

**THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN
MULTIMEDIA USAGE IN THE NORTH-WEST PROVINCE**

by

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DEDICATION

This study is dedicated to the following people:

- My biggest friend and husband **Selobelwang Seabo** for the encouragement and support he gave while I was busy with my studies.
- My loving daughter **Kgalalelo Seabo** and loving sons **Omogolo and Omosa Seabo**.

DECLARATION

I declare that “THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN MULTIMEDIA USAGE IN THE NORTH-WEST PROVINCE” is my own work. It has not been previously submitted for examination at this or any University. All material used has been acknowledged.

SIGNED
DATE:



ABSTRACT

The role of the classroom teacher is the crucial factor in the full development and use of multimedia in schools. The transformation of classroom technology from hardware, software, and connections into tools for teaching and learning depends on knowledgeable and enthusiastic teachers who are motivated and prepared to put technology to work on behalf of their learners. Yet many teachers do not have the technical knowledge or skills to recognize the potential of multimedia in teaching and learning. Just knowing how to use multimedia is not enough to integrate it effectively in the classroom.

Most districts support teachers' investment in their professional knowledge and skills. Teachers take advantage of classes sponsored by their districts, work on advanced certificates or degrees, and attend workshops and summer institutes. Yet these efforts often have little impact on student learning because they tend to be disjointed, unfocused, and offer teachers few opportunities to learn by doing and reflecting on practice with their colleagues. In other words, professional development frequently lacks connections to practice and to high standards of student achievement or teacher development. Professional development that is based on high standards of teaching and learning and that profoundly changes practice is essential to improved teaching and better student achievement. Professional development should be focused on what teachers in individual schools need to know and be able to do for their students.

This study is about the professional development of teachers in multimedia usage in the North-West Province. The study affords a close look at how a dedicated group of teachers are coping with the awkwardness, irritation, and promise of multimedia in the face of budget cuts, a packed curriculum, and changing public expectations. The main aim of the study is to investigate how teachers are effectively and professionally developed in the use of multimedia.

Main findings pertaining to the research are as follows:

- Professional development in the North-West Province does not reach all teachers.
- The Department of Education conducted proper workshops only when they introduced a new curriculum which did not address the implementation of multimedia.

- Teachers attended several workshops during the introduction of Curriculum 2005 and later the Department introduced National Curriculum Statement.
- The North-West Provincial Government does not provide In-Service Training in multimedia usage.
- Teachers attended private institutions and paid their own fees to be trained in the use of multimedia.
- The teachers in different schools do not know how to use multimedia in their learning areas; school managers and teachers strongly believe that the decision makers are not aware of the benefits of using multimedia in the class rooms.

Key words:

- Educational technology
- Media literacy
- Electronic learning (E-learning)
- Professional development
- In-service training of teachers

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CHAPTER ONE

BACKGROUND INFORMATION AND RATIONALE OF THE STUDY

1.1 ORIENTATION

The professional development of teachers is the most serious unsolved problem for policy and practice in education today (North-West Province & Kwazulu Natal, 2004:1). Teachers, like other professionals, need to stay informed about new knowledge and multimedia technologies. They express dissatisfaction with the professional development opportunities made available to them in schools and insist that the most effective development programs they have experienced have been self-initiated. The provision of professional development of teachers in using multimedia has had a significant influence on the professional lives of a growing number of teachers, because it has the potential to enhance and even transform teachers' effectiveness in their classrooms (Rodriquez, 2002:1).

Teachers acknowledge that this provision raises many challenging questions regarding costs, equity, access to technology, quality of materials, and other issues. Perhaps most importantly, the professional development of teachers in using multimedia is specifically designed to provide significant participation by and input from classroom teachers. Too often the "*wisdom of practice*" is largely missing from discussions of education research, policy making, and decision making (Nelson, Post & Bickel, 2001: [Online]).

Teaching Today (2002: [Online]) indicates that

"If you want to know how to make something work better, you go to the people who are doing it, as you do in the automobile industry. We learned from the Japanese that you have to go to the people on the shop floor to figure out how to make a better car".

The national unions such as SADTU, NAPTOSA, and PEU etc, are founded and operate on the premise that teachers must have a voice in shaping what they do in their classrooms, the resources that are available to them, the policies that enhance student learning, and the future of the teaching profession (Teaching Today, 2002: [Online]).

Just as new technologies have the potential to transform teaching, they also have the potential to transform teacher professional development. Discussions of teacher professional development using advanced communications technologies have focused on videoconferencing, satellite-based lessons, electronic bulletin boards, and other distance learning techniques. The use of these remains important even today (Professional Development for Teachers, 2002:1).

James (2002:2) indicates that in settings such as isolated rural communities, electronic conferencing can be an important way to enable teachers to remain in contact with colleagues and other professionals elsewhere. At the same time, new interactive media are replacing older, video conferences. Professional development based on electronic technologies increasingly refers to web-based, interactive experiences combining text, video, and sound. It is often asynchronous, in that all participants do not have to be engaging in an experience at the same time. It can be richly interactive, in that it can give participants multiple opportunities to reflect on issues, questions, or answers before responding (James, 2002:2).

According to Grisham (2001:1) teachers want things that engage their learning, but they do not want to do something boring, or that takes time, or is another requirement that makes teaching harder. Because of developments in multimedia technology, many students have skills and perspectives that previous students did not have. Students are accustomed to acquiring information when and where they want by using the internet. Nelson, Post & Bickel (2001: [Online]), say that most high school learners have grown up with multimedia. Most teachers, by contrast, have to undergo a change to become thoroughly fluent with current multimedia technologies. Yet such a change can have a dramatic impact on individual teachers and on their students. Teachers need to be inspired to look beyond their classroom model, to inspire deeper thinking, to think about new ways of teaching and learning.

Ashok (2002:3) says that unless teachers experience this world themselves, they may be unaware of the influence and power these technologies have on students' lives. If one has learned one thing about the teaching experience, it is that one has to start where the learner is. In that respect, experiencing the multimedia world through professional development opportunities may be important for teachers as the content conveyer.

Starr (2003: 7) came up with the question

“Do proper facilities for promoting professional development and a support structure of experts and teacher colleagues need to be in place first or are finely tuned and exciting programs sufficient in and of themselves? Surely there is utility in both, but Is there some way we need to worry about that?”

This flexibility has led many schools to take at least some initial steps to provide their teachers with professional development in using multimedia. School districts reported that they provide some form of multimedia professional development for teachers (Mindset News, 2004:3). Yet more traditional forms of professional development remain prevalent. In a survey of teachers across the country, more than six in seven teachers reported participating in one-day workshops, face-to-face training, and other conventional professional development experiences (Starr, 2003:8). Participation in multimedia programs was markedly lower. The multimedia is a new kind of technology, a new way of thinking, a new way of doing things. The more traditional forms of professional development still dominate what is seen today. The same survey showed that administrators expect to be investing new money for professional development into traditional forms (Starr, 2003:8).

New Zealand Ministries of Education, (2006: [Online]) says:

“Despite the fact that you are getting more and more feedback from teachers and from administrators that one-shot workshops are not very effective, that they want things that are more tailored to their experiences and more interactive, all these wonderful things that multimedia professional development can bring to the table, it’s a slow tide that is changing.”

The last 10 years of traditional chalkboard teaching has been supplemented by audiovisual media like overhead or slide projectors and videos. The phenomenal growth of the Internet has brought in a new teaching medium’ namely Electronic-learning. The declining cost of personal computers, easy and cheaper access to Internet and improved quality of multimedia software has made it an attractive option for both teachers and students. Multimedia courses over the Internet will have the potential to serve a dual purpose by enhancing the E-learning experience of students (Ashok, 2002:1).

Multimedia has been traditionally imparted through the lecture-tutorial-laboratory paradigm. Education technology in the last few years has tried to make teaching more effective by supplementing chalkboard teaching by audiovisual media such as overhead or slide projectors and videos.

These are however passive teaching tools. Recent advancement in computer multimedia has brought in a new teaching approach (Enhancing Education Through Technology, 2000: [Online]). According to Ashok (2002:2) despite the rapid expansion of electronic media throughout the world's education system, books and allied printed materials continue to serve today as education's most important media for both instructional and administrative activities. In the great majority of the world's classrooms, the most reliable indicator of what is taught is the textbook. Students learn a great deal from any of the media under most of the conditions tested, but they learn as much as from face-to-face teaching, about many subjects. This is a general rule; one medium is not necessarily more effective than others, and access to new media does not mean that teachers are using a variety of educational media in one lesson presentation (Ashok, 2002:2).

Media use in education is, of course, not new. The media (principally radio, television and film) were all developed commercially during the first half of the 20th century and soon found their way into schools. In the United Kingdom, the British Broadcast Corporation began its schools broadcast in 1924 and educational television was introduced in 1957. Two features, however, rose to prominence in the 1970's. The first was the growing international nature of media use. Side by side with its more intensive use in advanced economies, there has been a growing use of multimedia in developing countries (Nagy, 2008: [Online]).

International aid agencies such as the World Bank and the United States Agency for International Development have recognised the potential of media for raising educational levels, particularly in the developing countries' context of geographical difficulties and specialist staff shortage (Media Awareness Network, 2002:[Online]). In the school system the main role of multimedia is to improve the quality of educational provision. It increases cost and whilst it increases the quantity of output, its main function is to improve the quality through an enrichment of the educational process (Low, 2006: [Online]).

The main challenges facing the integration of multimedia into educational practices are concerned with creating and maintaining an educational climate where steady change in teachers' knowledge and classroom practices is accepted as a desirable state, planned for, and supported appropriately. Change is not just a matter of skill development, or the reform of individual attitudes, change needs to be embedded in a nurturing instructional context. It is clear that individuals can develop on their own but for media to be integrated into the school

curriculum, a broad range of instructional issues must be addressed, which include the provision for the development of individuals who do not necessarily share the instructional vision of media (Ashok, 2002:2). According to Woodley (2006: 8) deep concern about the quality of instruction arises not because our schools and colleges have done a poor job, rather because modern life requires that the quality of education be sharply improved. Effective modernized instruction can help students understand the meaning of the massive changes occurring all around us. Today the focus is on improving instructional experience in all fields of learning. The difficulty is in providing an excellent professional teacher who can implement multimedia for every classroom.

Research Centre (2005:3) and Woodley (2006:8) cite the following reasons for multimedia usage:

- To create and maintain an educational climate where steady change in teacher knowledge and classroom practice is accepted.
- To promote understanding and use of educational media in Further Education and Training Band schools.
- To support the management, innovations, integration and maintenance of resources for technology.
- To become generally aware of the uses of media.
- To learn selected topics from school subjects across the curriculum and,
- To use media such as computers for record-keeping; some teachers even keep track of the progress of individual learners (Abdullah, 2000: [Online]).

1.2 STATEMENT OF THE PROBLEM

Despite the fact that there is a rapid technological development, the North-West Provincial Government does not develop teachers in using multimedia (Starr, 2003: 12). This creates a problem in that most of the National Curriculum Statement (NCS) lessons demand knowledge of multimedia integration and this determines the success of teaching and learning for the teacher and the learners. Therefore, the research question reads as follows: *How are teachers effectively and professionally developed in the integration of multimedia in their lesson presentation?*

The following sub-questions would be answered in order to answer the research question:

- What is multimedia?
- What is meant by professional development of teachers?
- What kind of professional development does the North-West Provincial Government offer to teachers?
- What are the barriers to professional development for multimedia usage by teachers in the North-West Province?
- How can professional development of teachers in multimedia usage be improved in North-West Province?

1.3 AIM AND OBJECTIVES

The main aim of the study is to investigate: *How are teachers effectively and professionally developed in the integration of multimedia in their lesson presentation?*

In order to realize this aim the following objectives were investigated:

- To find out through literature what is meant by multimedia.
- To find out through literature what is meant by professional development of teachers.
- To investigate empirically the type of In-Service Training in the use of multimedia that the North-West Provincial Government offers for teachers.
- To investigate empirically the barriers of professional development for teachers in multimedia usage in the North-West Province.
- To investigate and suggest how professional development of teachers in multimedia usage can be improved in the North-West Province.

1.4 RESEARCH DESIGN

According to Lacey & Luff (2005:7) research design refers to the plan and structure of the investigation used to obtain evidence to answer research questions. The design describes the procedures for conducting the study, including when, from whom, and under what conditions the data will be obtained. In other words, design indicates how the research is set up, what happens to the subjects and what methods of data collection are used. This will be discussed in detail in chapter three, paragraph 3.1.

1.5 RESEARCH APPROACH

In this study the researcher used the qualitative research approach. Qualitative research approach aims to gather an in-depth understanding of human behaviour and the reasons that govern such behaviour. This approach investigates the *why* and *how* of decision making, not just *what*, *where*, and *when*. Hence, smaller but focused samples are more often needed, rather than large samples. The qualitative method produces information only on the particular cases studied, and any more general conclusions are only hypothesized (Holliday, 2007: [online]).

1.5.1 Qualitative approach

Schrifer (2001: [Online]) indicates that one way of differentiating Qualitative research from Quantitative research is that qualitative research is largely exploratory, while quantitative research hopes to be conclusive. However, it may be argued that each reflects a particular discourse with neither being definitively more conclusive or “*true*” than the other. Qualitative data cannot necessarily be put into a context that can be graphed or displayed as a mathematical term. Qualitative researchers may use different approaches, such as the grounded theory practice, narratology, storytelling, classical ethnography, or shadowing.

Soy (2006: [Online]) states that qualitative research is a field of inquiry that cuts across disciplines and subject matters. Qualitative researchers aim to acquire an in-depth understanding of human behaviour and the reasons that govern human behaviour. Qualitative research relies on reasons behind various aspects of behaviour. Qualitative research is, in some cases, instrumental to developing an understanding of phenomena as a basis for quantitative research. Similarly, quantitative research may inform, or be drawn upon in the process of qualitative research (Holliday, 2007: [Online]).

1.6 RESEARCH METHODS

Research methods are ways that a researcher employs to get information from different people. In this study the following methods were employed:

1.6.1 Literature review

The review of literature involves locating, reading and evaluating reports of research as well as reports of casual observation and opinion that are related to the individual's planned research project. This review differs in a number of ways from the reading program often used to locate a tentative research project. First, such a review is much more extensive and thorough because it is aimed at obtaining a detailed knowledge of the topic being studied, while the reading program is aimed at obtaining enough general knowledge and insight to recognize the problem in the selected area (Pope, Ziebland & May, 2000: [Online]). Literature review is discussed in chapter two and in chapter three, paragraph 3.5.1.

1.6.2 Observation and field notes

An observation technique is when the observer watches somebody's behaviour and judges the behaviour in some way and records the judgement (Monobe, 2005:18). The researcher used participant observation because it uses very few participants. This enabled her to make intense observation of participants before, during and after the intervention. In this study the researcher found out what actually transpired rather than what people say is going on; she recorded the information to discuss and identify usual aspects of the phenomenon.

1.7 POPULATION

Population can be referred to as participants or target group. They are individuals who participate in the study; it is from them that data are collected. Population is a group of elements or cases, whether individuals, or objects, or events, that conforms to specific criteria (MacMillan & Schumacher, 2001:169).

List (2002:1) says that to make a sample, one first needs a population. Population means the number of people living in the area. In this study the population was Middle School Teachers and School Managers from five circuits in Ngaka Modiri Molema District in the North-West Province.

1.8 SAMPLING

According to List (2002:2) a sample is a part of the population from which the sample was drawn. In addition White, (2002:58) defines sample as a group of participants or situations

selected from a larger population. Sampling refers to the procedure by which a given number of subjects from a population are selected to represent that population (Leedy & Ormrod, 2001:73). In this study the participants were ten school managers and thirty eight teachers.

- **Purposive sample**

Auerbach & Silverstein (2003: [Online]) define purposive sample as a sample in which the researcher selects participants who are considered to be typical of the wider population. Since the sample is not randomly selected, the degree to which they actually represent the population being studied is unknown.

1.9 RESEARCH INSTRUMENT

The researcher used an interview as a research instrument:

- **Interview**

According to Auerbach & Silverstein (2003: [Online]) an interview is a one-on-one directed conversation with an individual using a series of questions designed to elicit extended responses. Interviews are a way to get in-depth and comprehensive information. They involve one person interviewing another person. In this study, the researcher allowed the interviewees' time to elaborate on their experience, whatever they knew and their expectations. The interviewer noted the conversation and all necessary and important information that was given.

- **Observation**

Information is collected by recognizing and noting people's behaviour, objects and occurrence (Stuwig & Stead, 2001:96). In this study the observational method was employed and it supplemented the interview by preventing the researcher from relying only on the willingness and ability of the participants to report data accurately. In addition, Creswell (2003:160), says that the observation technique provides valuable non-verbal information (body language, facial expression) of the interviewees. As this is qualitative research, whatever the researcher observed, was described and translated into words or narratives.

During the observation session, field notes were organised in descriptive notes that included a reconstruction of dialogue and a description of the physical setting. They included the reflexive notes consisting of the researcher's personal thoughts such as speculation, feelings, challenges, ideas, impressions and prejudices (McMillan & Schumacher (2001:77). The researcher took notes pertaining to the institutional environment that prevailed on her arrival, based on the co-operation and acceptance extended by the management team.

1.10 DEFINITION OF CONCEPTS

The following concepts occur frequently in this study:

1.10.1 Educational Technology

Educational Technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. The term also applies to the development, application, and evaluation of systems and techniques for improving the process of human learning. Technology is an educational media that enhances and expands the educational environment and promotes the use of current and emergent technologies (Arinza, Richard & Ridge, 2000: [Online]). Instructional technology covers the processes and systems of learning and instruction, Educational Technology includes other systems used in the process of developing human capacity (Bednar & Sweeder, 2005: [Online]).

In this study Educational Technology is more simply and comfortably thought of as an array of tools that might prove helpful in advancing student learning. Educational Technology is the study and practice of facilitating and improving learning of a diverse population by creating, using, managing, and evaluating appropriate technological processes and resources (Bednar & Sweeder, 2005: [Online]).

1.10.2 Technology

Technology refers to material objects of use to humanity, such as machines, hardware or utensils, but can also encompass broader themes, including systems, methods of organization, and techniques. Any valid and reliable process or procedure that is derived from basic research using the scientific method is considered a technology. Another word technique,

with the same origin, also may be used when considering the field Educational Technology (Arinza, Richard & Ridge, 2000: [Online]).

Nagy (2008: [Online]) says that it is important to consider the meaning of technology to understand the meaning of the word in an educational context. The word technology comes from the Greek “*Techne*” which means craft or art. The popular definition of technology refers to machines or electronic systems. Under this definition, for example, a DVD player or a Magnetic Resonance Imaging (MRI) system constitutes technology. However, fields such as Educational Technology rely on a broader definition of the word. In this study technology may be extended to include the techniques of the teacher as he or she integrates media into the curriculum.

1.10.3 Educational Technologist

Nagy (2008: [Online]) says that an Educational Technologist is a person who transforms basic educational and psychological research into an evidence-based applied science (or a technology) of learning or instruction. To some extent, the history of Educational Technology has been marked by a succession of innovations.

Educational Technologists are leaders and innovators, serving in institutions of higher education, public or private school settings, federal, state, or local educational agencies, and educational organizations in the private sector (Bednar & Sweeder, 2005: [Online]). In this study Educational Technologists are teachers, school managers, administrators and all stakeholders in the Department of Education who are involved in using multimedia technology in the teaching and learning situation.



1.10.4 Media Literacy

Media Literacy is an umbrella term that has been defined in a variety of ways. In the education community, it is usually understood to refer to the multiple literacies across the curriculum and the ability to produce multimedia. Media can include a variety of things such as media production, information technology, critical media literacy, web-based literacy, aesthetic literacy (such as dance, music, and theatre), communications, and scientific literacy. Being literate now implies having the ability to decode information from all types of media (Luke, 2000: [Online]).

Media Literacy is the ability to access, analyse, critically evaluate, and produce communication in a variety of forms. Media Literacy is the ability to understand how mass media, such as Television, film, radio and magazines, work, produce meanings, and are organized and used wisely (Media Awareness Network, 2002:1). In this study Media Literacy is the ability to critically understand, question and evaluate how media work and produce meaning, how they are organised, how they mediate and construct reality, and how they impact our lives (Scheibe & Rogo, 2002:1).

