Addressing barriers to learning in Primary Schools in Mahikeng Area Office, North West Province

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Declaration

I, Evernice Gororo, hereby declare that this research project for the degree of Master of Education in Learner Support at the North-West University, Mafikeng Campus (Registered at Vaal Triangle Campus), is my own work and has not been previously submitted by me or any other person at this or any other university for degree purposes. I also declare that all references used in this study have been, to the best of my knowledge, duly acknowledged.

Signature: .....

Date: .....

Acknowledgements

I would like to express my thanks to the following people who helped to complete this research:

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Dedication

I dedicate this work to my family members, in particular my husband, Andrew Mutsvangwa, who has been a pillar of strength during the course of my studies from Honours level to date. May Almighty God reward them all in manifold ways.

I also dedicate this work to all learners who experience barriers to learning and wish that they may find strength to overcome.

Abstract

This study is an investigation into learner barriers in Foundation Phase in Mafikeng Area Office in the North West Province of South Africa. The study focuses on the broad aspects of Inclusive Education and sought to establish how barriers to learning, disability in particular, that are experienced by learners can be addressed, the causes of disability barriers to learning and the strategies that are used to assist learners experiencing such disability barriers to learning. The study adopted a descriptive survey approach encompassing a quantitative approach. The sample consisted of ninety-four (n=94) Foundation Phase teachers who were randomly selected from primary schools of Mafikeng Area Office. Data was collected mainly through a semi-structured questionnaires administered to Foundation Phase teachers in primary schools. Descriptive statistics were used to analyse quantitative data.

The results of the study reveal that to address physical and sensory barriers to learning there is need for educational adaptations which include adapting the learning environment, adapting the curriculum, adapting teaching strategies and making use of assistive devices and using a buddy system.

The study further reveals that physical and sensory disability barriers are due to factors that are intrinsic to the learner (congenital, hereditary or acquired through illness, accidents, drugs or poison). Disability barriers can be extrinsic to the learner and are imposed by contextual factors that are systemic influences embedded within the learner, the school, or the education system. These contextual factors comprise other micro level systemic influences such as lack of parental involvement, peer group, lack of knowledge by the teachers on how to address barriers to learning, lack of both financial and human resources with regard to education as exosystems and education policies as macro systems. Differentiation approach which entails the adjustment of the curriculum, learning activities, content, modes of assessment and the classroom environment is seen as the key strategy to address disability barriers to learning being experienced by learners. Recommendations arising from the study may give direction to South African schools to address disability barriers to learning in their schools.

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CHAPTER 1

ORIENTATION

1.1 Introduction

There is growing knowledge in many countries about how barriers to learning and participation in learning can be identified and reduced. In fact, lack of support for learners experiencing barriers to learning has dominated current discussions in education (Gargiulo & Metcalf 2010:26). Within barriers to learning, there are disability barriers which interfere with teaching and learning.

This study investigates disability barriers (physical and sensory) to learning that are experienced by Foundation Phase learners. Many professionals and teachers still use the term disability and the term disability and impairments are used interchangeably but Nel, Nel & Hugo (2012:19) recommend the use of the word impairment instead of disability because a person as a whole is never disabled. Referring to him or her as a disabled person is labelling. The term disability is used in this study since disability is an umbrella term, covering impairments, activity limitations and participation restrictions. In other words, disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which the person lives. Thus this study regards disability as a product of the interaction between the individual and the environment.

As observed by Smith (2007:18), learners should be helped and guided to minimise, overcome and ultimately remove disability barriers that hinder learning and educational development processes. This is not only the task of the teacher but includes the input and effort of other significant role players.

The government of South Africa regards education as a basic human right for all its citizens, including those experiencing disability barriers to learning and educational

development as stated in its constitution. The government aims to give quality education to all learners in inclusive school settings. It is, however, acknowledged that some learners in South Africa, especially those experiencing severe disabilities including those who are profoundly deaf, need education in special school settings and special classes (Nel et al., 2012:7).

