

**Impact of Curriculum Changes on Primary School Teachers in Seshego Circuit,
Limpopo Province**

by

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DECLARATION

I HEREBY DECLARE THAT THE DISSERTATION SUBMITTED FOR MASTERS DEGREE OF EDUCATION, AT THE UNIVERSITY OF SOUTH AFRICA, IS MY OWN ORIGINAL WORK AND HAS NOT PREVIOUSLY BEEN SUBMITTED TO ANY OTHER INSTITUTION. I FURTHER DECLARE THAT ALL SOURCES CITED OR QUOTED ARE INDICATED AND ACKNOWLEDGED BY MEANS OF A COMPLETE LIST OF REFERENCES.

.....

SIGNATURE

(MRS H. S. MAIMELA)

.....

DATE

DEDICATION

I dedicate this work to my mother Nkhensani Mamayila and my late father Kheto Daniel Mathonsi whose efforts nurtured me in such an extent that I am able to achieve higher goals in life. This study is also dedicated to my husband Eleck Jan, my daughters Retang and Kgatliso Risuna and my son Kabelo Praise for their love, support and understanding.

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ABSTRACT

This research explores the impact of curriculum changes on primary school teachers at Seshego Circuit, Limpopo Province. It focuses on issues that influence teachers implementing curriculum changes. Impact of curriculum changes was examined. Principals and teachers were the respondents. The study confirmed several consequences of curriculum change. In-service training is recommended to assist the necessary adjustments to curriculum changes. Sufficient time for training is required to avoid covering an excessive amount of work during too short a time. This results in confusion and discontent. Training enables teachers to feel confident and competent. Their task becomes rewarding for them. Curriculum changes are intended for the benefit of learners and teachers. Teachers should not be discouraged when they encounter some of the more challenging impacts of curriculum changes. Attitudes should also be motivated in subjects such as Mathematics. The Department of Education is exhorted to support and guide its teachers to become a force for the greater good of South Africa.

Key terms:

Curriculum 2005, Curriculum and Assessment Policy Statement, Curriculum development, Curriculum implementation, Curriculum management, learner-centered, learning programmes, intermediate phase, Outcome-Based Education, Primary Schools, Revised National Curriculum Statement, School management.

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CHAPTER 1: BACKGROUND AND OUTLINE OF THE STUDY

1.1. INTRODUCTION

School management is faced with the responsibility of ensuring proper management of curriculum changes so that learners' educational needs are catered for. Curriculum management therefore plays a vital role in the development of competent life-long learners. Although change occurs rapidly in all spheres of life, change in education often receives more attention than any other sector (Apple, 2001:1). Worldwide, schools are expected to respond to globalization, national reconstruction and economic growth. However, curriculum change literature produced over nearly a century, contains no evidence of such possibilities (Jansen, 1999:148). Regardless of this lack of research into curriculum change, teachers are continually charged with the responsibility of economic regeneration and expected to develop capacity for innovation, flexibility and commitment to change (Fullan, 1993:18). Moreover, there appears to be consensus that teachers are the key to educational change and school improvement (Penuel, Fisherman, Yamaguchi and Gallagher, 2007: 921). Ballet et al. (2006:209) argue that such demands on teachers constitute significant extensions to their teaching role and detract from the core activity of teaching.

Teachers, as the drivers of change, therefore deserve new respect and careful consideration, particularly since curriculum change is often accompanied by unrealistic demands, lack of time and resources to understand the content of the required change, inadequate training, increased workload and lack of effective management (Priestley & Sime, 2005:489). Policy makers, educational officials, politicians, the media, parents and the public exert intense pressure on teachers. Furthermore, professional development programmes seldom give teachers adequate tools to enable them to cope with change (Hargreaves, 2003:1). As a result, curriculum change, although intended to increase the effectiveness of teachers, has the converse effect when teachers tend to avoid the challenge of change (Placier & Richardson, 2002:905). Curriculum change may even undermine teachers and their capacity to implement change effectively.

This study is an attempt to explore the impact of curriculum change in Mathematics in primary schools' teachers at Seshego. The focus will be on Mathematics as its importance in all sectors of

life is indubitable. Skemp (1991) stipulates that Mathematics can be seen as a powerful example of the functioning of human intelligence. For learners to succeed at mathematics, they need to go through various developmental phases. With reference to *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM IV, 1994) problems in Mathematics could hinder linguistic skills, perceptual skills and attention skills. When learners fail to meet the expectations of the curriculum, Mathematics becomes a major assessment concern.

1.2. BACKGROUND

Foundation, as defined by Soanes and Stevenson (2004:561), is the lowest load-bearing part of a building, typically below ground level. This means that if the foundation of a building is weak, it will not be able to support the load it is meant to carry. This will result in the collapse of the building. For the development of competent life-long learners, the base from which they come is important. It is also important to recognize those who lay this foundation, what type of foundation it is and how the foundation is laid. With this in mind, the researcher aims to identify the impact of curriculum changes in Mathematics in primary school teachers and cultivate competent life-long learners. Primary school teachers carry the responsibility of laying the right foundation for our learners. In this context impact of curriculum changes have the ability to affect the whole foundation for better or for worse. The ultimate aim of curriculum change is to achieve the best. The teachers' attitudes towards-curriculum-changes-determine-how-they-will-facilitate-the-process-of-change.

The winds of change have been sweeping across South Africa since the first democratic general elections held in 1994, and have been felt by everybody in the country as well as by many beyond its borders. In order to meet the challenges brought by socio-political changes, South Africa has to provide quality education for its people. Changes in the education system usually impact on teacher development programmes. However, the nature and extent of policy-making for initial and continuing education varies from country to country. According to McDonald and Van der Horst (1997:26), the new education system in South Africa requires comprehensive modeling and a fundamental shift in the attitude that teachers adopt to the learning process.

Since the introduction of OBE in 1998, education in South Africa has undergone a period of unprecedented curriculum change. The implementation of Outcomes-based education was viewed as

a radical education reform. The Department of Education (1997:1) views the change as a means to redress educational imbalances of the majority of the African population owing to historical educational disparities. The reform is based on the premise that the quality of school education in South Africa has been declining drastically and that a radical reform is required to improve the quality of schooling. Mothata and Van Wyk (1998:1) are of the opinion that extensive changes happened in the education system. The system has changed, but the gap between previously disadvantaged schools and previously advantaged schools still exists.

Spreen and Vally (1998:14) concur that in contrast with the previously privileged, schools have poorly qualified teachers. In an attempt to implement OBE, multiple administrative burdens were placed on teachers. Most of them were trapped into trying to make sense of all the new terminology and jargon in the curriculum. This resulted in some teachers simply not even attempting to implement the curriculum, because they could not make sense of it, while other teachers carried on teaching the way they always had, but named what they were doing in OBE language (Hoadley and Jansen, 2010:159). Chisholm (2000:3) agrees that implementation was not always carefully considered, properly piloted or resourced and a large amount of strain was consequently placed on already overburdened principals and teachers in widely diverse educational contexts. Inadequate information led to the ineffective implementation of curriculum 2005 which was further substituted by the Revised National Curriculum Statement (RNCS) which later changed to National Curriculum statement (NCS). Van Niekerk cited in Marishane (2002:118) states that the educational change in South Africa with the implementation of OBE since 1997 has failed to deliver the expected results because of inadequate orientation, training and development of teachers, policy overload and limited transfer of learning into classrooms.

Curriculum reform brought major changes in the roles played by different stakeholders in schools, especially the roles of principals, teachers and learners. Thus, a shift in focus in the role played by various stakeholders was advocated (McDonald and Van der Horst, 1997:138). Ogude and Bohlman (1998) emphasized the plight of the teacher in the school. Reporting on the sixth annual meeting of the Southern African Association for research in mathematics and science education, they stated that the broader culture of the school often prevented teachers from being able to implement what they believe to be “good” teaching practice.

The Review commission as appointed by Prof. Asmal headed by Prof. Linda Chisholm observed briefly that “teachers generally have a rather shallow understanding of the principles of C2005-OBE”. And it further commented that “teachers are working under conditions that are not conducive to their learning and development”. According to Van Niekerk cited in Marishane (2002:118), human resource development is very important in the successful implementation of change. Le Roux and Maila (2004:237) point out that teachers play a vital role in the interpretation of the education policy and as such, it is imperative that they receive professional development opportunities in order to meet the challenges of implementing these new education policies in schools. The Department of Education (1995:39) contends that without the support of teachers, fundamental policy changes can never be put into practice successfully.

Education is not and cannot be divorced from other sectors of society and is a significant factor driving change processes (Angelis et al., 2001:25). The changing nature of content requires constant revision to update development within the education system. The rapid change in knowledge, the information age and global interconnectedness all influence South African schools and need to be addressed (Grobler, 2003:34). Miles and Fullan (1992:744-755) are of the opinion that change is associated with uncertainty, anxiety and difficulties. They further explain that change is a journey, not a blueprint; it is better to do then plan, and do and plan some more, and success is likely only when there are resources and provisions for teacher released time that allows space for extra work of change.

1.3. PROBLEM STATEMENT

The new policies have resulted in policy overload and intensification of teachers’ work. Curriculum 2005, for instance, has resulted in more paper work for teachers. The intensification of teachers’ work has, in turn, resulted in low morale among teachers and loss of confidence in their abilities. There is overwhelming evidence that teachers’ work in South Africa is increasingly characterized by intensification. The policy overload has manifested itself through the proliferation of workshops and increased changes that teachers have to deal with. This has caused confusion and in some cases loss of confidence by some teachers. The impressive policy framework that has been put in place has not

been backed by support and a comprehensive plan of how the policies are going to be implemented (SACE, 2006).

Since 1994 the Department of Education has introduced different educational changes. Among the most significant are:

- Outcomes-Based Education (OBE)
- Curriculum 2005 implemented in 1998
- Revised National Curriculum Statement which has ultimately become
- National Curriculum Statement
- Curriculum and Assessment Policy Statement (CAPS) - currently in use

Teachers are expected to manage these changes, and naturally they find it difficult to do so. Faced with the significance of their role as agents of change, many teachers, head-teachers, senior education managers as well as directors up to the superintendent general level are suffering innovation overload Jansen & Sayed, (2001:180). According to McNeil (1996:255), teachers follow a new curriculum more closely when the principal plays an active role in the implementation; a new curriculum does not flourish when the principal remains in an office, verbalizes support, and lets the teachers struggle with the problems. Piek (1991:131) maintains that however adequate the training and qualification of teachers, they are living and working in an age in which constant retraining and development is imperative if they are to cope effectively with their tasks.

The main research problem:

What is the current situation regarding the impact of curriculum changes in Mathematics in primary school teachers and in Seshego Circuit in particular?

The following sub-questions will be looked at in attempt to address the main research question:

- What impact does curriculum changes in mathematics have on teachers' career development?
- What are the challenges experienced by mathematics teachers regarding curriculum changes in Seshego Circuit?

- To what extent do curriculum challenges affect teachers' morale?

1.4. AIMS OF THE STUDY

The main aim of this study is to find out the current situation with regard to the impact of curriculum changes on primary school teachers and in Seshego Circuit.

Sub aims or objectives are:

- To determine the impact brought by curriculum changes on mathematics teachers' career development.
- To identify curriculum challenges experienced by mathematics teachers in Seshego Circuit.
- To determine the extent to which curriculum challenges affect teachers' morale.

1.5. RESEARCH METHODOLOGY

1.5.1. Research Design

Research design addresses the planning of scientific inquiry, designing a strategy to explore, describe and explain something (Babbie cited in Boikanyo, 1998:89). The current problem is investigated by way of literature review as well as empirical investigation. The literature survey entails the analysis of documents containing information relating to the stated problem. These documents include professional journals, books, educational legislations and reports of meetings. The aim of reviewing the literature was to provide a theoretical framework for the empirical investigation, in which qualitative and quantitative research design were used to gain insight into the impact of curriculum changes on primary school teachers in Seshego Circuit. Most data sought were of qualitative nature and some baseline was quantitative.

1.5.1.1. Qualitative approach

Qualitative research means any kind of research that produces findings not arrived at by statistical procedures or other means of quantification. It can refer to research about person's lives, stories, behaviour, but also about organizational functioning, social movement or interactional relationships (Strauss & Corbin, 1990:17). The reason for using this method is that data are being collected through sustained contact with people in settings where subjects mostly spend their time; at their

work place. This approach has the ability to provide complex textual descriptions of how people experience a given research issue. It also provides information about the “human” side of an issue that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals in the implementation process.

Qualitative research has been assigned many different labels, such as field research, critical research, interpretative research, naturalism, ethnography, and constructivism. However, they all share a common focus: to interpret and construct the qualitative aspects of communication (du Plooy, 2002: 29). Furthermore, qualitative methods collect information in the form of words which give us an in-depth understanding of the nature of what people experience (Louw & Edwards, 1998:29). Interviews are performed to collect qualitative data.

For the purposes of this study, this type of method allowed the researcher to remain receptive to new ideas, issues and undercurrents emerging from the study. This was especially relevant to the subject of the present study, which was still being developed, with the result that there was a considerable likelihood that new developments relating to the impact of curriculum changes on primary school teachers emerged during the process. It was the researcher’s opinion that such a design was the most effective for this research, considering that the topic is a practical issue in an education sector.

1.5.1.2. Quantitative approach

The word *quantitative* refers to the use of numbers in collecting or working with research data. Quantitative researchers might study an attitude or experience by asking a set of defined questions from which a score can be derived (Louw & Edwards, 1998:30). The present researcher decided to employ quantitative method for this study since it tends to be more field focused (Denzin and Lincoln, 1994:2). A questionnaire was administered to collect quantitative data. This method was chosen because it is relatively economical and has the same questions for all the participants and can ensure anonymity. The main reason for administering the questionnaire to teachers was to get more information from the teachers who are, for the most part, responsible for the practical implementation of curriculum changes.

1.5.2. Population and sample

1.5.2.1. Population

Population is a term that sets boundaries on the study units. It refers to individuals in the universe who possess specific characteristics (de Vos et al., 2002:198-199). The authors continue by pointing out that a population is the totality of persons, events, organization units, case records or other sampling units with which the research problem is concerned. The population for this study consists of all primary schools in Seshego circuit and their teachers. This includes township schools, schools in rural areas, schools situated in informal settlements as well as independent schools, because these schools differ according to their history, culture of learning and teaching, and climate.

1.5.2.2. Sample

Shipman (1997:57) states that a sample is selected to represent a population. It can be viewed as a sub-set of measurements drawn from the population in which researchers are interested (de Vos et al., 2002:199). According to Patton as cited in McMillan & Schumacher (1993:378), in purposeful sampling the researcher identifies “information rich” participants for the reason that they are possibly knowledgeable about the phenomenon under investigation. The composition of the sample in the present study is as follows: Six primary schools were purposively selected in Seshego Circuit. These are two township schools, two schools in rural areas, one school situated in an informal settlement and one independent school. From each school five teachers and one principal or deputy principal were selected to participate in the study, regardless of age, gender or whether they are permanent or temporary, local or foreign. The researcher selected institutions:

- that were easily accessible and
- in which she has knowledge of their location.

No qualification was taken into account for selection. The criterion was that teachers must have taught Grades 4 to 6 Mathematics for more than two years. This includes: one principal or deputy principal or head of department and five Mathematics teachers from each school.

This means that 36 respondents from six primary schools in Seshego Circuit took part in this study.

1.5.3. Data collection

Qualitative researchers use a range of data collection methods during an extended time in the field, which usually includes interviewing and documentary analysis (de Vos et al., 2002:275). The method to be used for data collection is influenced by the research question and design. Data collection techniques included literature study, interviews and questionnaires. In other words, triangulation was used. Triangulation refers to the use of more than one approach to the investigation of a research question in order to enhance confidence in the issuing of findings (Bogdan and Biklen, 2006:56).