1.10.5 Media Education

Media Education teaches students how to set learning objectives and how to access information that will help them reach those objectives. It teaches them how to analyse and evaluate the information they find and to determine what is most relevant and helpful. [One Media Education expert describes Media Education as the perfect curriculum for the elementary grades, through which children, who love their media culture, are motivated to write, analyse and organize information and to express themselves orally, all the while preparing themselves to be wise consumers of information and appreciative audiences of popular entertainment (Luke, 2000: [Online])]. In this study Media Education almost always results in more enthusiasm for learning because it gives students more control over their information searches and their ways of demonstrating what they have learned.

1.10.6 Media

Media simply carry the instructional message to the learner. Students learn only when they receive and understand the message. This event does not depend on the media choice. However, media selection can influence the amount that students learn. By combining the strengths of particular media resources with instructional methods that take full advantage of these strengths, one can positively influence learning. Media is concerned with the acquisition of technical skills or a support of administration (Luke, 2000: [Online]). In this study media means carrying forth the instructional message to the learner through different electronic equipment. Media offers protection to teach in ways that cannot be done with traditional methods. For example one can teach learners how to manage the finances of a bank through a simulation that allows them to experience the consequences of their actions without the risk of financial disasters (Nagy, 2008: [Online])

1.10.7 Electronic-learning

Electronic learning or E-learning is the term used to refer to computer-enhanced learning. It is used interchangeably in so many contexts that it is critical to be clear what one means when one speaks of E-learning. In many aspects, it is commonly associated with the fields of technology which deal with both the technologies and associated methodologies in learning using networked and/or multimedia technologies. Many technologies can be and are used in E-Learning, including: electronic performance system, E-Portfolios, e-mail, hypermedia and games, computer aided assessment, electronic performance systems, multimedia, Compact Disc-Read Only Memory (CD-ROM). Most E-Learning situations use combinations of the above techniques (Mindset News, 2004:9).

The terms *Learning Technology* and *Educational Technology*, are generally used to refer to the use of technology in learning in a much broader sense than computer-based training or *computer-aided instruction*. They are broader than the term *online-learning* or *online Education* which generally refers to purely web-based learning. In cases where mobile technologies are used, the term Multimedia-Learning has become more common. Electronic-Learning is naturally suited to distance-learning and flexible-learning, but can also be used in conjunction with face-to-face teaching (Nagy, 2008: [Online]).

1.10.8 Multimedia

Nagy, 2008:[Online]), defines multimedia as the combination of existing media (text, fixed or animated images, drawings and graphics, sounds, video) in common digital format, staged in dedicated computer programs and accessible by a drive unit enabling their operation (computer, game station). Multimedia refers to several different classes of software that are used to achieve clearly identified educational goals. Multimedia is the combination of two or more media into a single coherent message. Multimedia is further defined as the sequential use of a variety of instructional media, either for presentation to groups or for independent study by students.

Bednar & Sweeder (2005: [Online]), explain multimedia as the ability to combine and utilise communication multimedia such as text, graphics art, sound, animation and video for the presentation of information. Multimedia focuses on relationships between visual, aural and textual compositions. Technology which brings together at least two of the following media,

text, graphics, video, art, animation and sound, in a single user-controlled environment and allows the user to manipulate the elements is called active or interactive multimedia.

In this study multimedia would mean a collection of multimedia ideas and activities that can be utilized in the classrooms and libraries for successful learning and teaching. Multimedia means using several different classes of software that are used to activate clearly identified educational goals. Multimedia is the combination of two or more media into a single coherent message. Multimedia is further defined as the sequential use of a variety of instructional media, either for presentations to groups or for independent study by students. Multimedia can be used to support the teaching of all subjects; in addition, all students have an entitlement to media capacity (U.S Department of Education, 2004: [Online]).

1.10.9 Professional development

Grisham (2001: [Online]) says that professional development includes formal and informal means of assisting teachers not only with acquiring new skills but also with developing insights into pedagogy and their own classroom practice, and exploring new or advanced understandings of content and resources. Professional development also refers to “*activities to enhance professional career growth* (Egnatoff, 2002:5)”. Such activities may include individual development, continuing education, and In-Service Education, as well as peer collaboration, study groups, and peer coaching or mentoring.

Grisham (2001: [Online]) says that this definition includes:

“The sum totals of formal and informal learning experiences throughout one’s career from preservice teacher education to retirement”.

Professional development may be viewed either as an outcome or as the growth of the individual or as a process or the conditions offered or imposed by an institution to effect that growth. In this study professional development is the process by which individuals, groups and organisations learn to be more effective and efficient by utilising In-Service Education for teachers. This definition of professional development includes support for teachers as they encounter the challenges that come with putting into practice their evolving understandings about the use of technology to support inquiry-based learning. Current technologies offer resources to meet these challenges and provide teachers with a cluster of supports that help

them continue to grow in their professional skills, understandings and interests (Jonassen, 2006: [Online]).

1.10.10 Staff development

According to The Career Development Network for Louisiana Teachers (2005:1) the term “*staff development*” includes activities that:

- Improve and increase a teacher’s knowledge of the academic learning area that the teacher teaches, and enable him to become highly qualified;
- Are an integral part of broad school-wide and district-wide educational improvement plans
- Give teachers, principals, and administrators the knowledge and skills to provide students with the opportunity to meet challenging State academic content standards and student academic achievement standards;

In this study staff development means an experiential involvement by a teacher in the process of growing. This process is not short term. It is a continuous, never ending developmental activity (Grisham, 2001: [Online]).

1.10.11 In-Service Education and Training (INSET)

Egnatoff (2002:8) states that In-Service Education and Training is intended to support and assist the professional development that teachers ought to experience throughout their working lives. In-Service Training may be taken to include everything that happens to a teacher from the day he takes up duty and contributes to the way in which he executes his professional work.

In-Service Education and Training is a constant and indispensable part of the national system of continuous education. It facilitates the enhancement, development and updating of knowledge and professional skills. It also offers the possibility of obtaining new skills and qualifications, specialization or professions through degree programs, professional training or vocational experience acquired earlier, as well as giving an ample opportunity for individual self-study irrespective of one’s age (Arinza, Richard and Ridge, 2000: [Online]). In this study In-Service Training ensures that each member of staff is or becomes and remains a fully

competent teacher for her subject and so is able to do his job more effectively in his present role.

1.11 PLAN OF THE STUDY

Chapter one focused on the background and rationale of the study, statement of the problem, aim and objectives, research design, delimitation of the study, definition of concepts, and the plan of the study. Chapter two presents a literature review on professional development of teachers in multimedia usage. Chapter three presents the research design. Chapter four presents data and analysis. Chapter five presents the overview, conclusion and recommendations.

CHAPTER TWO

THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN MULTIMEDIA USAGE

2.1. INTRODUCTION

Mindset News (2004:10) states that the lack of professional development for multimedia use is one of the most serious obstacles to fully integrating multimedia into the curriculum. But traditional sit-and-get training sessions or one-time-only workshops have not been effective in making teachers comfortable with using multimedia technology or adept at integrating it into their lesson plans. Instead, a well-planned, ongoing professional development program that is tied to the school's curriculum goals, designed with built-in evaluation, and sustained by adequate financial and staff support is essential if teachers are to use multimedia appropriately to promote learning for all learners in the classroom.

Mindset News (2004:10) says that multimedia is to be used to support the teaching of all subjects; in addition, all students have an entitlement to media capability. Multimedia is seen by teachers to be concerned with the acquisition of technical skills, or as a support for administration: a small number are terrified of media, and only a minority of teachers use media to support their teaching. However, it is also Mindset News' view that multimedia is a trend in education; it is worthwhile to integrate multimedia into the school curriculum, but that requires careful planning and should be carried out in stages.

Bednar & Sweeder (2005: [Online]) indicates that students need to know about multimedia. Asking them to draw (by hand) is outdated as media can do that already. Multimedia in education is a must and the whole process produces positive results. But background support is very important. If media is to be integrated into the curriculum, it will take a long time to prepare, to have clear planning and coordination of relevant resources within the school including training teachers who are not yet technologically literate to use media. Whether technology should be used in schools is no longer the issue in education. Instead, the current emphasis is on ensuring that technology is used effectively to create new opportunities for learning and to promote student achievement. Egnatoff (2002:5) says that multimedia is not, and never will be, transformative on its own. It requires the assistance of teachers who integrate media into the curriculum, align it with student learning goals, and use it for engaged learning projects.

Rodriquez (2002:1) further says that lack of professional development for technology use is one of the most serious obstacles to fully integrating media into curriculum. But traditional sit-and-get training sessions or one-time-only workshops have not been effective in making teachers comfortable in introducing technology into their lesson presentation. Instead, a well-planned, ongoing professional development program that is tied to the school's curriculum goals, designed with built-in evaluation, and sustained by adequate financial and staff support is essential if teachers are to use media appropriately to promote E-learning for all students in the classroom.

2.2 THE MEANING OF MULTIMEDIA

The statement of the problem, aims and objective as well as the design of the research have been discussed in chapter one. The purpose of this chapter is to present a theoretical argument regarding the professional development of teachers in multimedia usage. Static content (such as a paper book) may be considered multimedia if it contains both pictures and text or may be considered interactive if the user interacts by turning pages at will. Books may also be considered non-linear if the pages are accessed non-sequentially. Multiple forms of information content are often not considered multimedia if they do not contain modern forms of presentation such as audio or video. Likewise, a single form of information content with a single method of information processing is often called multimedia. Multimedia applications that allow users to actively participate instead of just sitting by passive recipients of information are called Interactive Multimedia (Honey, 2000: [Online]).

The Subcommittee on 21st Century Competitiveness (2001: [Online]) says that in education, multimedia is used to produce computer-based training (CBT) courses and reference books like encyclopaedias and almanacs. CBT lets the user go through a series of presentations, text about a particular topic, and associated illustrations in various information formats. Edutainment is an informal term used to describe combining education with entertainment, especially multimedia entertainment.

Multimedia is seen by teachers to be concerned with the acquisition of technical skills, or a support for administration: a small number are terrified of media, and only a minority of teachers use media to support their teaching. Different selection procedures may result in different media being selected for the same purpose. Even a single selection procedure may

result in two or more alternative media for the same task. It is not surprising because some media have overlapping capabilities. In such cases, the choice of the final medium would be left to the teacher or the learner. This has led to the concept of ‘*media-mix*’ and multimedia packages where alternative media are provided for the same objectives but with different stimuli (Adam & Hamm, 2000: [Online]).

Media-mix relates to the sequential use of different audiovisual media. Multi-image implies simultaneous projection of two or more visuals. There can be two slides, two transparencies or one slide and the other a transparency. The ideas of multi-imaging are to show two related visuals side by side. For example, two types of pumps or a pump alongside its operating characteristic are meaningful pairs of visuals. Sometimes two or more projectors are used to build up a panoramic view; at times two or more visuals show positions of an object at different instants of time (Nelson, Post & Bickel, 2001: [Online]).

Multimedia may be defined as the ability to combine and utilize communications media, such as text, graphics art, sound, animation and video for the presentation of information. Multimedia technology focuses on relationships among visual, aural and textual compositions. Technology, which brings together at least two of the following media: text, graphics, video, art, animation and sound, in a single user controlled environment and allow the user to manipulate the elements is called active or interactive multimedia. Active multimedia allows for creative expression while passive multimedia allows only a single path for the user to follow (Mindset News, 2004: 11).

In this study multimedia is the combination of two or more media into a single coherent message (Christenbury, 2000: [Online]).



2.3 WHAT IS PROFESSIONAL DEVELOPMENT?

The terms “*professional development*”, “*Staff development*” and “*In-Service Education*” are used interchangeably for both the process of individual development and that of organizational growth (Poplin, 2003:1).

2.3.1 Professional development

Professional development in a technological age requires new definitions and new resources. It cannot take the traditional forms of individual workshops or one-time training sessions. Instead, it must be viewed as an ongoing and integral part of teachers' professional lives. Rodriquez (2002:1) indicates that professional development often refers to verbal and tactile skills required for maintaining a specific career path or to general skills offered through continuing education, including the more general skills area of personal development. In a broad sense professional development may include formal types of vocational education, typically post-secondary or polytechnic training leading to a qualification or a credential required to get or retain employment. Informal or individualized programs of professional development may also include the concept of personal coaching. Professional development on the job may develop or enhance process skills, sometimes referred to as leadership skills, as well as task skills. Some examples of process skills are effectiveness skills, team functioning skills, and systems thinking skills. Some examples of task skills are computer software applications, customer service skills and safety training (Rodriquez, 2002:1).

Poplin (2003:1) indicates that the professional development in using multimedia technology is not primarily a matter of technology but rather of improving the profession, aligning multimedia professional development with a school or school district's long-range vision of learning, school improvement, leadership and accountability. More general attempts at providing profound professional development in using multimedia, for example the Professional Development System (PDS), provide important insights into how media can become part of this profession and such an approach underlines the importance of partnership and collaboration between schools and other organizations such as faculties of education. Other important factors are the inclusion of teachers in the design of their own development, and of all students in the expectation for improvement; inquiry; long-term reflection and research on practice; renewal and openness to inventing new ways of doing things.

According to Rodriquez (2002:1) the literature on the PDS offers relevant and profound visions for the improvement of the profession and for measuring progress towards such a vision. It also highlights the important collaboration between pre-service teacher preparation and in-service professional development across schools and schools of education. Another direction of the professional development is the relation to standards and norms, and the

development of more precise expectations, with related accountability measures, for the integration of media into teaching. There is a growing sense that good professional development can be related (not necessarily equated) with broad-based standards. Beckman (2009: [Online]) says that the definitions orient the investigation into professional development models that are currently in application as schools and classrooms become networked. The integration of media is a catalyst for change. Therefore priority is being given to professional development models that address both individual and organizational growth (Rodriquez, 2002:1).

Professional development may take many forms and shapes, as it relates to teachers' learning about or with multimedia (Mindset news, 2004: 1).

- With respect to **content**, professional development may be:
 - concentrated on removing teacher's anxiety towards media, and
 - gateways to greater networking capacities (James, 2002: 5).

- With respect to **process**, professional development may be (Spencer, 2001:4):
 - a single or multi-faceted program (short courses and workshops offered after school, weekends, and during the summer);
 - Broadcast on TV, available on videos, or site-based, and hands-on;
 - Provided to all at once (teachers, aides, substitutes, administrators) or tailored to individual needs of teachers and other staff members;
 - Fostered through incentives provided for obtaining personal media at home, or valuing each participant that volunteers his or her time;
 - Conducted only face to face, or on line;
 - Centered around an annual event bringing teachers, administrators, provincial policy makers and teacher trainers together.

- With respect to **context**, professional development may be (Spencer, 2001:2):
 - Offered before the school, labs and/or classrooms are networked; or
 - Applied by teachers immediately after their classrooms are networked;
 - Just-in-time, as connectivity issues get resolved; or
 - Just-in-case as more networked media technology become available; and
 - Conducted in solo mode or in partnership with other schools, or institutions, including universities.

To this end, the local and larger context must be supportive of the innovative teacher. The role of the school principal is especially important in this context, in addition to the role of the school board (Kirschner, Sweller & Clark, 2006: [Online]).

In this study, professional development refers to rigorous and relevant content, strategies, and organizational support that ensure the preparation and career-long development of teachers and others whose competence, expectations and actions influence the teaching and learning environment. Both pre- and in-service professional development require partnerships among schools, higher education institutions and other appropriate entities to promote inclusive-learning communities of everyone who impacts students and their learning. Those within and outside schools need to work together to bring to bear the ideas, commitment and other resources that will be necessary to address important and complex educational issues in a variety of settings and for a diverse student body (Kirschner, Sweller & Clark, 2006: [Online]).

Professional Development should:

- focus on individual, collegial, and organizational improvement;
- focus on teachers as central to student learning, yet includes all other members of the school community;
- respect and nurture the intellectual and leadership capacity of teachers, principals, and others in the school community;
- reflect best available research and practice in teaching, learning, and leadership;

- enable teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards;
- promote continuous inquiry and improvement embedded in the daily life of schools;
- be planned collaboratively by those who will participate in and facilitate that development;
- require substantial time and other resources;
- be driven by a coherent long-term plan; and
- be evaluated ultimately on the basis of its impact on teacher effectiveness and student learning; and this assessment guides subsequent professional development efforts (Poplin, 2003:1).

Professional development includes formal and informal means of assisting instructors not only with acquiring new skills but also with developing insights into pedagogy and their own classroom practice, and exploring new or advanced understandings of content and resources (Egnatoff, 2002:4). Professional development also refers to “*activities to enhance professional career growth.*” Such activities may include individual development, continuing education, and In-Service Education, as well as peer collaboration, study groups, and peer coaching or mentoring. This definition includes the sum totals of formal and informal learning experiences throughout one’s career from pre-service teacher education to retirement (Nashville State Community College, 2004:1).

The term professional development will be used to encompass all such developmental activities within schools since the main intention is to explore the choices that are made about professional development by all those involved with schools and to examine some of the implications of those choices. This definition of professional development includes support for teachers as they encounter the challenges that come with putting into practice their evolving understandings about the use of multimedia to support inquiry-based learning. Current technologies offers resources to meet these challenges and provide teachers with a cluster of supports that help them continue to grow in their professional skills, understandings and interests (Rethlake, 2002:1).

Kirschner, Sweller & Clark (2006: [Online]) says that professional development in multimedia can be seen as training to keep current with changing technology and practices in a profession or in the concept of lifelong learning. Developing and implementing a program of professional development is often a function of the human resources or organization development department of a large corporation or institution. Professional development in multimedia is an important intervention but emphasises that in order to improve student learning, teachers have to implement their multimedia knowledge and experience effectively in the classroom. For reaching the goal of preparing teacher for effective media use, a well designed professional development program is essential.

2.4 PROFESSIONAL DEVELOPMENT OF TEACHERS IN USING MULTIMEDIA IN DEVELOPED COUNTRIES

Woodley (2006:1) says that many educational revisions have changed the way the nation's children are taught. From adopting new academic standards to integrating the media into the curriculum, teachers are required to change the way they teach. Multimedia has been a part of the American education system for years. What is changing is how the multimedia is being used. Multimedia was used mainly as a drill-and-practice tool for students. Multimedia now allows learners to access information, manipulate data synthesize concepts, and express ideas to others using video, text, and audio media.

Ashok (2002:7), indicates that multimedia also needs to be viewed as an administrative tool which can bring efficiency to the management and assessment of education. This is especially important as teachers begin to use performance-based assessment to continuously improve the students' learning. The power of multimedia allows for easier tracking of student work, thus enabling teachers to develop and maintain individual learning profiles of all learners. Woodley (2006:2) says that the following professional development outline suggested here is designed to provide the schools with a variety of media-based resources and establish direction for their use through integration in teaching and learning. The training on multimedia usage will help to improve the delivery of instruction and provide opportunities for teachers and students to create multimedia learning products.

2.4.1 Teacher training activities and support

Mirshra & Koehler (2006: [Online]) say that the following teacher training activities are important:

2.4.1.1 In-service training

The exact training to be offered will be determined by the teachers needs. Training may be specific software applications or media integration ideas. In-service training will be decided by the administrators and published on the school calendar (Ashok, 2002:3).

2.4.1.2 After-school training

After school training will also continue to be offered in centres identified by the administrators. Each month a new approach to multimedia will be taught and teachers will have the opportunity to sign up for the class two weeks in advance. A complete class syllabus will be available at sign-up time (Woodley, 2006:3).

2.4.1.3 Computer classes

Mindset news (2004:8) indicates that teachers will be required to attend computer classes with their own students. This is vital since computers are an integral part of integrating multimedia in a class.

2.4.1.4 Half day school training

Elementary and secondary teachers will be given a half day release time to work on media integration. The teachers will be grouped by grade level or subject area, and they will work together on different ways media can be integrated into the curriculum. Substitute teachers will be brought in to cover the teachers' classes. Each teacher will be given one and a half day training classes per nine weeks (Woodley, 2006:2).

2.4.1.5 Summer classes and Conferences

Summer training classes can also be offered. Classes to be offered can be decided on by the technology committee. District teachers can also be encouraged to attend one conference per

year. These conferences will be in the field of media technology. All conferences must be approved by administration (Ford, 2009: [Online]).

2.4.1.6 Teacher technology mentors

The technology committee strongly believes that the development of a technology support staff is vital to the successful implementation of the District's technology goals. The technology committee will train teachers as Technology mentors. These teachers will receive extra training and become part of a support network for district teachers to go to when problems arise (Ford, 2009: [Online]).

2.4.1.7 Student technology assistants

The technology committee would also like to begin to develop some student technology assistants. These student assistants would be lab aides to assist other teachers and students in the lab when problems arise. These students would be available to assist younger students in the lab, assist other teachers when they are needed (Woodley, 2006:2).