In line with international trends in education, South Africa has embraced inclusive education as a means through which learners experiencing barriers to learning could be educated in alternative ways. Walton, Nel, Hugo and Muller, (2009:105) note that one of the main challenges facing education in post-apartheid South Africa is in realising the constitutional values of equality, freedom from discrimination and the right to a basic education for all learners, including those experiencing barriers to learning. Under apartheid, learners were not only educated separately according to race but a separate special education system served those learners experiencing disabilities. To address this discrepancy, South Africa has enacted post-apartheid legislation and formulated policy which establishes an inclusive education system (Walton et al., 2009:107). The aim is designed to align educational practices in South Africa with international trends of including learners experiencing disability barriers to learning in regular or mainstream classes.

A barrier to learning, as defined in this research, is a preferred South African concept to explain why some learners do not experience success in learning. The term is preferable to "special needs" which implies and signals a medical or deficit approach to educational difficulties and localizes the problem within the learners rather than in the entire schooling system (Howell, 2005:98). Barriers to learning acknowledge that educational difficulties may arise from a number of sources and may be "intrinsic or extrinsic to the learner."

Barriers to learning can be located within the learner, within the classroom, within social, economic and political contexts (Department of Education, 2008:8). These barriers manifest themselves in different ways and only become obvious when learning breaks down, when learners drop out of the system or are excluded from the system. Such barriers can be addressed through enabling mechanisms and processes (Van Zyl, 2007:5). However, barriers may also arise during the learning process and these are seen as transitory in nature (Landsberg, Kruger & Nel, 2011:21). These barriers may require different interventions or strategies to prevent them from causing learning breakdown or excluding learners from the formal educational system.

According to Van Zyl (2007: 16), the key to preventing barriers from occurring is the effective monitoring and meeting of the different needs among the learner population and within the educational system as a whole. Where barriers to learning occur in schools, teachers need to try and prevent them. It is important to bear in mind that, given the nature and extent of barriers to learning in most social contexts, teachers cannot be effective unless they prevent problems, rather than only trying to cure them (Donald, Lazarus & Lolwana, 2006:20). If learners experiencing barriers to learning are not assisted in an appropriate way, this oversight can lead to serious consequences for the learner and the country, such that learners move out of the education system and may be involved in anti-social activities.

1.2 Background

Before the attainment of independence learners experiencing disability barriers to learning have been denied the appropriate education services in classes in South Africa. It was believed that assistance rendered to learners experiencing disability barriers was so specialised that only individuals with special training were capable of providing it (Naicker, 2005:230). This caused learners experiencing disability barriers to learning to be taught in special schools by specifically trained teachers. If they encountered difficulties in the mainstream they would be referred to Educational Support Services, where specially trained helpers had to assess the learners and assist them (Dantas,

2007:78). Thus, the task of the school was simply to identify the learner with learning barriers and refer them to specialists.

Inclusive Education gives learners experiencing disability barriers to learning an opportunity to be educated together with their peers in the mainstream classroom. Special schools are now called Resource Centres and have teachers who are experienced in meeting the needs of learners with different kinds of disabilities (DoE, 2001: 10).The point remains whether or not the new nomenclature of "resource centres" does not mitigate the fact that experientially such learners are still identified, classified and assisted in exclusive ways to those rendered to the rest.

According to Bornman and Rose (2010:7), teachers are still experiencing problems in helping learners experiencing disability barriers to learning. The strategies, class organisation, content and the learning material still pose challenges. They need in-service training to manage their inclusive classrooms. Chataika, McKenzie, Swart and Lyner-Cleophas (2012:389), argue that many teachers are not aware that the learning problems of many learners are caused by the ways teachers teach them, the school system and even problems at home. Teachers think that learners experiencing disability barriers to learning should be taught by teachers with special qualifications, which from recent literature and classroom experience is just a myth (Pather, 2011:1110).

Bornman and Rose (2010:21), argue that the training of mainstream and special teachers separately negatively affects both groups. Teacher training should provide fundamental knowledge in both general and special education. Naidu (2007:5) points out that schools need to provide support in a natural setting, thereby minimizing the likelihood of separating children with difficulties from their peers as well as reducing societal stigmatization.