Structured personal interviews were conducted with individual teachers and principals to find out information about the impact of curriculum changes on teachers and also to probe and explore certain aspects in greater detail. McMillan and Schumacher (2010:360) maintain that the primary data of qualitative interviews are verbatim accounts of what transpires in the interview sessions. In the light of this view, the researcher recorded the interviews in order to ensure the completeness of the verbal interaction and to provide material for reliability checks. Handwritten notes were also recorded. The method of interviewing has been chosen because of the quality of data it produces and for its ability to allow the researcher to combine the benefits derived from interviews. Quantitative data were collected through the use of a questionnaire. The questionnaire included close and open-ended questions. Close-ended questions were intended for straightforward answers while open-ended enquiries gave freedom to respond in detail.

1.5.4. Data analysis

Once the data had been collected, there is an opportunity to ``bring order, structure, and meaning to the mass of collected data'' (Marshall & Rossman, 1989: 112). Descriptive statistics are used when analyzing the quantitative data. A systematic process of selecting, categorizing, comparing, synthesizing and interpreting to provide explanations of the single phenomenon of interest are used in qualitative data analysis White (2005:168). According to Patton (1997:144), data analysis is the process of bringing order to the data, and organizing what is there into patterns, categories and basic descriptive units.

In this study the researcher analyzed, compared and identified the patterns and relationships of themes. McMillan and Schumacher (1997:500-503) confirm that qualitative data analysis takes the

form of written language. The researcher identified sentences and paragraphs from the transcribed interviews and puts them into different categories. In this way central facts supporting the central theme of the impact of curriculum changes on teachers were identified and sub-categorized. The analyses were concluded in line with the objectives set out in the study. This process occurred concurrently with the data collection process due to the exploratory nature of the study.

According to Mouton (2001:108), “Numeric data (statistics, numbers and quantitative measurements) are usually well structured and easy to capture...”, a view shared by McMillan and Schumacher (1993:40), who note that in the quantitative technique one uses numbers and measurements. The information from the completed questionnaires is presented in the form of tables and followed by a discussion analysis. The tables represent percentages according to the structured responses.

1.5.5. Validity and reliability of the research instruments

The research instruments were validated and tested for reliability using expert opinion and pilot testing. McMillan and Schumacher (1997) regard the validity of a qualitative design as the degree to which interpretations and the concepts have mutual meaning between the participants and the researcher; hence, the researcher and the participants should agree on the descriptions and the meanings of different occurrences. The researcher applied the following techniques to enhance validity:

- Participants' words were transcribed;
- Multi-data collection techniques were followed;
- Comparing the collected data to check its validity, and
- Each participant was given a copy of the transcription of the interview to check if it was valid.

The researcher searched for patterns and similarities in the data. Words and phrases were recorded to represent the patterns. Bogdan and Biklen, (1992:166) argue that words and phrases are coding categories. Bogdan and Taylor (1984:136) maintain that the coding process involves synthesizing and analyzing all the data while bearing in mind the themes, ideas, concepts, interpretations and propositions.

1.6. DELIMITATION

Generally, the impact of curriculum changes exists in all four tiers of the Education Ministry in South Africa: national, provincial, district and school. However, this study investigates the impact of curriculum changes in Mathematics in primary school teachers at the school level. This investigation focused on Seshego Circuit: six selected primary schools, and Mathematics as one of the learning areas in primary schools. The reason for selecting Seshego Circuit is that the researcher is one of the teachers in one of the primary schools and the area is easily accessible to the researcher. One teacher withdrew from participating in the study because the window period of data collection coincided with continuous assessment for schools. The teacher was a cluster leader of Mathematics for schools in Seshego Circuit. He asked to withdraw from participating in the study in order to monitor the implementation of assessment activities and recording. The withdrawal of this teacher was a loss of important data of the study since he was the most experienced teacher as far as curriculum issues are concerned.

1.7. SIGNIFICANCE OF THE STUDY

Mampuru quoted in Ndou (2008:34) perceives implementation as the most difficult phase of a change process as most shortcomings of the change may appear at this stage. According to Jansen and Chritie (1999: 135), teachers and schools become distressed about how they are meant to implement the proposals. The authors make the point that while there is goodwill amongst teachers towards the new government, they are insecure about how they will bring the curriculum into practice in their classes. The above arguments suggest that most of the problems related to curriculum change are noticeable during its implementation stage. This view ties with Ramroop's (2004:5) standpoint that the implementation of change impacts significantly on people and institutions and, if not administered correctly and sensitively, with a lot of skill and support, it can so easily see good ideas become unachievable. This study is important as it examines some of the key problems that inhibit teachers in primary schools from executing their role of processing curriculum change competently and effectively. The following are some of the critical problems that may have an impact on teachers:

- Poor discipline

Teachers develop a certain kind of behaviour as a way of defending themselves from this threatening curriculum about which they are not sure. This causes lack of discipline and affects the whole school

negatively. Gawe, Jacobs and Vakalisa (2004:314) note that as long as school teachers do not understand and accept the new set of ideas as a worthwhile alternative, they tend not to change their classroom practice. Instead they tend to persist with their habitual ideas.

- Rebellion

When teachers are unable to go along with the changes and the challenges of the new curriculum, a spirit of rebellion arises. They become anti everything and everyone who talks about the new curriculum. According to Fullan (2001:41), we are more likely to learn something from people who disagree with us than we are from people who agree.

- Confusion

Insufficient time to adapt to the changes confuses the teachers. Sometimes they try to do the right things in the wrong way. Even teachers who are open to change feel uncertainty about what kind of changes will be most effective and how best to go about making them. Disquiet, frustration, and despondency abound as well as the sense that “we’re already doing so much, how can we possibly do more?”(McCombs and Whisler, 1997:17).

- Incompetency

In applying the new curriculum, incompetence is brought about by the lack of understanding and general confusion. Pretorius (1999: v) states that many teachers consider themselves to be inadequately trained to work with OBE.

- Resistance

Teachers refuse to take subjects like technology because they have never studied them before. They are afraid of starting new things which may result in failure to reach the expected standard. This affects their confidence. According to Taylor (1993:94), curriculum re-conceptualization does not take place in a social vacuum. Change in many domain of life of a country does not always meet with approval. Change or reform can appear threatening and therefore bring resistance. It can bring suspicion, fear and dissatisfaction (Pretorius, 1999: v). Kendall (1989:23) states that the resistance to change displayed by teachers may have many sources such as unwillingness to part with existing benefits and practices, fears of the unknown, lack of incentives and the rapidity of change.

- Time of in-service training

The time of training clashes with the teachers' family time, yet no compensation or recognition is given. Lovat and Smith (2003:195) point out that at times of change even the most well-adjusted individual or cohesive family or organization will require extra support.

- In-service training

A lot needs to be covered within a short space of time. There is no assessment, no follow-up after training and the result is incompetence. People are expected to apply things they did not understand well. There is a growing realization that training is not enough: if teacher performance in the school and classroom is to be improved, then more time and money need to be invested in professional support activities (Oldroyd and Hall, 1991:2).

- Facilitators' competency

The facilitators' competency is questionable. They are not clear about what they are doing. They are hesitant when presenting the training sessions. Effective change requires commitment to developing necessary resources, including indispensable knowledge and skill training. Training must be available to all (McCombs & Whisler, 1997:166).

- Incentives

Teachers do not receive any incentives to continue undergoing such demanding training. Bowring-Car and West-Burnham (1994:105) assert that teams encourage personal growth and development and create a capacity to respond to change because they "motivate, challenge, reward and support ..."

1.8. ETHICAL CONSIDERATIONS

In this study the researcher observed and upheld critical research principles. Since the study includes interviewing teachers during school hours to conduct interviews, the researcher secured permission from Seshego Circuit manager where the schools are situated. The subjects were made aware that although their participation was valued, their role was voluntary and that they were at liberty to withdraw should they feel uneasy at any given point of the study. A commitment was also undertaken to conceal the names of participants and those of the institutions to which they were attached. Instead, pseudo/code names were used. Lastly, this research would be made available to the participants on request.

1.9. DEFINITION OF TERMS/CONCEPTS

- Outcomes-Based Education (OBE)

Outcomes-Based Education is a learner-centered, result-oriented approach to education and training that builds on the notion that all learners need to and can achieve their full potential, but this may not happen in the same way or within the same period (Northern Province Department of Education, 2000: 2). In the OBE, curriculum, and assessment should be viewed as flexible in accomplishing clearly defined “ends” (Gultig et al., 1998:29). OBE is an approach to teaching and learning that requires a shift from teacher input through syllabi which focus on learner outcomes (Gawe, Jacobs and Vakalisa 2004:57).

- Curriculum 2005

Curriculum 2005 is the way the new national education framework for South Africa, which was initially implemented in 1998. This new curriculum aims at changing the face of South African education and training, as well as to:

- integrate education and training;
 - promote life-long learning for all South Africans;
 - be based on outcomes rather than content;
 - equip all learners with knowledge, competencies and orientations needed to be successful after completion of their studies;
 - encompass a culture of human rights, multilingualism, multiculturalism and nation building, and
 - aim at producing thinking, competent future citizens Northern Province (Department of Education , 2001:5).
- Revised-National-Curriculum-Statement

The revised National Curriculum Statement is a streamlining and reinforcing of Curriculum 2005. It keeps intact the principles, purposes and thrust of Curriculum 2005 and affirms the commitment to Outcomes-Based Education (Department of Education , 2002:6).

- National Curriculum Statement

The National Curriculum Statement (NCS) is a streamlined and strengthened version of Curriculum 2005. NCS states clearly what each learner should achieve in terms of learning outcomes and assessment standards by the end of each grade (Department of Education , 2003:6).

- Assessment

According to the Northern Province Department of Education (2000:2), assessment is a process of identifying, gathering and interpreting information about a learner's achievement, as measured against nationally agreed outcomes for a particular phase or learning. I also view assessment as means used to determine the "passing or failing" of learners for a subject. Teachers can also judge their own teaching practice through the use of assessment techniques.

- Curriculum

Guiltig, Hoadley and Jansen (2005:30) explain curriculum as a term that includes all aspects of teaching and learning experiences such as the intended outcomes of learning, learning programmes, assessment and methodology. According to Bhatt the term "curriculum" can be described from three view points, namely "curriculum as object, curriculum as interaction, or as intent" (Bhatt in Vakalisa, 2000:15). The author continues to explain the narrowest definition, pointing out that it is the one that represents curriculum as an object, for example, an outline of a course of study; the broadest definition as one that subsumes all three viewpoints. It can be concluded from the above descriptions that curriculum forms the base of the education process. This includes the formal programme of lessons in the time table and the climate of relationships, attitudes, styles of behaviour and the general quality of life established in the school community as a whole. In this study the term is used to mean the content of learning areas to be taught in each phase. Teachers may not accept all

aspects of a written curriculum and be unable to implement it exactly as prescribed due to some of the challenges they are facing.

- Change

Change is defined a phenomenon that affects all aspects of a person's life. Mampuru (2001:188) represents the struggle between what is and what is desired. It may be described as the adoption of an innovation where the ultimate goal is to improve outcomes through an alteration of practices (Carlopio, 1998:2). Freeman and Stoner (1992:408) distinguish between two types of change, namely a planned change and reactive change. That is a response to already changing circumstances. In the context of education, change means that teachers are exposed to new policies. Change has both technical and human aspects. In short, change refers to a planned, systematic process affected by individuals, and which takes time to come to fruition.

1.10. CHAPTER DIVISION

Chapter 1: Background and Outline of the Study

This chapter contains the background information, the purpose of the study, the research questions and sub questions and the aims, including an overview of the research methodology.

Chapter 2: Literature Review

This chapter deals with the literature review and theoretical background. The major topic involves curriculum change.

Chapter 3: Research Design

This chapter provides details of the methodology which has been used in investigating the impact of curriculum changes on primary school teachers in Seshego Circuit. The data collection strategies used in the investigation are also included.

Chapter 4: Findings and Discussion

This chapter provides the findings which will be presented in a clear, cohesive and comprehensive manner along with the discussions that relate to the findings. The researcher will attempt to identify patterns and themes in the responses from the teachers.

Chapter 5: Summary of the Findings, Recommendations and Conclusion

This is a concluding chapter which entails the summary of the research, the conclusions from its findings and the recommendations arising from the findings.

1.11. CONCLUSION

Background, statement of the problem, research questions, aims of the study, research methodology, limitations, significance of the study, ethical considerations, definition of terms and exposition of the study have been outlined in this chapter. The next chapter focuses on the literature review.

CHAPTER 2: LITERATURE REVIEW

2. 1 INTRODUCTION

Johnson and Christensen (2004:62) describe literature review as an explanation of the theoretical underpinnings of the research study related to the current topic. The review of a literature is concerned with a summary and analysis of the relevant documents about a research problem. These documents include periodicals, abstracts, reviews, books, and other research materials (Gay, 1992:38). In accordance with the above definitions, Creswell (1994:54) and Gay (1992:38) agree that a major purpose of reviewing a related literature is to determine what research has been undertaken and written about the written problem under study. Correspondingly, McMillan and Schumacher's, (2006: 75) view is that the review of related literature "illuminates the related literature to enable a reader to gain further insights from the study." Johnson and Christensen (2004:61) state that the general purpose of the review of related literature is to provide an understanding of the current state of knowledge about the selected topic of study. Seen in this light, literature review can be perceived as the study of documents for information related to the topic of interest to advance one's thinking in terms of particular issues relating to the topic under study. In this study, the researcher reviews the relevant literature on the impact of curriculum changes on primary school teachers in Seshego Circuit.

According to Lovat and Smith (2003: 194), any change means exchanging the "old" for the "new". Those whose interests lie in maintaining the "old" can be expected to do anything to retain it. Those whose interests lie in the "new" can be expected to do everything to promote it. Curriculum changes place more emphasis on making or becoming different from the old or the former state of the course of study in a particular institution. Steyn, Steyn and de Waal (2001:97) state that curricula represent the different programmes and learning opportunities or teaching programmes that can provide the education needs of the target group. This means that it is important for the curriculum of schools to change in order to address the need of the target group, in this case learners in South Africa after 1994.

The implementation of curriculum cannot be a once-off happening. It is a process, which will take years to put into effective operation. It is a process in which the whole school, its staff and management, and the whole community should grow together and develop continuously in the pursuit of excellence, (Pretorius, 1999:100). Change is a lifelong process, similar to learning, that is continuous and ongoing (McCombs & Whisler, 1997:166). It is the duty of teachers together with their supporters to see to it that the curriculum is grown to full fruition no matter how laborious.

It is necessary to recognize that change is not always easy and that people may feel threatened by it. People need to be given the opportunity to talk about their fears and concerns, both in groups and individually (Department of Education, 2001: 27). Even teachers who are open to change feel uncertainty about what kind of changes will be most effective and how best to go about making them. Disquiet, frustration, and despondency abound as well as the sense that “we’re already doing so much-how can we possibly do more?” (McCombs & Whisler, 1997: 17).

Just as the world has become more sophisticated in other spheres so significant changes have taken place in educational Curriculum. Motivational techniques that were once effective have lost impact. The teacher’s job is more demanding in student-centred classrooms. Teaching in student-centred classrooms requires constant planning, continuous innovation, a sensitive system of monitoring students’ performance, and well-developed skills in maintaining order without being authoritarian”, (Chall, 2000: 28). It is now accepted that successful modern economies and societies require citizens with a firm foundation of general education; with the desire and ability to continue to learn, to apply, and to develop new knowledge, skills and technologies; to move flexibly between occupations; to accept responsibility for personal performance; to set and achieve appropriate standards and to work co-operatively (Gultig et al., 2002:4).