2.4.1.8 Curriculum integration

As stated earlier in paragraph 2.4.1, training will continue, but it is the focus of curriculum integration that the teachers want to initiate. The district teachers must begin to use media with their learners in class. The administrators will begin to choose the technology mentors for curriculum integration projects.

The committee should look at the following areas (Ashok, 2002:1):

- How did media help to enhance the education of the students and teachers?
- How did media help to enhance the lesson being taught by the teacher?
- What problems were encountered during the lesson with using the media?
- How did the media enable student opportunities for learning that could not have existed without the use of media?
- Did the students seem to have a better understanding of the lesson with the use of the media than they would without?

- How did media fit as an integral part of instruction, as opposed to being an add-on or for a reward?

North-West Province & Kwazulu Natal (2004:2) indicate that the main emphasis is placed on upgrading basic education and secondarily, on the improvement of professional skills. The overall improvement of teaching outcomes depends on the teacher competencies. The majority of In-Service Training providers in America and Britain are making serious attempts to evaluate the effectiveness of their offerings for purposes of course development. In-Service Training is needed to remedy the deficiencies of those who lack suitable qualifications because however good a teacher's initial training and induction may have been, teachers need continuity or support throughout their careers in order to be able to develop their professional skills and so maintain and enhance the quality of their work (Mindset News, 2004:7).

The following are some of the reasons for continued professional growth and development:

- Reflect new instructional, research, and public service techniques and strategies;
- Include new development and knowledge in academic disciplines; and
- Meet changing needs and expectations of students. While all faculties are responsible for their own continued professional development, it is essential that the system and its institutions provide planned, organized faculty development programs to encourage professional growth in accordance with their missions and goals (Woodley, 2006:2).

Each institution should plan and implement on an annual basis a structured, coordinated program for professional development. The program will be designed to achieve predetermined institutional objectives, and will utilize an appropriate variety of activities (Nashville State Community College, 2004:2).

2.5 THE IMPORTANCE OF PROFESSIONAL DEVELOPMENT OF TEACHERS USING MULTIMEDIA

Mirshra & Koehler (2006: [Online]) say that refreshment, growth, adoption and status of teachers are all important elements of the rationale for professional development in almost all countries. Three important objectives in developing areas are: upgrading the competence of teachers; extending their general education; and enhancing their qualifications. In developed

countries, the teaching profession has the background of a fairly extensive post-primary education (10-12 Years) whereas a significant proportion of teachers in developing countries may have enjoyed fewer years of post primary

Mirshra and Koehler (2006: [Online]) indicate that teachers:

- should be aware of the use of media;
- should select topics from school subjects right across the curriculum; and
- use media such as computers for record-keeping; some teachers even keep track of the progress of individual children.

Woodley (2006:2) cites the following as advantages of using multimedia:

2.5.1 Media prepares learners for the economic world

To justify using media in schools, the strongest reason offered by policy-makers is that all children of school going age should be aware of and unafraid of how media works, because technology is pervading developed societies and is likely to be important in all countries. Since schools prepare children for life, they should prepare them to deal with multimedia which ought to be de-mystified (Schriver, 2001: [Online]).

Many politicians also feel that modernisation of schooling involves bringing media into schools. If children need to become literate and numerate, they need to know something about media. All teachers should have courses in “*Media awareness*” so that they can be in a position to integrate media in their lesson presentation (Mirshra & Koehler, 2006: [Online]).

2.5.2 A good start pays off

Teaching children how to use multimedia gives them some confidence in their ability to control media, and may be a foundation for a career in information communication technology. Teaching children how to use media does not require them to learn highly technical skills, but it does give them skills that may be useful to them as children and possibly when they move into jobs. Specific vocational training will come later from employers or institutions. (Ashok, 2002:1).

In the National Curriculum Statement (NCS) certain assessment standards require both manual and electronic media. How possible would this be if teachers cannot use the different multimedia? Teachers should be able to use different media for teaching some of the assessment standards in Economic and Management Sciences or any other subject, where computer assisted learning offers advantages over other methods (The human model schools partnership, 2002: [Online]).

2.5.3 Making it easy for all stakeholders

Schools can be changed for the better by the introduction of multimedia. Teaching, administrative and managerial efficiency may be improved. Some teachers assert that when media arrive in a school, its staff, parents and children will be open to change. Multimedia helps children to become less dependent on the teacher as an expert. Multimedia requires learners to do less memorising of facts and more information handling and problem solving. It encourages children to learn by collaborating rather than competing with others and multimedia is seen as a catalyst enabling desired change in education to occur (Wang, 2000: [Online]).

2.5.3.1 Multimedia as information organizer

For storing information in the Information Society multimedia can be seen as the organizing and structuring element. Multimedia is the first tool combining all known information sources, which earlier were standing almost alone: text in a book, sound and spoken language on a tape, moving pictures on video. Integration of texts, graphics and photos is found in many books, sound and television (Januszewski, 2001: [Online]).

2.5.3.2 Multimedia as a supporter

According to James (2002:4) the traditional way of using texts and graphics is in books, which are normally studied linearly. The traditional way of getting information from tapes and videos is linear too. Advanced multimedia information systems supply a convenient hierarchical tree structure for studying a subject in detail. Multimedia is the first media really supporting the top-down studying principle. Mirshra and Koehler (2006: [Online]) say that reading a book is linear. Most students read books linearly, except when they are using the

index or a dictionary for looking up special information. Multimedia can be used linearly, but Multimedia should not only be used linearly. With media such as the computer it is easier to organize and plan the activities.

Multimedia technology in education offers the learner a unique environment for interactivity, creative expression, student interest and motivation, and knowledge mastery. Many multimedia programs which are available are excellent educational tools to enhance the E-learning process. Some programs are so technical and academic. They could be called multi-sensory text because of the visual and textual composition. Teachers need not fear that all multimedia programs are computer games with little value to enhance the curriculum because many programs, which are available on CD-ROM, have the same basic reference information that can be found in most libraries. The electronic images, animation, graphics, and text have been added to allow the learners an opportunity to learn at a pace which promotes academic achievement and individual learning (Jonassen, 2006: [Online]).

The following are suggestions to make the multimedia process to be more effective:

- Determine goals and objectives considering the curriculum the school supports;
- Break instructional objectives down to learning tasks;
- Consider the technical literacy of the students and profile of the class;
- Individualise teaching methods, which are compatible with lesson objectives.
- Select appropriate multimedia sequence and the scope of the student objectives; and
- Evaluate criteria and discuss lesson plans with other team teachers (Bednar & Sweeder, 2005: [Online]).

Offering multimedia courses over the internet has become the most recent option in multimedia assisted instruction. With combined emphasis on learner-centred education, development of multimedia-rich courses that can be accessed over the internet has become not only an attractive and creative option for an institution, it is now a suggested or even required course of action. Such courses will have the potential to serve a dual purpose by enhancing the E-learning experience for students while opening up the educational experience (Bednar & Sweeder, 2005: [Online]).

2.6 FACTORS INFLUENCING THE USE OF MULTIMEDIA IN SCHOOLS

Shiratuddin & Landoni (2001: [Online]) state that the field of education is faced with various new challenges in meeting the demands of teaching and learning for the 21st century. One of the new challenges is the call for the integration of multimedia in teaching and learning as an alternative mode of instruction delivery. Multimedia, for instance, has the potential in transforming the traditional classroom into a world of unlimited imaginary environment. Multimedia technology is one of the most exciting innovations in the age of information.

Norhayathi (2004:143) says that the rapid growth of multimedia technology has brought about changes to computing, entertainment and education. Multimedia technologies and applications have presented society with unprecedented opportunities and challenges. Educational multimedia courseware and applications are in many ways similar to printed textbooks and other teaching references materials in that they come in a wide range and variety. Some multimedia is broad and comprehensive while others are more focused.

The following are some of the reasons why multimedia is used in schools as outlined by different authors:

2.6.1 Pedagogic Approaches and learning Theories

The appropriate pedagogical approaches and learning theories play a vital role as a basis for interactive multimedia environment. Multimedia technology incorporates a variety of pedagogical approaches and learning theories to meet the diverse learning styles of learners. According to Shiratuddin & Landoni (2001: [Online]) it is important to carefully design the way content is structured, organised, and presented. The types of activity in which the users will be involved play significant roles in the success of pedagogic designs.

2.6.2 Perpetual navigation

Like the layout of the textbook, the careful sequencing of the material helps navigation through the content of the book. Perpetual navigation is designed for the learner-centered environment. With multimedia, navigational and participatory features provide more flexibility and control to the user. The learner is given more control over what and how he/she wants to learn. This transmission of information is done through the different areas

like sight, sound and touch, which allows learning through the most natural means (Eklund & Sinclair, 2000).

2.6.3 Holistic child development

The holistic approach takes into account the literacy experience of the learner, which assists in the following three domains; cognitive which refers to the aspects of learner thinking, including knowledge, understanding, application, analysis, synthesis, and evaluation by the learner, affective which is the capability to receive, respond and determine values and psychomotor development of the learner which refers to learners' physical movement or physical activities based on what learners have learned (Norhayathi & Siew, 2004:144)

2.6.4 Instructional medium

Multimedia is an instructional medium to present the content of different learning areas or subjects. In the context of education, interactive multimedia is any package of materials that includes some combination of text, graphics, still images, animation, video and audio. The materials are packaged, integrated and linked together in some way that offers the users the ability to browse, navigate and analyse the materials and it is always learner centered. The learners control the experience of reading the material by selecting among multiple choices and navigating through the material in whatever ways are most meaningful for individual learners (Bass, 2000: [Online]).

2.7 THE RESPONSIBILITY OF THE NORTH-WEST PROVINCIAL GOVERNMENT FOR PROVIDING AND MAINTAINING MULTIMEDIA EQUIPMENT IN SCHOOLS

2.7.1 Policy



According to Ashok (2002:3) Ministries of Education without a policy on multimedia in the schools are waking up to the fact that they need a policy, based on a clear rationale. The challenge is that the equipment must reach the schools, whether through donation or by purchase out of non-government funds. Without a policy, equipment, some of it obsolete, arrives in an uncoordinated fashion. Teachers do not have the relevant knowledge to operate the computers and software is scarce. Spares, repairs and maintenance hardly exist.

2.7.2 Funding

North-West Province & Kwazulu Natal (2004:6) indicate that Ministries of Education with a policy may still lack the money to do all they want to, and they may be unable to give media high priority. But at least they are able to take important decisions. For example, should they allow their schools to accept donations of hardware, particularly of obsolete hardware? Should they require the schools to have at least one properly trained teacher before obtaining media? Should they set up a Multimedia centre for support services and possibly to develop educational media?

2.7.3 Changes

Ministries of Education with a policy that has been tested for some years change their priorities (North-West Province & Kwazulu Natal, 2004:6). Even in developed countries, they have been persuaded to put very large sums into media for schools. Multimedia has made tremendous progress in the past decade in the North-West Province, but significant challenges still lie ahead. Funding for professional development and for resources to support classroom activity is scarce. During Media Network's (MNet) 2000 research into the status of Media Education, officials from provincial Ministries of Education repeatedly stated that although media was strongly integrated into the E-learning text, there was little professional development activity attached to this new discipline, and no money for new resources. There are other concerns (Mirshra & Koehler, 2006: [Online]).

2.7.4 Teachers apathy and curriculum changes

Teacher apathy, overwhelming curriculum changes, high demands for accountability and reporting, a lack of resources, and pressures to integrate new technology into classroom learning, have all contributed to a general unwillingness on the part of teachers to go the extra mile for additional professional development. The core problem comes down to funding. Many pre-and in-service teachers need specific training and supporting resources, before they will undertake Media Education but, for the most part, this training and support is not available (Media Awareness Network, 2002: [Online]).

2.8 THE FUTURE OF MEDIA EDUCATION IN THE NORTH-WEST PROVINCE

Though teaching with media has a long way to go, the picture is not bleak. A number of indicators point to growth in the practice of multimedia across the country. As noted in paragraph 2.7.2, for the first time ever, multimedia Literacy has officially been endorsed as a key component of the core curriculum in all provinces. Ministry of Education endorsement gives the immediate “*green light*” to teachers who are interested in, and feel capable of teaching media studies, and it provides “*ammunition*” for grassroots advocates. It will, however, take years for this major curriculum change to filter down to the average classroom. These young teachers are “*naturals*” for bringing Media Education into the classroom. They are closer to children’s popular culture, less intimidated by technology and less entrenched in their approach to teaching and choice of subject matter (Nelson, Post & Bickel, 2001: [Online]).

Courses that focus on bringing critical thinking skills to popular culture, or on classroom strategies for multimedia, are beginning to grow in number but they are still relatively scarce. A factor that could have an impact on Media Education is the shift, in the last decade, to student-centred learning; that is, an approach to education in which the teacher’s role is more one of a skilled learning facilitator (Mindset News, 2004:3).

Finally, the Internet is already giving impetus to multimedia. Several media literacy organizations are or soon will be online, allowing teachers to communicate with each other, create online multimedia communities and access practical multimedia resources. The Internet may be important to the future of multimedia. Technological advancements, home videos, computer games, a huge spectrum of television channels, and now the Internet have made access to all media easier for children. The skills for distinguishing reality from fantasy, and for determining what the real messages are, who are behind the messages and why, are becoming ever more important in an environment in which information, education, advertising and entertainment are becoming seamlessly interwoven (North-West Province & Kwazulu Natal, 2004: 8). This thinking is reflected in new curricula across the country. But it is clear that it is imperative to provide children with critical thinking skills to make good sense of the multimedia in their lives (Norhayati & Siew, 2004: 146).

2.9 THE CHALLENGES FACING PROFESSIONAL DEVELOPMENT OF TEACHERS IN MULTIMEDIA IMPLEMENTATION

The implementation of multimedia in the school sector during the past years has resulted in issues being raised relating to teachers' knowledge of technology, and their propensities for incorporating multimedia into an already packed curriculum. Teachers are faced with challenges to their teaching professional knowledge and to their prior and developing understanding of the conceptual and procedural aspects of multimedia. There is a need for a combination of theoretical and reflective experiences to be built into professional development programs on multimedia to provide teachers with the opportunities they may need to develop their understanding, while at the same time represent and promote multimedia as a process (Shiratuddin & Landoni, 2001[Online]).

Egnatoff (2002:8) says that there are many reasons why teachers resist the use of multimedia. Some of the reasons are that teachers:

- Lack understanding of the different multimedia, and therefore lack the necessary expertise;
- Do not have an interest in different media and lack the initiative;
- Reject new teaching methods and strive to keep the traditional methods because they always see themselves as the good old teachers;
- Had unfortunate experiences with multimedia, for example, a projector broke down when the lesson is in progress;
- Do not have accommodation for the media and what they have is unsuitable for effective media use;
- Have a lack of technical knowledge and support systems that is, lack of management support systems, including logistics on a day-to-day basis; and
- Are sceptical about decision-makers regarding the use of media and a consequent lack of commitment as well as desperate lack of adequate cooperation and coordination (Norhayathi & Siew, 2004: 146).

Most of these reasons are in one way or another related to the lack of skills on the part of the teacher. Professional development is therefore a necessary remedy for lack of skills. After all it is impossible to learn nearly everything at college or university. Continuous skills

development is necessary. Multimedia should be an integral part of all multimedia systems. There are difficulties for multimedia to overcome before it can be implemented (Low, 2006: [Online]).

2.10 CHALLENGES FACING PROFESSIONAL DEVELOPMENT OF TEACHERS USING MULTIMEDIA

Juhana (2001: [Online]) states that the current emphasis ensures that multimedia is used effectively to create new opportunities for learning and to promote student achievement. Educational Technology is not, and never will be, transformative on its own, however. According to (Low, 2006: [Online]) it requires the assistance of teachers who integrate multimedia into the curriculum, align it with student learning goals, and use it for engaged learning projects. *“Teacher quality is the factor that matters most for student learning”*. Therefore, professional development for teachers becomes the key issue in using multimedia to improve the quality of learning in the classroom.

According to Rodriguez (2002:1) for teachers to implement media in the classroom to increase engaged learning and improve achievement among learners, a well-planned professional development is essential. Such a program gives teachers the skills they need to incorporate the strengths of media into their lesson planning rather than merely to add media to the way they have always done things. Starr (2003:1) says teacher surveys indicate that about fifty percent of teachers use technology in classroom instruction. That use however, varies greatly from school to school. In some schools, teachers use multimedia, in others schools, it is virtually non-existent. Anecdotal evidence obtained from school technology specialists and education technology proponents indicates that the effective use of education technology is even less common than those surveys indicate.

Research Centre (2005:1) says that many teachers are still reluctant to use technology, mostly because of lack of time, a lack of resources, or a lack of confidence in their ability to use the available technology. This digital generation gap has serious consequences for schools. James (2002:1) argues that the biggest obstacle to the implementation of multimedia technology in education is not a lack of hardware, but rather the fact that many teachers are not ready to use multimedia in the classroom. The following are some of the challenges of using multimedia in Schools:

2.10.1 Lack of support systems

Effective professional development of teaching multimedia integration requires careful planning, job-embedded and hands-on activities directly linked to the curriculum, plenty of follow-up, built-in evaluation using several assessment techniques, adequate time, sustained funding, and the willingness of teachers to take on new and expanded roles. Helping schools to make the connection between teachers and media may be one of the most important steps to making the most of the past, present, and future investment in Educational Technology and our children's future (Research Centre, 2005:1).

When teachers are trying to use media in their classroom and they encounter difficulties, they need immediate help and support. Media that is not easily accessed and implemented will not be used. Teachers will return to more traditional ways of teaching if the problem they encounter cannot be solved quickly and efficiently. The best way to win widespread use of media is to provide just-in-time support, assistance and encouragement when needed (Starr 2003:5).

2.10.2 Lack of resources

Rodriquez (2002:12) indicates that in many schools, media is not easily accessible by teachers. Media may be located in labs instead of in each classroom, and internet connections may be limited to certain designated computers. To promote teachers' use of technology, school administrators should ensure that adequate numbers of computers with internet connections are available to teachers and that access is not limited. Teachers need ample opportunities to practice with the media and gain confidence in its use.

2.10.3 Lack of buy-in by all stake holders

Cuban (2001: [Online]) says that the school often assigns only one individual or a few people to develop the professional development program for media use, without allowing for the input of teachers, parents, and the community. Although this approach may seem an efficient use of time, it does not promote the buy-in of all stakeholders. In the long run, the effort will not be successful without adequate buy-in. Furthermore if parents and community members are not informed of changes in instructional practices relating to media use and the importance of professional development for teachers, they may react with resistance when

technology innovations are implemented or when teachers are given time for professional development activities in media.

2.10.4 Lack of time

Starr (2003:4) indicates that school administrators may not provide adequate time and resources for high-quality technology implementation and associated professional development. They may see professional development as a one-shot training session to impart skills in using specific equipment. Instead, professional development of teaching with multimedia should be considered an ongoing process that helps teachers develop new methods of promoting engaged learning in the classroom using media.

School leaders should have a vision and creativity to provide time for thorough and continuous professional development. The school environment may not be supportive of the changes in traditional pedagogy that result from ongoing professional development in media. School leaders may expect significant change too quickly. Integrating media into teaching and learning is a slow, time-consuming process that requires substantial levels of support and encouragement for teachers (North-West Province & Kwazulu Natal, 2004:12).

2.10.5 No built-in evaluation

This process may take three to five years in media rich-schools and even longer in media-poor schools. Assessing the impact of professional development on student achievement is the most problematic part of the evaluation process. Providing a direct link between student learning and measures of professional development is always difficult because other school-improvement activities also may have an impact. If access to media is not equitable, opposition to the use of media in the classroom may develop among the “*have-nots*”. Ensuring equitable use of education technology involves provision of access to media as well as professional development for the staff to ensure that the school is making effective use of available technology and software (Egnatoff, 2005: 7).

2.10.6 Resistance

Ashok (2002: 4) says that some teachers believe that professional development for media use is for math and science teachers but not for teachers in other learning areas. They may

question the value of professional development that integrates media into teaching of history, social science, English, and the Arts. It is suggested that a key issue for media integration is determining what kinds of teachers should have priority for media-related professional development.

Some teachers may not be interested in professional development for media use because they oppose multimedia as a means to improve student learning. They may argue that media shifts the focus of schools from the content of the information conveyed to the means of delivery (hardware, software, and networks). Some parents and community members believe that schools should not allocate money and time for teachers to receive professional development in media use. They may suggest that teachers learn about media with their own resources and in their own time (Starr, 2003:1).

