These include donations from Western countries.

In South Africa, higher education institutions are spending more of their budget on ICT infrastructures than in other peripheral. As a matter of principles, Internet connection at schools, as argued by Czerniewicz et al (2005), should be as big as possible to enable transfer of multimedia resources, this applies particularly in developing country settings, where markets are typically smaller and where regulatory environments sometimes do not promote competition in telecommunication markets.

Many schools remain worried about ability of learners to access undesirable content through the Internet if left unmonitored.

Over the years, South Africa has produced a number of policies for the different sectors including telecommunication in general and broadcasting in particular. SAIDE (2003) argues that, while many of these policies created an ending environment for use of ICTs in schools, for a considerable period there was no specific policy dealing with ICTs in education. Works relating to use of ICTs in education go back to the Technology Enhancement Learning Initiatives (TELI) between 1995 and 1996. Feasibility Study followed this process for Establishment of a Dedicated Educational and communications in 2000. Unfortunately, many of the recommendations made by these studies were not implemented.

According to Digital Links International (2004) accessibility of telecommunications and broadcasting infrastructures to schools is vital. As with radio and television, telephone (fixed mobile) can be used for a range of purpose in education. It can be used for communication between lectures/tutors and learners, and between learners and learners including telephone tutoring, information or enquiry services and tele-conferencing.

Despite possible uses of telephones to support teaching and learning, most schools in Sub-Saharan African remain without adequate access to these facilities. The school Register of needs conducted in South Africa in 2000

shows that 64.5% of South Africa's 27 128 schools had access to telecommunication facilities.

Best and Maclay (2002) also notice the primary means of accessing the Internet continues to be the computer, while computers remain the dominant-access device, personal computers (PCs) are inappropriate for the developing world across many dimensions, due to relatively high cost, low reliability, unsuitable user interface, environmental sensitivity (for example, more than 80% of websites contents are written in English while the majority of the South Africans (especially in the rural Setlakgobi APO schools) speaks a language other than English. These people are left out of a significant portion of the World Wide Web (www).

4.4 Conclusion

In this chapter the problem was first stated in general terms, followed by two research questions. The next chapter focuses on the research design and analysis.

Chapter 5: Research design and analysis

5.1 Introduction

In the previous chapter the research problem and the research questions were formulated. Chapter 5 gives an exposition of the research design and analysis that was used in the present study. The aspects addressed are; the sample, the measuring instrument and analysis.

5.2 Research design

Mouton (1996) describes research design as route planner, which can also be linked to a business plan to start up a business.

Cooper & Schindler (2006:146) suggest that research design constitutes the blueprint for collection, measurements, and analysis of data.

There is a plethora of authors who have written and continue to write on this topic and use different vocabulary to essentially describe the same thing. Cooper & Schindler (2006) proposed a list, which shows the essentials of research design that cuts through semantics:

- The design is an active and time-based plan.
- The design is always based in the research question.
- The design guides the select of resources and type of information.

- **The design is a framework for specifying the relationships amongst the study variables.**
- **The study design outlines procedures for every research activity**

The questionnaire is the measuring instrument used to collect data and it has the greatest influence on the reliability of the data collected (Legotlo, 1996). It is important that great care be taken when designing a questionnaire because an improperly laid out questionnaire can lead respondents to miss questions and also can confuse them about the nature of the data desired.

Ary et al (1999: 422) also regard constructing a good questionnaire as difficult and consuming task, but a well-constructed questionnaire is more likely to elicit a good response than a poorly constructed one.

5.3 Research Instrument

Method of study will be quantitative, because the nature of the problem statement outlined in this research project is such that deep and broad information is required from each respondent.

For the purpose of this study, a questionnaire will be used to collect data from School Management Teams (SMTs), and senior information managers. It is important that great care be taken when designing a questionnaire because an improperly designed one can lead respondents to miss questions and can also confuse them about the nature of data desired.