Teachers, as the key to success of the implementation of inclusive education, need to be equipped with knowledge, skills and strategies to manage their inclusive classrooms. They need to be able to assist learners experiencing disability barriers to learning and those who need to be given guidance in removing these barriers (Landsberg, et al., 2011:23).

1.3 Rationale

As a teacher in the Foundation Phase, the researcher has experienced a multiplicity of challenges in the teaching and learning situation, one of which is the inability to accurately identify disability barriers to learning experienced by learners. Many times, it has been difficult to say with certainty which phenomenon is linked to educational challenges for example in language development, reading, writing, attention, perception and social relationships. These disability barriers to learning also affect the cognitive development of some learners.

In interaction with colleagues, it has been observed that some teachers, more often than not, have labelled and still continue to label learners experiencing disability barriers to learning as "slow learners", "mental retards", "behaviourally disordered", "intellectual eunuchs", "crippled", and "emotionally disturbed". Teachers view and understand barriers to learning differently and in most cases, incorrectly. Contrary to what teachers view and understand as barriers to learning, Haralambos (2008:78) perceives labelling as a "debilitating experience that scars one for life as incapable." These differences in understanding and labelling learners inaccurately warrant teachers to acquire basic theoretical knowledge and practical skills to identify barriers to learning and strategies to assist those experiencing barriers learning.

The researcher examines government primary schools where the Foundation Phase is located because government schools are bound by departmental policy. Independent schools enjoy relative freedom and are well placed to respond innovatively to the

challenges of inclusive education. Government schools are lock-stepped into departmental timetables for change, do not have freedom in recruitment and are accountable primarily to their sponsors. Thus government schools have difficulties in implementing inclusive practices that enable them to meet the learning needs of the child they serve, especially those experiencing disability barriers to learning.

The researcher considered it important to explore how disability barriers to learning can be addressed, the causative factors leading to disability barriers to learning as well as the strategies that teachers can use to help learners experiencing disability barriers to learning at Foundation Phase level. The researcher argues that little is currently being done to provide support for learners experiencing disability barriers due to lack of skills and knowledge of teachers (Chataika et al., 2012:385). The findings of this study are envisaged to contribute meaningfully to debates on inclusive education through making recommendations for improvements to the current situation.

1.4 Problem statement

Today's classroom is evidence of an increasingly diverse learning population. Gargiulo and Metcalf (2010:26) affirm this point of view that teachers are confronted with challenges of teaching learners experiencing disability barriers to learning, learners who are culturally and linguistically diverse and learners who are recognized as gifted and talented as well as the "typical child."

It is becoming increasingly common to serve individuals with special learning needs in the regular classroom. Engelbrecht, Oswald and Forlin (2006:125) refers to the evidence found in research by (Burden, 2000; Hall, 2002 & Ainscow, 2005) that the training of some educators does not cover inclusive education as their training module. Although their diploma covers assessment and different teaching methods, their training curriculum did not address the teaching of learners experiencing disability barriers to learning.

According to Walton et al. (2009:105) South Africa has adapted an inclusive education policy in order to address disability barriers to learning. However, the implementation of

this policy is hampered by the lack of teacher's skills and knowledge in differentiating the curriculum so as to address a wide range of learning needs. This view is also supported by Chataika et al. (2012:388) who point out that despite the development of an inclusive policy to address this exclusion, one of the issues that hampers progress is the lack of teacher skills in adapting the curriculum to meet the range of learning competencies and needs.

Teachers should have the ability to use a variety of teaching aids, the support strategies to be taught and they should be guided on how the content that they teach is of value in order to develop the skills, values and attitudes of learners (Bothma, Gravett & Swart, 2000:204). According to Mphahlele (2005:2) and Howel (2005:89), Foundation Phase teachers should be empowered with effective teaching strategies in order to lay a good foundation so that disability barriers are alleviated. Geldenhuys and Wevers (2013:15) note that the Curriculum and Assessment Policy Statement (CAPS) are structured in such a way that they do not support the requirements of the White Paper 6, which promotes curriculum and assessment differentiation.