2.10.7 Financial constraints

According to Rodriguez (2002:7) finding the funding for ongoing media needs and professional development can be difficult. Schools funding formulas that depend on residential property taxes and centralized purchasing and distribution policies may not be flexible enough to meet these new needs.

There is no In-Service Training for teachers to update them in educational media (Research Centre, 2005:7). New methods and techniques are being advocated continuously but unfortunately they all go hand in hand with the development in technology. Therefore, the teacher works in an environment where constant retraining is needed. The North-West Province has not yet established how it is going to run its In-Service Training. This leaves much to be desired in an area where there are so many ill-qualified teachers. When children complete their secondary education, they are challenged by the problem of having done subjects mostly in social sciences. There will have to be retraining for teachers in the field of mathematics, science and technology (Starr, 2003:8).

2.10.8 Lack of sponsorship

Education as a whole needs sponsors. Sponsors make education more accessible to the poor. To do this our education system needs to introduce programs that are worth funding (Research Centre, 2005:10).

2.11 THE PROFESSIONAL DEVELOPMENT OF TEACHERS BY GOVERNMENT

The following indicates the type of professional development offered to teachers in the North-West Province.

2.11.1 Partnership

It was a great day when the Kwazulu Natal Department of Education (KZNDE), the North-West Department of Education, the Multi-choice Education Foundation, and the Media in Education Trust (MIET) agreed to work together as partners in a development project for isolated and rural communities. On this day, the Multimedia Rural Initiatives project (MMRI) was born and it was made possible by funding from the Royal Netherlands Embassy. The goal of the project is to improve the quality of teaching and learning in deeply rural communities. At the heart of it all is a central multi-media resource centre that services a group (cluster) of schools around it. This centre aims to support, serve and develop the cluster schools in many ways (North-West & Kwazulu Natal, 2004:1).

The two provinces believe that

“The biggest challenge is to grow beyond the schools and to empower and help develop the skills of people in the surrounding communities,” (Poplin, 2003: [Online]).

When the project first started, cluster communities were included in the planning. They drew up a development needs analysis and identified priorities. They worked on a vision for the centre and an action plan on how to use the centre to promote educational and economic empowerment in their areas. Most of the programs that are running are a direct response to the needs that were identified. Trained and experienced foundation phase, intermediate phase and senior phase facilitators work closely with teachers. Once a week, teachers come to the centre for training on all the resources and how to use them. They also learn about good classroom practice and get printed materials to use in classroom (Poplin, 2003: [Online]).

The Sunday Times/Read Right (KZN/NW) project offers print media and educational supplements as classroom resources. Then of course there is modern technology. Equipment such as faxes, television, videos, computers and Internet allows people to communicate and get information, news and ideas even if they are far away from each other and far away from

cities. The aim is to develop people's skills and to empower them to interact with this technology so that they can benefit from all it has to offer (Mindset News, 2004:1).

The Global Teenager Project (KZN/NW) uses ICT to build capacity of teachers and learners. Learners visit the centre to make use of the facilities and other resources and there is a desk that is responsible for making sure that young people's needs are supported by the project. Multimedia Rural Initiative belongs to the two provincial Departments of Education (KZN and North West), who put a lot of time and effort into the project and other backup and support to the centres. It is an exciting teacher development strategy that uses and develops ICT and helps teachers to develop and use print support material. The project shows commitment to making quality education accessible to the marginalized and helps to transform the educational landscape (Poplin, 2003: [Online]).

2.11.2 Establishment of multimedia centres

The establishment of multimedia centres came at a time when there was an outcry about teacher development in multimedia usage and the slow pace of development in some areas. The centres help teachers to access information and develop learner support materials and this is a great relief to media teachers (Woodley, 2006:7).

There is no doubt that technology expands learning opportunities and access to educational resources far more than traditional ways do. One needs to copy the success stories across the whole country and keep costs as low as possible. To do this, combination of resources and working together can help to find common solutions (Honey, 2000: 6).

2.11.3 Connectivity

Multi-choice will use a phased approach to connect all centres in North West. It is part of the project to connect all schools in the province (North-West Province & Kwazulu Natal, 2004:13).

2.12 STRATEGIES FOR IMPROVING THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN USING MULTIMEDIA

Greater demands are being place on education systems at all levels to produce citizens who can apply knowledge in new domains and different situations. With the gradual increase in the integration of multimedia in education activities, there is a need to consider not only the opportunities they bring to learning and learners, but also the benefit that may be derived from multimedia usage. Here are some strategies how one can build support and enthusiasm for development in multimedia usage (Norhayati & Siew, 2004:143).

2.12.1. Turn them on

Before attempting any training program, awareness has to be made about the prospect of the particular program. The trick is to appeal to teachers at a personal level. Show them how multimedia can improve the quality of their lives, both inside and outside the classroom. Never underestimate the power of first impressions, particularly with regard to technology. Even hardboiled anti-technology teachers will succumb if they get some hands-on experience with software programs that are personally relevant to them. Multimedia training has to be hands-on from the very start (U.S. Department of Education, 2004: Online).

According to James (2002:2),

“Teachers will be impressed with all the wonderful things that a modern word-processing program can do for student writing projects. And just about any teacher will be bowled over by the power of the Internet if he receives effective demonstration of how to use a search engine such as Digital’s Alta Vista to gather primary source information on any topic”.

It is important to make sure that teachers’ initial experience is as easy as possible. Their resistance to multimedia usage can only grow if equipment is not configured and is not functioning well (James, 2002:2).

2.12.2. Begin at the beginning

Rooney (2007: [Online]) indicates that the teachers learn at different rates and have specific needs when it comes to acquiring new information and mastering new skills. That means teacher technology training should be flexible, yet cover a comprehensive set of skills. After completing the basic and intermediate training sequence, even inexperienced teachers should

have a sufficient set of multimedia Literacy skills to put a variety of multimedia programs to effective use in the classroom. Following the basic and intermediate training sequences is an advanced sequence that provides individual training and support tailored to each teacher's need, interest, subject, and grade level. The five components in the advanced training sequence include classroom-specific applications, workshops and seminars, consultation and support, independent study and curriculum development, and ongoing troubleshooting assistance (Fox News, 2006: [Online]).

James (2002:4) says that to get teachers started, the first two training sessions in the basic sequence, delivered over two days are enough to qualify most teachers to begin using multimedia in their classrooms. Teachers who already possess a moderate level of multimedia skills should be given an opportunity to test the basic training sequence if they can demonstrate a conceptual understanding of the training content and can display the skills necessary to use a multimedia operating system.

Teachers must be advised to allow their students to explore with them, and where possible, to have their students explore on their own. Teachers should be given enough to get started, and then instruct them to get out of the way of their students who already have the knowledge of multimedia (Intrator & Kunzman, 2006: [Online]).

2.12.3 Take plenty of time

Hoogveld, Paas, & Jochems (2005:287), say that after teachers have completed the basic and intermediate training sequence, they will need to slow things down a little. Multimedia training takes a great deal of time. Printing classroom activities and having students use drill-and-practice software might be all they will ever attempt, unless one can help them overcome their frustrations. Personal consultation with district technical staff is the best way for teachers to become confident about troubleshooting the multimedia difficulties they encounter.

Once teachers develop the confidence to work independently-even if they are unsuccessful at first -they will never again be satisfied to use multimedia at only a passive and rudimentary level. It is often useful to help teachers develop their own personal plans for multimedia growth during this period. By putting individual goals in writing, these plans formalize

teachers' commitment to using multimedia in the classroom (Intrator & Kunzman, 2006: [Online]).

2.12.4. Tailor-made to individual teacher's need

Lowenthal (2008:349) says that the advanced sequence of a multimedia-training program should focus on individual training and support. The tailor-made program can give teachers the incentive to sustain their commitment to continued training. First funds will need to be made available to buy teachers time. The advanced skill development stage, which ultimately will have the biggest payoff in the classroom, requires extra planning periods and extra release time for teachers. Systematic, long-term professional development in media demands a greater-than-usual commitment on the part of individual teachers, who will need to work many hours above normal district requirements. It is only fair to compensate them for this extra effort.

Second, some teachers will benefit from gentle coercion by adding multimedia use to the teacher evaluation instrument. During this last but ongoing stage of multimedia technology development, teachers should identify the multimedia applications they need in their own classrooms, attend outside workshops and seminars, and be provided with consultation and support to integrate specific multimedia applications into their daily lessons. Teachers should be encouraged to engage in independent study and curriculum development by offering them the necessary time and money (Hoogveld, Paas, & Jochems, 2005:287).

2.12.5. Use a stick

Regrettably, even after a year or more of intensive training and support in technology, some teachers will continue to resist using multimedia in their classrooms. This is when one has to get tough and adopt a use-it-or-lose-it policy. Taking multimedia away from teachers who refuse to use them is one punitive measure (Lowenthal, 2008:350). Once this has happened, both the students and their parents will demand an explanation, and the teacher will be forced to admit that she or he could not find effective ways to use the multimedia in the classroom. It will not be long before the same teacher requests that the equipment be returned and he will show a new and improved attitude toward integrating technology into daily lessons (Diaz, Garrett, Kinley, Moore, Schwartz, & Kohrman, 2009:54).

It is clear that multimedia (tools and resources) must become an integral part of both the teaching and learning process if they are to have an impact on student achievement. Before planning for multimedia, therefore, it is crucial to develop a clear set of goals, expectations, and criteria for improvements in student learning. Additionally, it is important to establish and support an ongoing staff development program tied to criteria for improvements in student learning. Then, specific curricula, practices, skills, attitudes, and policies that can be enhanced through the use of technology can be identified (Arinza, Richard & Ridge, 2000: [Online]).

If teachers are going to use technology to support constructivist pedagogy, they must engage in a long-term process of learning that resembles the kind of constructivist processes sought in students' classroom experiences. One must heed the values, beliefs, and theories teachers bring with them as they begin this professional development process (Diaz, et al., 2009:56). If teachers are to embrace technology and make it a part of their teaching culture, they need a vision of how technology can help their students learn essential skills, knowledge, and values. One must show how multimedia fits into a broader context so teachers can construct new images of what quality multimedia use looks like in the classroom (Diaz, et al., 2009:57). Too many professional development efforts focus on the technical aspects of using technology with little or no consideration of how the technology might further changes in curriculum, instruction, and assessment known to maximize student learning. There is a need to provide an experience that mirrors quality use of multimedia for classroom learning (Higher Education Academy, 2006: [Online]).

Lowenthal (2008:353) indicates that schools are not in the business of managing single innovations; they are in the business of contending with multiple innovations simultaneously. Professional development efforts should focus on implementing new innovations like multimedia and to succeed, they must be presented as part of a context-dependent, coherent framework for improvement. Professional development can only be judged successful if students benefit from the changed instructional behaviour of teachers. Therefore, professional development must pay attention to factors known to increase transfer of learning as well as to contextual factors known to inhibit or facilitate changes in teachers' classroom practices (Hoogveld, Paas, & Jochems, 2005:287').

The actual inquiry project itself and its associated scoring rubrics, other materials suitable for reuse by teachers and their students should include tools for facilitating and assessing group work. In addition to receiving print copies of all materials, participants also may request electronic versions so that they can customize the materials (Jonassen, 2006: [Online]). Diaz, et al., (2009:57) say that teachers receive ongoing support from their school-based instructional technology specialists (ITS) who work closely with them to brainstorm ideas, provide design advice, and assist them during project design and implementation. Trainers help teachers adapt new practices to their unique contextual conditions, analyse the effects of their efforts, and celebrate successes.

Higher Education Academy (2006:[Online]) states that professional development enables participants to return and share what they have been doing with their students and discuss both successes and challenges they are facing as they implement learning from professional development sessions.

2.13 MODELS OF PROFESSIONAL DEVELOPMENT IN THE USE OF MULTIMEDIA

The professional development model seeks to provide schools and area project offices with sets of principles, guidelines, and materials that teachers and administrators can apply and adapt in order to bring about systemic reform. The professional development model provides guidelines and procedures for the extensive professional development required for the successful implementation and scaling up of the whole-school (Ford, 2009: [Online]). A number of professional development strategies have been applied and evaluated, and a coherent set of strategies has evolved for helping teachers and administrators develop the commitment and expertise they need to successfully implement multimedia usage in schools. Implementation through the professional development model incorporates the following elements (Mirshra & Koehler, 2006: [Online]):

2.13.1 Awareness

Schools may become aware of the program in a variety of ways, such as articles in educational journals and magazines, presentations at conferences or awareness videos and materials, including books describing the program and its outcomes. Given its initial awareness, schools or Area Project Offices invite program staff to make awareness



presentations. Schools also send delegations to visit other schools in their region where the multimedia is being implemented effectively (Carpenter, Blanton, Cobb, Franke, Kaput, & Mclain, 2004: 11).

2.13.2 Planning for implementation

A national trainer from the Department of Education program staff is appointed to serve as the school's lead contact. A school's facilitator is then chosen, usually an experienced and respected teacher from within the school's own staff. The facilitator (often the principal as well) attend a week-long training session, held well in advance of training for the school staff. This gives the facilitators and principal time to work out issues of staffing, space, finances and ordering and storing materials (Honey, 2000: 5).

2.13.3 Initial professional development

A two-to-three-day professional development session has to be arranged prior to implementation of the program. This initial development is typically done by the school's lead contact, other staff from the regional training sites, and staff developers who are facilitators in existing program schools (Kirschner, Sweller & Clark, 2006: [Online]).

2.13.4 On-going On-site Staff Development and Technical Assistance

Follow-up visits and continuing staff development should be conducted by program facilitators. These facilitators strengthen the skills of the school facilitators by jointly conducting an implementation review in which they visit classes, interview teachers and administrators, and look at student data. The facilitators model ways of giving feedback to teachers, give the school facilitators advice on solving their problems, share perspectives on strength and weaknesses of the program and plan with the school facilitator the goals for individual teachers and for general program implementation that the facilitator will follow up on (Beckman, 2009:[Online]).

2.13.5 Local support networks

Local schools that have successfully implemented a whole school professional development program know the details of the program and how to make it work in an environment very similar to that of the new school. Experienced and new schools can establish mentoring

relationships in which staff exchanges visits, materials, and ideas. School-to-school mentoring lets the teachers, facilitators, and principals in successful schools share their wisdom of practice and hard-won experience. It gives new schools support when they run into problems or opposition. Local support networks also sponsor local conferences around the program to bring large numbers of local school personnel together to benefit from each other's expertise. Through local networking, staff members from different schools are able to suggest new ways of solving problems or looking at common issues (Diaz, et al., 2009:57).

According to Mirshra & Koehler (2006: [Online]) the professional development model seeks to provide schools and districts with sets of principles, guidelines, and materials that teachers and administrators can apply and adapt to bring about systemic reform. The professional development model also provides guidelines and procedures for the extensive professional development required for the successful implementation and scaling up of the schools. Kirschner, Sweller & Clark (2006: [Online]) suggest the following models that are useful for accomplishing the goals of staff development:

- **Individually Guided Development**

The teacher designs his or her learning activities. An assumption of this model is that individuals are motivated by being able to select their own learning goals and the means for accomplishing those goals. A belief that underlies this model is that self-directed development empowers teachers to address their own problems (Mather, 2000: [Online]).

- **Observation and Assessment**

Instructional practices are improved if a colleague or other person observes a teacher's classroom and provides feedback. Having someone else in the classroom to view instruction and provide feedback or reflection also is a powerful way to impact classroom behaviour. Observers learn as they view their colleagues in action (Poplin, 2003:3).

- **Involvement in a Development or Improvement Process**

Systemic school-improvement processes typically involve assessing current practices and determining a problem whose solution will improve student outcomes. The solution might include developing curricula, designing a program, or changing classroom practice. New skills or knowledge may be required and can be attained through reading, discussion, observation, training, and experimentation. Consequently, involvement in the improvement process can result in many new skills, attitudes, and behaviours (Mather, 2000: [Online]).

- **Training**

Low (2006: [Online]) says that a training design includes an expert presenter who selects the objectives, learning activities, and outcomes. The outcomes involve awareness, knowledge, or skill development, but changes in attitude transfer of training, and executive control needs to be addressed as well. The improvement of teachers' thinking should be a critical outcome of any training program. The most effective training programs include exploration of theory, demonstrations of practice, supervised trial of new skills with feedback on performance, and coaching within the workplace.

- **Inquiry**

Teachers formulate questions about their own practice and pursue answers to those questions. Inquiry involves the identification of a problem, data collection, data analysis, and changes in practice followed by the collection of additional data. The inquiry can be done individually or in small groups. This model is built on the belief that the mark of a professional teacher is the ability to take reflective action (Research Centre, 2005:4).

According to James (2002: [Online]) a successful professional development program in multimedia usage in the classroom focuses on skill-building and gives teachers incentives to devote the time and energy needed to use multimedia technology. Such a program provides:

- intensive training
- follow-up consultation with mentors

- ongoing reflective conversation with colleagues interested in multimedia usage and
- observation of other teachers using exemplary techniques for incorporating multimedia in the classroom.

2.14 SUMMARY

The concept of professional development needs to be understood by all stakeholders in the education system. The professional development of teachers is important because it does not only benefit the teachers. But the education system and the student in the classroom are benefiting through enhanced teaching and learning environment. Teachers become more skilled and quality of results improve

Chapter three presents the Research Design and Method.

CHAPTER THREE

IMPLEMENTATION OF THE RESEARCH DESIGN, METHODOLOGY AND RECORDING OF RAW DATA.

3.1 INTRODUCTION

In this chapter the researcher discussed different ways of collecting data with regard to the professional development of teachers in multimedia usage. The main objective is to investigate how teachers are effectively and professionally developed in the integration of multimedia in their lesson presentation. Therefore qualitative research methods were employed as being relevant to the study.

3.2 RESEARCH DESIGN

Trochim (2001: [Online]) views a research design as a detailed plan for how a research study is to be conducted. This plan offers the framework according to which data are to be collected to investigate the research hypothesis or question in the most economical manner. Social research needs a design or a structure before data collection or analysis can commence. A research design is not just a work plan which details what has to be done to complete the project but the work plan will flow from the project's research design.

The research design ensures that evidence obtained enables the researcher to answer the research question as unambiguously as possible. Obtaining relevant evidence entails specifying the type of evidence needed to answer the research question, to test a theory, to evaluate a program or to accurately describe some phenomenon. In other words, when designing research we need to ask: given this research question (or theory), what type of evidence is needed to answer the question (or test the theory) in a convincing way? Research design deals with a logical problem and not a logistical problem (Cook & Cambel, 2002:9).

It has been argued that the central role of research design is to minimize the chance of drawing incorrect causal inferences from data. Design is a logical task undertaken to ensure that the evidence collected enables the researcher to answer the research questions or to test theories as unambiguously as possible. When designing research it is essential that one identifies the type of evidence required to answer the research questions in a convincing way. This means that one must not simply collect evidence that is consistent with a particular

theory or explanations. The evidence enables the researcher to identify which of the possible explanations is most compelling empirically. It also means that one must not simply look for evidence that supports one's favourite theory. Evidence that has the potential to disprove one's preferred explanations should be looked at (Hunt, 2002:9).

3.3 RESEARCH APPROACH

3.3.1 Qualitative approach

Holliday (2007: [Online]) identifies qualitative research methodology as dealing with data that are principally verbal. Qualitative approaches are those approaches in which the procedures are not strictly formalized, while the scope is more likely to be undefined and a more philosophical mode of operation is adopted. The results of a qualitative research study are most effectively presented within a rich narrative. The researcher has an opportunity to provide many excerpts from the actual data that let the participants speak for themselves, in words or in actions thereby giving the reader sufficient information for understanding the research.

A qualitative research report characterized by rich description should provide the reader with enough information to determine whether the findings of the study can possibly apply to other people or settings. Qualitative approach generally seeks to reveal categories, concepts, or understanding that is internal to the group of the domain being studied. It does this using methods that are designed to allow research subjects, usually called "*participants*" or "*informants*," to construct for the researcher their own understanding of the issues at hand. There are variations methods, such as interviews, observations, ethnography, and the number has been growing in recent years. They have also been augmented lately by a plethora of new methods of analysis (Pope, Ziebland & May, 2000: [Online]).

According to Lacey and Luff (2001:19) the data of qualitative inquiry is most often people's words and actions, and this requires methods that allow the researcher to capture language and behaviour. The most useful ways of gathering these forms of data are participant observation, in-depth interviews, group interviews, and data collection from relevant documents. In this study, interview data is collected by the researcher in the form of field notes and audio-taped interviews which are later transcribed for use in data analysis.