Cooper & Schindler (2006) spell out some criteria for wording of questions:

- **Is the vocabulary stated in terms of a shared vocabulary?**
- **Does the question contain vocabulary with single meaning?**
- **Does the question contain unsupported assumption?**
- **Is the question correctly personalized?**

According to Cooper &Schindler (2006) a good measuring instruments must meet the criteria of reliability, validity, and practicality.

- Reliability has to do with the accuracy and precision of a measurement procedure. In other words, does the measuring instrument measure consistently over time. Reliability is a necessary contributor to validity, though not sufficient condition for validity
- Validity refers to the extent to which the instrument measures what it intends to measure.
- Practicality is concerned with a wide range of factors, including economy, convenience and interpretability.

The following are other suggestions by Ary et L(1999) for writing items for a questionnaire:

- Should be constructed in a way that it reflects quality
- Must be brief so that it requires a minimum of respondents' time
- Questionnaire items should be phrased in such a way that they can be understood by every respondent

- **Individual questionnaire items should be phrased in a way of eliciting unambiguous answers.**
- **Questionnaire items should be phrased in order to avoid bias that might predetermine a respondent's answer**

  Items that might mislead because of un-stated assumptions must be avoided.

5.4 Data Collection

In this case, questionnaires will be administered. The category of respondents will be School Managers, Deputy school Managers, Heads of the Departments and Senior Information Managers (Educators).

5.4.1 Data analysis Technique

Most of the data collected will be qualitative in nature as mentioned earlier. In view of this the results will be presented in tables, charts and graphs. Computation of frequencies and percentages are the instruments to be utilized for analysis and interpretation of data.

5.4.2 Questionnaire as research instruments

Survey research is the administration of questionnaires to a sample of respondents selected from some of the population. Respondents themselves may complete self-administered questionnaires.

5.4.3 Format and content of the questionnaire

The questionnaire is divided into three (3) sections. Section A consists of one to five (1–5), which were aimed at gathering information about biographical and demographic background of each respondent.

Section B constitutes questions (6.1 - 9.4) that were used to determine to what extend ICT is fully integrated at all levels of educational system-management, teaching, learning and administration. Eighteen (18) items were used and for each item the respondents were asked to reflect on a four point Linker scale (strongly disagree, disagree, agree, and strongly agree). The purpose of these questions was to gather information that initiated both the development and ICT management, lastly the responses as to whether there is integration into the curriculum or not.

Section C constitutes the open-ended question, where respondents gave their opinion on the management and development of ICT.

5.4.4 Covering letter

The covering letter is a tool employed to introduce the questionnaire to the respondents. The purpose of this covering letter is to:

- Identify the person conducting the study
- Tell why the study is important and should be conducted
- Tell why it is important that the respondents answer the interview, and

- **Assure the respondents that there are no right or wrong answers, that he/she will be not be identified and that his/her answers will be treated with confidentiality (Cohen & Manion, 1985)**

5.5 Administrative procedures

The manager of Setlakgobi APO of Mafikeng District granted permission to access schools. The list and locations of secondary schools of Setlakgobi APO were obtained from Mafikeng District. This information helped the researcher to deliver the questionnaire to the schools.

5.6 Sampling

The survey population was drawn from the secondary schools of Setlakgobi APO in Mafikeng district. The list of secondary schools of Setlakgobi APO in Mafikeng district was compiled, and 20 secondary schools were randomly selected. The random samples of school management teams (SMT) were selected with the aim of gathering information about what school managers and other senior information managers should know about managing ICT in schools. Due of constrains and the availability of both the human and financial resources, a small sample was chosen, however, without compromising the objectives of the study. The schools were sampled on the basis of proximity, in order to cut the costs.

The questionnaire is pre- tested using a sample of ($f = 5$), that is the school manager, Deputy principal and two (2) (Heads of Department) HOD and

senior information manager. The five respondents were asked to comment on points that might need to be considered to improve the instruments (Borg & Fall, 1989). The pre-test taken into consideration is to improve the interview. The population of the pre-test was not used in the final study.