In other words, there is no provision for learners experiencing disability barriers to learning as long as the perceived discrepancies between the Education White Paper 6 and CAPS continue to exist. Teachers will remain confused on how to address disability barriers to learning in Foundation Phase without the power to advocate for differentiated assessment practices for the learners experiencing disability barriers to learning. A supportive teaching and learning environment will impact positively on learner's performance with physical and sensory disabilities. Notwithstanding the strategies outlined in the White Paper 6, little is being done to address disability barriers to learning as outlined in this policy document.

The purpose of the study is to suggest how these disability barriers could be addressed, their causative factors and the strategies that teachers could use to assist learners with disability as a barrier that hinders their learning.

1.5 Research questions

The problem investigated in this study relates to how disability barriers that are experienced by Foundation Phase learners can be addressed in Mafikeng Area Office. The research questions formulated to answer this research problem are:

- How can disability barriers that are experienced by learners be addressed?
- What are the causative factors leading to these disability barriers to learning?
- What strategies are used to assist learners experiencing disability barriers to learning?

1.6 Aim of the Study

The main aim of this investigation is to establish ways in which disability barriers experienced by Foundation Phase learners can be addressed in Mafikeng Area Office, North-West Province.

1.7 Objectives of the Study

Following this aim, the study pursues the following objectives:

- To establish how disability barriers that are experienced by learners are addressed.
- To determine the causative factors leading to disability barriers to learning.
- To suggest strategies that can be used to assist learners experiencing disability barriers to learning.

1.8 Significance of the study

1.8.1 For teachers:

This study hopes to promote successful learning because teachers respond in informed ways to the diverse needs of learners. Acknowledging disability learning barriers helps teachers to change their attitudes and behaviours as well as teaching methods, curricula

and the classroom environment. Teachers might improve their skills also and develop new ones in order to accept ownership of the learning processes of all their learners. The essence of education is teaching and learning; thus the study empowers the teacher with basic knowledge and skills regarding effective teaching and learning.

1.8.2 For the school management:

The study intends to be useful to school communities and people like researchers to address disability barriers to teaching and learning.

1.8.3 For policy makers:

The study makes recommendations to Inclusive Education practitioners to encourage that children get into school with programmes and practices which might ensure their success. Focusing only on disability barriers to learning, this study attempts to build on the work by Mahlo (2011:11) by recommending that educational planners ought to develop and improve the situation of learners experiencing disability barriers.

1.8.4 For the Department of Basic Education Regional Offices

The study might make a positive contribution to education. It may be particularly useful to national, Provincial Department of Education. It is also hoped that the results help decision-making and service delivery. Adding to the available literature on Inclusive Education by Mahlo (2011:11), the study aims to contribute to the knowledge base of available literature on addressing barriers to learning in South Africa and evokes recommendations on possible ways of helping learners experiencing disability barriers to learning.

1.9 Delimitation

This study addresses physical and sensory (visual and hearing) disability barriers to learning in foundation phase learners in Mafikeng area office, North-West province.

1.10 Definition of terms

The following section clarifies the terms and concepts central to understanding the objectives and purpose of the study.

1.10.1 Barrier

A barrier can be described as an obstacle that keeps the child from progressing in the learning process (Engelbrecht & Green, 2005:27). In this research any factor that may cause a breakdown in learning is considered a barrier to learning. A barrier bars access to advancement.

1.10.2 Barriers to learning

Barriers to learning are factors that make it difficult for learning or hinder learning (Donald et al., 2006:3). The Department of Education (1997:12) defines barriers to learning as "those factors which lead to the inability of the system to accommodate diversity, which lead to learning breakdown or which prevent learners from accessing educational provisions." This concurs with Visser, (2010:9) who defines a barrier to learning as "something that prevents the learner from benefiting from education." It can be a barrier within the learner, within the centre of learning, school or education system and it can be a barrier in the broader social economic and political context. Furthermore, Burden (2000:29) and the Department of Education (2001:130) broaden this issue by describing barriers to learning as those factors which lead to the inability of the system to accommodate diversity, which culminate in learning breakdown or which prevent learners from accessing educational provisions. In this research "barrier to learning" is a term that explains why some learners do not experience learning success. They are the impediments that make a child unable to learn or access the curriculum.