According to Ritchcliff (2006:3) qualitative research is a field of inquiry that cuts across disciplines and subject matters. Qualitative researchers aim to acquire an in-depth understanding of human behaviour and the reasons that govern human behaviour. Qualitative research relies on reasons behind various aspects of behaviour. Simply put, it investigates the *why* and *how* of decision making, not just *what*, *where*, and *when*. The need is for smaller, focused samples rather than large random samples. In this study, the qualitative approach was used to gather evidence that would reveal the qualities of life, reflecting the multiple realities of educational settings from participants' perspectives (Lacey & Luff, 2001:3). Qualitative approach is an interpretive and subjective exercise, and the researcher is intimately involved in the process, not aloof from it.

3.3.2 Social Constructivism

This study followed the social constructivism approach. In social constructivism individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences-meanings toward certain objects or things. In this study the goal of the research was to rely as much as possible on the participants' views of the situation. These views are formed through interaction with others and through historical and cultural norms that operate in individual's lives (Creswell, 2007:20).

3.4 POPULATION

A population is a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we intend to generalize the results of the research. This group is also referred to as the target population or universe (MacMillan & Schumacher, 2001:169). In this study the population are middle school teachers and school managers across North-West Province (in Dr Modiri Molema District). The district consists of five area project offices namely: Kgetleng, Mafikeng, Zeerust, Rekopantswe and Lichtenburg.

3.5 SAMPLE

The study used purposive sampling. In purposive sampling (sometimes called judgment, or judgmental sampling) the researcher selects particular elements from the population that are well informed about the topic of interest. On the basis of the researcher's knowledge of the

population, a judgment is made about which subject should be selected to provide the information to address the purpose of the research (MacMillan & Schumacher, 2001:169).

According to (List, 2002: [Online]) sampling is a process used to study a response to an intervention in a small population that can be applied to a larger population. In this study the sample will be thirty eight teachers and ten school managers in the General Education and Training Band (Senior Phase).

3.6 RESEARCH METHODS

The following research methods were used:

3.6.1 Literature review

The review of literature involves locating, reading and evaluating reports of research as well as reports of casual observation and opinion that are related to the individual's planned research project. This review differs in a number of ways from the reading program often used to locate a tentative research project. First, such a review is much more extensive and thorough because it is aimed at obtaining a detailed knowledge of the topic being studied, while the reading program is aimed at obtaining enough general knowledge and insight to recognize problems in the selected area (Ritchcliff, 2006: [Online]).

A literature review uses as its database reports of primary or original scholarship, and does not report new primary scholarship itself. The primary reports used in the literature may be verbal, but in the vast majority of cases, reports are written documents. The types of scholarship may be empirical, theoretical, critical/analytic, or methodological in nature. Secondary literature review seeks to describe, summarise, evaluate, clarify and/or integrate the content of primary reports. The review of relevant literature is nearly always a standard chapter of a dissertation. The review forms an important chapter in a dissertation where its purpose is to provide the background to and justification for the research undertaken (Mauch & Birch, 2003: [Online]).

In this report, chapter two is dedicated to a literature review on professional development of teachers in multimedia usage. This formed the basis of questions that were constructed for the interview schedule.

3.7 RESEARCH INSTRUMENT

In this study interview and observation was used. The following questions were asked in order to answer the research questions:

- i. What type of professional development (e.g. financial management) does North-West Department of Education offer to teachers?
- ii. What type of professional development in multimedia does North-West Department of Education offer to teachers?
- iii. Explain how you are professionally developed in the theory of using multimedia?
- iv. Explain how you are professionally developed in the practical knowledge of using multimedia?
- v. Explain the resources (e.g. Lap top) that are available for the implementation of professional development of teachers in multimedia in schools.
- vi. Why is it difficult for the North-West Department of Education to conduct an effective professional development of teachers in the use of multimedia?
- vii. Explain the attitude of teachers towards professional development in multimedia.
- viii. Mention other aspects which might help to improve the professional development of teachers in multimedia usage.

3.7.1 Interview

White (2002:1) identifies the interview as the most common method of data collection used by researchers. Interviewing could thus be regarded as the universal mode of systematic enquiry. The literature on the techniques of interviewing treats the interview as a pipeline for extracting and transmitting information from the interviewee to the interviewer. In this way the interview helps to understand the closed worlds of individuals, families, organizations, institutions and communities. According to Auerbach & Silverstein (2003: [Online]) an interview is a one-on-one directed conversation with an individual using a series of questions designed to elicit extended responses. Because this method allows you to probe for greater depth or explanation, simple yes/no questions or fixed-response questions are typically not used. Interviews allow participants to express their thoughts using their own words and organisation and thus are particularly valuable for gaining insight.

In this study an interview involves a one-on-one verbal interaction between the researcher and the participants. An interview provides “*access to what is inside a person’s head*”. It makes it possible to measure what a person knows (knowledge or information), and what a person likes or dislikes (values and preferences), and what a person thinks (attitudes and beliefs) (MacMillan & Schumacher, 2001:267). In this study the school managers and teachers were individually interviewed at their respective schools. The interview instrument was given at the time the interview was conducted by the researcher.

3.7.1.2 Advantages of the interview

The following advantages of the interview were considered for the study (White, 2002:76):

- **Flexibility:** Interviewers probed for more specific answers and could repeat a question when the response indicated that the respondent misunderstood.
- **Response rate:** The interview provides a much better response rate than the questionnaire. People, who are unable to read and write, can also answer questions in an interview. In each sampled school a minimum of fifty percent of total staff members were interviewed
- **Non-verbal behaviour:** The interviewer was present to observe non-verbal behaviour and to assess the validity of the respondent’s answers.
- **Control over environment:** The researcher standardized the interview environment by making certain that the interview was conducted in private, and that there was no disturbance.
- **Question order:** The interviewer had control over questions and ensured that the respondent did not answer the questions out of order.
- **Completeness:** The interviewer made sure that all questions were answered.
- **Spontaneity:** Spontaneous answers were allowed and provided more information than answers about which the respondent had time to think.
- **Respondent alone can answer:** since the instrument was not given prior to the interview, the respondent was not able to copy by receiving answers from others colleagues (White, 2002:76).

3.7.1.3 Advantages of open-ended questions

The following were the advantages of open-ended questions in this study (White, 2002:78):

- They were used when the researcher wanted to see what the respondent's views were.
- They allowed the respondent to answer adequately, and to qualify and clarify his/her answer.
- They allowed more opportunity for creativity and self-expression by the respondent.

3.7.1.3 Observation

Gray (2004:239) states that observation is not simply a question of looking at something and then noting down 'the facts'. He argues that it is a complex combination of sensation (sight, smell and even tastes) and perception. Observation uses a variety of options within the types, for example where the researcher's role is known, he/she can observe without participating, and record information to discuss and identify usual aspects of the phenomenon.

In this study the record of the replies of the interviewees were taken throughout the interview sessions.

3.8 PILOT STUDY

The pre-testing of a measuring instrument consists of

“trying it out on a small number of persons having characteristics similar to those of the target group or participants” (List, 2002: [Online]).

However the Pilot Study must take all heterogeneous factors into considerations. The pilot study is defined in List (2002: [Online]), as the *“process whereby the research design for a prospective survey is tested”*. Pilot study differentiates between *“pre-test”* and *“pilot studies”*. The former indicates the testing of one or more aspects of the subject, e.g. the interview or the program for the analysis of the data. The latter indicates the *“miniaturized walk-through of the entire study design”*.

List (2002: [Online]), views the purpose of a Pilot Study as an investigation of the feasibility of the planned project and to bring possible deficiencies in the measurement procedure to the fore. The pilot study can be viewed as the *“dress rehearsal”* of the main investigation. It is

similar to the researcher's planned investigation but on a small scale. The researcher piloted the study on three middle schools, three school managers, and four teachers.

3.9 TRUSTWORTHINESS OF THE STUDY

Harrison (2001:7) argues that the scientific enterprise is built on a foundation of trust; trust that the results reported by others are valid and trust that the source of novel ideas will be appropriately acknowledged in the literature. A key issue for qualitative research is developing a shared understanding of appropriate procedures for assessing its credibility or trustworthiness (validity). An approach to ensure trustworthiness addresses ways to ward off biases in the results of qualitative analysis. Smith (2003:1), proposed four strategies to ensure trustworthiness of the study; credibility, transferability, dependability and conformability. An in-depth description showing the complexities of variables and interactions was so embedded with data derived from the setting that it could not help but be valid. In the second strategy, transferability, the burden of demonstrating the applicability of one set of findings to another context rests more with the researcher (Smith, 2003:1).

The third strategy is that of dependability in which the researcher attempts to account for changing conditions to the phenomenon chosen for research as well as changes in the design created by increasingly refined understanding of the setting. The final strategy of conformability is focused on whether the results of the research could be confirmed by another and places the evaluation on the data themselves.

3.9.1 Credibility

Credibility or internal validity refers to how truthful particular findings are. It is also referred to as the internal validity or truth value of an investigation (Smith, 2003:2). In this study, credibility was attained by triangulation and extended involvement in the field. An extensive literature review was also conducted which enhanced the credibility of the study.

3.9.2 Transferability

Transferability or external validity refers to how applicable or generalizable the research findings are to another setting or group (Smith, 2003:2; Tobin & Bagley, 2004:389). It indicates the applicability of the research. In this study, detailed descriptions of the

participants in the specific contexts and description of results could be applied in other contexts.

3.9.3 Dependability

Dependability or reliability refers to how one can be sure that one's findings are consistent and reproducible (Smith, 2003:2). In this study the strategy applied to ensure dependability was in coding data and verifying each step of the process as well as getting advice from expert researchers.

3.9.4 Conformability

Conformability or objectivity refers to how neutral the findings are in terms of whether they are reflective of the subjects and the inquiry and not a product of the researchers' biases and prejudices (Smith, 2003:2; Tobin & Bagley, 2004:389). In this study, findings emanated from qualitative data. Problems that were encountered were identified and explained.

Tactics used within all four of these strategies to ward off obvious biases were the following: checking for representativeness, checking for research effects (reactivity), triangulating and weighing of the evidence. Tactics for testing the viability of patterns centre on the active search for contrasts, comparisons, outliers and extreme cases (Mauch & Birch, 2003: [Online]). Finally, feedback from informants can be used at any point in the cycle. A more general and comprehensive approach to the verification of findings and conclusions is auditing. This is a systematic review of a given study on the part of the external examiner (De Vos, 2000:330).

3.9.5 Triangulation

Mauch & Birch (2003: [Online]) define triangulation as the combination of several research methodologies in the study of the same phenomenon. It is a method-appropriate strategy of founding the credibility of qualitative analysis. Triangulation becomes an alternative to "*traditional criteria like reliability and validity*". By combining multiple observers, theories, methods, and empirical materials, researchers can hope to overcome the weakness or intrinsic biases and the problems that come from single method, single-observer, and single-theory studies. In this study triangulation was achieved by using the same research instrument to interview different participants and recording their responses (field notes).

Bryman (2007:2) defines triangulation as the use of more than one approach to the investigation of a research question in order to enhance confidence in the ensuing findings. Since much social research is founded on the use of a single research method and as such may suffer from limitations associated with that method or from the specific application of it, triangulation offers the prospect of enhanced confidence.

Bryman (2007:3) says that it can be argued that there are good reasons for reserving the term for those specific accessions in which researchers seek to check the validity of their findings by cross-checking them with another method. Writers working within a constructionist's framework do not deny the potential of triangulation; instead they depict its utility in terms of adding a sense of richness and complexity to an enquiry. As such, triangulation becomes a device for enhancing the credibility and persuasiveness of a research account.

3.10 DATA ANALYSIS

Qualitative data analysis is primarily an inductive process of organizing the data into categories and identifying patterns (relationships) among the categories. Data analysis is a systematic process of selecting, categorizing, comparing, synthesizing and interpreting to provide explanations of the single phenomenon of interest (White, 2002:82).

Data analysis entails several cyclical phases (MacMillan & Schumacher, 2001:500):

- Continuous discovery, especially in the field but also throughout the entire study, to identify tentative patterns;
- Categorising and ordering of data typically after data collection; and
- Qualitatively assessing the trustworthiness of data to refine patterns.
- Writing a synthesis of themes and/or concepts (MacMillan & Schumacher, 2001:500).



3.10.1 Qualitative data analysis

Ritchcliff (2006:4) defines qualitative data analysis as methods that use descriptions and categories (words). Examples are open-ended interview, observation (common in anthropology), document analysis, case studies/life histories, descriptive, reflective supplements to experiments and correlation studies. Qualitative data analysis is particularly good in answering questions such as “*why*”, or “*how*”.

Lacey and Luff (2001:3) explain qualitative data analysis as the mass of words generated by interview or observational data which needs to be described and summarised. Qualitative data analysis is an interpretative and subjective exercise, and the researcher is intimately involved in the process, not aloof from it.

Analysis of qualitative data usually goes through some or all of the following stages (though the order may vary) (Lacey & Luff, 2001:3):

- Familiarisation with the data through review, reading, listening;
- Transcription of tape recorded material;
- Organisation and indexing of data for easy retrieval and identification;
- Anonymising of sensitive data; and
- Identification of themes.

The research question reads as follows; How are teachers effectively and professionally developed in the integration of multimedia in the lesson presentation?

3.11 SUMMARY

In summary the interview was used as the main instrument in the collection of data because of their advantages mentioned in paragraph 3.7.1.2. The researcher used qualitative research approach because she it allows the participants to construct for the researcher their own understanding of the issue at hand. This chapter discussed the following: qualitative approach, population, interview as research instrument, pilot study, and trustworthiness of the study and data analysis. Chapter four presents data presentation and analysis.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

In this chapter, the data obtained from interview and observation are presented and analysed. The research focused on the Professional Development of teachers in multimedia usage. The qualitative data collected are discussed under the sub-topics listed below:

4.2 THE ANALYSIS OF INFORMATION THROUGH INTERVIEW SCHEDULE FOR TEACHERS AND SCHOOL MANAGERS

Data are presented according to research questions posed in chapter one.

4.2.1 The type of professional development the North-West Provincial Government offers to teachers

The school managers and teachers indicated that the Department of Education trains teachers only when it introduces a new curriculum. There were several workshops for the implementation of curriculum 2005 and also the New Curriculum Statement (NCS). They also indicated that other workshops conducted by the Department were insufficient and there were no follow-ups.

The following are the responses of teachers and school managers who participated in this research:

“The Department of Education took teachers to workshops when it implemented Outcomes-Based Education (OBE) and National Curriculum Statement (NCS). Since then there has never been a development for teachers. Not all teachers received NCS training and I am one of those teachers”.

“The principals attended a financial management course for non-financial managers for two days. The Advanced Certificate in Education (ACE) was initiated by the Department of Education to help teachers improve their classroom teaching”.

A number of school managers and a few teachers are professionally developed. This shows that the Department of Education is more concerned with training school managers than

teachers. Professional development of teachers plays an essential role in the success of education as a whole. Professional development serves as the bridge between prospective and experienced teachers.

4.2.2 The professional development in multimedia North-West Provincial Government offers to teachers

Teachers and School Managers indicated that there is a lack of professional development in the use of multimedia. They indicated the following reasons as contributing to the lack of professional development of teachers in the use of multimedia.

“Telkom gave us five days training on how to make some basic activities on a computer and that was not enough. The other training attended on multimedia was in my private capacity. I enrolled a course in financial management where one of the modules was basic computer skills in a private institution where I paid for myself. To know on how to use computer I acquired it while I was working for North-West Corporations in 1990”.

“The school managers attended Administration Management System (SAMS) together with their personal assistance for basic computer skills”.

The Department is shifting its responsibility when it comes to the training of teachers hence most teachers are trained by Telkom. The little training that the Department initiated was too short and too basic; even after the training, school managers are not sure how to do most of the activities on a computer. Most school managers and teachers echoed the same thing, that the Department does not offer professional development in the multimedia usage. The media professionals who have survived and succeeded in their chosen careers are those who have been able to develop their professional skills and knowledge to stay ahead of the game.

The continuing professional development of teachers working with media has not been well-served by institutions of higher education backed up by new technological resources, which are needed to remedy the situation. The biggest obstacle to the implementation of multimedia technology in education is not a lack of hardware, but rather the fact that the Department is not ready to develop teachers to use multimedia in the classroom.

4.2.3 The professional development of teachers in the practice and theory of multimedia usage

Most of the teachers said that there is no professional development in the practice and theory of using multimedia initiated by the Department of Education in North-West Province. The school Managers and Teachers echoed the following sentiments:

“In my private studies I was trained both theoretically and practically. Both theory and practical use of computer was provided by Telkom”.

School Managers indicated that teachers initiated their training in both practice and theory of using multimedia. Most of teachers who have the knowledge in the theory and practice in using a computer were as a result of training by Non-Governmental Organisations such as Telkom. The Department of Education in the North-West Province did not train many teachers and School Managers in the theory and practice of using multimedia.

Most of the School managers indicated that:

“There is no development in the theory of multimedia for teachers. Teachers are never developed in the theory of using multimedia. The Department of Education has never taken teachers for training in multimedia usage. I paid from my pocket to get training in the use of media whereby theory and practical of using multimedia was provided, but not the Department of Education in North-West Province”.

When teachers are trying to use media in their classrooms, they need immediate help and support when they encounter difficulties. Media that is not easily accessed at schools will not be implemented. Teachers normally return to traditional ways of teaching if the problem they encounter cannot be solved quickly and efficiently. The best way to win widespread use of media is to provide just-in-time support, assistance and encouragement when needed.

4.2.4 Resources for multimedia implementation

The following are what Teachers and School Managers said concerning resources for multimedia implementation:

“The Department supplied the school with one computer, one lap top and one photo copying machine. It is not easy to access the computer because it is specified that it is for the management of the school). The school bought four computers for the running of the schools administration but not for the implementation of multimedia for teacher development. As School Managers, we have never received the multimedia equipment from the Department of Education, the only media we have at school are text books for the teaching of learners not for the development of any teacher in a school The school received a sponsor of twenty one computers from Eskom; the Department provided most schools with one computer for administration purposes only”.

Both school Managers and teachers do not have resources for the implementation of multimedia in schools; it is hard to implement multimedia especially when there are no resources. In many schools, media is not easily accessible to teachers. Media may be located in laboratories instead of in each classroom, and internet connections may be limited to certain designated multimedia. To promote teacher’s use of technology, school administrators should ensure that adequate numbers of multimedia with internet connections are available to teachers and that access is not limited. Teachers need ample opportunities to practice with the media and gain confidence in its use.

4.2.5 Difficulties for professional development in multimedia

The School Managers and Teachers indicated that “the government failed to make provision for the installation of electricity in most of the rural schools; it is more difficult for the North-West Department of Education to provide multimedia equipment since most media use electricity. The school managers and teachers said that the following issues need to be considered before an effective professional development of teachers in multimedia can be implemented.

“Our schools are situated in deep rural areas that do not have access to electricity and multimedia equipment work with electricity. The Department lack capacity in terms of personnel and budgetary constraints. The Department does not have time to plan, buy resources for the implementation of different trainings, especially in the use of multimedia”.

The Department does not acknowledge the importance of using multimedia in the teaching and learning of learners. The Department might not have enough human and physical resources to train teachers. There is no transparency; even the statements mentioned above are just speculation. Teachers and School Managers do not know the real reason as to why they are not provided with effective professional development in the use of multimedia.

Teachers do use multimedia in classroom instruction. The use however, varies greatly from school to school. In some schools, nearly fifty percent of staff use technology; in others, it is virtually non-existent. Many teachers still are reluctant to use technology, mostly because of lack of time, a lack of resources, or a lack of confidence in their ability to use the available technology. This digital generation gap has serious consequences for schools.

4.2.6 The attitude of teachers towards professional development in multimedia

Teachers who responded indicated that they have a positive attitude towards the use of multimedia for the enhancement of learning and teaching but they lack the necessary development and resources. The statements below are what some of the teachers and school managers reported about the attitude of teachers.

“Teachers understand the importance of teaching with multimedia and are looking forward to the Department to really implement an effective training in the use of multimedia. Teachers love their work because they have been trained for teaching at their different tertiary institutions. Teachers really need to go with the flow of technology hence some of them enrol courses in the use of multimedia equipments in their private studies)”. “Teachers just need the Department to help them with the financed training in the use of multimedia, so their positive attitude will really help them to succeed in the course if the Department can organize one for them.”

“Teachers with computers at their houses show an interest and know more about the use of a computer. Those without a computer at home wish to quit the system. Most young teachers are the one with more interest in the use of multimedia. Teachers are willing to learn how to use multimedia”.