According to Taylor (1993:94), curriculum re-conceptualization does not take place in a social vacuum. Any re-conceptualization of curriculum, particularly in relation to history, must take account of and respond to the pressures for change coming from diverse education constituencies and interest groups. South Africa has experienced unparalleled changes since the transformation to a democratic government in 1994. When a country experiences a change of government, policy changes are inevitable. Change in any domain of life of a country does not always meet with

approval. Change or reform can appear threatening and therefore bring resistance. It can bring suspicion, fear and dissatisfaction (Pretorius, 1999: v).

According to Piek (1991: 130-131), it is the quality of the teachers, the principal and inspectors including their knowledge, background and progressiveness, that will guarantee success. Syllabi are unlikely to remain unchanged for more than five years at a time even though new methods and techniques are constantly being advocated. Pretorius (1999: 43) argues that changing the old system to Curriculum 2005 is a challenging and complex task that requires enthusiasm, motivation and dedication from all parties involved in the interest of education.

2.2. CURRICULUM CHANGE

Doll (1989:288) maintains that in educational literature, the process of curriculum change often refers to educational engineering. Elliot (1998:220) and Tanner and Rehage's (1988:21) views attest to Doll's. They believe that curriculum change is not mere changes in syllabus content, but reappraisal of the nature of school knowledge and outcomes, since it implies a new way of representing knowledge to the students. Curriculum change means a shift from the previous curriculum, *A Résumé of Instructional Programmes in Schools, Report 550* (2008/08), to the new National Curriculum Statement. Although Report 550 can be lauded, especially for its transitional purposes, it was marred with flaws it inherited from the previous apartheid curriculum.

Curriculum change to the National Curriculum Statement implies the implementation of ‘a new way’ of doing things in Primary schools. Inevitably, curriculum change impact on the existing teaching and learning practices, on how schools are managed at all levels of management, and on all processes, strategies and structures which are to be put in place (Ross, 2000:9). Therefore, dealing with curriculum change effectively means alterations in behaviours and beliefs (Fullan, 1992:220). This suggests that teachers are expected to align their current practices, plans to strategies, structures and systems that bring the school closer to attaining the outcomes of the new curriculum.

2.2.1. AIMS OF CURRICULUM CHANGE

Curriculum change is an ongoing international trend, which invariably mirrors change in the society at large (Department of Education, 1997:32). The move to an Outcomes-Based Education presented South African teachers with a challenging and significant paradigm shift. Understandably this shift has caused anxiety and discontent in educational institutions country-wide. Teachers grapple with the implications that this shift holds for their lives and work (Gultig et al., 2002: v). For Jansen and Christie (1999: 193), the teachers and trainers will no longer just implement curricula designed by an education department; they will now be able to implement many of their own programmes as long as they produce the necessary outcomes. Classrooms have to be changed into interesting, stimulating and challenging learning sites where teachers and learners can share common resources, (Pretorius, 1999: 44).

According to Gultig, Hoadley and Jansen (2002:10), the role of the curriculum is to overcome the stultifying legacy of apartheid education by ensuring a deeper knowledge, values, and skills-base for South Africa's citizens; these will in turn provide the conditions for greater social justice, equity and development. McCombs & Whistler (1997:166) maintain that change is facilitated by empowering contexts in which individuals feel ownership, respect, personal support, and trust. Curricular should be relevant and appropriate to current and anticipated future needs of the individual, society, commerce and industry (Gultig et al., 2002: 5). The paradigm that underpins the changes sought within the new South Africa aims to reduce the separation of "learners" and "teachers", "managers" and "managed"; to replace the former top-down, hierarchical and controlling culture of education management with a culture characterised by participation, transparency and flatter structures. (Jansen & Sayed, 2001: 182).

Grobler (2003: 23) maintains that cultural and social expectations that refer to changes in society such as unemployment patters, societal values, economic patters, community expectations level of parental literacy and numeracy are forces that compel implementing a new curriculum such as the new curriculum within an OBE paradigm. According to Olivier (1998: ix), it is primarily aimed at

building the country into an international role player through enhancement of a culture of lifelong learning.

According to Grobler (2003: 34), the educational system of South Africa has undergone major changes since 1994 and thus it stands to reason that the advisory services offered to teachers should have changed drastically. More effective support to teachers during a major curriculum change could, for example, act as a positive force to drive a change in the curriculum. McCombs and Whisler (1997:161) suggest that teachers need to be supported and encouraged to take increased responsibility for their own learning and professional development. There is a growing realisation that training alone is not enough: if teachers' performance in the school and classroom is to be improved, then we need to invest more time and money in professional support activities (Oldroyd, & Hall (1991:2).

Pretorius (1999:xi) states that OBE will founder if there is not appropriate high quality staff development and the provision of sufficient support in conjunction with curriculum change. Lovat and Smith (2003:195) note that at times of change even the most well-adjusted individual or cohesive family or organisation will require extra support. The White Paper emphasises the need for major changes in education and training in South Africa in order to normalise and transform teaching and learning in South Africa. It also stressed the need for a shift from the traditional aims and objectives approach to outcomes-based education. It promoted a vision of a prosperous, truly united, democratic and internationally competitive country with literate, creative and critical citizens leading productive, self-fulfilled lives in a country free of violence, discrimination and prejudice (Department of Education, 2002:4).

2.2.2. FEATURES OF CURRICULUM CHANGE

According to Gultig, Hoadley and Jansen (2002: 16), the dominance of outputs over inputs aside, OBE foregrounds four features prominent in curriculum reform the world over. These are:

- the active learner and ideas of uniqueness and difference whereby every student can learn and succeed, but not necessarily on the same day in the same way and thus support of uniqueness and difference of individual learners (Gultig et al., 2002:26);

- the active teacher who, rather than following a prescriptive syllabus, makes decisions about what to teach and how to teach it;
- the relative importance of activity and skills as a basis for knowing and knowledge, and
- the relative importance of induction over deduction.

According to Loock (2003: 4) quoting Sergiovanni, most people respond to authority, but authority often causes people to respond as subordinates. Obedient subordinates always do what they are supposed to and little else. In order to transform ordinary competence to extraordinary commitment and performance, people must be changed from subordinates to independent followers. This requires a different kind of theory and practice. Subordinates respond to authority, but followers respond to ideas, values and purposes. For schools to excel, people need to be concerned with uniqueness in their interactions with each other and with learners. Standardisation is no formula for extraordinary commitment and performance. McCombs and Whisler (1997: 16) ask teachers to adopt thinking that believes that “all students can learn” and to see education as a “shared responsibility” among all constituencies including students, teachers, administrators, parents, and community members.

The ways in which education and training are organised and regulated in South Africa have important implications for all teachers, (Killen 2000: vi). Pretorius (1999: v) states that many teachers consider themselves to be inadequately trained to work with OBE. They are used to their own ways of teaching, using the methods which they were taught, the traditional procedures of the content-based education model. Teachers need to be trained and require information relating to the present skills levels, experience and teaching styles necessary to facilitate the implementation of a new curriculum. The problem is that the former apartheid education system has left teachers at different skills levels. Some teachers can be considered to be competent while others are not yet competent. Different levels of training are therefore required when implementing a new curriculum, (Grobler, 2003:35).

Perceived problems in the training of teachers can constitute a major force for change towards the introduction of a new curriculum. Certain management problems such as poor communication can also act as powerful pressures of change. The whole process of curriculum planning and design needs to be transparent and the people involved need to spend a major part of their time talking to

teachers about the need for the change. Schools need to take cognisance of continually changing demands and at the same time be accountable, transparent and open to public scrutiny (Grobler, 2003:37). It is very important in any change to let people see that there are positive results and so feel successful (Lovat & Smith, 2003:209). The purpose and plans for change must be understood and accepted by all stakeholders (McCombs & Whisler, 1997:166).

Jansen and Christie (1999:93) in Curriculum 2005 state that teaching will become a far more creative innovative career when teachers have a hand in implementing their own programmes according to the needs of the target group. In order for teachers to be able to produce the necessary outcomes, they have to be competent within the new curriculum; they must be able to meet the expected standards when it comes to the assessment of the curriculum. Effective change requires commitment to developing the necessary resources, including indispensable knowledge and skill training. Training must be available to all (McCombs & Whisler, 1997:166). Gultig, Hoadley and Jansen (2002:71) point out that if teachers are to pursue understanding, develop and refine their discernment as well as comprehension of their subject, they must be able to have time and opportunity for professional development. Teachers must be adaptive and maintain the conviction that learning must be supported by continuous change and improvement of practices, (McCombs & Whisler, 1997: 165).

On the other hand, Gultig, Hoadley and Jansen (2002: 71) state that the objective model applied to knowledge areas seems to concentrate on improving teaching as instruction without increment to the wisdom or scholarship of the teachers. It is a means to bettering the students' exam performance without improving teachers' personal and professional quality. Teachers should also exert themselves to contribute towards their own lifelong learning, development and adaptability. The belief is that personal growth of individuals enables the school organisation to grow as well (Pretorius, 1999: 108). Clegg and Billington (1994:24-25) claim that a teacher's reality is firmly rooted in experience. Most teachers share a pragmatism born from experience along with a constant awareness of certain vulnerability, and they therefore place great emphasis upon "what works". For those teachers, what works may be defined simply in terms of what keeps children busy and enables control to be maintained. If things get out of control, teachers are vulnerable to their colleagues, children and the outside world. Quite simply, most teachers were reluctant to give sufficient

authority or indeed responsibility to the children. Gawe, Jacobs and Vakalisa (2004:314) maintain that as long as school teachers do not understand and accept the new set of ideas as a worthwhile alternative, they tend not to change their classroom practice. Instead they tend to persist with their habitual ideas.

It is the responsibility of the teachers to ensure that the various anxieties are overcome since they are the ones who have the power of making quite fundamental choices, (Lovat & Smith, 2003: 194). Change is also centrally about feelings and perceptions and any successful approach (Fullan, 2001: 1) believes if you ask people to brainstorm words to describe change, they come up with a mixture of negative and positive terms. On the one side there is fear, anxiety, loss, danger, panic; on the other, exhilaration, risk-taking, excitement, improvements and energising. For better or for worse, change arouses emotions. Change raises hope because it offers growth and progress, but it also stirs fear of the challenge to competence and power. Despite their theoretical training, teachers are often confused when faced with such radical changes in the curriculum and as a result, struggle to apply the new ideas in their classes (Gawe, Jacobs and Vakalisa, 2004:314). Strategy for change must expect to deal effectively with people's feelings and perceptions.

Bowring – Car and West-Burnham (1994:105) assert that teams encourage personal growth and development and create a capacity to respond to change because they "motivate, challenge, reward and support...". In quoting Spady, Pretorius (1999:104) says one of the most basic changes that should be brought about is our operational definition and view of teachers as specialists of instructional delivery and as team members capable of contributing to a wide variety of instructional needs whether at grade-level or according to subject matter. If change in schools is to be successful, there should be a great deal of emphasis and time spent on developing an explicit and shared perception of the problem and/or clearly identified and shared reasons for the change (Lovat & Smith, 2003: 210).

Pretorius (1999: v) says that school principals for example, are confused concerning the implications of the new model for the management of their schools. In this case their attitudes in dealing with change-related problems are open to question and criticism. Pascale (1990:14) states that too often change-related problems are ignored, denied or treated as an occasion for blame and defence.

Success in school change effort is much more likely when problem are treated as natural, expected phenomena. Only by identifying the problem can we understand what has to be done next in order to get what we want. According to Fullan (2001:41), we are more likely to learn something from people who disagree with us than we are from people who agree. To the Department of Education (1997:36) a key change is necessary in the attitude of teachers. They must themselves be prepared to learn and so spread a culture of learning. In so doing they will renew and reinforce the much respected art of educating. Teachers *can* make a difference and they *can* establish a culture of learning. Attitudes of teachers, parents, administrators and professional support staff can be changed through in-service and pre-service training. Teachers in schools require flexibility in order to develop confidence in their ability to meet special needs, (Naicker, 1999:56).

Jansen and Sayed (2001:178- 179) point out that teachers, managers and governors are required to step out of their old skins, and venture into a new world without any certainty of protection or success. Support for curriculum change and Education Management Development at provincial level is at best uneven. The threatening pressure felt by teachers, head-teachers, senior education managers and others is leading to grassroots cynicism and, in some areas, an apparent rejection of the transformation policies as simply jargon – a symbolic rather than a practical reality. Jansen and Sayed (2001:180, 182) further note that in some cases head-teachers without adequate training have mainly welcomed the changes but that they lacked capacity to lead transformation.

Teachers and managers at all levels are finding the change difficult. They are moving towards flatter management structures which can have the following implications for them:

- in common with other stakeholders at a time of change they have a good deal to lose as well as to gain; in the case of South Africa, changing the style and practice of teaching and management is one of the key features of transformation; the inherited style and practice is regarded as inefficient, ineffective and morally unacceptable;
- they have moved from the old to the new system and hence feel de-skilled, and
- those who have come into the new system may lack the skills and knowledge to function in their management roles.

Lack of skills and knowledge needed to conform to the new role model, and unavailability of required instructional materials contribute to staff's lack of motivation which inevitably will affect change. A major problem is that some of the managers who should be leading feel disempowered. They cannot see their way through the apparent, to them, morass. In addition they feel de-skilled and, in some cases, not accepted by other stakeholders.

Change is facilitated by empowering contexts in which individuals feel ownership, respect, personal support and trust (McCombs & Whisler, 1997: 166). Jansen and Sayed (2001:183) consider that the speed of legislated change and the lack of time for major retraining has left many teachers and managers feeling de-skilled. Their immediate need is for rapid "re-skilling". Chall (2000: 6) stipulates that if learning is not overly controlled by teachers, schools and parents, it will come naturally to the learner. The teacher should remain in the background as a guide. The child's learning will arise mainly from natural curiosity and desire to discover. According to Jansen and Sayed (2001: 236), devolution of curriculum and school management, according to government guidelines, is necessary to learner-centred education. Teachers need to be supported as curriculum designers. The structures and processes sustaining schools and effecting change are quite unclear.

Lack of clarity concerning innovation, deficient skills and knowledge needed to conform to the new role model as well as the unavailability of required instructional materials reinforces their lack of motivation. Jansen and Sayed (2001:106) state that the lack of adequate consultation with teachers, at local levels, concerning the development of the new curriculum makes them feel unworthy to participate in the process of curriculum development. Consequently there are problems with implementing the new curriculum in schools. In any event the school is part of a continuously changing cultural world and so the teacher's knowledge, skills and methods inevitably require regular renewal. It is important to provide all members of the community with the knowledge and skills necessary to take risks, learn new knowledge and skills while taking responsibility for their own professional development, continuous improvement and lifelong learning (McCombs & Whisler, 1997:158).

2.3 THE CURRICULUM CHANGE INTRODUCED IN POST APARTHEID SOUTH AFRICA

The installation of a South African democratic government in 1994 did not automatically end the social inequalities created by the apartheid regime. The post-apartheid South African education system continued to feel the legacy of apartheid. This suffices as a reason why the demand to meaningfully change the education system was a priority intervention. Therefore, curriculum change was considered as the most effective mode to redress the past imbalances and inequalities in the education system and catapult the South African society into the demands of the 21st century. The present curriculum aims to reflect the learners' culture, their unique history, familiar life experiences and future work-related needs. Great emphasis is placed on the teachers' task to present learning material that is relevant to the learners' life world and is engendered with meaning. Learners are encouraged to be critical and to evaluate their learning material and implement it in their frame of reference.