1.10.3 Disability barrier

According to the Guidelines for Inclusive Learning Programmes (DoE, 2005:6) disability has different categories and these include, sensory disability, physical disability, cerebral palsy, learning disability, behavioural disorder, mild or moderate intellectual disability,

severe intellectual disability, autism spectrum disorders, epilepsy, attention deficit disorder, with or without hyperactivity. Most of the understanding of disability relates to individual deficit. Therefore, disability can be regarded as a barrier to learning and these include physical, sensory, oral cognitive, medical and psychological barriers (Kirk, Gallagher, Coleman & Anastasiow, 2009: 306). In this study disability barrier refers to physical, and sensory (visual and hearing) disability as a barrier to learning.

1.10.4 Inclusion

Inclusion is used to describe the process by which learners, especially those experiencing disability barriers to learning and development, have access to and participate in the general educational system (Sapon-Shevin, 2007:193). Donald, Lazarus and Lolwana (2010:19) assert that learners experiencing disability barriers to learning should attend their neighbourhood schools and be taught alongside their peers in regular classrooms.

The DoE (2001:17) indicates that inclusion is a form of psycho-social support for all learners, teachers, and the system as a whole, so that the full range of learning needs can be met. Inclusion does not focus on the "specialness" of the children or on the education that they need, but rather on increasing participation by removal of barriers to learning in order for the children to reach their full potential.

In this research, inclusion means that individuals classrooms consist of learners experiencing physical and sensory disability barriers and instructions have to be planned ahead to ensure that all learners benefit. It is about successfully addressing disability barriers to learning. This view dovetails with the view of Landsberg et al. (2005:11) who point out that inclusion is about all learners, not just a few and it is not just about disability, but a means of responding to all learners' individual needs.

1.10.5 Inclusive Education

According to the National Commission on Special Needs Education and Training (NCSNET) and the National Commission on Education Supply Services (NCESS) Report (DoE, 1997:11) inclusive education is defined as "a learning environment that promotes the full personal, academic and professional development of all learners irrespective of race, class, gender, disability, religion, culture, sexual preferences, learning styles, and language". This implies that all learners in a school, regardless of their strengths, weakness or disabilities in any area become part of the school community. They are included in the feeling of belonging among other learners, teachers and support staff.

Karaginnis, Stainback and Stainback (cited by Swart & Pettipher, 2006:1) explain inclusive education as "...the practice of including everyone irrespective of talent, disability, socio-economic background, or cultural origins in supportive mainstream schools and classrooms where all students needs are met." Visser (2010:10) collaborates Swart and Pettipher's definition by describing inclusive education as "...the process by which a school attempts to respond to all the children as individuals by considering and restructuring its curricula provision and allocating resources to enhance equality of opportunity."

In this research, inclusive education is the provision of educational experiences for all learners experiencing disability barriers to learning and development. Such learners participate in the same classroom situation with those learners who are not experiencing disability barriers to learning and development at the same mainstream schools and in the same classes that their peers attend. It involves different ways of presenting curricula content, for example, co-teaching for special and general teachers. Teachers should maximise the learner's learning and not to rely on a "one size fits all" approach to teaching the whole class.

1.10.6 Strategy

Donald et al. (2010:115) define a strategy as a policy or plan. According to Gargiulo and Metcalf (2010:68) strategies refer to systematic plans or tactics that enable the predetermined goals (managing inclusion) to be realised. The researcher agrees with

these views in that a strategy is a plan, method, or approach designed to achieve specific goals. Strategies in a school set goals and develop plans to achieve these goals. The use of specific strategies such as co-operative learning, scaffolding, peer tutoring and good methods are important in addressing disability barriers to learning.