The questionnaires were administered to 100 school management teams (SMT). They were delivered personally by the researcher to all 20 secondary schools and given to principals of school to be delivered to the respondents.

As shown below in Table 5.1, out of 100 School Management Team (SMT) members selected, 10 (20%) are school managers, 6 (12%) deputy managers, 34(68%) are HODs and senior information managers (educators).

Table 5.1. Distribution of the sample population

SMTs	Sample population (*f*)	Percentage (%)
School managers	20	20%
Deputy principals	12	12%
Head of the Departments and senior information managers	68	68%
Total	100	100%

5.7 Response rate

Questionnaires were delivered to 20 secondary schools to be completed by SMTs of each school. Table 5.2 below shows the response rate.

Table 5.2 Response rate

SMTs	Frequency (*f*)	Response	Percentage(%)
School managers	20	18	18%
Deputy principals	12	12	12%
Head of the Departments and senior information managers	68	68	68%
Total	100	98	98%

Table 5.2 clearly shows that the sample population of 98 responded positively. This good response rate indicates that the follow-ups were done and the researcher delivered and collected the questionnaire personally.

5.8 Descriptive data

The computer was used to compute the results of the study. The first step in the analysis is to compute descriptive data. The data included statistics like frequency distributions and percentages.

5.9 Conclusion

It is important to choose the method that is workable as far as the chosen problem is concerned. A questionnaire was employed as the main instrument in the collection of data from school management team (SMTs) and contributed without revealing their names.

Chapter 6: Results

6.1 Introduction

In this chapter, results will be outlined as from previous chapters. Charts and tables will be employed in the interpretations of the results.

6.2 Response on what the school managers, deputy principals, HODs, and senior ICT managers should know about managing and developing ICT in rural schools.

6.2.1 Age of respondents

The respondents indicated their age by selecting one of the six groups. As reflected in Table 6.1, it is noted that 45 (90%) of the respondents were between 31 and 46 years of age and only 4 (8%) were 51 years and above. This suggests that majority of respondents were matured to determine the issues involved in the management and development of ICT in the secondary schools.

6.2.2 Gender of the respondents

Of the total number of respondents 30 (30%) were females, 66 (66%) were males and only 2 (2%) fell into other categories as reflected in Table 6.1. The fact that males out-numbered the female respondents in this study suggests that in most secondary schools males are in majority as compared to their female counterparts.

Table 6.1 Biographical and demographical data of respondents

1	AGE CATEGORTY	Frequency (*f*)	Percentage (%)
1.1	Below 30	-	-
1.2	31 – 35	14	14%
1.3	36 – 40	20	20%
1.4	41 – 45	26	26%
1.5	46 – 50	30	30%
1.6	51 and above	8	8%
Total		**98**	**98%**
2	GENDER	Frequency (*f*)	(%)
2.1	Male	48	48%
2.2	Female	46	46%
2.3	Others	4	4%
Total		**98**	**98%**
3	PROFESSION	Frequency (*f*)	(%)
3.1	Std 10 + Profession	20	20%
3.2	BA + Profession	42	42%
3.3	B Ed/BA (PAED)	32	32%
3.4	Others	4	4%
Total		**98**	**98%**
4	RANK	Frequency (*f*)	(%)
4.1	Senior ICT Manager (educator)	0	0%
4.2	HOD	68	68%
4.3	Deputy Principal	12	12%
4.4	School manager	18	18%
Total		**98**	**98%**
5	EXPERIENCE	Frequency (*f*)	(%)
5.1	Below 5	26	26%
5.2	6 – 10	24	24%
5.3	11 – 15	18	18%
5.4	16 and above	30	30%
Total		**98**	**98%**

6.2.3 Professional qualification

In this section, respondents were asked to state their professional qualifications. Table 6.1 shows that 20 (20%) of the respondents have secondary diploma as their highest professional qualifications. Most of the respondents 42 (42%) have university degrees as their highest professional qualification. Only 36 (36%) of respondents have acquired a postgraduate degree, which implies that all respondents are professionally qualified educators.