2. 3.1. CURRICULUM 2005

In 1998, according to the Department of Education (2000: ii), South Africa adopted a policy which aimed to change the curriculum in all schools. This programme was first called "Curriculum 2005" because it was to be fully in place by the year 2005. The introduction of C2005 and making all learning areas including mathematics compulsory during the GET band was another initiative by the South African government to improve mathematics education in the country. According to Kuiper (2000), this curriculum has clearly taken a large step in the direction of developing scientific and mathematical literacy. With regards to C2005, mathematics curriculum was policy and the teachers were compelled to accept it. Teachers needed to be encouraged in order to accept it more easily. The curriculum was based on OBE. This approach shifts the emphasis of learning and teaching away from rote learning, to concrete educational results, which we call "outcomes". Gawe, Jacobs and Vakalisa (2004: 2) indicate that along with these changes a new curriculum, based on the OBE model of teaching, was introduced to replace the previous curriculum, which was perceived as content- based.

Curriculum 2005 is regarded as a key project in the transformation of South African society. C2005 is directed towards achieving prosperous, truly united, democratic, and internationally competitive

country with literate, creative, and critical citizens leading productive, self-fulfilled lives in a country free of violence, discrimination, and prejudice. Its role is to overcome the stultifying legacy of apartheid education and to provide the platform for developing knowledge, skills and competences for innovation, social development and economic growth for the 21st century (Hoadley & Jansen, 2010:241).

The Department of Education (2000: iii) reviewed Curriculum 2005 in 2000. The report recommended some changes to Curriculum 2005, but supported the continuation of OBE. This review is being repeated within two years of implementation and the recommended changes are to be put into practice by the teachers even before the mastery of the original 2005 curriculum. There are many reasons why the education and training system in South Africa is being changed to one that is based on the principles of OBE. Basically, South Africa's educational reforms are designed to encourage everyone to be a lifelong learner who will be a responsible and productive member of society (Killen, 2000: vi- vii).

Outcomes-Based Education is an approach to teaching and learning that requires a shift from teacher input through syllabi to a focus on learner outcomes (Gawe, Jacobs and Vakalisa, 2004:57). An OBE Curriculum stresses certain outcomes or results to produce creative, confident and critical thinkers, and citizens who can respond to the challenges of fast changing a multicultural society. This approach is not a set of rules and regulations handed down by the Department of Education and which schools just blindly follow. It is a set of guidelines for how schools can put the curriculum into practice. To some extent, provincial departments and teachers can decide for themselves what these guidelines mean for their schools. Individual schools and teachers can interpret the guidelines when they draw up their learning programme (Department of Education, 2000:2).

2.3.2. REVISED NATIONAL CURRICULUM STATEMENT

In 2000 the curriculum was again reviewed and it was suggested that the RNCS be implemented as official government policy in May 2002. It was assumed that such a policy would use simpler language and provide clarity on what learners should achieve by the end of each grade. Emphasis was put on what happens both inside and outside of the classroom (Department of Education, Parent

Guide, 2005:2). RNCS was therefore to be more “teacher friendly”. The Revised National Curriculum Statement was not a new curriculum but a streamlining and strengthening of Curriculum 2005. It keeps intact the principles, purposes and thrust of Curriculum 2005 and affirms the commitment to OBE (Department of Education, 2002: 6). The curriculum aims to develop the full potential of each learner as a citizen of a democratic South Africa. It seeks to create a lifelong learner who is confident and independent, literate, numerate and multi-skilled, compassionate, with a respect for the environment and the ability to participate in society as a critical and active citizen (Department of Education, 2002:8). National Curriculum Statement envisions teachers who are qualified, competent, dedicated and caring who will be able to fulfil the various roles outlined in the Norms and Standards for Teachers of 2000 (Government Gazette No 20844).

2.3.3. NATIONAL CURRICULUM STATEMENT

According to the Department of Education (2002:2), this curriculum aims to strengthen the implementation of OBE and reinforce commitment to social justice, human rights, a healthy environment and inclusivity. The National Curriculum Statement is not a new curriculum, but a streamlined and strengthened Curriculum 2005, which was introduced in our schools in 1998. It is hoped that this curriculum will help us in developing citizens that are multi-skilled, knowledgeable, sensitive to environmental issues and able to respond to the many challenges that confront South Africa in the 21st century. When a new policy, like a new curriculum is introduced in a school, experienced and new teachers all need to get used to it and be trained in the new system. The most important way to provide this orientation and training is through a staff development programme (Department of Education, 2000:15). Teachers need to be conversant with the new aspects in the teaching and learning arena that were introduced with the implementation of the NCS. The changes that were brought with the NCS involve combination of subjects, a method of teaching and learning, notional instructional time for school subjects, curriculum implementation support documents, the type of qualification and promotion requirements, and the selection of textbooks.

2.3.4. CURRICULUM AND ASSESSMENT POLICY STATEMENT

Different stakeholders such as teachers, parents, teacher unions, school management and academics submitted their comments in writing and verbally from a range on the implementation of the National Curriculum Statement. There has also been considerable criticism of various aspects of its implementation. This includes teacher overload, confusion and stress and widespread learner underperformance in international and local assessments. In July 2009, the Minister of Basic Education, Angie Motshekga, appointed a panel of experts to investigate the nature of the challenges and problems experienced in the implementation of the National Curriculum Statement and to develop a set of recommendations designed to improve the implementation of the National Curriculum Statement.

The panel reported the following recommendations:

- Offering support to teachers and the improvement of learner performance must be its central themes. Mechanisms to monitor implementation of the plan, through regular external monitoring to assess whether it has the desired effect on learner and teacher performance, need to be built into the plan.
- Develop one Curriculum and Assessment Policy document for every learning area and subject (by phase) that will be the definitive support for all teachers and help address
- Clarify Subject Advisor roles nationally and specify the exact nature of in-classroom and school support they should provide to teachers.
- Reduce teachers' workload, particularly with regard to administrative requirements and planning, to allow more time for teaching.
- Simplify and streamline assessment requirements and improve the quality and status of assessment.
- The concern about transition from grade 3 to 4 must be addressed firstly by reducing overload in the intermediate phase through reducing the number of Learning Areas to six subjects, including two languages.

- The quality assurance and catalogue development for textbooks and other LTSM need to be centralised at the National level.
- The training of teachers to support curriculum implementation should be subject specific and targeted only where needed, (DOE, 2009:62-67).

The new document is titled Curriculum and Assessment Policy Statement which is also not a new curriculum as it takes part in the amended National Curriculum Statement which has already started to be implemented in January 2010. The implementation of this is curriculum revision, which is planned as follows:

- foundation phase and Grade 1o: 2012
- intermediate phase and Grade 11: 2013
- senior phase and Grade 12: 2014

(Macmillan, 2012:5)

2.4. TEACHERS' ROLES IN MATHEMATICS EDUCATION

Mathematics is developed and contested over time through both language and symbols by social interaction and is thus open to change (Department of Education, 2003:9). Education reform in South Africa has ushered in a variety of changes in relation to the teaching and learning of mathematics. These changes include teachers' practices and how these practices influence learners' contributions and interactions in the Mathematics classroom. It seems that teachers have a harsh choice to be either victims of change or agents of change. Emihovich (1998:47) encourages teachers to be dynamic agents of change so that they can be innovative, open to reform and to be action researchers in the classroom. Teachers can therefore explore new paradigms and be amenable to change so that they can prepare future generations for change and the challenges that lie ahead. This shows that the underlying goals of curriculum have taken shape in the new mathematics curriculum and in its demands for new teacher roles. Four related mathematics teacher roles are thus identified:

-The teacher's role is to prepare learners for critical democratic citizenship. The teacher becomes a critical analyser of the way mathematics is used socially, politically and economically and supports learners to do the same.

- The teacher's role is a local curriculum developer and an applier of maths in everyday life. The teacher brings maths from “outside” into the class.
- The teacher's role is to be an exemplar “mathematician” or someone who has an interest in pursuing mathematics for its own sake. The teacher apprentices learners into ways of investigating mathematics.
- The teacher's role is as a “custodian” of mathematical knowledge or a deliverer of mathematical conventions, algorithms etc. The teacher is a ‘conveyor’ of the practices of the broader community of mathematics teachers.

It demands of teachers to reconceptualise their own relationship to the subject matter and to their learners in order to foster the new agenda. Ideally, teachers of mathematics are expected to be facilitators of a deeper discourse about mathematics among groups of learners engaged in some real life problem solving (DoE, 1997b).

Mathematics can be explored, contested, justified, and communicated, and reform mathematics teaching develops conceptual depth, procedural flexibility, and reasoning among learners. Genuine interaction among teachers and learners in mathematics classrooms is important to achieving these goals. Curriculum developments in South Africa over the past 15 years have encouraged the same goals for mathematics teaching (Department of Education, 1997, 2002, 2003). Even though there is no doubt that large parts of mathematics are very useful and that other portions are useless academic jargon, the most significant problem today is that learner and teacher alike don't understand mathematics, which in turn leads to a dislike of the subject. Mathematicians and mathematics teachers need to promote mathematics as an enjoyable, stimulating, intellectually rewarding and useful activity. This can only happen if interesting and readable publications are written and lively.

Other studies of various programmes of curriculum change and teacher development provide further evidence that where these change processes do not involve teachers from the outset, they are much less likely to succeed and conversely). Within these changes in curriculum, we need to ask whether these roles are realisable. Is it possible for teachers to perform each of these mathematical roles? Is it reasonable to expect teachers to integrate across these roles? In this study, I move on to looking at

some of the tensions that emerge, in relation to the impact of curriculum change on primary school teachers.

2.5. FACTORS THAT INFLUENCE TEACHER'S ATTITUDES TOWARDS CURRICULUM CHANGE

All processes of curriculum reform are iterative. They involve a process of revision over time. The implementation of any curriculum is, however, dependent on the teachers who will implement it. Success of a curriculum initiative is largely determined by what teachers think about the intended changes (DOE, 2009:10). Parker (2003:140) observes that teachers lack content knowledge, are fairly skilled in group work and have a basic knowledge of assessment but little attention is given to preparation of the teacher. South African teachers do not see themselves ``owning'' the transformation of education but see themselves as subjects of it. Such an attitude will lead to teacher disempowerment and demoralisation.

Weber (2008:3-22) argues that a number of decision-making frames impact on teachers' classroom practices, but that in an intensified decision-making landscape, support texts play a definitive role in what teachers do. He further explains that when teachers' minds are preoccupied with survival, cutting corners, and mere coverage of the texts, effective teaching and learning is severely compromised. What is alarming though, is policy-makers' technical-rational assumptions that teachers have the capacity and will to change their patterns of decision-making in line with the new policy directives. The following factors may have impact on teachers' practices:

2.5.1. External factors

Organisational conditions and characteristics of the infrastructure, which facilitate the successful implementation of change, constitute an organisation's (school's) innovative capacity (Janzi and Leithwood, 2006:206). According to Cochran-Smith (2006: 24) the current emphasis on teacher quality positions teachers as the determining factor in learners' success. This disregards complex variables such as school resources, leadership, investment in teachers' capacity building and professional development, as well as learner factors such as family structure and economic status. Teacher capacity relates to professional development, resources and support, including sustained

technical support. Ryan and Ackerman 2005:2) note that successful implementation of educational change depends on both capacity and will. If implementation actors lack adequate levels of information, skills or resources, their capacity to successfully implement the required curriculum change will be limited. Productive educational change is related not to teachers' capacity to implement the latest policy, but rather to their ability to survive the vicissitudes of planned and unplanned change while growing and developing.

In a study conducted in South Africa by the Human Sciences Research Council (HSRC) for the Education Labour Relation Council (ELRC), it was found that 55 percent of teachers would leave teaching if they could. The reasons cited for this include workload stress, low salaries, lack of discipline in schools and lack of career advancement (SACE, 2006). These factors should be considered in policy reforms so as to have positive impact on our teachers.

Teachers have many legitimate reasons to resist reform. When they do, however, they are often labelled as traditional, conventional, lacking knowledge, being rigid, recalcitrant, passive uninterested, but certainly not professional. In sum, this analysis shows that teachers are often hardly taken seriously as professionals in the context of reforms; rather they are viewed as executors. As argued, this conception of teachers seems to strongly affect the status of the occupation, and can be seen to play a major role in the current problems of teachers' working conditions (Van Veen, 2005:116-117).

2.5.2. Internal factors

Teachers themselves have been found to have a negative image of the teaching profession and they tend to discourage learners from becoming professional teachers. In other words, some teachers are not proud to be associated with teaching and they are not committed to its ideals (SACE, 2006). Day (2008:244) argues that there are significant negative consequences of reform on teachers, work lives and well-being. A cognitive socio-psychological theory of emotions should therefore be employed to help researchers understand how individual teachers perceive themselves and their work, and how they experience their context, (Sleegers and Van Veen, 2006:108). Bailey (2000:123) cites empirical evidence that the context and process of mandated change often leads to the marginalisation of teachers, especially when it is not rooted in their realities and expertise. Because of curriculum

change, teachers doubt their efficacy and their moral commitment to implementation may be undermined. Bailey believes that disregarding teacher demoralisation, as well as teacher' knowledge about real and sustained change underlies implementation failure.

According to the final review report, teachers are change weary, and their confidence in what they do (centrally, teach) has been compromised. The report argues that the authority of teachers in the classroom needs to be re-established. This has two implications. First, attention must be given to how much time and energy teachers have to teach. Second, teachers need absolute clarity on what they are required to teach. In this way, we argue, teachers will regain confidence in their practice, and authority as subject specialists in the classroom. Ultimately it is this that will improve both the academic and social chances made available to students through their schooling. We must without delay move towards realizing the goal as set out in the National Curriculum Statement: "the development of a high level of knowledge and skills for all (DOE, 2009:16).

2.6. THE ROLE OF SMT IN THE IMPLEMENTATION OF CURRICULUM CHANGE

According to the Department of Education (2000b:2), there is no legislative definition of a school management team. However, the working definition being used by provinces and the national departments of education is that a school management team consists of the following members:

- Principal;
- Deputy Principal (if appointed), and
- Heads of Department (either appointed or acting).

The composition of a school management team, as presented above, suggests that some school management teams can operate meaningfully without the services of a deputy principal. This is particularly the case in most primary schools in Seshego Circuit. Conversely, the principal and Heads of Department remain critical members of any school management team. According to Department of Education (2000a:4), SMTs are responsible for the management of the implementation of a curriculum. The requirements of the NCS have broadened the role of all SMTs to bear the main responsibility for instructional leadership and curriculum management. This view purports that the SMTs as instructional leaders should take the lead in putting the curriculum into practice and improving it. Smit and Cronje (1999: 256) agrees that SMTs, as change agents, are

responsible for taking a leadership role in managing the process of implementing change in a school situation. This responsibility places the roles of the members of SMTs, both as individuals in their professional capacity or as a collective, at the heart of the success of the implementation of the curriculum change in schools.

The success of change implementation has much to do with the quality of leadership; there's a need to develop effective leadership, particularly instructional leadership, (Janzi and Leithwood, 2006:202). They stress that instructional leadership is an important administrative function. In-school support positively affects teachers' commitment and effectiveness, especially if teachers view the Principal as being strong, with a clear vision for the school, (Day, 2008:252). Principals offer teachers opportunities for professional development, facilitate networking with professional colleagues, involve them in decision making processes within the school, and keeping them abreast of impending changes. Janzi and Leithwood (2006: 222) conducted a study on the effects of school leadership on students, teachers and their classroom practices. These authors found that school leadership had significant effects on teachers' classroom practices, but not on student achievement. Although school Management team positively influenced teachers' motivation, capacity and work settings, there was a gulf between practices that are changed and practices that actually lead to greater pupil learning; the potency of leadership for increasing student learning hinges on specific classroom practices which leaders stimulate, encourage, and promote.