1.10.7 Foundation Phase

The Foundation phase is part of early child development (ECD). According to Erikson's stage of development, the Foundation Phase learner is in the fourth stage of development, which Erikson refers to as industry versus inferiority (Woolfolk, 2010:69). The Foundation Phase covers the early primary school years from Grade R-3 and include learners from approximately age five to nine years. This study concentrates on teachers who teach Foundation Phase.

1.11 Overview of the theoretical framework

This segment provides an overview of the theoretical framework, and full details are provided in Chapter 3. This study uses the ecological perspective of Bronfenbrenner (1979:21). Bronfenbrenner's ecological model of child development best explains the interaction between the child and other systems. It emphasizes the interaction between an individual child's development and the socialisation system within the social context (Nel et al., 2012:20) which means that we cannot separate the general challenges of addressing social issues and barriers to learning. They are all interconnected with each other. Subsequently, understanding the origins and applying the solutions to barriers to learning cannot be separated from the broad social context and the system within it. Bronfenbrenner's model is also useful in understanding classrooms, schools, and families by viewing them as systems in themselves that are in interaction with the broader social context (Van Zyl, 2007:19). This theory helps teachers to understand learners better and influence learner's progress at school.

According to Alderman and Taylor (2000:283), addressing disability barriers to learning must be viewed from a societal perspective and requires fundamental systemic reforms. He goes on to say that the child is therefore never seen in isolation but always as part of a more comprehensive system, that is, the child in a school context, in the home context and the child in the community. In Bronfenbrenner's model external factors can be located in the micro-, meso-, exo- and macro-systems. The theory also explains the differences in the individual knowledge, skills and abilities and the role of support systems to guide and structure the individual.

According to Landsberg et al. (2005:19), in developing countries like South Africa, a large number of disability barriers to learning arise from an intersection of factors within external and internal systems. The system of education could be a representative of various micro-systems that form the meso-system in this study. For instance the teachers, parents, school environment, support resources are used in explaining the disability barriers experienced by learners.

1.12 Structure of chapters

Chapter 1: Orientation

This chapter commenced with the introduction, background and rationale of the study and the research problem pertaining to disability barriers and learning. Based on the former, research questions and objectives were formulated. It states the significance of the study and the definitions of terms and an overview of the theoretical framework.

Chapter 2: Literature Review

Chapter two provides a theoretical background to the study. This background considers and discusses the review of relevant previous work conducted in the field of study that is

how barriers to learning can be addressed, causative factors leading to disability barriers to learning as well as the strategies that can be used to assist learners experiencing disability barriers to learning.

Chapter 3: Research methodology

The third chapter discusses the research design, the sampling, the research instrument, data analysis, procedures for administration of the questionnaire and lastly issues relating to the validity and reliability of the research instrument. This study purports to disability barriers to learning in Foundation Phase learners in Mafikeng Area office.

Chapter 4: Analysis and interpretation

In this chapter, data obtained from the study was presented and analysed. Results were presented in accordance with a survey design that is, quantitative data was presented in the form of tables, pie charts, bar graphs and figures.

Chapter 5: Empirical findings, Conclusions and Recommendations

In the final chapter, a summary was given of the proceeding chapters. Discussion of findings was presented based on the information provided by the respondents and data analysis. Conclusion and research recommendations are submitted for further research.

1.13 Conclusion

Chapter one concentrated on the introduction, problem statement, research questions and objectives, significance of the study, definition of terms, delimitation of the study, an overview of the theoretical framework as well as the structure of chapters. Chapter two

focuses on the literature review on how barriers to learning can be addressed, causative factors leading to barriers to learning and attention is drawn to the strategies that teachers can use to assist learners experiencing disability barriers to learning.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the theoretical framework used to address disability barriers to learning. It gives an overview of disability barriers to learning that have an influence in the classroom and suggests how these barriers can be addressed The chapter further examines the possible causative factors that contribute to disability barriers to learning and attention is drawn to strategies that can be used by teachers to assist learners with disability barriers.

The strategies presented in this chapter are applicable to learners with disability (physical and sensory) barriers that are found in the regular classroom. These barriers should be recognized and addressed early in the Foundation Phase otherwise learners experiencing them are destined to have many difficulties throughout their lives (Smith, 2007:7).