6.2.4 Rank

Table 6.1 shows that of the total respondents, 68 (68%) were heads of the departments and 30 (30%) were school managers and their deputy managers. This shows that in all secondary schools, there are more than two heads of departments.

6.2.5 Experience in ranks

Respondents were asked to state their experience in rank. In their response as indicated in Table 6.1, most of the respondents 72 (72%) of management have lot of experience in their ranks and only 26 (26%) are still new in their posts.

6.3 Strategic Planning and Management of ICT

The purpose of the study is to determine empirically to what extend school managers, deputy managers, HODs and senior ICT managers know about

issues pertaining to strategic planning and management of ICT in Setlakgobi APO. The aim is to determine views of the management team about issues and challenges of their schools in managing ICT. A four-point scale will be employed at this stage. Namely: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD)

Table 6.2 Strategic Planning and Management

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
6.1 All stake holders take part in SWOT analysis	16	16	26	26	52	52	4	4
6.2 Priority areas are in line with the department of education's statement on introduction of ICT in schools	20	20	56	56	20	20	2	2
6.3 ICT goals are measurable, realistic and achievable	38	38	46	46	12	12	2	2
6.4 Effective goals are monitored and evaluated	20	20	30	30	46	46	2	2
6.5 A detailed action plan is drawn to implement the process towards achieving goals	8	8	24	24	46	46	20	20

Item 6.1 under Table 6.2 indicates that 52(52%) of the respondents disagree with the fact that all stakeholders take part in SWOT analysis as compared to 26(26%) who agrees. This shows that there is a serious problem in decision-making process in schools with regard to ICT. Disregarding other stakeholders poses a serious threat, which may hamper progress in most institutions.

As indicated in Table 6.2, Item 6.2 indicates that 56 (56%) of the respondents agree that priorities are in line with Department's statement, as compared to 20 (20%) who disagree and strongly disagree respectively. This shows that there is a common understanding in prioritizing as per department's statement on introduction of ICT.

Goals need time frame. Actions are likely to be taken when setting a realistic time frame for accomplishing goals. This is evident with 46 (46%) of respondents agreeing and 38 (38%) strongly disagreeing.

In Item 6.4 monitoring poses a serious challenge to SMTs for managing ICT effectively with 46 (46%) of the respondents disagreeing as compared to 30 (30%) who agree.

Table 6.2 indicates Item 6.5 indicates 46 (46%) of the respondents disagree with a statement on action plan and only 24 (24%) agree and 20 (20%) strongly disagree. This poses a concern with regard to action plan in the implementation process, which is an enemy of many organizations, because even if they have good strategic plans, failure comes as a result of flaws in the implementation phase

Table 6.3 Practicalities that need to be considered

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
7.1 Financial picture of the school (budget) is kept in mind when planning for ICT	16	16	32	32	46	46	4	4
7.2 Rules and educationally accountable use of Internet are enforced	20	20	32	32	46	46	2	2
7.3 Budget is monitored as the key aspect of proper financial management and sustainability	12	12	38	38	48	48	2	2
7.4 School's ICT policy addresses logistical aspect such as management of IT equipments as well as use of hardware and software by staff and learners	4	4	30	30	46	46	18	18
7.5 There is a formal staff development on how to evaluate material	2	2	16	16	62	62	18	18

6.4 Practicalities that need to be considered

Table 6.3 shows that 46 (46%) of respondents disagree on the issue of budget, as compared to 32 (32%) of respondents who agree. Only 16(16%) and 4(4%) strongly agree and disagree respectively

Item 7.2 indicates that 46(46%) of respondents as per table 6.3 disagree and 32 (32%) agree on the enforcement of rules and educational accountability with regard to the use of Internet, while 20% strongly agree as compared to only 2% of the respondents who strongly disagree on the issue.