In this context, a school management team has to shift from a rigid authoritarian model of education of the past to one radically different, based on democratic principles. They are expected to align their current practices, plans to strategies, structures and systems that bring the school closer to attaining the outcomes of the new curriculum, (Ndou, 2008:4). In this regard, members of the SMTs, must guide teachers about the selection of an appropriate textbook and other learning and teaching support materials.

2.7. CONCLUSION

In this chapter I have explained the unit of analysis from a theoretical perspective and claim that reform in South African education focuses mainly on curriculum production and not on curriculum implementation. Throughout the argument of a tenuous connection between policy and practice, a disparate context is apparent. Within the context of this study, the focus is specifically on the

perspectives of teachers, who are seen as the silent yet cardinal players in the education policy change process. An inquiry into the impact of curriculum changes on primary schools' mathematics teachers requires a more complex, nuanced, maybe deeper understanding from teachers' perspectives. In the next chapter I will report and describe the methodological processes of the inquiry, and how I intend to deal with the research question empirically.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. INTODUCTION

This chapter provides a description and discussion of the research process that informed this study and gives the rationale for the choice of the research design, the research sites and the sampling of participants. The researcher also presents a detailed description of the data collection process, strategies and data analysis. Explanation of how the researcher complied with issues of trustworthiness during the research process and description of ethical considerations, as well as limitations of the study are also outlined.

3.2. GEOGRAPHICAL LOCATION OF THE STUDY AREA

The research was conducted at Seshego Circuit, Polokwane District in Limpopo Province, South Africa. This section of the study is appropriate because it has rural schools as part of the research sample. They also need to apply the curriculum changes as expected by the National Department of Education. The area is also accessible and convenient to the researcher, and this will in turn minimise the budget.

3.3. RESEARCH DESIGN

Research design addresses the planning of scientific inquiry, designing a strategy to explore, describe and explain something; (Babbie in Boikanyo, 1998:89). The problem is investigated using literature review as well as empirical investigation. The literature survey entails the analysis of documents containing information relating to the stated problem. The documents include professional journals, books, educational legislation and reports of meetings. The aim of reviewing the literature was to provide a theoretical framework for the empirical investigation.

. Empirical investigation:

In the empirical investigation a qualitative and quantitative research design were used to gain insight into the impact of curriculum changes on primary school teachers in Seshego circuit.

3.3.1. Qualitative approach

By the term qualitative research we mean any kind of research that produces findings not arrived at by statistical procedures or other means of quantification. It can refer to research about people's lives, stories, behaviour, but also about organizational functioning, social movement or interactional relationships (Strauss & Corbin, 1990:17). The reason for using this method is that data are being collected through sustained contact with people in settings where subjects mostly spend their time, at their work place. This approach has the ability to provide complex textual descriptions of how people experience a given research issue. It also provides information about the "human" side of an issue that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals in the implementation process.

Qualitative research has been assigned many different labels, such as field research, critical research, interpretative research, naturalism, ethnography, and constructivism. However, they all share a common focus: to interpret and construct the qualitative aspects of communication (du Plooy, 2002: 29). Furthermore qualitative methods collect information in the form of words which give us an in depth understanding of the nature of what people experience (Louw & Edwards, 1998:29). Interviews were conducted to collect qualitative data.

For the purposes of this study, this type of method allowed the researcher to remain receptive to new ideas, issues and undercurrents emerging from the study. This was especially relevant to the subject of the present study, which was still being developed, with the result that there was a considerable likelihood that new developments relating to the impact of curriculum changes on primary school teachers emerged during the process. It was the researcher's opinion that such a design was the most effective for this research, considering that the topic is a practical issue in an education sector.

3.3.2. Quantitative approach

The word quantitative refers to the use of numbers in collecting or working with research data. Quantitative researchers might study an attitude or experience by asking a set of defined questions from which a score can be derived (Louw & Edwards, 1998:30). I decided to apply quantitative method which would be good for this study since it tends to be more field focused (Denzin and Lincoln, 1994:2). A questionnaire was administered to collect quantitative data. This method of

collecting data was selected as is relatively economical and has the same questions for all participants and can ensure anonymity. The main reason for administering the teacher's questionnaire is to get more information from the teachers who are responsible for the implementation of curriculum changes.

3.4. POPULATION AND SAMPLE

3.4.1. Population

Population is a term that set boundaries on the study units. It refers to individuals in the universe who possess specific characteristics, (de Vos et al., 2002:198,199). The authors continue by saying a population is the totality of persons, events, organization units, case records or other sampling units with which the research problem is concerned. The population for this study consists of all primary schools in Seshego Circuit and their teachers. This includes township schools, schools in rural areas, schools situated in informal settlements as well as independent schools, because these schools differ according to their history, culture of learning and teaching, and their own climate as identified in chapter 1 item 5.2.1.

3.4.2. Sample

Shipman (1997:57) states that a sample is selected to represent a population. It can be viewed as a sub-set of measurements drawn from the population in which we are interested, (de Vos et al., 2002:199). According to Patton in McMillan & Schumacher (1993:378), in purposeful sampling the researcher identifies "information rich" participants for the reason that they are possibly knowledgeable about the phenomenon under investigation. The composition of a sample is as follows: Six primary schools were purposively selected in Seshego Circuit. These are two township schools, two schools in rural areas, one school situated in an informal settlement and one independent school. From each school five teachers and one principal or deputy principal were selected for participation. Regardless of age, gender or whether they are permanent or temporary, local or foreign. The researcher selected institutions:

- that were easily accessed and

- in which she has knowledge of their location.

No qualification was taken into account for selection. The criterion was that teachers must have taught Grades 4 to 6 Mathematics for more than two years. This includes; one principal or deputy principal or head of department and five Mathematics teachers from each school.

This means that 36 respondents from six primary schools at Seshego Circuit took part in this study.

3.5. DATA COLLECTION

Structured personal interviews were conducted with individual teachers and principals to find out information about the impact of curriculum changes on teachers and also to probe and explore certain aspects in greater detail. McMillan and Schumacher (2010:360) maintain that the primary data of qualitative interviews are verbatim accounts of what transpires in the interview sessions. In the light of this view, the researcher recorded the interviews in order to ensure the completeness of the verbal interaction and provide material for reliability checks. Handwritten notes are also recorded. The method of interviewing has been chosen because of the quality of data it produces and for its ability to allow the researcher to combine the benefits derived from interviews.

Quantitative data was collected through the use of a questionnaire. The questionnaire included close-and open-ended questions. Close-ended questions were intended for straightforward answers while open-ended enquiries gave freedom to respond more widely. David and Sutton (2004:159) note that the structured interview involves an interviewer asking questions and recording the respondents' replies. This type of interview is one in which the interviewer determines the precise form and direction of the questioning in advance of actually meeting the interviewee. A structured interview schedule was carefully planned to obtain relevant information about the impact of curriculum changes on primary school teachers. Arrangements with the six selected schools were made. Each principal was interviewed individually, for example, how do curriculum changes impact the teachers' morale? Personal interviews can avoid the potential bias by approaching the individuals as it is much easier to discern whom one is speaking to and what that person's role is.

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- Interview guide

The interview guide was used as data collection tool that served as a guide to the interviewer. This data collection schedule was used in order to have a structured plan to be followed. However, the researcher was not bound to adhere strictly to it. It comprised selected themes or subject areas that are derived from the literature review. Interview questions were based on these themes. According to Patton (2002:344), the interview guide provides a framework within which the interviewer develops questions, sequence them and make decisions about information that needs to be pursued in greater depth. An interview guide provides the opportunity for the researcher to get the descriptive meaning of the identified themes. This is obtained from the responses to the questions based on the themes. This implies that in constructing the interview guide, the researcher translated the research objectives into the questions that subsequently made up part of the schedule. This enabled the researcher to determine whether the responses from the interviews corresponded with the theoretical information gathered from the literature review.

- questionnaire administration

Questionnaire refers to both documents that are completed by an interviewer in a direct person-to person situation, and those documents that are mailed or handed to people for completion without the assistance of the researcher (Rossouw, 2003:127). Mwamwenda (2004: 14), states that a questionnaire consists of written questions covering a number of issues related to the topic of interest. The questionnaire included close- and open-ended questions. Close-ended questions were intended for straightforward answers while open-ended enquiries gave freedom to respond more widely. Questionnaires could reach a large number of respondents; it is less expensive and less time consuming. A further consideration is that self-administered questionnaires also yield low rates of response (Vadum & Rankin, 1998: 255). This was then analysed using statistical data analysis techniques.

3.6. DATA ANALYSIS

Once the data has been collected, there is an opportunity to ``bring order, structure, and meaning to the mass of collected data'' (Marshall & Rossman, 1989: 112). Descriptive statistics are used when analysing the quantitative data. A systematic process of selecting, categorizing, comparing, synthesizing and interpreting to provide explanations of the single phenomenon of interest were used in qualitative data analysis ((White, 2005:168). According to Patton (1997:144), data analysis is the process of bringing order to the data, and organising what is there into patterns, categories and basic descriptive units. McMillan and Schumacher (1997:500-503) confirm that qualitative data analysis takes the form of written language. During the initial stages of data creation I read through my first few interviews and looked for whatever themes emerged from the data. I read through the responses and underlined whatever phrases I came across, making analytical notes. In order to organise my data holistically, I simply read through the material several times to form an overall impression of what each specific teacher's view was about. In this way central facts supporting the central theme of the impact of curriculum changes on teachers were identified and subcategorized. The analyses have been concluded in line with the objectives set out in the study. This process occurred concurrently with the data collection due to the exploratory nature of the study. According to Mouton (2001:108), "Numeric data (statistics, numbers) are usually well structured and easy to capture..." a view shared by McMillan and Schumacher (1993:40), who wrote that in the quantitative technique one uses numbers and measurements. The information from the completed questionnaires is presented in the form of tables and was followed by a discussion analysis. The tables would represent percentages according to the structured responses.

3.7. DELIMITATION

Generally, the impact of curriculum changes exists in all four tiers of the education ministry of South Africa: National, Provincial, district and school levels. However, this study investigates the impact of curriculum changes in Mathematics in primary schools' teachers at school level. This investigation focused on Seshego Circuit, the six selected primary schools and mathematics as one of the learning areas in primary schools. The reason for selecting Seshego Circuit is that the researcher is one of the teachers of its primary schools and it was easily accessible to the researcher. One teacher withdrew from participating in the study because the window period of data collection coincided with

continuous assessment for schools. The teacher was a cluster leader of Mathematics for schools in the Seshego circuit. He asked to withdraw from participating in the study in order to monitor the implementation of assessment activities and recording. The withdrawal of this teacher was a loss of important data of the study since he was the most experienced teacher when it comes to curriculum issues.

3.8. TRUSTWORTHINESS

The trustworthiness of the research findings is established by the way in which the researcher deals with the validity threats. The following were anticipated as the validity threats and the possible strategies ruled them out of the findings of this research:

3.8.1 Inaccuracy or incompleteness of the data

The main threat to valid description, in the sense of what you saw and heard, is the inaccuracy or incompleteness of the data. In this study, the researcher used a tape recorder as well as handwritten notes to capture accurate information correctly. Tables were also used for information from the questionnaires.

3.8.2 Misinterpretation of data

One of the threats to valid interpretation is posing one's own framework or meaning, rather than understanding the perspective of the people studied and the meanings they attach to their words and actions. The most important check on such validity threat is to seriously and systematically attempt to learn how the participants in the study make sense of what is going on, rather than pigeonholing their words and actions in one's own framework. The strategy known as *member check* is one of the main ways of avoiding this threat. According to Merriam (1998:204), *member check* refers to a process of taking data and tentative interpretations back to the participants and asking them if the results are plausible. The researcher revisited the participants to confirm or correct some interpretations attached to their thoughts and views.

3.8.3 Researcher's bias

An important threat to validity of qualitative conclusion is the selection of data that suits the researcher's existing theory or preconceptions and the selection of data that stand out to the researcher. In order to eliminate researcher's bias, triangulation was applied. According to Conrad and Serlin, (2006:380), triangulation is the process of obtaining information from a diverse range of individuals and settings, using several different sources, cross checking, and verifying sources of information through a variety of methods. The use of multiple sources of data and avoiding reliance on a single source enhanced corroboration of the conclusions. In addition, triangulation reduced the risk that the findings will reflect systematic biases or limitations of a specific method, and it allowed the researcher to gain a better assessment of the validity and generality of the explanations that shall be developed. In this study, the researcher triangulated the data by using both literature study and interviews and questionnaire in order to eliminate researcher's bias and guard against being misled.

3.9. ETHICAL CONSIDERATIONS

Ary et al. (2002: 50) believe that when the researcher employs human beings as subjects in research, extreme care must be taken to avoid any harm to them. This means that the researcher has an obligation to respect the rights, needs, values, and desires of the informants. Several bodies dealing with human research have established codes of ethics to safeguard the rights of the participants in research. For instance, the Human Science Research Council (HSRC) in South Africa has a code of ethics which consists of ethical research guidelines. In this study, the researcher observes the following research ethics:

- The researcher approached the participants in person and communicates the aims of this study to the participants and assures them of confidentiality and anonymity;
- Written permission was from Seshego Circuit manager was secured in order to proceed with the study. In negotiating permission to do a study, the researcher had made it clear what the terms of the agreement were, and she had abode by them (Bogdan & Biklen, (2003:45). This means, the researcher has been careful and realistic in negotiations;
- The participants were informed of data collection devices and activities. Permission was sought to audiotape interviews so that the researcher could obtain accurate information.

- The researcher observed the right of the participants to remain anonymous and their information to be treated as confidential. These rights were respected, specifically, when no clear understanding to the contrary had been reached. In compliance with this consideration, the researcher employed stringent measures to conceal the names of participants and those of the institutions to which they were attached. Instead, pseudo/ code names were used.
- The researcher made the participants aware that their role was voluntary and, therefore, they had the right to withdraw from the study at any time should they feel uneasy with the processes;
- The researcher was sensitive to the on-going institutional activities and alerted relevant institutional representatives of the possible disturbances in such activities that might result from the conduct of the research; and
- Lastly, as a token of the researcher's gratitude for their role, the researcher communicated his findings to the participants in a clear, straightforward, and appropriate language on their request (Ary et al., 2002:504).

3.10. CONCLUSION

This chapter focused on explanation and detailed discussion of the research methodology design and data analysis. An attempt was made in this chapter to analyse and interpret the method used to investigate the impact of curriculum changes on primary school teachers. Qualitative as well as quantitative research methods were used in this study.

CHAPTER 4

FINDINGS AND DISCUSSION

4.1 INTRODUCTION

An analysis of impact of curriculum change on primary school teachers is made in this chapter. This chapter also analyses the questionnaires administered to primary school teachers as well as the principals of various primary schools of Seshego Circuit. Teachers' questionnaires form part one of the analysis, whereas the principals' questionnaires and the principals' interviews respectively form part two and three of the analysis.

4.2 QUESTIONNAIRE FOR TEACHERS

This questionnaire was administered to the six primary schools' mathematics teachers that participated in this study. In this research project 40% of the respondents are male and 60% are female. Respondents were required to fill in appropriate number of years experienced in teaching.

Table 4.2.1

Response in years of service:

Years in service	0-10	11-20	21-30	31-40	Total
Number of respondents	9	14	10	3	36
Percentage	25%	38,89%	27,78%	8,33%	100

Table 4.2.2: Distribution of teachers' responses to question 1: Is there a need at times for curriculum changes?