The unavailability of training and resources for multimedia implementation will eventually weaken the positive interest that teachers have in knowing more about the use of multimedia. The responses show that it is evident that all teachers and School Managers are aware of the importance of multimedia usage. They are just waiting for the Department to train them in multimedia usage.

4.2.7 Aspects to consider when improving professional development of multimedia usage

The school managers and teachers indicated the following strategies can be implemented for the improvement in the professional development of teachers in using multimedia.

“A compulsory multimedia course as they did during the training and implementation of National Curriculum Statement is needed. Well equipped libraries in the different schools, and appointment of teacher librarians to help other teacher in the use of multimedia equipments. Training and special courses on multimedia can be of importance in developing teachers in the use of multimedia”.

To properly fund the professional development of teachers, the Department of Education should have to increase funding in the school. The Department of Education may recommend that more of the technology budget be used for professional development in multimedia usage. The Department of Education should continue to explore professional development grants to help offset this expense. To move the schools forward, a commitment must be made by the Department of Education, the administration, and the district’s teachers to successfully implement the professional development plan.

4.3 THE ANALYSIS OF INFORMATION THROUGH OBSERVATION FOR TEACHERS AND SCHOOL MANAGERS

4.3.1 The type of professional development the North-West Provincial Government offers to teachers

Both teachers and the school principals showed an interest in the research topic hoping that the findings will reach decision makers in the province. But the challenges that destroy morale, is that the Department of Education has not yet initiated any training in multimedia.

4.3.2 The professional development in multimedia North-West Provincial Government offers to teachers

Teachers were not willing to elaborate much on this statement. They indicated that the little they know about multimedia is through their personal studies. Some of the school principals showed the researcher the (certificate of attendance) for one day or even two hours on basic computer training, which does not help.

4.3.3 The professional development of teachers in the practice and theory of multimedia usage

Some of the teachers and the school principals were not able to differentiate theory from practice of using multimedia.

4.3.4 Resources for multimedia implementation

The teacher librarians interviewed took the researcher to the media centre to see if those resources in the centre are of benefit to the schools. Most of the teachers were really angry with the department because the resources they have are not working properly and not enough for use by learners.

4.3.5 Difficulties for professional development in multimedia

The school managers indicated that on the school improvement plan sent to the circuit office they normally indicate that they need training in multimedia. Both teachers and school managers are eager to get what they want.

4.3.6 The attitude of teachers towards professional development in multimedia

Teachers and school managers showed a positive attitude towards professional development. They believe if teachers can be trained in the use of multimedia that will improve their way of delivering the lesson through technology.

4.3.7 Aspects to consider when improving on professional development of multimedia usage

The well resourced schools would invite the non governmental service providers to give their teacher training on multimedia. Some of the principals showed the researcher attendance registers.

4.4 SUMMARY

In this chapter, the responses of the school managers and teachers were presented. Findings of this investigation were also presented. Chapter five presents the major findings, recommendations, and concluding remarks.

CHAPTER FIVE

OVERVIEW OF THE STUDY, MAJOR FINDINGS AND CONCLUSIONS

5.1 INTRODUCTION

According to Mather (2000: [Online]) the professional development of teachers is “the *most serious unsolved problem for policy and practice in education today*”. Teachers, like other professionals, need to stay informed about new knowledge and technologies. Yet teachers express dissatisfaction with the professional development opportunities made available to them in schools and insist that the most effective development programs they have experienced have been self-initiated.

5.2 OVERVIEW OF THE STUDY

In **Chapter one**, an orientation and explanation of the problem in the professional development of teachers in multimedia usage was provided. The aim of the study, main concepts and method of the study were also dealt with.

In **Chapter two** the researcher obtained more information on the problem by reviewing literature on the professional development of teachers in multimedia usage regarding General Education and Training (**GET**) Band schools.

In **Chapter three** the researcher focused on research design, population, sampling, and data analysis. The qualitative approach was employed to collect data regarding the professional development of teachers in multimedia usage. School managers and teachers were interviewed to find out about their professional development in multimedia usage.

In **Chapter four** the researcher focused on the presentation of the analysis and findings from the data. Data collected from the respondents were presented and this was followed by an analysis of this data.

Chapter five deals with the main findings and recommendations of teachers in multimedia usage. Recommendations emanate from these research findings. The main aim of the study



was to find out: How are teachers effectively and professionally developed in the integration of multimedia in their lesson presentation.

5.3 MAJOR FINDINGS OF THE STUDY

The following are the major findings pertaining to the study:

5.3.1 Major findings pertaining to sub-question no. 3

(To investigate what kind of professional development the North West Provincial Government offers to teachers).

The type of the professional development that the North-West Provincial Government offers on multimedia was indicated as follows:

- The North-West Provincial Government does not give teachers In-Service Training in multimedia usage (Annexure B: line 180-185).
- Teachers attended private institutions and paid their own fees to be trained in the use of multimedia (Annexure B, line 155-157).
- Teachers in different schools do not know how to use multimedia in their learning areas; school managers and teachers strongly believe that there is a need for professional development of teachers in multimedia usage. Teachers need to be well trained so that they can be in a good position to teach with multimedia and enhance their teaching inside the classroom (Annexure B: line 614-620).

5.3.2 Major findings pertaining to sub-question no. 4

(To investigate the barriers to professional development for teachers multimedia usage in the North-West Province)

School teachers stated that they have experienced a variety of difficulties. These difficulties have been related to teachers' limited understanding of Technology, their struggles to understand the whole technology area in line with national frameworks, and their limited knowledge of specific tools and skills. These struggles point to the challenges that teachers are facing, as they try to implement media in teaching and learning within a new technology context. There are many reasons why teachers do not use multimedia. Some of the reasons are that:

- Teachers do not know the actual reason why the Department does not provide effective professional development in multimedia usage. The reasons they provided were speculative and their opinions were: Lack of resources, financial constraints, lack of electricity for schools in rural areas (Annexure B: line 390-393).
- There is lack of qualified personnel to train teachers (Annexure B: line 387-390).
- The Department does not see the importance of multimedia (Annexure B: line 416-418).
- The Department lacks an understanding of the different educational media which are available, and therefore lacks the necessary expertise.
- Schools do not have accommodation for the media and what they have is unsuitable for effective media use.
- schools lack technical knowledge and support systems that is, they lack management support systems, including logistics on a day-to-day basis.

Multimedia is an integrated part of all Educational Technology systems. The following are difficulties faced by multimedia teachers:

- User access to information
- Lack of support systems
- Lack of resources
- Limited Access
- Lack of administrative support
- No built-in evaluation
- Resistance
- Financial constraints
- Lack of sponsorship

5.3.3 Major findings pertaining to sub-question no. 5

(To investigate how professional development of teachers in multimedia usage can be improved in Dr Modiri Molema District (North-West Province))

The participants recommended the following aspects to be considered for the development of teachers in the use of multimedia.

- Effective professional development training in multimedia usage should be provided (Annexure B: line 562-564; 568-569).
- The Department should build multimedia centres (Annexure B: line 579-580).
- The Department needs to employ a full-time multimedia specialist for each and every school and build multimedia centres (Annexure B: line 574-580).
- Supply all schools with enough funds (Annexure B: line 574-576; 596-598).

5.4 CONCLUSIONS

On the basis of the findings presented in 5.3 the following conclusions are drawn:

5.4.1 There are too many teachers without relevant skills in teaching with multimedia.

This results in most schools being unable to implement multimedia. There is also a shortage of classrooms. Lack of professional development for multimedia use is one of the most serious obstacles to fully integrating media into the curriculum. But traditional sit-and-get training sessions or once-off workshops have not been effective in making teachers comfortable with using multimedia or adept at integrating it into their lesson plans (see paragraph 2.2).

5.4.2 In the North-West Province, few teachers enrol for courses in multimedia education.

There is no professional development for teachers to update them in educational media. The continuing professional development of teachers working with media has not been well-served by institutions of higher education backed up by new technological resources, which are needed to remedy the situation (see paragraph 2.3).

5.4.3 In-Service Training is vital for the continuous professional growth and development of the practising teacher. All over the world, initial education and training is

inadequate, both in its program structuring, and entry requirements and also because it serves as In-Service Training. Therefore the teacher works in an environment where constant retraining is needed. This leaves much to be desired in an area where there are so many unqualified multimedia teachers. Rural areas in South Africa have an electricity problem. Most rural schools are without electricity and that makes the situation even worse (see paragraph 2.4).

5.4.4 Teacher apathy, overwhelming curriculum changes, high demands for accountability and reporting, lack of resources, and pressures to integrate multimedia into classroom learning have all contributed to a general unwillingness on the part of teachers to “*go the extra mile*” for additional professional development. The core problem comes down to funding. When children complete their secondary education, they are not able to use multimedia equipment, not even a computer, which is one of the most common multimedia tools (See paragraph 2.7).

5.4.5 There will have to be retraining for teachers in the field of multimedia. This will involve familiarizing teachers with educational media relevant to their learning areas.

- There is no professional development in place for teachers in multimedia usage (see paragraph 4.11).
- Even in the absence of workshops in multimedia usage, teachers believe it necessary to use media in a lesson presentation (see paragraph 4.12)
- The North-West Provincial Government does not make initiatives in promoting professional development in multimedia usage (see paragraph 4.9).

5.5 RECOMMENDATIONS

5.5.1 Recommendations stemming from the research

The following recommendations are made as a result of this study:

5.5.1.1 Recommendation pertaining to finding no 5.4.1

The researcher recommends that teachers must be professionally developed in multimedia usage. The schools should come together and make the government aware of the need for trained in multimedia usage.

Motivation

Training, materials, and modelling should show how multimedia can be used to support the curriculum, making the push for technology and the push for standards complementary rather than imposing competing mandates on teachers. The Department should consider creating professional development centres (real or virtual) in schools or districts where teachers can meet to learn, practice, and share new ideas and strategies. Creation of school conditions that support and encourage teachers as they work to develop basic multimedia skills and integration strategies is important. The Department of Education should consider providing in-school time for professional development, collegial sharing, curriculum planning, and teacher experimentation. Principals need to use multimedia and support their teachers with extra staff development if necessary. The Department of Education should try to make things as easy as possible, and provide teachers with time to learn multimedia before expecting them to use it.

5.5.1.2 Recommendation pertaining to finding no 5.4.2

The school managers and teachers need strategies to plan, organize workshops and training at their respective schools. Each and every schools need a well-organized program to use the educational media in The General Education and Training (GET) Band.

Motivation

Teachers need to be supported in their efforts to use technology. Not less than 25 percent of funds available for multimedia usage should be used to provide sustained and intensive, high-quality professional development. A district should support content-based professional development with curricula and teaching strategies that integrate technology, particularly in

areas identified by the district as areas of concern or focus. For example, professional development focused on reading and writing across the curriculum can be supported with technology tools such as graphical organizers (Inspiration) and portable writing devices. Teachers and School managers should strive to get the support from the top. They should make the education Superintendent aware of the importance of multimedia use. Schools should push the district vision of multimedia implementation and not their own personal agenda.

5.5.1.3 Recommendation pertaining to finding no 5.4.3

Teachers should be responsible for their own professional development. School managers and teachers strongly believe that there is a need for professional development of teachers in multimedia usage. Teachers need to be well trained so that they can be in a good position to teach with multimedia and enhance their teaching inside the classroom.

Motivation



Most teachers are very busy: they are already juggling many tasks. The Department of Education should try to make things as easy as possible for all teachers and school principals. Teachers should team-up to develop lessons and ideas into integrated multimedia lessons and use the internet to download some of the activities from the portal of the Education website. Professional development should provide training for teachers and principals in the use of multimedia. The goal is for technology and technology applications to be effectively used in the classroom to improve teaching and learning in the curricula and core academic subjects.

5.5.1.4 Recommendation pertaining to finding no 5.4.4

Effective professional development in multimedia usage is needed. The Department should build multimedia centres and employ a full-time multimedia specialist for each and every school.

Motivation

The most important thing the District can do to encourage teacher multimedia use is to assign each school a technology resource teacher to work directly with teachers in the classroom, to model lessons with children, find online resources with teachers, how teachers use equipment, provide one-on-one training during planning time, and so on. Technology must be “*institutionalised in schools*” integrated into the culture and classroom practice of a school. This strategy necessitates cooperation and common planning and goal setting between curriculum directors, support personnel, technology directors, and staff.

5.5.1.5 Recommendation pertaining to finding no 5.4.5

Electronic materials and equipment need to be made available for the implementation of multimedia. Most teachers indicated that they do not have sufficient resources to implement multimedia technology. Before teachers can implement multimedia teaching they first need to be told how to use media and later they can be shown how to operate different multimedia equipment (see paragraph 4.6).

Motivation

More teachers would embrace multimedia use if they knew they would be rewarded for using it. The Department can reward teachers who use multimedia by providing them with better equipment and software as they show an increased interest and proficiency. Technology can and should play an important role in curriculum planning, development, delivery, assessment, and administration. Consider providing on-site technical and instructional support for the integration of multimedia. A possible strategy involves using technology integration specialists to support teachers.

5.5.2 Recommendations for further studies

The following were some of the areas that need further investigation:

- The Department of Education should address the challenges facing professional development of teachers in multimedia usage.

- The implementation of effective professional development for teachers in multimedia usage. Districts might consider providing a variety of flexible and on-going professional development formats and options (online, after school, summer, staff meetings, and release days).
- The Department of Education should establish a special budget for the buying of multimedia resources, organisation of workshops and camps, and the development of infrastructure as well as appointment of multimedia specialists. It is important to allocate appropriate hardware, software, and support resources to encourage the capacity-building process.

5.6 LIMITATIONS OF THE STUDY

The following are the problems that the researcher experienced during the interview:

- Some respondents were not willing to be interviewed,
- The study was expensive because Dr Modiri Molema District is quite wide and most of the schools are in rural areas. One had to travel on gravel roads for long distances.

Investigations on a wider scope for this study need to be conducted in all four districts of the North-West Province.

5.7 CONCLUDING REMARKS

Multimedia usage plays an important role in teaching and learning in all schools. The researcher identified various problems facing professional development in multimedia usage. For effective professional development of teachers in multimedia usage a number of factors need to be taken into consideration. These include adequately trained multimedia specialists and availability of electronic resources and installation of electricity to implement multimedia in all schools.

Teachers will need easy access to reliable, Internet-connected teacher presentation stations in their classroom. Possible strategies include making laptops available to teachers for at-home use, ensuring that district software may be used by teachers at home for curriculum planning,

and allowing teachers to access school servers and networks from outside of school. It is important that school goals and expectations support teachers in their integration efforts. Aligning teacher evaluation systems and hiring practices with the system technology goals and vision will support multimedia integration into the curriculum.

Rodriquez (2002:1) indicates that the role of the classroom teachers is the crucial factor in the full development and use of the multimedia in the schools. *“The transformation of classroom technology from hardware, software, and connections into tools for teaching and learning depends on knowledgeable and enthusiastic teachers who are motivated and prepared to put media to work on behalf of their students,”*.

Helping schools to assist teachers in multimedia may be one of the most important steps to making the most of the past, present, and future investment in educational multimedia and our children’s future.

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ANNEXURE A

INTERVIEW TRANSCRIPTS: SCHOOL MANAGERS

Re 1: What type of professional development does the North West Department of Education offer to teachers?

- R: 1** As the principal of the school the Department of Education sent me to a Project Management course that took place for two days. 1
2
- R: 2** I have not attended any course or training that are initiated by the Department of Education. 3
4
- R: 3** I attended a one day Qids-up workshop, on reading and writing and Advanced Certificate Course organized by the Department of Education. 5
6
- R: 4** The Department invited me as the principal of the school to a financial management course for one day at the neighbouring school. 7
8
- R: 5** I attended a Financial Management for non financial managers for two days and it was specifically arranged for the principals and the school's clerk. 9
10
- R: 6** The principal and the school's clerk attended a financial Management. 11
12
for non financial managers which took place for two days 13
- R: 7** The principals of the schools attended a four hour School Administration Management Systems (SAMS) and EDUSOL once off training. 14
15
- R: 8** As the principal of the school I have never attended any training that is initiated by the Department of Education. During the 16
17
introduction of the National Curriculum Statement teachers were 18
attending a one week workshop according to their learning areas and 19
in different date during the school holidays. 20
- R: 9** The Department took the school principals to Administration Management Systems (SAMS). The purpose of the training 21
22
was on the introduction of new software that is going to be used by the 23
schools and Department as a means of communication. 24
- R: 10** The principals attended a financial management course for non financial mangers that took place for two days. Teachers attended an Advance 25
26

Certificate course in Education (ACE) which was initiated by the	27
Department of Education to help teachers improve their classroom teaching.	28

Re 2: What type of professional development in multimedia usage does the North-West Department of Education offer to teachers?

R: 1 The principal and their personal assistance attended School Administration Management System (SAMS) for basic computer skills for two hours,	29
on how to use the given software put in a school computer specifically	30
for the administration of the school.	31
	32
R: 2 Teachers and the school principals are never trained in any course by the	33
Department.	34
R: 3 Telkom initiated a five day basic computer skill and the school used its	35
own finance to help in taking other teachers through basic computer	36
skills where a teacher from a neighbouring school was requested to take	37
them through the use of a computer.	38
R: 4 Teachers are really not trained in the use of multimedia.	39
R: 5 The Department is not arranging any skills development trainings for	40
teachers in the use of multimedia equipments.	41
R: 6 Teachers never attended any training arranged by the Department in using	42
multimedia.	43
R: 7 Never attended a training in multimedia usage.	44
R: 8 Only principals attended a SAMS on basic computer schools for	45
Two hours, on how to use the given software put in a school computer.	46
R: 9 Not trained as yet on the use of multimedia.	47
R: 10 Never trained in the multimedia usage.	48

Re 3. Explain how you are professionally developed in the theory of using multimedia?

R: 1 There is no development in the theory use of multimedia for teachers	49
R: 2 Teachers are never developed in the theory of using multimedia.	50

R: 3 Never developed by the Department of Education in the theory of using media.	51
	52
R: 4 The Department of Education has never taken teachers to the training in multimedia usage.	53
	54
R: 5 I paid from my pocket to get training in the use of media whereby theory and practical of using multimedia was provided, but not the Department of Education in North-West Province.	55
	56
	57
R: 6 Teachers are never formally or informally trained in the theory of using a computer or any other multimedia machine.	58
	59
R: 7 The school tried to organize training on the use of computer but it never materialized. The Department of Education has not as yet made any provision to train teachers in the theory use of multimedia.	61
	62
	63
R: 8 There has never been any training in the theory of using multimedia that was initiated by our Department of Education.	64
	65
R: 9 Teachers are never trained in the theory of using multimedia.	66
R: 10 No workshop was initiated to train teachers in the theory of using media.	67

Re 4. Explain how you are professionally developed in the practical of using the multimedia?

R: 1 Teachers have not yet attended any training in the practical use of multimedia.	68
	69
R: 2 No workshop initiated by the Department of Education has taken place in the practical use of a computer and other multimedia equipments.	70
	71
R: 3 In the private studies in did both practical and theory of using media but I did not get any financial help from the Department of education.	72
	73
	74
R: 4 There is no professional development in the use of multimedia both theory and practice.	75
	76
R: 5 The practical knowledge of using a computer that I have it was through my initiatives not the Department's initiatives because I registered with my own money the basic computer training.	77
	78
	79

R: 6 I never had a formal training in the practical using a computer.	80
R: 7 I am not professionally trained in any way of using a multimedia.	81
R: 8 No development that I know really took place in training teachers in the practical of using multimedia.	82 83
R: 9 No workshop or training in multimedia usage has ever taken place, to train teachers.	84 85
R: 10 Never trained in the use of multimedia.	86

Re 5. Explain the resources (e.g. data projector) that are available for the development of teachers in using multimedia in a school?