As per Item 7.3 of Table 6.3 forty-eight (48%) of respondents agree while 46(46%) of them disagree. Also 12% of the respondents strongly agree as compared to only 2% of the respondents who strongly disagree.

Key areas to be considered in ICT policy as shown in Table 6.3(Item 7.4) show that 30 (30%) of respondents agree while 46(46%) of respondents disagree. However, only 4% of the respondents strongly agree that ICT policy addresses logistical aspect as compared to 18% who strongly disagree.

Table 6.3 shows that 32 (32%) of the respondents agree, while 46(46%) disagree on the issue of staff development without development of human resource, 2% who strongly agree as compared to 18% who strongly disagree.

Table 6.4 Support in developing educators

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
8.1 Educators are aware of and model practice in heath, legal and ethical issues regarding use of ICT in classroom	20	20	20	20	44	44	14	14
8.2 Educators apply Outcomes-Based Assessment (OBA) strategies using the contributions of ICT	16	16	36	36	40	40	6	6
8.3 Both management and educators organize the classroom when using ICT to achieve learning outcomes	20	20	44	44	26	26	8	8
8.4 Educators are aware of and plan for both diversity and uniqueness of learners through the use of ICT in learning	32	32	46	46	18	18	2	2
8.5 Both management and educators display knowledge and understanding of characteristics of ICT in an inclusive education	28	28	44	44	26	26	-	-

6.5 Support in developing educators

Item 8.1 of Table 6.4 shows that 20 (20%) of respondents agree and 44(44%) disagree on the issue of awareness and model of educators with issues regarding the use of ICT in classroom.

Educators apply Outcomes Based Assessment (OBA) as shown on Table 6.4. Based on statistics, 36 (36) of respondents agree that educators apply OBA strategies while 40(40%) of respondents disagree.

Table 6.4(Item 8.1) indicates that 44(44%) of respondents agree that proper organization of classroom by both management and educators is practised, as compared to 26(26%) who disagree. This does not pose much of a thread because on average, respondents agree on the issue of organization by both management and educators.

Item 8.4(Table 6.4) shows that 46(46%) of the respondents who agree and 18(18%) who disagree. It is evident that on average, respondents agree that educators are aware of diversity but that 18(18%) might mean that they do not plan for that through the use of ICT in learning which also poses a threat.

With 44(44%) of respondents agree that both management and educators display knowledge on exclusivity in ICT, a compared to 26(26%) who disagree.

Table 6.5 Management and leadership with ICT

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
9.1 SMTs apply knowledge and understanding of ICT integration when appropriate in fulfilling roles as an educators	16	16	32	32	46	46	4	4
9.2 SMTs provide a facilitative and mentoring role to other educators regarding the integration of ICT	10	10	24	24	36	36	28	28
9.3 SMTs participate in development and evaluation of educational ICT policy at institutional level and/or district level	12	12	28	28	36	36	22	22
9.4 SMTs use opportunities to make innovative use of ICT in one or more roles as an educators	14	14	28	28	30	30	26	26
9.5 The school build a shared vision for ICT use	4	4	26	26	48	48	20	20

6.6 Management and leadership with ICT

Item 9.1(Table 6.5) shows that 32(32%) of respondents agree that the SMTs apply knowledge and understanding of ICT integrations, while 46(46%) disagree. On average, there is a serious threat on management application of knowledge of ICT, maybe it is because SMTs lack skills in ICT field.

From (table 6.5), 24(24%) of respondents agree that SMT provide facilities and mentoring as in Table 6.5(Item 9.2), compared to 36(36%) who disagree. Majority of respondents disagree on the matter, thus poses a serious problem, which needs attention.
Just like with Item 9.2 above, with 28(28%) of respondents agree and 36(36%) disagree on the development and evaluation of ICT policy.