Response	Frequency	Percentage
Yes	26	86.67%
No	4	13.33%
Not answered	0	0%
Total	30	100%

Table 2 shows a high number of respondents, twenty six, which is 86, 67%, agreeing that there is at times a need for curriculum changes. Only four respondents, 13, 33%, indicated that there is no need for curriculum changes and none of them, 0%, refrained from answering the question.

Table 4.2.3: Distribution of teachers' response to question 2: How did you feel when you heard of curriculum changes?

Response	Frequency	Percentage
Good	15	50%
Bad	10	33.33%
Excited	5	16.67%
Not answered	0	0%
Total	30	100%

The fifteen respondents, 50%, indicated that they felt good about curriculum changes. Ten respondents, 33,33%, indicated that they felt bad about curriculum changes, whereas five respondents, 16, 67 %, indicated that they were very excited about curriculum changes, and 0 % failed to respond.

Table 4.2.4: Distribution of teachers' response to question 3: Do you encounter problems when implementing changes in Mathematics curriculum?

Response	Frequency	Percentage
Yes	28	93.33%
No	0	0%
Not answered	2	6.67%
Total	30	100%

Table 4.2.4 A very high number of respondents, 28, 93, 33% encounter problems when implementing mathematics curriculum changes. Only two respondents, 6, 67 %, did not respond.

Table 4.2.5 Distribution of teachers' response to question 4: What are some of the challenges you encounter?

Response	Frequency	Percentage
Time for training is not enough	12	40%
Lack of resources	6	20%
Questionable competence of facilitators	2	6.67%
Difficulties with implementation (assessment, planning of lessons, drawing of one's own work schedule)	3	10%
Too many changes bring confusion to the teachers and poor discipline becomes a factor.	7	23.33%
Total	30	100%

Table 4.2.5 shows that twelve respondents, 40%, indicated that the time for training is not enough as a challenge. Six respondents, 20%, indicated lack of resources as a challenge. Two respondents, 6.67%, cited questionable competence of facilitators as a challenge to them. Three respondents, 10%, cited difficulties with implementation as a challenge, whereas seven respondents, 23.33%, cited that too many changes brought confusion to the teachers and poor discipline became an issue of concern.

Table 4.2.6 Distribution of Teachers' Response to Question 5: How were mathematics change-related problems treated at your school?

Response	Frequency	Percentage
Fairly	18	60%
Unfairly	9	30%
Victimisation resulted	3	10%

Total	30	100%
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Table 4.2.6 shows that eighteen respondents, 60 %, indicated that change-related problems in mathematics were treated fairly. Only nine respondents, 30 %, indicated that the change-related problems were unfairly treated, whilst three respondents, that is 10%, indicated that change-related problems resulted in the victimisation of teachers.

Table 4.2.7 Distribution of teachers' response to question 6: Have you received support from the school when implementing curriculum changes?

Response	Frequency	Percentage
Yes	18	60%
No	9	30%
Not answered	3	10%
Total	30	100%

Table 4.2.7 indicates that eighteen respondents, 60%, agreed that they received support from the school when implementing curriculum change, whereas nine respondents that is, 30%, responded negatively by indicating that they did not receive any support. The other three, 10% respondents did not answer.

Table 4.2.8 Distribution of teachers' response to question 7: What kind of support have you received?

Response	Frequency	Percentage
Teamwork	16	53.33%
Teaching aids	5	16,67%
Workshops	6	20%
Not answered	2	6.67%
Total	30	100%

In response to the support received to question 4.2.8, sixteen respondents, 53,33 %, worked as a team; five respondents, 16, 67 %, received teaching aids; six respondents, 20 %, attended workshops, while two respondents, 6, 67 %, did not respond to the question asked.

Table 4.2.9 Distribution of teachers' response to question 8: Have you received some training preparing you for curriculum change?

Response	Frequency	Percentage
Yes	26	86.67%
No	0	0%
Not answered	4	13.33%
Total	30	100%

The responses to question 4.2.9, concerning whether the respondents received some training preparing them for curriculum changes were that 26 respondents, 86, 67% %, agreed that they received training; four respondents, 13, 33 %, abstained.

Table 4.2.10 Distribution of teachers' response to question 9: Was the training adequate for the work you are implementing?

Response	Frequency	Percentage
Yes	0	0%
No	29	96.67
Not answered	1	3.33%
Total	30	100%

Table 4.2.10, in indicating whether the training received was adequate, no one amongst the respondents agreed that the training was adequate; 29 respondents, 96, 67 %, disagreed, saying training was inadequate and one respondent, 3, 33 %, did not respond.

Table 4.2.11 Distribution of teachers' response to question 10: Is there any professional development resulting from the training you received?

Response	Frequency	Percentage
Yes	15	50%
No	12	40%
Not answered	3	10%
Total	30	100%

Table 4.2.11 shows the responses to the question, is there any professional development from the training received as such? Fifteen respondents, 50%, agreed that there was professional development; twelve respondents, 40%, indicated that no professional development resulted from the training and three respondents, 10 %, refrained from answering.

Table 4.2.12 Distribution of teachers' response to question 11: Do you believe that the quality of teachers and their knowledge guarantee success?

Response	Frequency	Percentage
Yes	26	86.67%
No	4	13.33%
Not answered	0	0%
Total	30	100%

In Table 4.2.12 a high number of respondents, that is twenty six, 86, 67%, believe that the quality of teachers and their knowledge guarantee success; only four respondents, 13, 33% %, did not believe that.

Table 4.2.13 Distribution of teachers' response to question 12: Are you well able to implement your own programme that produces the necessary outcomes?

Response	Frequency	Percentage
Yes	13	43.33%
No	14	46.67%
Not answered	3	10%

Total	30	100%
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Table 4.2.13 shows that a maximum number of respondents, thirteen, 43, 33 %, were able to implement their own programmes to produce the required outcomes; fourteen respondents, 46,67 % , were not able to implement their own programme while three respondents, 10 %, did not answer.

Table 4.2.14 Distribution of teachers' response to question 13: What are your suggestions for the future?

Response	Frequency	Percentage
Workshops for professional development	5	16.67%
Common assessment in exit grades	3	10%
Enough training time	16	53.33%
Cluster visits for guidance purposes	6	20%
Total	30	100%

Table 4.2.14 reflects the suggestions for the future as such: five respondents, 16, 67 %, suggested workshops for professional development; three, 10 %, suggested common assessment in exit grades; sixteen respondents, 53, 33 %, suggested that there be sufficient training time and six respondents, 20 %, suggested that there be cluster visits for guidance purposes.

4.3 ANALYSIS OF QUESTIONNAIRE FOR TEACHERS

The main reason for administering the teachers' questionnaire was to get more information from the teachers who were responsible for the implementation of curriculum changes in mathematics. From the six primary schools, 30 teachers were administered the questionnaire. With regard to the first question, the findings revealed that the majority of the teachers, 86, 67 %, agreed that there is a need for curriculum changes; 13, 33% of teachers indicated that there was no need.

This implies that the Department of Education showed forethought in bringing about curriculum changes.

In answering the second question, the findings showed that 50 % of the teachers felt good on hearing about curriculum changes. This indicates a positive attitude toward curriculum changes on the whole. Nevertheless, a small percentage of 33, 33% felt negative, whereas 16, 67 % of teachers were excited on hearing about curriculum changes. None of them refrained from showing how they felt about curriculum changes. In total then 66, 67 % were positive about curriculum changes.

In reply to question three, teachers indicated with a high percentage, 93, 33%, that they encounter problems when implementing curriculum changes in mathematics, whilst 6, 67 % did not indicate whether they encountered problems or not.

The findings revealed the following as the challenges the teachers encounter when implementing curriculum changes (question four): 40 % of teachers indicated that time for training is not enough; 20 % cited lack of resources as a challenge; 6, 67 % indicated the questionable competence of facilitators as another challenge; 10 % indicated that they have difficulties with the implementation and 23, 33 % indicated that too many changes bring confusion to the teachers and as such poor discipline becomes a factor.

With regard to the fifth question, change-related problems were treated in different ways. The 60% of teachers that responded indicated that the problems were treated fairly; 30 % indicated that the problems were unfairly treated and 10 % cited that the change-related problems resulted in victimisation. In response to the sixth question, a number of respondents, fourteen, 60%, agreed that they received support when implementing curriculum changes; 30 % responded differently whereas 10 % refrained from answering the question.

With regard to the kind of support received, the respondents indicated various kinds of support: 53, 33 % indicated that they experienced teamwork; 16, 67 % indicated that they used teaching aids; 20 % indicated they attended workshops and 6, 67 % did not reply.

In answering question eight, 86, 67 % agreed that they received training in preparation for curriculum changes. This high percentage shows that the Department of Education has done a sterling job of preparing teachers before implementing the actual changes. Only 13,33 % abstained. In answering question nine, 96, 67%, specified that the training they received was not sufficient for the work they have to implement and none of them indicated that the training was adequate, only 3,33% did not respond. This high percentage implies the need for more training.

In the varied response to question 10, 50 % of the teachers indicated that they benefited from the training; 40 % indicated that there was no professional development and only 10 % did not respond. When answering the eleventh question, a high number of respondents, 86, 67 %, acknowledged that the quality of teachers and their knowledge guarantee success; 13, 33 % of them responded differently.

With regard to question twelve, 43, 33 % agreed that they were well able to implement their own programmes to produce the necessary outcomes; 46, 67 % indicated that they were not able to implement their own programmes and 10 % abstained.

In calling for future suggestions the following were indicated : 53,33 % of respondents called for further training time; 16,67 % of teachers requested for workshops for professional development; 10 % appealed for common assessment in exit grades while 20 % asked for cluster visits for guidance purposes.

4.4. QUESTIONNAIRE FOR PRINCIPALS

Table 4.4.1 Distribution of principals' response to Question 1: Do you think there is a need for curriculum change at times?

Response	Frequency	Percentage
Yes	5	83,33%
No	1	16,67%
Not answered	0	0
Total	6	100%

Table 4.4.1 shows a high number of respondents considered that there was a need for curriculum changes; only one respondent, 16, 67 %, thought differently saying that there was no need for curriculum changes at times.

Table 4.4.2 Distribution of principals' response to Question 2: Do you promote curriculum changes at your school?

Response	Frequency	Percentage
Yes	5	83,33%
No	1	16,67%
Not answered	0	0
total	6	100

Table 4.4.2 denotes a high number of respondents, that is five, 83,33 %, indicated that they promote curriculum changes at their schools and only one respondent, 16,67 %, responded differently.

Table 4.4.3 Distribution of principals' response to question 3: Are there difficulties or problems among teachers when implementing changes in mathematics curriculum?

Response	Frequency	Percentage
Yes	6	100%
No	0	0
Not answered	0	0
total	6	100%

All of the six respondents, 100 %, indicated that there were difficulties among teachers when implementing mathematics curriculum changes. Not even a single individual implied that there were no difficulties.

4.4.4 Distribution of principals' response to question 4: What are some of the problems you encounter when implementing curriculum changes?

Response	Frequency	Percentage
Training is not enough	2	33,33
Time for training is not enough	1	16,67%
Confusion on teachers due to continuous changes	2	33,33
Changes denial	1	16,67%
Total	6	100%

Table 4.4.4, in signifying some of the problems teachers encounter when implementing the changes, showed that two respondents, 33,33 %, said that training was not sufficient; 1 respondent, that is 16,67 %, pointed out that the time for training was not enough; two respondents, that is 33,33%, indicated that there was confusion concerning continuous changes among teachers. Only one respondent, 16,67 %, indicated that there is denial in changes.

4.4.5 Distribution of principals' response to question 5: Do you help teachers solve problems related to the implementation of curriculum changes in mathematics?

Response	Frequency	Percentage
Yes	6	100%
No	0	0
Not answered	0	0
total	6	100%

Table 4.4.5 shows that all of the respondents, 100 %, agreed that they help teachers solve problems related to the implementation of mathematics curriculum changes.

Table 4.4.6 Distribution of principals' response to question 6: How do you help them?

Response	Frequency	Percentage
Encourage them to attend	2	33,33%

workshops and cluster meetings		
Revive their attitude towards curriculum changes	1	16,67%
Provide resources	1	16,67%
Team work	1	16,67%
Address individual's problems	1	16,67%
Total	6	100%

Table 4.4.6 shows that two respondents, 33,33 %, encouraged teachers to attend workshops and cluster meetings; one respondent, 16,67 %, revived their attitude towards curriculum changes; one respondent, 16,67 %, provided resources like teaching and learning support materials; one respondent, 16,67 %, encouraged teamwork as a way of helping teachers while one respondent, 16,67 %, addressed individuals' problems as a way of helping teachers.

4.4.7 Distribution of principals' response to question 7: Do you involve School Management Team in the implementation of curriculum changes?

Response	Frequency	Percentage
Yes	6	100%
No	0	0
Not answered	0	0
Total	6	100%

Six respondents, 100 %, agreed that they involve the School Management Team in the implementation of curriculum changes, and this involves all respondents.

Table 4.4.8 Distribution of principals' response to question 8: Do you have Government policies to help you deal with curriculum changes?

Response	Frequency	Percentage

Yes	4	66,67%
No	0	0
Not answered	2	33,33%
Total	6	100%

Table 4.4.8 indicates that a high number of respondents, that is four, 66, 67 %, agreed that they have government policies to aid them deal with curriculum changes. Only two respondents, 33, 33 %, did not answer.

Table 4.4.9 Distribution of principals' response to question 9: Presently can you say that your school is on the right track concerning the implementation of curriculum changes?

Response	Frequency	Percentage
Yes	3	50%
No	2	33,33%
Not answered	1	16,67%
Total	6	100%

Table 4.4.9 shows three respondents, 50 %, specified that their schools implemented curriculum changes correctly; two respondents, 33, 33 %, disagreed and one of them abstained.

Table 4.4.10 Distribution of Principals' response to question 10: What is the current state concerning change in Mathematics curriculum at your school?

Response	Frequency	Percentage
Bad	0	0
Fair	3	50%
Good	2	33,33%
Excellent	0	0
Not answered	1	16,67%
Total	6	100%

Table 4.4.10 illustrates the responses concerning mathematics curriculum change at their schools, three respondents, 50 %, indicated that the state was fair; two respondents indicated that the state at their schools was good and one respondent did not reply.

4.5 ANALYSIS OF QUESTIONNAIRE FOR PRINCIPALS

The main reason for administering a questionnaire for principals was to obtain information from the first level of curriculum change management. Twelve principals from six primary schools were given questionnaires.

With regard to the first question, the findings revealed that 83, 33 % of principals responded positively and accepted that there was a need for curriculum change at times. This shows that the principals' attitude towards curriculum change is positive. Only 16, 67 % of principals indicated that there was no need for curriculum changes.

In responding positively to the second question, again 83, 33 % of the principals indicated that they promoted curriculum changes in their schools. Principals, as managers of curriculum changes at schools, need to confidently indicate that they promote curriculum changes which support the Department of Education's vision. The other 16, 67 % of respondents indicated that they do not promote curriculum changes at their schools.

With regard to the third question, 100 % of the respondents indicated that there were difficulties among teachers when implementing Mathematics curriculum changes. This calls for attention to be paid to those problems experienced at schools so that curriculum changes can be beneficial to them.

In responding to the fourth question, some of the problems encountered when implementing changes in mathematics were: 33, 33 % indicated that the training was insufficient; 16, 67 % signified that the time allowed for training was too short; 33, 33 % suggested that there was confusion among teachers due to continuous changes and 16, 67 % of principals indicated that there was change-denial among teachers.