R: 1 The available resources that are here at our school are bought by the school are not a contribution from the Department of Education and they are not for the development of teachers but they are used for the administration of the school.	87 88 89 90
R: 2 We have never received the multimedia equipment from the Department of Education, the only media we have at school are text books for the teaching of learners not for the development of any teacher in a school.	91 92 93 94
R: 3 The school received a sponsor of twenty one computers from Eskom; the Department provided the whole school with one computer for administration purposes only. Even those computers that are donated by Telkom are not for the professional development of teachers, but they are used for learners and there is one teacher with knowledge of a computer, and he is helping learners with the basics in using the computers.	95 96 97 98 99 100 101
R: 4 There are no multimedia equipments at our school.	102
R: 5 The school bought thirty computers for itself, but the Department gave the whole school one computer. Since there is no one who is specializing multimedia the computers are used for administration purposes and teachers who are trained in their private studies on how to use computer are typing their tests and helping with other administration activities.	103 104 105 106 107 108

R: 6	The Department of Education contributed some computers but latter they	109
	were taken to another school but he reason for taking back the computers	110
	after two weeks are not known.	111
R: 7	The computers available at our school are contributions from TELKOM.	112
	But they are not used for the development of teachers.	113
R: 8	There are no multimedia resources available for teachers to implement	114
	multimedia.	115
R: 9	The school bought itself one computer.	116
R: 10	The Department has offered teachers nothing in connection with	117
	multimedia equipments.	118

Re 6. Why make it difficult for the North-West Department of Education to conduct an effective professional development of teachers in the multimedia usage?

R: 1	The government failed to make provision for the installation of	119
	Electricity in other rural areas; it will be more difficult to provide	120
	multimedia equipments since they are operating through the use of	121
	Electricity.	122
R: 2	The Department does not see the importance of teaching with multimedia that	123
	is why they do not bother to introduce any course in the use of multimedia.	124
	Teachers are willing to be developed on how to use multimedia	125
R: 3	The Department does not acknowledge the importance of using	126
	Multimedia but the private sectors do, hence TELKOM is donating	127
	computers to most of the schools in the North-West Province.	128
R: 4	The Department might not be having enough resources to train teacher but	129
	from my observation there is a lot of ignorance by the Department when	130
	coming to multimedia usage.	131
R: 5	The Department may lack capacity in terms of personnel and budgetary	132
	constraints may be one of the reasons for not providing an effective	133
	professional development in the use of multimedia.	134

R: 6	The Department has always complained about the lack of finance,	135
	to teachers it is not known whether the Department really lack funds	136
	or it is just a trick.	137
R: 7	It is not known as to what makes it complicated for the Department of	138
	education to not be in a position to come up with an effective	139
	professional development in multimedia. What the Department normally	140
	say is financial constrains. May be even in this case finance may be the	141
	reason.	142
R: 8	The Department does not have time to plan buy recourses for the	143
	implementation of different trainings, especially in the use of multimedia	144
R: 9	The Department always cites that it does not have money. Teachers do not	145
	know when that is real because this reason of financial constrains is put	146
	on the table year in year out.	147
R: 10	The Department lack proper planning and again it lack suitably	148
	qualified and correctly placed head in different unit in the	149
	Department of Education.	150

Re: 7. Explain to me the attitude of teachers towards professional development in the use of multimedia?

R: 1	Teachers understand the importance of teaching with multimedia and are	151
	looking forward to the Department to really implement the training in	152
	the use of multimedia.	153
R: 2	Teachers are willing to be developed on how to use multimedia, so that	154
	they can be able to teach with multimedia.	155
R: 3	Teachers are eager to learn how to use the electronic equipment hence	156
	some of them enrol courses in the use of multimedia in their private	157
	studies.	158
R: 4	Teachers are just waiting for the Department of Education to	159
	just name the dates and venue where they can be developed in the use of	160
	multimedia.	161
R: 5	Teachers are more than willing to be empowered in the use of multimedia	162

R: 6 Teachers have a positive attitude on the use of multimedia, but they seem fearful in using multimedia because they do not know how to use them.	163 164 165
R: 7 Teachers are eager to learn how to use multimedia but the only problem is that they cannot afford to pay from their pocket so that they can be trained in the use of multimedia.	166 167 168
R: 8 Teachers are more than willing to be professionally developed in the use of multimedia.	169 170
R: 9 Teachers just need the Department to help them with the financed training in the use of multimedia, so their positive attitude will really help them to continue with the course if the Department can arrange one for them.	171 172 173
R: 10 If there were developments done by the Department to capacitate teachers in the development of using multimedia I believe they would be more than happy to attend such trainings.	174 175 176

Re 8. Mention other aspects which might help to improve the professional development of teachers in multimedia usage?

R: 1 There Department of Education has to supply all schools with multimedia equipments, conduct continuous workshops on the use of multimedia.	177 178
R: 2 There Department will have to start training teachers so that they can be able to teach with multimedia.	179 180
R: 3 The Department can arrange short courses on the use of multimedia, supply schools with relevant multimedia equipments and make a special budget for the professional development in the use of multimedia.	181 182 183
R: 4 The establishment of multimedia centres can be of help to all teachers who are wiling to learn about the use and teaching of multimedia.	184 185
R: 5 The Department should set aside a fund and make some investment for the development of teachers in the use of multimedia.	186 187
R: 6 The supply of multimedia equipments and training of all teachers in the use of multimedia	188 189

R: 7 The Department can arrange training sessions on multimedia that can take place during the school holidays	190
	191
R: 8 The Department can build well equipped libraries in the different schools, and appoint teacher librarians to help other teacher in the use of multimedia equipments.	192
	193
	194
R: 9 Training and workshops can be good for the development of teachers in the use of multimedia.	195
	196
R: 10 Training and special courses on multimedia can be of importance in developing teachers in the use of multimedia.	197
	198

ANNEXURE B

INTERVIEW TRANSCRIPT: TEACHERS

Re 1: What type of professional development does the Department of Education offer to teachers?

- R: 1** I have never attended a professional development that was organized by the Department of Education. 1
2
- R: 2** The Department does not see the importance of teaching with multimedia; hence I have never attended any professional development in the North West Province 3
4
5
- R: 3** The Department does not acknowledge the importance of using multimedia but the private sectors do, hence TELKOM is giving a few hours training in the use of a computer. 6
7
8
- R: 4** I have not attended a developmental training, initiated by the Department of education for the teachers. 9
10
- R: 5** The Department delivered twenty two computers and later took them to another school without explaining to us the reason for taking those computers back. 11
12
13
- R: 6** The only time the Department tried to train teachers was when it was introducing new curriculum which is called National Curriculum Statement (NCS). Since then there has never been a professional Development for teachers. 14
15
16
17
- R: 7** The Department is doing nothing to train or develop teachers on the job. 18
- R: 8** One of the modules while I was doing management course was about a basic computer studies and it was compulsory for all students. 19
20
The Department of Education is doing nothing to train teachers 21
- R: 9** There is no In-Service Training but we only attended training National Curriculum Statement in 2005-2006 in various learning areas. 22
23
- R: 10** The Department trained teachers when they were introducing National Curriculum Statement, and not all of teachers attended. I am one of those who did not attend the training. 24
25
26

R: 11	Only in the introduction of OBE we attended the training that was	27
	arranged by the Department but after that we did not attend any course	28
	in the new curriculum NCS but we were taken through the new	29
	curriculum by those who attended the workshops.	30
R: 12	The Department took us to training in the improvement on reading and	31
	writing strategies for one day, and the natural science National	32
	Curriculum Statement workshop for one week and Quids up for one day.	33
R: 13	I attended National Curriculum Statement workshop for five day.	34
R: 14	The Department is taking principals to financial management training for	35
	two days not teachers. As a teacher at our school I have not attended a	36
	training organized by the Department.	37
R: 15	There is a two days financial management course that is attended by	38
	principals and the school's clerk only. We as teachers we are never	39
	taken to skills development that can help to enhance teaching and	40
	learning in the class room.	41
R: 16	The Department arranged a workshop in the introduction of National	42
	Curriculum Statement for all school teachers.	43
R: 17	The Department organized several workshops for the introductions of a	44
	New Curriculum National Curriculum Statement that took place during	45
	the school holiday	46
R: 18	The last time the Department arranged a proper training was during the	47
	introduction of a new curriculum only	48
R: 19	The Department and the school has not as yet organized any training	49
	for teachers	50
R: 20	2007 some of the teachers attended one day Qids up on reading and	52
	writing for learners. The is an ongoing ACE course by the Department of	53
	education for all teachers	54
R: 21	Qids up workshop on reading and writing for one day by the Department	
R: 22	The Department organized NCS Workshops on various learning areas for	56
	all teachers.	57

R: 23	The only Workshop I attended which was initiated by the Department was when OBE was introduced	58 59
R: 24	Attended NCS workshop for three days on Life Orientation and Setswana	60
R: 25	The Department is pursuing an Ace program for enhancing the atmosphere in the classroom	61 62
R: 26	The Department arranged a Workshop for Setswana in the NCS	63
R: 27	Teachers attended the Integrated Quality Management Systems workshop for at work evaluation of teacher and NCS workshop as new curriculum.	64 65
R: 28	The officials from the Department do not help teachers they just come to teachers when they want something they can writes a report on. In terms of professional development they are not willing to help teachers in any way even when teachers request some clarity on certain issues	66 67 68 69
R: 29	There is an ongoing program on Advance Certificate in Education (ACE) by the Department of Education that is funded by the Department of Education	70 71 72
R: 30	There has never been a training organized by the Department of Education for the development of teachers.	73 74
R: 31	I have never attended any training organized by the Department, I heard that other teachers are attending certain trainings, and I do not know if they initiated by the Department or not.	75 76 77
R: 32	The Department and the school never organized training for teachers as the principal the Department trained me in basic computer skills for two days while I was attending a project management.	78 79 80
R: 33	Advance Certificate in Education (ACE) by the Department of Education	81
R: 34	There has never been a training organized by the Department of Education for the development of teachers.	82 83
R: 35	I have never attended any training organized by the Department, I heard that other teachers especially those teaching maths and science are being trained by the Department, and I do not know if for sure they are initiated by the Department or not.	84 82 83 84
R: 36	The Department and the school never organized training for teachers as	85

the principal the Department trained me in basic computer skills when	86
I was attending a project management for two days	87
R: 37 The Department is trying very hard to develop teachers. It started with	88
several trainings when it introduce Outcome based Education and again	89
in the introduction of a new curriculum called National Curriculum	90
Statement.	91
R: 38 The Department is funding ACE program for teachers that all teachers	92
are expected to attend every fort night. There is also a financial	93
Management course for non financial managers	94
Re 2: What type of professional development in multimedia usage does the	
North-West Department of Education offer to teachers?	
R: 1 Telkom gave us a five days training on how to make some basic	95
activities in a computer, there other training I attended on multimedia	96
was on my private studies, so far the Department of Education has never	97
trained teachers in the use of multimedia.	98
R: 2 Telkom offered us a two days training on the use of a computer. The	99
Department is not training teachers on how to use multimedia equipment.	100
R: 3 Telkom offered some of our teachers a few hours training and later	101
took us on board with those basic computer skills	102
R: 4 There has never been any professional development on the use of	103
multimedia for us as teachers.	104
R: 5 There has never been a training conducted for the teachers to improve	105
their skills in the use of multimedia.	106
R: 6 Telkom trained us in the basic computer use and we then train other	107
teachers in our school. But the basic knowledge teachers are having is	108
not enough	109
R: 7 The only resources we are having at the school are text books.	110
The Department is not providing multimedia equipments and is not training	111
teachers on how to operate multimedia equipments.	112
R: 8 I attended a course in multimedia where I personally paid for myself not	113

by the Department	113
R: 9 To my knowledge the Department does not train teachers in the use of multimedia at all	114 115
R: 10 I have undergone training by Telkom in basic computer skills together with the neighboring schools. But really that training is not enough because it was only for three days.	116 117 118
R: 11 I attended a one week computer skills organized by the Telkom. The school arranged the teachers who went for training to come and train other teachers who did not attend.	119 120 121
R: 12 Never attended a course in multimedia that was funded by the Department of Education Telkom gave us a five days basic computer skills and I did another computer course in my private studies	122 123 124
R: 13 Within the financial management course I enrolled there was a module on basic computer skills, again I attended basic computer skills in a private institution where I paid for myself. No funding was coming from the Department.	125 126 127 128
R: 14 The Department is not training any teacher on how to use media	129
R: 15 National Curriculum Statement for the intro of new	130
R: 16 There is no professional development offered by teachers in the multimedia usage, Telkom offered a basic computer skill. One neighbouring teacher trained all teachers at our schools for two week only one hour per day	131 132 133 134
R: 17 One day training by Telkom	135
R: 18 In multimedia the Department is not training teachers but I attend training in multimedia privately	136 137
R: 19 Telkom trained us on how to use computer just how to open and close the computer and open a file	138
R: 20 The Department does not offer training, but Telkom did and I enrolled Private	139 140
R: 21 Telkom and the school	141
R: 22 Telkom provided 21 computers and trained us not the Department	142

R: 23 Short courses by Telkom	143
R: 24 No course in multimedia	144
R: 25 No training by the Department of Education in the use of multimedia	145
R: 26 No training by the Department of Education	146
R: 27 The Department is not able to train teachers in anything what more on multimedia because every time we meet with the learning area specialists They are always in a hurry they just give us crass course.	147 148 149
R: 28 Teachers love their work because they have been trained for teaching at teachers colleges. But the Department does not want to train teachers in the use of multimedia. Teachers really need to go with the flow of technology	150 151 152 153
R: 29 Not trained by the Department oh how to use multimedia equipments	154
R: 30 In a course I did in management computer skill was compulsory, but as on the side of the Department there is nothing taking place in developing teachers in the use of multimedia.	155 156 157
R: 31 The Department did nothing to develop teachers in using multimedia	158
R: 32 I have knowledge on how to operate a computer. The basic understanding of a computer I acquired was through my initiative where I enrolled with a private institution for training in a computer skill.	159 160 161
R: 33 There was an outside training on a computer for the teachers where the Department requested three teachers from our school to attend and the duration for the training was five days only.	162 163 164
R: 34 As for my understanding the Department is not training any one of the teachers in the use of multimedia.	165 166
R: 35 There has never been training organized by the Department of Education in the use of even one media. To know on how to use computer I acquired it while I was working for North-West Corporations in 1990.	167 168 169
R: 36 I know nothing about a course initiated by the Department of Education in the use of multimedia. I did a course on a computer while I was studying information studies which was my responsibility not funded by the Department of Education	170 171 172 173

R: 37	There was an outside training on a computer for the teachers	174
	where the Department requested three teachers from our school to attend	175
	and the duration for the training was five days only.	176
R: 38	There is no professional development of teachers in the use of	177
	multimedia. The Department is only training when it introduces a	178
	new curriculum	179
Re 3. Explain how you are professionally developed in the theory of using multi media?		
R: 1	The Department never trained me in any way on using even one medium.	180
R: 2	The two hour training on basic computer skills that was initiated by	181
	Telkom was covering both theory and practical at the same time.	182
R: 3	In my private studies I was trained both theoretically and practically	183
R: 4	The multimedia course I completed in my private studies was theory	184
	and practice at the same time.	185
R: 5	The Department has never trained me in the use of multimedia I did	186
	some course in basic computer literacy in my private time, paying for	187
	myself.	188
R: 6	We were not fully developed because we were only taught theory part	189
	of using a computer, but the training was not initiated by the	190
	Department of Education.	191
R: 7	It was both theory and practical at the same time, but the course was	192
	not funded by the Department of Education	193
R: 8	The Department of Education in the North-West Province does not offer	194
	a training in the use of multimedia.	195
R: 9	In my private studies, I was trained in both theory and practice at the	196
	same time	197
R: 10	Both theory and practical use of computer was provided, and it	198
	was not initiated by the Department of Education.	199
R: 11	Telkom offered us a Basic knowledge on how to close and open a	200
	computer, and I thank that was really a minimum attempt.	201
R: 12	Telkom offered both theory and practice on how to use a computer	202

R: 13 In my Private studies I was taken through a theory and practical at the same time	203 204
R: 14 The computers were delivered at our school and later they were taken to another place	205 206
R: 15 In attended one year course on my own on computer	207
R: 16 The Department has done nothing so far	208
R: 17 The tree trainings I attended it was a theory first and then practice	209
R: 18 The Department is doing nothing for training teachers both theory or practical use of a computer, but in my private studies we started with theory	210 211 212
R: 19 Telkom trained in both theory and practical at the same time because while they were giving instruction on how to go about opening a computer we were doing that	213 214 215
R: 20 Trained by Telkom and then by the school	216
R: 21 Theory only	217
R: 22 Telkom organized people and gave us the manual for theory	218
R: 23 Theory followed by practical	219
R: 24 There is no training in multimedia in the North-West province at all	220
R: 25 There is no sufficient training in the contents learning areas; it will be too much for the Department to train teachers especially in multimedia	221 222
R: 26 Never went through any training arranged by the Department of education on the theory of using multimedia	223 224
R: 27 I was trained in the theory of using multimedia in my private studies	225
R: 28 An unsuccessful mini workshop was arrange but never materialized, but the person who was to conduct the training was a local teacher on a voluntary basis.	226 227 228
R: 29 Never trained in the use of multimedia	229
R: 30 Never trained in the practical use of multimedia	230
R: 31 Teachers are never trained in the use of multimedia.	231
R: 32 Only in the basic computer not in other areas as to use the internet	232

R: 33 As an individual I paid for myself and attended a basic computer skills in town	233 234
R: 34 There Department is not offering a theory part of using a computer	235
R: 35 Teachers are never trained in the use of multimedia.	236
R: 36 Never went through any training arranged by the Department of education on the theory of using multimedia	237 238
R: 37 There is no training that I know of in the theory of using multimedia	239
R: 38 The Department can arrange training sessions on multimedia that can take place during the school holidays	240 241
Re 4. Explain how you are professionally developed in the practical of the media?	
R: 1 Telkom gave us a five days training on how to make some basic activities in a computer, there other training I did on multimedia was on my private capacity only.	242 243 244
R: 2 The two hour training that was initiated by Telkom was covering both theory and practical at the same time.	245 246
R: 3 In my private studies I was trained both theoretically and Practically	247 248
R: 4 Teachers at this school are never trained in the use of multimedia	247
R: 5 I was never professionally developed in the practical use of Multimedia	248 249
R: 6 I am never trained in the use of multimedia	250
R: 7 There is no training in the use of multimedia as far as I am concerned.	251 252
R: 8 Both theory and practice in using a computer was provided by Telkom	253 254
R: 9 Personally I was given both theory and practical and it was a hand on activity that was not funded and organized by the Department of education.	255 256 257
R: 10 Both theory and practical use of computer was provided by Telkom.	258 259



R: 11 Theory then practice on the use of a computer by Telkom.	260
R: 12 Both theory and practice in the use of computers by Telkom	
261	
R: 13 The school bought four computers to be used by teachers;	262
unfortunately we do not know the theory and practical of using a	263
computer because the Department of Education does not provide training	264
in the use of multimedia	265
R: 14 They started with theory then practice followed but the training	266
was not initiated by the Department of Education.	267
R: 15 Both but private	268
R: 16 Theory only	269
R: 17 Theory then practice to make show that we can implement the Theory	270
R: 18 Able to o open and close the computer	271
R: 19 Practice on how to operate different programs	272
R: 20 Both theory and practice at the same time	273
R: 21 Both Telkom and the school	274
R: 22 Telkom sent their people to train	275
R: 23 Telkom trained both but first theory	276
R: 24 Both first theory	277
R: 25 Not trained at all	278
R: 26 There is no training in multimedia in the North-West province	279
at all	280
R: 27 Never trained in the use of multimedia	281
R: 28 Never trained in the practical use of multimedia	282
R: 29 As a teacher I was never trained in the use of multimedia.	283
R: 30 During my private studies I got trained in the theory and practical	284
of knowledge.	285
R: 31 Never trained in the use of multimedia	286
R: 32 Never trained in the practical use of multimedia	287
R: 33 Teachers are never trained in the use of multimedia.	288

R: 34 Only in the basic computer not in other areas as to how to use the internet but that was not initiated by the Department of Education	289
	290
R: 35 As an individual I paid for myself and attended a basic computer skills in town where theory and practical of using a computer was provided	291
	292
R: 36 The Department is not offering a theory part of using a computer	293
R: 37 Teachers are never trained in the use of multimedia.	294
R: 38 Never went through any training arranged by the Department of education on the theory of using multimedia	295
	296
There is no training that I know of in the theory of using	297
Multimedia	298

Re 5. Explain the resources (e.g. data projector) which are available for the development of teachers in using multimedia in a school?