As shown in Table 6.5(Item 9.4), 28(28%) of respondents agree, while 30(30%) disagree and 26(26%) strongly disagree. There is an exception on the respondents who strongly disagree.

Shared vision for ICT use also poses a challenge for SMTs as per Table 6.5, because 26(26%) of respondents agree and 30(30%) disagree. Maximum number of respondents disagrees on shared vision for ICT.

6.7 Conclusion

This chapter outlined the findings of emphirical investigation conducted to determine school management teams' views on what they should know about managing and developing ICT in rural schools.

Major findings of emphirical investigation especially the changes that took place after 1994 are amongst others:

- Introduction of Outcome Based Education (OBE) and

- Revised National Curriculum Statement (RNCS)
- Lack of ICT resources
- Changes in curriculum
- Fear of changes
- Professional development and support
- Language issues

Chapter 7: Summary, findings, recommendation, and conclusion

7.1 Introduction

Chapter one presented the objectives of the study. In chapter two the theoretical foundation of the study was given, followed by the literature review in chapter three. The research problem was stated in chapter four. Chapter five presented an exposition of the investigation of the study.

The results of the study were given in chapter six. The aim of chapter seven is to provide a logical closure for the study in which the outcome of the study is discussed, with cross-reference to other relevant studies and the underlying theory. This chapter closes with general conclusions and recommendations for further studies.

7.2 Discussions

7.2.1 Research question one

To what extent do School Management Team (SMTs) and senior ICT managers know on how to approach the strategic planning management of ICT, and the role of government in the implementation process. Also the importance and role of costs analysis of resources (that is, human and physical) during planning stage?

SAIDE (2003) reveals that there are many possibilities and many costs involved when schools move into the use of ICT. Planning is therefore essential and tends to be strategic as well as methodical.

Thurlow et al. (2003) suggest that SWOT analysis helps to answer the first key planning question, where are we now? as reflected in chapter two.

Table 6.2 indicates that 52(52%) of the respondents disagree that all stakeholders take part in SWOT analysis as compared to 26(26%) who agrees. This shows that there is a serious problem in decision-making process in schools with regard to ICT. Disregarding other stakeholders poses a serious threat, which may hamper progress in most institutions.

As indicated in Table 6.2, 56 (56%) of the respondents agree that priorities are in line with Department's statement, as compared to 20 (20%) who disagree and strongly disagree respectively. This shows that there is a common understanding in prioritizing as per department's statement on introduction of ICT.

Goals need time frame. Actions are likely to be taken when setting a realistic time frame for accomplishing goals. This is evident with 46 (46%) of respondents who agree and 38 (38%) who strongly disagree.

Monitoring poses a serious challenge to SMTs for managing ICT effectively with 46 (46%) of the respondents disagreeing as compared to 30 (30%) who agree.

As it indicates, 46 (46%) of the respondents disagree with a statement on action plan and only 24 (24%) agree. This poses a concern with regard to action plan in the implementation process, which is an enemy of many

organizations, because even if they have good strategic plans, failure comes to the implementation phase

As per table 6.3, there is a serious concern because ICT implementation depends on the availability of budget. It is therefore crucial to keep the financial picture of the school in mind when planning. Also of importance is the issue of enforcement of rules and educational accountability with regard to the use of Internet, because of highest number of respondents (that is 46%) who disagree. This poses a serious threat with regard to the security.

There is a serious problem with regard to budget monitoring in the integration of ICT policy in schools. This was evident through the number of respondents who disagree (that is 48%) as compared to 38% who agrees. On the key areas to be considered in ICT policy, it shows that on average most respondents disagree that ICT policy addresses logistic aspects in the integration of ICT, thus poses a concern.

Even though the institution might have top of the range computers, they will soon become obsolete without qualified users. This is also a concern for implementation process of ICT in schools. This is supported by most number of respondents who disagree (that is 46%) on the issue of development.