When responding to the fifth question, 100 % of principals agreed that they help teachers solve problems related to the implementation of mathematics curriculum change. In response to the sixth question, 33, 33 % of principals said that they help teachers by encouraging them to attend workshops and cluster meetings; 16, 67 % maintained that they revived the teachers' attitude towards curriculum changes; 16, 67 % signified that they provided teachers with resources as a way of helping them solve problems related to the implementation of curriculum changes; 16, 67% encouraged teamwork, whereas a further 16, 67 % addressed individuals' problems.

With regard to question seven, all of the Principals indicated positively that they involve the school management team in the implementation of curriculum changes. In response to question eight, 66, 67 % indicated that they made use of government policies. This shows that the Department made provision for informing schools about implementing curriculum changes. Only 33, 33 % of principals abstained.

With regard to the ninth question, 50 % indicated that their schools were properly implementing curriculum changes; 33, 33 % indicated that their schools were implementing curriculum changes in a right way, whereas 16, 67 % did not respond. Regarding the tenth question, 50 % of principals signified that the current state concerning their schools was acceptable; 33, 33 % maintained that the present situation was in a good condition.

4.6 INTERVIEW SCHEDULE FOR PRINCIPALS

1. To what extent do curriculum challenges affect teachers' morale?
2. What impact does curriculum changes in mathematics have on teachers' career development?
3. What are the challenges experienced by mathematics teachers regarding curriculum changes in Seshego Circuit?

4.7 ANALYSIS OF THE INTERVIEWS FOR PRINCIPALS

Six principals from the six primary schools were interviewed. A discussion analysis of the principals' interview was also done and here-under are the experiences:

In reacting to the first question, the principals maintained that the teachers' morale was negatively affected, for example, the annual staff adjustments which sometimes require teachers to change schools or relocate to another area, unsettles them. Their morale is lowered, they start to behave differently, become unco-operative and their performance diminishes.

Principals went on to point out that some teachers do not want to teach learning areas such as Mathematics because of monthly common tasks which are set without any discussion with the teachers concerned. They indicated that some workshops were needed about the common tasks as the content in mathematics is very broad. Teachers are also aware that their training is inadequate for that particular subject. They do not want to feel or appear incompetent.

Principals continuously maintain that to improve the morale of the teachers, relevant incentives should be introduced. The time the teachers spend away from their families is never acknowledged. Long periods of time away put unnecessary stress on their family-life.

In responding to the impact of curriculum changes on teachers, question two, most of the principals indicated that teachers were affected negatively. Much of their time was spent it away from their families attending workshops. They also indicated that continuous change of curriculum was confusing as was excessive amount of work within a short space of time. This created additional difficulties for teachers, preventing them from efficiently applying these curriculum changes.

The principals went on to say that the relocation of teachers causes friction amongst staff, because one thinks he/she is being moved away because another is coming to take his/her place. These negative effects on teachers result in rebellion, poor discipline, unpunctuality and disinterest. A small percentage did show the brighter side of curriculum changes saying that teachers could gain new knowledge and skills. According to the principals, teachers are under

tremendous pressure and stress in their classroom practice. They do not have time to relax or sometimes talk to their colleagues because of the changes that are taking place over a relatively short period of time. The demands may not have the same impact on all the teachers.

The findings suggest that there are many challenges teachers are faced with in terms of training, departmental support, and the coping strategies in the classroom. However, they find it in themselves to try to overcome certain challenges through collegial support. It is evident that there is a lack of Departmental support for these teachers. For this reason, they derive some support and learning from professional organisations like AMESA and by joining clusters. This constitutes a learning curve, for both experienced and novice teachers, since both groups are not always familiar with the demands of the new curriculum. It is clear that teachers need to change their mindset for the future, and to adopt the new curriculum as the way forward.

4.8. CONCLUSION

In conclusion, and Jansen and Sayed (2001:183) assert that the speed of legislated change and the lack of time for major re-training has left many teachers and managers feeling de-skilled. Their immediate need is for rapid “re-skilling”. Although there is an impact of curriculum changes on primary school teachers, the situation can be still remedied. Since teachers remain within the system is constructive in that they are ready and willing to be productive. The questions now are who should be helping them as they stand hoping for support and how much damage is being done to the innocent learners as the teachers try to apply the new curriculum for which they do not feel competent?

In Chapter 5, the researcher summarises the previous chapters, discusses the findings, offers recommendations and finally advocates a conclusion.

CHAPTER 5: SUMMARY, FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

5.1 INTRODUCTION

The study focused on the impact of curriculum changes on Mathematics teachers. The Department of Education's main purpose for curriculum changes aims to develop the full potential of each learner as a citizen of a democratic South Africa. It seeks to create a lifelong learner who is confident and independent, literate, numerate and multi-skilled, compassionate in society as a critical and active citizen (Department of Education, 2002:8). As such, therefore, there is a need to discover where the shortfalls and strengths are in terms of the implementation of the curriculum changes, so solutions are applied to improve and enhance the curriculum where necessary.

5.2 SUMMARY OF CHAPTERS

The researcher uses chapter 1 to introduce the study and outline the background of the topic, statement of the problem, research questions and problem statement. The research problem namely, what is the current situation regarding the impact of curriculum changes in Mathematics in primary schools teachers at Seshego Circuit in Limpopo Province, is also stated along with the research questions, aims of the study, research methodology and delimitations. The significance of the study as well as the definitions is considered. It is during this phase where it was found out that for the development of competent life-long learners, the foundation from whence they come, as well as the one responsible for laying it are equally important. Primary school teachers carry the responsibility of laying the right foundation for our learners.

The second phase presents the description of the outcomes of the literature study. Out of the literature it was revealed that curriculum changes are a necessity for learner-centred education and that they address a need for a target group. It was also shown that change-related problems are ignored, denied or treated as an occasion for blame and defence. Support to teachers during a major curriculum change could act as a force that could drive positive change in the curriculum. Furthermore, it was implied that although teachers welcome change, without adequate training they lacked capacity to lead and implement curriculum transformation.

In the third phase the research design and methodology, population and sample, data collection, data analysis, trustworthiness and ethical considerations were dealt with. Commonly used ways of collecting quantitative data and qualitative data were described. A sample of six schools was chosen for this study. Questionnaires, interviews and literature study were used for data collection.

Data analysis and interpretation were done in the fourth phase of this study. The questionnaires were delivered to teachers and principals. The interview schedule for principals was also covered. The findings of the research study highlighted that curriculum changes are bound to happen within an unremittingly changing environment. It was also established that curriculum changes impacted teachers' and learners' lives and that this must be addressed for the smooth implementation of curriculum change in Mathematics. During curriculum changes teachers require support from their schools and from the Department of Education.

5.3 THE RESEARCHER'S FINDINGS

With regard to the impact of curriculum changes on primary school teachers of Seshego Circuit, the researcher found out that the impact of curriculum changes is to be expected, especially during times of transition. The responses to these curriculum changes are a sign that the teachers need continuous and immediate guidance to implement the new curriculum. As long as things are changing, even the needs of people and or nation are no longer the same; curriculum will inevitably change to accommodate new developments and address the needs of people in that particular time.

Concerning teachers' career development, it appears that a lot needs to be done in order to improve curriculum issues for teachers, who are the ultimate implementers of policies with regard to huge curriculum changes which the Department of Education were the initiators. The good training teachers receive will only be relevant to their career development if training makes sense to them. In order to cope well with the constantly changing knowledge and type of education now, teachers need some form of capacity building so that they can confidently implement the curriculum changes without feeling incompetent and unworthy of their vocation.

Among the challenges which teachers encounter include inadequate training time, the questionable competence of facilitators and too many changes in a short time. These bring bewilderment and disorder to the teachers and lack of discipline becomes an issue. The confusion is exacerbated by trying to cover too much work within a short space of time. Teachers indicate that they are willing to meet the challenges posed and are not necessarily against the changes. They are looking for appropriate ways of addressing the challenges and require assistance from the Department of Education for them to be able to do so.

It was disclosed during the interviews that some teachers considered that change related problems were unfairly handled with even possible victimization. For example, when the teacher seeks more clarity from the School Management Team, the School Management Team considered him/her to be stubborn and consequently sidelined him/her. Situations like this lower the morale and ability of teachers. Measures to address this frequently experienced situation must be put in place so that in future teachers can freely and effectively.

According to the responses of teachers and principals, adequate government policies have been supplied to schools. This shows the government is determined to make the new curriculum work. A more comforting aspect is that although teachers were faced with negative aspects related to curriculum changes, they were able to get support from their schools through the School Management Teams. They were also able to undergo training of a sort. However, the time given for training was insufficient.

Only a small number of teachers are able to implement their own programmes. More need to be encouraged to do so to make a difference to the implementation of curriculum changes. This insignificant number reveals the necessity for more adequate and frequent preparation to enable teachers to effectively apply changes. It was also disclosed that well-prepared teachers guarantee success. This emphasises that the in-service training which the teachers get is crucial to their professional development. This will also encourage teachers to remain in the profession.

The statistics with regard to the current state concerning Mathematics curriculum changes at schools indicate that the current situation at schools is not as good as it should be (see table

4.4.10). This calls for urgent intervention to tackle the stressful circumstances experienced by teachers so as to ensure the smooth execution of curriculum changes as soon as possible.

5.4 RECOMMENDATIONS

The following are some of the recommendations made to improve curriculum changes:

- ◆ Provision for frequent and ongoing in-service training for teachers;
- ◆ Workshops for professional development should be ongoing, considering the inevitable changes around us, because little knowledge and remaining stagnant are harmful to teachers and learners alike;
- ◆ Post-training follow-ups and cluster-visits for guidance purposes should be ongoing; regular feedback helps teachers to effectively apply changes because help is immediately available from the facilitators;
- ◆ Common assessment in exit grades should be done by circuits; although for a start the common assessment may not be done nationally, clusters can be used as a starting point; assessment can also serve as an encouragement to teachers and give them a secure frame of reference, and
- ◆ Incentives, for example certificates of attendance of workshops, long service or even cash bonuses be introduced in order to acknowledge the teachers and give them confidence knowing that their efforts are recognised; this will also give them energy and determination to go even further.

5.5 CONCLUSION

Curriculum changes are meant to be beneficial to teachers and learners. Teachers need to be motivated and made aware of the challenges they may encounter when implementing Mathematics curriculum changes. They must also be assured that challenges exist to build them up not to destroy them. They require support from the Department of Education, parents, School Management Teams and other stakeholders to negotiate these challenges. This can also bring positive attitude towards Mathematics as a subject. Since quality of teachers, their ability and their knowledge guarantee success, it is imperative that they continue to undergo suitable in-service training. The time for conducting in-service training should also be increased. Teachers should also be helped to appreciate that during changes one should not rebel against colleagues

and the school management, but instead to work with others as a team bearing in mind that “together we stand but divided we fall”.

Consequently further research could be done along these areas:

- ◆ suitable in-service training for professional development
- ◆ the practical implementation of curriculum changes in schools.

The researcher hopes that this study will be instrumental in encouraging teachers and the Department of Education to co-operate in trying to address these concerns in order to bring about the desired outcomes of the ongoing curriculum changes.

References

- Ary, D., Jacobs, L. C. & Razavieh, A. 2002. *Introduction to Research in Education*, 6th ed. California: Wadsworth / Thomson Learning.
- Angelis, D., Lolwana, P., Marock, C., Mtthaela, G., Tsolo, S. and Xulu, S. 2001. *The Further Education and Training Institutional Handbook*. Pretoria, South Africa: Juta.
- Apple, M. W. 2001. *Educating the “right” Way: Markets, Standards, God and Inequality*. New York: Routledge/Falmer.
- Ballet, K., Kelchtermans, G. & Loughran, J. 2006. Beyond intensification towards a scholarship of practice: Analysing changes in teachers' work lives. *Teachers and teaching: Theory into practice*, 12(2): 209-229.
- Bogdan, R. C & Biklen, S. K. 1992. *Qualitative Research for Education: An introduction to Theory and Methods*. Boston, Mass: Allyn & Bacon.
- Bogdan, R. C. & Biklen, S. K. 2003. *Qualitative Research for Education: An Introduction to Theory and Methods*, 4th Ed. Boston: Pearson Education.
- Bogdan, R. C. & Biklen, S. K. 2006. Outcomes-Based Education and educational reform in South Africa. *International Journal of Leadership in Education*, 5:361-371.
- Boikanyo, T. K. 1998. *Secondary School Learner in Curriculum Development*. Unpublished MED Dissertation, Rand Afrikaans University, Johannesburg.
- Bowring-Car, C. & West, J. 1994. *Managing Quality in Schools: A Training Manual*. Burnham: Longman.
- Carlopio, J. R. 1998. *Implementation: Making Workplace Innovation and Technical Change Happen*. Rosseville, NSW:McGraw-Hill.
- Chall, J. S. 2000. *The Academic Achievement Challenge: What Really Works in the Classroom?* New York: The Guilford Press.

Chisholm, L. 2000. A South African Curriculum for the Twenty-first Century: Report of the Review Committee on Curriculum 2005. Pretoria: Department of Education.

Clegg, D. & Billington, S. 1994. *The Effective Primary Classroom*. London: David Fulton Publishers.

Conrad, C. F. & Serlin, R. C. (eds). 2006. *The SAGE Handbook for Research in Education: Engaging Ideas and Enriching Enquiry*. Thousand Oaks: SAGE Publications.

Creswell, J. W. 1994. *Research Design: Qualitative and Quantitative Approaches*. Thousand Oaks, CA: Sage Publications.

David, M. & Sutton, C.D. 2004. *Social Research: The Basics*. London: Sage Publications.,

Day, C 2008. *Committed for life? Variations in teachers' work, lives and effectiveness*. Journal of Education change, 9(3), 243-260.

Dekker, E. & van Schalkwyk, O. J. 1996. *Modern Education Systems*, 2nd ed. Johannesburg: Heinemann.

Denzin, N. K. & Lincoln, Y. S. 1994. *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications.

Department of Education. 1995. *White Paper of Education and Training*. Pretoria: Department of Education.

Department of Education. 1997. *Intermediate Phase Policy Document*. Pretoria: Government Printers.

Department of Education. 1997. *Building a Brighter Future. Curriculum 2005*. Pretoria: CTP Book Printers.

Department of Education. 2000a. *School Management Teams: Instructional Leadership*. Pretoria: CTP Book Printers.

Department of Education. 2000b. *School Management Teams: Introductory Guide*. Pretoria: CTP Book Printers.

Department of Education. 2002. *Revised National Curriculum Statement for Grades R-9 (General)*. Pretoria: Government Printers.

Department of education. 2003. *National Curriculum Statement for Grades R-9. Parents' Guide*. Pretoria: Department of Education.

De Vos, A.S., Strydom, H., Fouche, C. B. & Delpot, C. S .L. 2002. *Research at Grassroots: For Social Sciences and Human Service Professions*, 2nd Ed. Protoria: Van Schaik.

Doll, R. C. 1989. *Curriculum Improvement: Decision Making and Process*, 7th Ed. Boston: Allyn and Bacon.

du Plooy, G. M. 2002. *Communication Research Techniques, Methods and Applications*. Lansdowne: Juta.

Elliot, J. 1998. *The Curriculum Experiment: Meeting the Challenge of Social Change*. Buckingham: Open University Press.

Emihovich, C. 1998. *A new approach*. In Lewin, K. Samuel, M. & Sayed, Y. (eds.). *Changing Patterns of teacher Education in South Africa*. Pretoria: Heinemann.

Fullan, M. 1993. *Change Forces: Probing the Depths of Educational Reform*. London: Falmer Press.

Fullan, M. 2001. *Leading in a Culture of Change*. San Francisco: John Wiley & Sons.

Gay, L. R. 1992. *Educational Research: Competencies for Analysis and Application*. New York: Merrill – Macmillan.,

Gawe, N. Jacobs, M., & Vakalisa N 2004. *Teaching-learning Dynamics. A Participative Approach for OBE*. Cape Town: Heinemann.