R: 1 The school received few computers from Telkom but I cannot remember the exact number because they are not used for the development of teachers	299
	300
	301
R: 2 Telkom donated the computers to our school for them to be used for learners.	302
	303
R: 3 The Department supplied the school with one computer, one lab top and one photo copying machine. It is not easy to access the computer because it is specified that it is for the management of the school.	304
	305
	306
	307
R: 4 The school is having only one overhead projector and it is not even working.	308
	309
R: 5 The school has bought itself three computers; the Department delivered twenty two computers, and later took them to another school.	310
	311
	312
R: 6 Telkom donated twenty one computers and the Department gave The principal one lab top for administration purposes	313
	314
R: 7 There are no equipments for the implementation of multimedia	315

at our school	316
R: 8 Telkom donated twenty computers for our learners at the school,	317
but one projector that was provided by the Department is not	318
working	319
R: 9 One projector, few computers from Telkom and one computer	320
for the management was received from the Department of	321
education.	322
R: 10 The school received one projector and four computers from the	323
Department of Education. It is very difficult to access those	324
computers due to a large number of teachers.	325
R: 11 Telkom donated twenty one computers which are now not	326
working because there is no one to help with the maintenance.	327
The guarantee that was given by Telkom for maintenance has	328
expired.	329
R: 12 The school bought four computers from it school fund.	330
R: 13 The school bought four computers for the running of the schools	331
administration but not for the implementation of multimedia for	332
teacher development.	333
R: 14 The Department gave the school one computer and a laptop for	334
The principal and specifically indicated that it should be used	335
for the administration of the school	336
R: 15 There are no multimedia equipments for the development of	337
teacher at our School	338
R: 16 We have 21 computers from Telkom; the Department supplied	339
One computer for administration purpose	340
R: 17 One projector from the Department of Education	341
R: 18 Telkom provided 21 computers and the Department provided	342
one projector	343
R: 19 21 computers from Telkom one projector from Department	344
R: 20 We received a donation of 21 computers from Telkom of which	345
some of them are not working because there is no one to	346

maintain them. Telkom is not continuing with the maintenance	347
of the computers	348
R: 21 The school received twenty one (21) computer donated by	349
Telkom for learners	350
R: 22 A donation of twenty one (21) computers by Telkom and the	351
principal laptop from Department of Education	352
R: 23 A donation of twenty one (21) computers by Telkom one laptop	353
from Department	354
R: 24 The Department is failing to supply the schools with a soccer ball,	355
what with multimedia resources. We have applied for a media	356
centre even today nothing is happening.	357
R: 25 We are only having one Radio and TV that are bought by the	358
school.	359
R: 26 The school bought twenty one computers	360
R: 27 The available resources that are here at our school are bought	361
by the school are not a contribution from the Department of	362
education and they are not for the development of teachers but	363
they are used for the administration of the school.	364
R: 28 We have never received the multimedia equipment from the	365
Department of Education, the only media we have at school are text	366
books for the teaching of learners not for the development of any	367
teacher in a school.	368
R: 29 The school received a sponsor of twenty one computers from Eskom;	369
the Department provided the whole school with one computer for	367
administration purposes only. Even those computers that are donated by	368
Telkom are not for the professional development of teachers but they are	369
used for learners and there is one teacher with knowledge of a computer,	370
and he is helping learners with the basics in using the computers.	371
R: 30 There are no multimedia equipments at our school.	372
R: 31 The school bought thirty computers for itself, but the Department	373
gave the whole school one computer. Since there is no one who is	374
specializing in multimedia the computers are used for administration	375

purposes and teachers who are trained in their private studies on how	376
to use a computer are typing their tests and helping with other	377
administration activities.	378
R: 32 The Department of Education contributed some computers but	379
latter they were taken to another school but the reason for taking	380
back the computers after two weeks are not known.	381
R: 33 The computers available at our school are contributions from Telkom.	382
But they are not used for the development of teachers.	383
R: 34 The Department can arrange short courses on the use of multimedia,	384
supply schools with relevant multimedia equipments and make a	385
special budget or the professional development in the use of	386
multimedia.	387
R: 35 The establishment of multimedia centres can be of help to all teachers	388
who are willing to learn about the use and teaching of multimedia.	389
R: 36 The Department should set aside a fund and make some investment for	400
the development of teachers in the use of multimedia.	401
R: 37 The supply of multimedia equipments and training of all teachers in the	402
use of multimedia	403
R: 38 The Department can arrange training sessions on multimedia that can	404
take place during the school holidays	405
The Department can build well equipped libraries in the different schools,	406
and appoint teacher librarians to help other teacher in the use of	407
multimedia equipments.	408

Re 6. Why is it difficult for the North-West Department of Education to conduct an effective professional development of teachers in the multimedia usage?

R: 1 The Department does not show an interest in the use of multimedia.	384
R: 2 May be the Department lack the relevant personnel on the issues of	385
multimedia?	386
R: 3 Some of the heads in the Department of Education does not have	387
knowledge of using multimedia that is why they do not see the reason	388

to train teachers in the use of multimedia.	389
R: 4 Our school is situated in a deep rural area that is not having an	390
electricity and multimedia equipment work with electricity, so the	391
Department before it can provide any equipment it will have to	392
address the problem of electricity.	393
R: 5 The Department does not show interest in the use of multimedia by the	394
school.	395
R: 6 The Department does not support the reason behind using multimedia in	396
schools, hence there is no training that is taking place in the use	397
of multimedia for the teachers	398
R: 7 The Department always complains about the financial constraints but	399
teachers are just waiting for the Department to tell them as to when they	400
come for training in the multimedia usage.	401
R: 8 Most of the schools in the province are in rural areas where there	402
is no electricity and that makes it hard for the Department to train	403
since well the multimedia requires the use of electricity.	404
R: 9 Lack of personnel that will be in a position to train teachers in the	405
use of multimedia	406
R: 10 The Department is shifting its responsibility to non governmental	407
organization. Department does not take the importance	408
of multimedia serious.	409
R: 11 Department shows no interest in the use of multimedia, no funding	410
for the training in multimedia	411
R: 12 Lack of facilities, and electricity	412
R: 13 Proper planning is needed	413
R: 14 Time constraints, equipments not available	414
R: 15 No telephones	415
R: 16 The Department does not acknowledge the importance of multimedia	416
only Telkom does acknowledge that because they are donating	417
computers to most of the local school	418
R: 17 Taking advantage of Telkom	419

R: 18 Lack of personnel in the higher posts	420
R: 19 Department does not have interest in the use of multimedia	421
R: 20 Lack of money from the Department	422
R: 21 There are no funds to start with the training in the multimedia	423
Usage	424
R: 22 Lack of resources	425
R: 23 The MEC may be lacking the knowledge of multimedia, so it	426
will be hard for other personnel to train teachers in the use of	427
multimedia	428
R: 24 They do not sit down and plan, but claim that they do not have funds,	429
even when they train it's a once off thing and there is no follow up	430
R: 25 Financial constrains is a major issue in the Department of Education.	431
R: 26 In my view I do not know but I think the Department is lacking	432
the people with skills of coming up with relevant skills development	433
programs.	434
R: 27 The Department always claims to have financial crisis	435
R: 28 My thoughts are telling me that the Department lacks budget for	436
training in multimedia	437
R: 29 The government failed to make provision for the installation of	438
electricity in other rural areas; it will be more difficult to provide	439
multimedia equipments since they are operating through the use of	440
electricity	441
R: 30 The Department does not see the importance of teaching with	442
multimedia that is why they do not bother to introduce any course	443
in the use of multimedia.	444
R: 31 The Department does not acknowledge the importance of using	445
multimedia but the private sectors do, hence TELKOM is donating	446
computers to most of the schools in the North-West Province.	447
R: 32 The Department might not be having enough resources to train teacher	448
but from my observation there is a lot of ignorance by the Department	449
when coming to multimedia usage.	450

- R: 33** The Department may lack capacity in terms of personnel and budgetary constraints may be one of the reasons for not providing an effective professional development in the use of multimedia. 451
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- R: 34** The Department has always complained about the lack of finance, to teachers it is not known whether the Department really lack funds or it is just a trick. 454
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- R: 35** It is not known as to what makes it complicated for the Department of education to not be in a position to come up with an effective professional development in multimedia. What the Department normally say is financial constrains. May be even in this case finance may be the reason. 457
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- R: 36** The Department does not have time to plan, buy recourses for the implementation of different trainings, especially in the use of multimedia 463
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- R: 37** The Department always cites that it does not have money. Teachers do not know when that is real because this reason of financial constraints is put on the table year in year out. 465
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- R: 38** Department lack proper planning and again it lack suitably qualified and correctly placed head in different unit in the Department of Education. 410 468
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Re 7. Explain to me the attitude of teachers towards the professional development in the use of multimedia?

- R: 1** Teachers are really eager to learn how to use multimedia because they believe that technology has taken the world by storm and that learners are aware of multimedia technology and they can use multimedia better than teachers. 472
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- R: 2** Teachers are really positive to be trained on how to use the multimedia equipments. 476
477
- R:3** Teachers are very interested and really have a good attitude towards the teaching with multimedia. 478
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- R: 4** There is a positive attitude towards the use of multimedia because 480

teachers are enrolling courses in the use of multimedia in their private studies.	481
	482
R: 5 Teachers are eager to know how to use multimedia because learners are already in a position to explore many types of multimedia equipment at their homes.	483
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R: 6 We truly need professional development or training in the use of multimedia for teacher for the benefit of learners	487
	488
R: 7 Teachers are in need for training in the use of technology equipment hence they are enrolling courses in multimedia and pay for themselves	489
	490
R: 8 Teachers are very much ready and positive towards multimedia. They even go to an extend of registering in private institution multimedia courses.	491
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R: 9 Teacher love multimedia technology. Others are registering courses in the use of multimedia but it becomes difficult to implement multimedia usage due to lack of resources.	494
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R: 10 Teachers want to comply with the use of multimedia, so they are really in need for the training in the use of multimedia	497
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R: 11 Most of teachers are having an interest on knowing how to use multimedia equipments but they lack the funds of doing that.	499
	500
R: 12 Teachers would like to be trained in the use of multimedia. There is a sign of interest hence we see most of them registering courses in the multimedia usage	501
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	503
R: 13 Teachers are always eager to learn they really want to be trained in the use of multimedia	504
	505
R: 14 More especially teachers with computers at their houses show an interest in know more about a use of a computer. Those without the computer at home wish to quit the system. Most young teachers are the one with more interest in the use of multimedia.	506
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	509
R: 15 Teachers are willing to learn on how to use multimedia	510
R: 16 Teachers are positive we see them enrolling partime on multimedia usage	511
R: 17 Dispersed villages make it difficult for the Department to train teachers	512

R: 18 Show interest in the use of multimedia hence they enrolled part time	513
with higher institution	514
R: 19 Teachers want to learn but lack funding	515
R: 20 Teachers are so positive about knowing how use multimedia.	516
R: 21 Teachers understand the importance of multimedia in education	517
so they are more than willing to know more about them	518
R: 22 Teachers have the passion of knowing how to use multimedia for the	519
benefit of the learners at the school	520
R: 23 Teachers are eager to know how to use multimedia	521
R: 24 Teachers have realized that they are living in a world full of technology	522
so they are positive to learn more about multimedia so that they can help	523
learners with technology issues.	524
R: 25 Teachers are more than willing to be trained in the use of multimedia.	525
That is why it decided at the school that by September we are going to	526
organized training in multimedia	527
R: 26 Teachers are more than willing to learn how to use multimedia; even for	528
IQMS most of teachers normally write the same thing that they need	529
training in multimedia	530
R: 27 Teachers are interested because they are enrolling course in	531
Multimedia	532
R: 28 Teachers are willing and waiting to be trained in the use of	533
Multimedia	534
R: 29 Teachers have passion of seeing themselves teaching with multimedia	535
R: 30 I wish that we can be informed about the criteria that the Department	536
of education is using in order to allocate the multimedia recourses	538
do not even ask the management like in our case we received one	539
computer with an instruction that is must be use specifically for the	540
administration purposes.	541
R: 31 We normally see teachers carrying memory sticks so it is evident	542
that teacher really want to be developed, we are just learning from other	543
teacher not trained by the Department. The Department is good in	544

giving instruction but capacitating teachers is a problem	545
R: 32 Teachers are willing to learn on how to use multimedia	546
R: 33 Teachers are positive we see them enrolling partime on multimedia usage	547
R: 34 Show interest in the use of multimedia hence they enrolled part time with higher institution	548 549
R: 35 Teachers want to learn but lack funding	550
R: 36 Teachers are so positive about knowing how use multimedia.	551
R: 37 Teachers understand the importance of multimedia in education so they are more than willing to know more about them	552 553
R: 38 Teachers have the passion of knowing how to use multimedia for the benefit of the learners at the school	554 555
Teachers are eager to know how to use multimedia	556
Re 8. Mention other aspects which might help to improve the professional development of teachers in multimedia usage?	
R: 1 The Department will have to find the course related to multimedia so that teachers can be in a position to teach with multimedia, thus enhance their teaching and learning.	557 558 559
R: 2 I would like to recommend that the Department arrange some workshops specifically for training teachers in the use of multimedia.	560 561
R: 3 Training in the use of multimedia will be of benefit to teachers as they will be in a position to help learners when working with multimedia equipments.	562 563 564
R: 4 The Department will have to increase the funding for the professional development in multimedia and employ professionals with the knowledge of multimedia.	565 566 567
R: 5 I am appealing to the Department to build, laboratory and well equipped libraries.	568 569
R: 6 There is a need for the Department to organize In-Service Training and workshop in the use of multimedia for all teachers of all levels	570 571
R: 7 Multimedia equipment to be sent to all schools, so that teachers can	572

be able to use them for the benefit of learners	573
R: 8 The Department must increase its spending in the buying of multimedia.	574
The Department will have to hire more multimedia professionals to train teachers in the use of multimedia	575 576
R: 9 The Department to supply the schools with electronic machines for the implementation of multimedia	577 578
R: 10 The Department has to make a provision for the multimedia recourses, build libraries and employ fulltime multimedia specialists at schools.	579 580
R: 11 The Department of Education has to avail funding for all teachers to be trained in the use of multimedia.	581 582
R: 12 The Department of Education to Finance the training in the use of Multimedia	583 584
R: 13 Proper planning is needed. Availability of resource and budget specifically to train teachers in the multimedia usage	585 586
R: 14 The Department to supply enough multimedia equipment to all schools so that teachers can have access to multimedia equipments, the Department to make a multimedia course compulsory as they did during the training and implementation of National Curriculum Statement.	587 588 589 590 591
R: 15 There should be number of workshops and courses for all teachers in the multimedia usage.	592 593
R: 16 The Department to supply schools with number of multimedia	594
R: 17 Workshops and supply equipment to all schools	595
R: 18 The Department has to make provision and make enough funds available for the training in multimedia because the electronic machines are every expensive	596 597 598
R: 19 Compulsory courses in multimedia usage from the primary school up to the colleges of higher learning for teachers	599 600
R: 20 Funding from the Department of Education or the Department can do the same as they did when they funded Advanced Certificate in Education for all teachers	601 602 603

R: 21 Department to provide funds for the training of teachers in the use of Multimedia	604 605
R: 22 More budget for the development in the use of multimedia	606
R: 23 The Department to build multimedia centres	607
R: 24 Libraries and all the necessary equipments relevant for the implementation of multimedia	608 609
R: 26 I recommend that the Department can make especial budget for the training and implementation in multimedia	610 611
R: 27 Help schools with finance to build libraries and buy more multimedia Equipments	612 613
R: 28 Multimedia centres and well equipped libraries can be used to help teacher in using the multimedia equipment.	614 615
R: 29 The need to make a budget that concentrates only in developing teachers in the use of multimedia. The Department of Education is really running away from its responsibility.	616 617 618
R: 30 The Department needs to build libraries and employ permanent multimedia specialist for the improvement of multimedia	619 620
R: 31 The Department to set aside a special budget that will concentrate on the development of teachers in the use of multimedia	621 622
R: 32 There Department of Education has to supply all schools with multimedia equipments, conduct continuous workshops on the use of multimedia.	623 624 625
R: 33 There Department will have to start training teachers so that they can be able to teach	626 627
R: 34 The Department can arrange short courses on the use of multimedia, supply schools with relevant multimedia equipments and make a special budget or the professional development in the use of multimedia.	628 629 630 631
R: 35 The establishment of multimedia centres can be of help to all teachers who are willing to learn about the use and teaching of multimedia.	632 633
R: 36 The Department should set aside a fund and make some investment for	634

the development of teachers in the use of multimedia.	635
R: 37 The supply of multimedia equipments and training of all teachers in the use of multimedia	636 637
R: 38 The Department can arrange training sessions on multimedia that can take place during the school holidays	638 639
The Department can build well equipped libraries in the different schools, and appoint teacher librarians to help other teacher in the use of multimedia equipments.	640 641 642

ANNEXURE C

INTERVIEW SCHEDULE (Teachers)

1. What type of Professional Development (e.g. financial management) does North-West Department of Education offer to Teachers?

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2. What type of Professional Development in Multimedia does North-West Department of Education offer to Teachers?

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3. Explain how you are professionally developed in the theory of using multimedia?

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4. Explain how you are professionally developed in the practical knowledge multimedia?

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5. Explain the resources (e.g. Lap top) that are available for the implementation of professional development of teachers in multimedia in a school?

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6. Why is it difficult for the North-West Department of Education to conduct an effective professional development of teachers in the use of multimedia?

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7. Explain to me the attitude of teachers towards professional development in multimedia?

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8. Mention other aspects which might help to improve the professional development of teachers in multimedia usage.

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ANNEXURE D

INTERVIEW SCHEDULE (School Managers)

1. What type of Professional Development (e.g. financial management) does North-West Department of Education offer to Teachers?

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2. What type of Professional Development in Multimedia does North-West Department of Education offer to Teachers?

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3. Explain how you are professionally developed in the theory of using multimedia?

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5. Explain the resources (e.g. Lap top) that are available for the implementation of professional development of teachers in multimedia in a school?

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6. Why is it difficult for the North-West Department of Education to conduct an effective professional development of teachers in the use of multimedia?

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7. Explain to me the attitude of teachers towards professional development in multimedia?

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8. Mention other aspects which might help to improve the professional development of teachers in multimedia usage.

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TO WHOM IT MAY CONCERN

REQUEST FOR PERMISSION TO CONDUCT RESEARCH FOR M. ED STUDIES AROUND THE CENTRAL REGION.

I wish to confirm that **Mrs. MP Seabo** Student No: **16878027** is currently registered for M. Ed in Educational Technology at North West University; (Mafikeng Campus.)

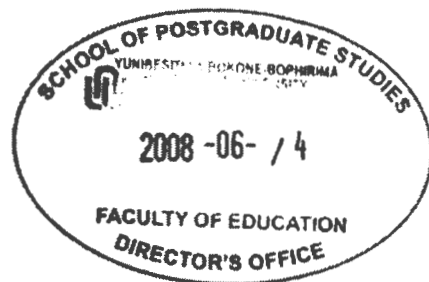
Mrs. MP Seabo needs to collect data for her research from various schools around the Central Region. I therefore request that she be given the necessary assistance in this regard.

Thank you in anticipation for your cooperation and assistance.

A handwritten signature in black ink, appearing to read 'Dr MW Lumadi', written over a circular stamp.

.....
Dr MW Lumadi

Director: School of Postgraduate Studies





education

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26 June 2008

**To: M.P.P. Seabo
P.O. Box 4443
MMABATHO
2735**

**From: Mr. H.M. Mveli
Superintendent-General**

CROSS-CULTURAL STUDY AT SETSWANA AND AFRIKAANS SCHOOLS IN THE NORTH WEST PROVINCE

Reference is made to your letter regarding the above matter. The content is noted and accordingly, approval is granted to your kind self to access schools in the areas indicated for the purpose of your research as per your request, subject to the following provisions: -

- That you notify the relevant District Manager about your request and this subsequent letter of approval.
- That the onus to notify the Principals of your target schools about your intended visit and purpose thereof rests with your good self.
- That participation in your project will be voluntary.
- That as far as possible the general programme of learning and teaching should not be interfered with.
- That the findings of your study will be made available to the Education Department upon request.

With my best wishes

**MR. H.M. MWELI
SUPERINTENDENT GENERAL**



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Date: 10 June 2010

CERTIFICATE OF LANGUAGE EDITING

The dissertation entitled

**THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN MULTIMEDIA
USAGE IN THE NORTH WEST PROVINCE**

Submitted by

PAULINA SEABO

For the degree of

**MASTER OF EDUCATION
(EDUCATIONAL TECHNOLOGY)**

In the

**SCHOOL OF POSTGRADUATE STUDIES
FACULTY OF EDUCATION
MAFIKENG CAMPUS
NORTH WEST UNIVERSITY**

has been edited for language by

Mary Helen Thomas B.Sc.(Hons) P.G.C.E

A handwritten signature in cursive script that reads "Helen Thomas".

Ms. Helen Thomas

Lecturer

School of Undergraduate Studies