According to the findings through the use of the questionnaires, SMTs are faced with lack of support from the department of education with regard to the resources. Even though there is a common understanding in prioritising as per departmental statement on introduction of ICT, monitoring still poses a serious threat to the SMTs for managing ICT effectively and efficiently.

The technical know how also poses a challenge to the SMT in their planning process, especially the human resource factor.

7.2.2 Research question two

What role and impact will change in technology, budget, language policy, and access to telecommunications have on the improved skills and knowledge of educators to integrate ICT in teaching, learning and administration?

The 12% of respondents agree on the issue of management knowledge and understanding of ICT integration as compared to 46% who disagree, this shows that majority of respondents support the notion that there is a greater need to capacitate the SMTs on this issue.

However, on the issue of inclusivity in ICT as per Table 6.5, a greater percentage on average shows that an issue is given attention even though as with many government projects, problems are encountered during

implementation stage which is the crucial stage of any project. On average, there is a serious threat facing SMTs on building a shared vision. This is evident through 4% of the respondents who strongly agree as compared to 20% who strongly disagree.

Attention should be given to this issue because shared vision as reflected in the theoretical framework (chapter 2), guides and develops the strategic plan, giving all members of the school a common direction and enabling people to work together as a team (Bialobrzeska & Cohen 2005:15). The sentiments are also shared by Latchem and Hanna (2001)

For full integration of ICT in the learning, teaching and administration, it was found that ICT policies are not developed and evaluated to suit learners of all languages, because most ICT programmes are written in English, which is not the first language to most learners. Issue of budget also poses a serious concern, because implementation of ICT depends largely on the availability of funds.

7.3 Recommendations

7.3.1 Language Issue

According to Best and Maclay (2002), South African languages should be developed to be languages of communication and learning, thus trying to develop programs including writing website in South African languages

without first having to struggle with language before understanding the content (where English is used in 80% of websites. It is also crucial to keep the overall financial picture of the school in mind when planning.

The Department of Education in collaboration with Department of Arts and Culture should promote and fast track the adaptation and development of local content into indigenous languages. While there is a large amount of curriculum material and resources available in the Internet, this online content must be evaluated for educational relevancy prior to adaptation and possible translation into indigenous languages.

7.3.2 Physical Resources

There should be adequate infrastructure in schools, sufficient computers with good Internet connectivity (in turn depending on electricity and communication). The impact and effectiveness of ICTs rest on extent to which end-users (such as learners, educators, managers and administrative staff) have access to hardware, software and connectivity. For e learning to be successful, learners must have regular access to reliable infrastructure.

7.3.3 Technical know how

There is a need for technical ICT support, as shared by scholars such as Bialobrzeska & Cohen (2005). This position may be held by a full time or part time staff member who is technically trained to do troubleshooting,

offer technical support to staff, maintain hardware, computer networks and server, manage set-up and operate all hardware, data-projectors and scanners. Other duties may also be included depending on the needs of particular school.

7.3.4 Staff development

As outlined by Scope (2003), any ICT integration requires that the educators engage in rethinking and reshaping their curriculum. This calls for extensive staff-development and support. Thus, ICT is central to both pre-service training for new teachers and professional development for practising educators. This may include professional development in such areas as training on how to evaluate materials found on a website; how to make educationally appropriate use of resources for learning accessed and how to develop visually literacy skills, adapt material and design differentiated activities using the same resources.

Workshops and training should be conducted for all stakeholders in managing ICTs because training is one of the instruments through which the knowledge to implement technology is conveyed. Training and development programmes in organisations (schools) should keep abreast of change in technology and how they will affect organisations.