Grobler, B. 2003. *Effective Education Management Series, Module 2: Management of the Schools in Context*. Sandown: Heinemann.

Gultig, J. Hoadley, U & Jansen, J 2005. *Curriculum: From Plans to Practices: A Reader*. Cape Town: Oxford University Press.

Guiltig, J. Lubisi, C. parker, B. & Wendkind, V. 1998. *Understanding Outcomes-Based Education: Teaching and Assessment in South Africa: A Reader*. Cape Town: Oxford University Press.

Hargreaves, A. 2003. *Teaching in the Knowledge Society: Education in the Age of Insecurity*. Maidenhead: Open University Press.

Hoadley, U & Jansen, J. 2010. *Curriculum: Organizing Knowledge for the Classroom*. Cape Town: Oxford University Press

Jansen, J. D. 1999. Why Outcomes-based education will fail: An elaboration. In Jansen, J. & Christie, P. (Eds.). *Changing Curriculum: Studies on Outcomes-Based Education in South Africa*. Cape Town: Juta.

Jansen, J. & Christie, P. (eds.). 1999. *Changing curriculum Studies on Outcomes-based education in South Africa*. Kenwyn: Juta: 145-156.

Janzi, D. & Leithwood, K. 2006. *Transformational school leadership for large scale reform . effects on students, teachers and their classroom practices. School effectiveness and school improvement*. 17(2) 201-227

Johnson, B. & Christensen, L 2004. *Educational Research: Quantitative, Qualitative, and Mixed Approaches*, 2nd Ed. Boston: Pearson.

Kendall, H. G. 1989. *Managing educational change*. Education Today, 39(1): 23-24.

Killen, R. 2000. *Teaching Strategies for Outcomes-Based Education*. Lansdowne: Juta.

Jansen, J, Sayed Y. 2001. *Implementing Education Policies: The South African Experience*. Cape Town: University of Cape Town Press.

Le Roux, C. & Maila, W. 2004. *Issues and challenges Regarding Environmental Education Policy Implementation*. Pretoria: UNISA.

Loock, C. 2003. *Effective Education Management Series. Module 3. Education Leadership*. Sandown: Heinemann.

Lovat, T. J. & Smith, D. L. 2003. *Action on Reflection*. Sydney, Australia: Social Sciences Press.

Louw,D. A. & Edwards, D. D. A. 1998. *Psychology: An Introduction for Students in South Africa*. 2nd ed. Johannesburg:Heinemann

Mampuru, K.C. 2001. *Education Management*.V: Human Resource Management. M. Tech: Education. Pretoria: Technikon Pretoria.

Marshall, C. & Rossman, D.J. 1989. *Qualitative Research*. London: Sage Publications.

McCombs, B. L. & Whisler, J. S. 1997. *The Learner-centred Classroom and School: Strategies for Increasing Student Motivation and Achievement*. San Francisco: Jossey-Bass Publishers.

McDonald, R. & Van der Horst 1997. *OBE: Outcomes-Based Education. A teacher's manual*. Pretoria: Kagiso publishers.

McMillan, J. H. & Schumacher, S. 1993. *Research in Education: A Conceptual Introduction*, 3rd ed. New York: Harper Collins.

McMillan, J. H. & Schumacher S. 1997. *Research in Education. A Conceptual Introduction*, 4th ed. New York: Harper Collins.

McMillan, J. H. & Schumacher, S. S. 2006. *Research in Education: Evidence-Based Inquiry*, 6th Ed. Boston: Pearson.

McMillan, J. H. & Schumacher, S. 2010. *Research in Education: Evidence-based Inquiry*, 7th ed. Boston, MA: Pearson.

McNeil, D. 1996. *Curriculum: A comprehensive Introduction*. Los Angeles: HarperCollins.

Merriam, S. B. 1998. *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass Publishers.

Miles M. B. & Fullan M. G 1992. *Getting Reform Right: What Works and Doesn't*. Phi Delta Kappan 73(10).

Mothata, M. S. & Van Wyk, R 1998. Developments in South African education since 1994. In F. Pretorius (Ed.). *Outcomes-Based Education in South Africa*, pp . Randburg: Hodder & Stoughton.

Mouton, J. A. 2001. *How to Succeed in Your Master's and Doctoral Studies: A South African Guide and Resource Book*. Pretoria:Van Schaik.

Mwamwenda, T. S. 2004. *Educational Psychology-An African Perspective*, 3rd ed. Pretoria: Heinemann.

Naicker, S. M. 1999. *Curriculum 2005: A Space for All: An Introduction to Inclusive Education*. Cape Town: Tafelberg Publishers.

Ndou, F.N. 2008. *The Role of school Management Teams in Curriculum Change Management*. Unpublished M.Ed. Dissertation, University of South Africa, Pretoria.

Northern Province Department of Education. 2000. *Provincial Assessment policy. Get band*. Pietersburg: Northern Province Department of Education.

Northern Province Department of Education. 2001. *Curriculum in a Nutshell. Outcomes-Based Education: Intermediate and Senior Phase*. Pietersburg: Northern Province Department of Education.

Ogude, N. A. & Bohlmann, C. 1998. *The sixth Annual Meeting of the South African Association for Research Mathematics and Science Education, University of South Africa*, 14-17 January 1998. Pretoria: University of South Africa.

Oldroyd, D. & Hall, V. 1991. *Managing Staff Development: A Handbook for Secondary Schools*. London: Paul Chapman Publishing.

Olivier, C. 1998. *How to Educate and Train Outcomes-Based*. Pretoria: Van Schaiks.

Parton, M.Q. 1997. *How to use Qualitative Methods in Evaluation*. Thousand Oaks, CA: Sage Publications.

Pascale, R. 1990. *Managing on the Edge*. London: Penguin.

Penuel, W. R., Fisherman, B. J., Yamaguchi, R. & Gallagher, L. P. 2007. What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal*, 44(4): 921-958.

Piek, G. C. 1991. *School Management 1*. Cape town: Maskew-Miller Longman.

Placier, P. & Richardson, P. 2002. *Handbook of Research on Teaching*, 4th ed. American Educational Research Association.

Pretorius, F. (1999). *Outcomes Education in South Africa*. Randburg: Hodder & Stoughton.

Priestley, M. & Sime, D. 2005. *Formative assessment for all: A whole-school approach to pedagogic change*. *The Curriculum Journal*, 16(4):475-492.

Ramroop, R. S. 2004. *Qualitative Study of the Impact of Organizational Development Interventions on the Implementation of Outcomes-Based Education*. Unpublished M.Ed. Dissertation, University of South Africa, Pretoria.

Rossouw, D. 2003. *Intellectual Tools: Skills for the Human Sciences*, 2nd ed. Pretoria: van Schaik.

Ross, A. 2000. *Curriculum: Construction and Critique*. London: Falmer Press.

Ryan, S. & Ackerman, D, 2005. *Using pressure and support to create a qualified workforce*. *Education policy analysis archives*, 13(23) 1-20.

Shipman, M. 1997. *The Limitations of Social Research*, 4th ed. New York: Longman.

Skemp, R.R. (1991). *the Primary school*. London: Routledge.

Sleegers, P & Van Veen, K. 2006. *How does it feel? Teachers' emotions in a context of change*. *Journal of curriculum studies*, 38(1) 85-111.

Soanes, C. & Stevenson, A. 2004. *New Concise Oxford English Dictionary*. 11th ed. Oxford: Oxford University Press.

South African Council for Teachers. 2006. *The State of Teacher Professionalism in South Africa*. Pretoria.

Spreen, C. & Vally S 1998. Implementation of Curriculum 2005. *Quarterly Review of Education and Training in South Africa*, 5(3): 13-16.

Smit, P. J. & de J Cronjé, G. J. (eds) 1999. *Management Principles: A Contemporary South African Edition*. Kenwyn: Juta.

Steyn, H. J., Steyn, S. C. & de Waal, E. A. S. 2001. *The South African Education System: Core Characteristics*. Pretoria: Content Solutions Online.

Stoner, J. A. F. & Freeman, R. E. 1992. *Management*. Englewood Cliffs, NJ: Prentice Hall.

Straus, A. & Corbin, J. 1990. *Basics of Qualitative Research*. Thousand Oaks, CA: Sage Publications.

Tanner, L. N. & Rehage K. J. (eds) 1988. *Critical Issues in Curriculum: Eighty-Seventh Yearbook of the National Society for the Study of Education*. Chicago: The University of Chicago Press.

Taylor, N. 1993. *Inventing Knowledge: Contests in Curriculum Construction*. Cape Town: Maskew Miller.

Taylor, S. J. & Bogdan, R. 1984. *Introduction to Qualitative Research Methods: The Search for Meanings*, 2nd ed. New York: John Wiley & Sons.

Vadum, A. C. & Rankin, N. O. 1998. *Psychological Research. Methods for Discovery and Validation*. Boston, MA: McGraw Hill.

Vakalisa, N.C.G. 2000. Curriculum, teachers and teaching: where does the answer for educational reform lie? *Educare*, 29(1): 13-27.

Van Niekerk, E.J. 2002. Management of change in education. In R. N. Marishane (Ed.). *Foundations and Point of Departure of Educational Management: Management of Change in Education*, Pretoria: UNISA.

White, C. J. 2005. *Research: A practical Guide*. Pretoria: Ithuthuko Investments Publishing.

APPENDIX A: Request for permission to conduct research

Maimela H.S.

25 Luthuli park 9c

SESHEGO

0699

31 July 2012

THE MANAGER

SESHEGO CIRCUIT OFFICE

P/BAG X4009

SESHEGO

0742

Re: PERMISSION TO CONDUCT RESEARCH STUDY

I am presently engaged in my dissertation for Masters in Education (specialising in Curriculum Studies) with UNISA under the mentorship of Professor M.W. Lumadi. My topic is: **IMPACT OF CURRICULUM CHANGES ON PRIMARY SCHOOL TEACHERS AT SESHEGO CIRCUIT IN THE LIMPOPO PROVINCE**. I would appreciate your considering my request to conduct interviews with selected principals and teachers as samples for my study. I will maintain strict confidentiality and anonymity of all the participants at all levels of this research project.

The purpose of the study is to describe the current situation with regard to the impact of curriculum changes on primary school teachers and identify curriculum challenges that they are experiencing. I intend to conduct this study in six schools: two township schools, two schools in rural areas, a school situated in an informal settlement and an independent school. I will conduct interviews which will be transcribed. Participants will also be given a questionnaire to complete. I promise to abide by the principles of anonymity and confidentiality.

Yours faithfully

Maimela H.S (MRS)

Student No: 4286 950 1

APPENDIX B: Letter to Principals

Maimela H.S.

25 Luthuli park 9c

SESHEGO

0699

17 August 2012

THE PRINCIPAL

Re: PERMISSION TO CONDUCT RESEARCH STUDY

I am presently engaged in the writing of a dissertation for Masters in Education (specialising in Curriculum Studies) with UNISA under the mentorship of Professor M.W Lumadi. My topic is: *Impact of Curriculum Changes on Primary School Teachers at Seshego Circuit in the Limpopo Province.*

I would appreciate your considering my request to conduct interviews with selected principals and teachers as samples for my study. I will maintain strict confidentiality and anonymity of all participants at all levels of this research project.

The purpose of the study is to describe the current situation with regard to the impact of curriculum changes on primary school teachers and identify curriculum challenges that they are experiencing.

I promise to abide by the principles of anonymity and confidentiality.

Yours faithfully

Maimela H.S (MRS)

Student No: 4286 950 1

APPENDIX C: Letter to participants

Maimela H.S

25 Luthuli park 9c

SESHEGO

0699

23 August 2012

Dear Participant

RE: Request to Conduct Research at school

You are invited to participate in a research aimed at investigating the impact of curriculum changes on primary school teachers. As a part of my professional development, I am presently enrolled for a Master's Degree in Education at the University of South Africa. My supervisor is Professor Lumadi M.W. I have completed my course work and I am now completing a mini-dissertation.

As one of my selected respondents, your assistance will be required in accessing information about your experiences and observation in your work field. All information received will be kept strictly confidential and you will be free to withdraw at any stage of the research. I give you my undertaking that I will follow proper research ethics in handling the data. I hope that you will consider my request favourably.

I look forward to your reply and thank you for your time and consideration.

Yours faithfully

Maimela H.S. (Mrs.)

APPENDIX D: CONSENT

I agree to participate in the research entitled, **IMPACT OF CURRICULUM CHANGES ON PRIMARY SCHOOLS' TEACHERS AT SESHEGO CIRCUIT IN THE LIMPOPO PROVINCE** as outlined in the consent letter. I understand that my participation is voluntary and that I may change my mind and refuse to participate or withdraw at any time without penalty.

Name

Signature

Date

APPENDIX E: QUESTIONNAIRE FOR TEACHERS

EXPLANATION

The Department of Education has undergone major changes. The following questionnaire hopes to investigate the impact of curriculum changes on primary school teachers at Seshego Circuit in the Limpopo Province.

Kindly Tick or Cross the appropriate boxes to indicate your answer and answer to the questions in the spaces provided. A short explanation is required for some of your answers.

Your co-operation is valued. Thank you.

4.2.1. Response in years of service:

Years in service	0-10	11-20	21-30	31-40
Response				

4.2.2. Is there a need for curriculum changes at times?

Yes

No

4.2.3. How did you feel when you heard of curriculum changes?

Good

Bad

Excited

4.2.4. Do you encounter problems when implementing curriculum changes?

Yes

No

4.2.5. What are some of the challenges you encounter?

.....
.....
.....

4.2.6. How were change-related problems treated at your school?

.....
.....

4.2.7. Have you received support from the school when implementing curriculum changes?

Yes

No

4.2.8. What kind of support have you received?

.....
.....

4.2.9. Have you received some training preparing you for curriculum changes?

Yes

No

4.2.10. Was the training enough compared to the work you are implementing?

Yes

No

4.2.11. Is there any professional development from the training you get?

Yes

No

4.2.12. Do you believe that the quality of teachers and their knowledge guarantees success?

Yes

No

4.2.14. Are you able to implement your own programme to produce the necessary outcomes?

Yes

No

4.2.13 What are your suggestions for the future?

.....
.....

APPENDIX F

4.4 QUESTIONNAIRE FOR PRINCIPALS

Kindly Tick or Cross the appropriate boxes to indicate your answer and answer to the questions in the spaces provided. A short explanation is required for some of your answers. Your co-operation is valued. Thank you.

4.4.1 Do you think there is a need for curriculum changes at times?

Yes

No

4.4.2 Do you promote curriculum changes at your school?

Yes

No

4.4.3 Are there difficulties or problems among teachers when implementing curriculum changes?

Yes

No

4.4.4 What are some of the problems teachers encounter when implementing curriculum changes?

.....
.....
.....

4.4.5 Do you help teachers solve problems related to the implementation of curriculum changes?

Yes

No

4.4.6 How do you help them?

.....
.....
.....

.....
.....

4.4.7 Do you involve the School Management Team in the implementation of curriculum changes?

Yes

No

4.4.8 Do you have government policies to help you deal with curriculum changes?

Yes

No

4.4.9 Presently can you say that your school is on the right track concerning the implementation of curriculum changes?

Yes

No

4.4.10 What is the current state concerning curriculum change at your school?

Bad

Fair

Good

Excellent

APPENDIX G

4.5 INTERVIEW SCHEDULE FOR PRINCIPAL

1. How do curriculum changes affect the teachers' morale?
2. What role does the School Management Team play on curriculum changes?
3. What effects do curriculum changes have on teachers?
4. What does the government policy say about curriculum changes?