7.4 Conclusion

The challenge of providing schools with modern technologies (especially ICT) in order to enhance the quality of learning and teaching will require a significant investment. This calls for Public Private Partnership (PPP) to ensure that learners receive high quality learning and teaching (especially the rural areas in the North West province)

7.5 Study limitations

This research report does not make any claim with regard to the all-inclusive and broad issues related to the understanding and implementation that are designed to provide communication technologies to the rural areas. It is however hoped that the findings, which to a great extent represent the current position in relation to the research questions, would to some extent assist the Department of Education in collaborations with the Department of Arts and Culture in addressing the ICT problems that are faced by rural schools in particular.

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APPENDIX A

QUESTIONNAIRE

The purpose of this questionnaire is to gather information on what school managers and senior information management should know about management and development of Information Communication Technologies (ICT) in the Setlakgobi Area Project Office (APO), in Central Region of the Department of Education in the North West Province.

SECTION A

Biographical demographic

Kindly answer the following by crossing the appropriate block with (X)

1. AGE CATEGORY

1.1	Below 30	1	
1.2	31 – 35	2	
1.3	35 – 40	3	
1.4	41 – 45	4	
1.5	46 – 50	5	
1.6	51 and above	6	

2 GENDER

2.1	Male	1	
2.2	Female	2	
2.3	Others	3	

3 PROFESSION

3.1	Std 10 + Profession	1	
3.2	BA + Profession	2	
3.3	B Ed/BA (PAED)	3	
3.4	Others specify.....	4	

4 RANK

4.1	Educator (PL1)	1	
4.2	HOD	2	
4.3	Senior ICT manager	3	
4.4	Deputy manager	4	
4.5	School manager	5	

5. EXPERIENCE IN RANKS

5.1	Below 5	1	
5.2	6 – 10	2	
5.3	11 – 15	3	
5.4	16 and above	4	

SECTION B

Please indicate how important a statement is by using the following keys:

KEYS:

1. Strongly Agree (SA)
2. Agree (A)
3. Disagree (D)
4. Strongly Disagree (SD)

Choose the appropriate key in each case:

6 **STRATEGIC PLANNING AND MANAGEMENT**

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
6.1 All stake holders take part in SWOT analysis								
6.2 Priority areas are in line with the department of education's statement on introduction of ICT in schools								
6.3 ICT goals are measurable, realistic and achievable								
6.4 Effective goals are monitored and evaluated								
6.5 A detailed action plan is drawn to implement the process towards achieving goals								

7 PRACTICALITIES THAT NEED TO BE CONSIDERED

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
7.1 Financial picture of the school (budget) is kept in mind when planning for ICT								
7.2 Rules and educationally accountable use of Internet are enforced								
7.3 Budget is monitored as the key aspect of proper financial management and sustainability								
7.4 School's ICT policy addresses logistical aspect such as management of IT equipments as well as use of hardware and software by staff and learners								
7.5 There is a formal staff development on how to evaluate material								

8. SUPPORTS IN DEVELOPING EDUCATORS

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
8.1 Educators are aware of and model practice in health, legal and ethical issues regarding use of ICT in classroom								
8.2 Educators apply outcomes-based assessment strategies using the contributions of ICT								
8.3 Both management and educators organize the classroom when using ICT to achieve learning outcomes								
8.4 Educators are aware of and plan for both diversity and uniqueness of learners through the use of ICT in learning								
8.5 Both management and educators display knowledge and understanding of characteristics of ICT in an inclusive education								

9. MANAGEMENT AND LEADERSHIP OF ICT

	SA		A		D		SD	
	f	%	*f*	%	*f*	%	*f*	%
9.1 SMTs apply knowledge and understanding of ICT integration when appropriate in fulfilling roles as an educators								
9.2 SMTs provide a facilitative and mentoring role to other educators regarding the integration of ICT								
9.3 SMTs participate in development and evaluation of educational ICT policy at institutional level and/or district level								
9.4 SMTs use opportunities to make innovative use of ICT in one or more roles as an educators								
9.5 The school build a shared vision for ICT use								

SECTION C

In your opinion list any challenges in the management and development of ICT

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