2.2 Theoretical framework for the study

Theory can be defined as a set of ideas, assumptions and concepts ordered in such a way that it tells us about the world, ourselves or an aspect of reality (Landsberg et al., 2011:9). In all studies, theory should guide research studies and as observed by Mahlo, (2011:12) no scientifically oriented "study can be designed without some questions being asked." Nel et al. (2012:9) argue that a theory offers an explanation that can be substantiated about some aspects of life. Theory is contemplative and rational and consequently provides an explanatory framework for some observation, in this case the perceived disability barriers to learning. Often theory is contrasted to praxis, again in the case of this study the practice of Inclusive Education.

Theory then is formulated and incorporated into this study to explain, predict, and understand phenomena and to challenge and extend existing knowledge within the limits of critical bounding assumptions. Teachers have to know about theories of education and curriculum delivery. The more theoretical knowledge teachers have, the more varied the remedial strategies they can apply, the more the diverse learner profile can develop, frustration can be overcome and learners can succeed as academics achievers. In order to understand aspects about disability barriers to learning in Foundation Phase learners in Mafikeng Area Office, Bronfenbrenner's ecological framework was adopted.

2.2.1 Bronfenbrenner's ecological theory

Bronfenbrenner developed his ecological system theory in an attempt to define and understand human development within the context of the system of relationships that form the person's environment. His definition of the theory is as follows:

> The ecology of human development is the scientific study of the progressive, mutual accommodation throughout the life course between an active, growing human being and the changing properties of the immediate settings in which the developing person lives. This process is affected by the relations between settings and by the larger contexts in which the settings are embedded (Bronfenbrenner, 1986:288).

To address disability barriers to learning, the researcher focuses on an ecological theory. Systems in the society, for example, classrooms, school, family and the government need to interact with each other to provide a support structure for the learners. It is important that teachers also familiarize themselves with Bronfenbrenner's ecological theory because the theory enables them to understand complex influences, interactions and interrelationships between the learner and all other systems that have to do with learners. Nel et al. (2012:16) stresses that understanding Bronfenbrenner's ecological theory helps teachers to understand better the influence that extrinsic barriers could have on a learner's progress.

Bronfenbrenner's theory is relevant to this study because it emphasises the interaction between individual development and the system within the general social context. The theory helps teachers to understand the relationship between the social context and the

challenges in education, in this case, disability barriers to learning that learners face. What happens in one system affects and is affected by another system (Swart & Pettipher in Landsberg et al., 2011:10). In other words, what happens at home has a bearing on what happens in the classroom. If one examines the school and home system one may find out that the child's behaviour is symptomatic of a barrier in the school or at home. Thus disability barriers being experienced by learners cannot be addressed if the contexts in which they occur are not meaningfully considered and interrogated.

Bronfenbrenner's ecology theory explains the direct and indirect influences in a child's educational life by referring to the many levels of environment or context that influence a person's development. According to Landsberg et al. (2005:9) a major challenge to the present education system lies in understanding the complexity of the influences, interactions and interrelationships between the learners and multiple other systems to which s/he is connected. Mahlo (2011:21) stresses that "the learner does not exist in isolation from surrounding systems but rather they help determine success in his and her academic careers, whether it be the system of education, teachers, the school or the curriculum. If all the systems work well together, all learners in schools, even those experiencing disability barriers, should benefit."

Bronfenbrenner in Donald et al. (2010:40) has identified four interacting dimensions which are needed to understand how different levels of systems in the social context interact:

- Personal factors (like behaviour tendencies such as temperament of the child and parents).

- Process factors (such as patterns of interaction that occur in the family also play a part).

- Contexts (such as schools and families, local communities, and time affect such changes in the child's environment due to maturation).

Donald et al. (2010:40) further explain that for all interactions that occur face to face, long term relationships are the most important in shaping lasting aspects of development. For example, between a mother and a child, the teacher and the learner and the child and a

close friend, strong bonds emerge and these are referred to as proximal interactions. According to Bronfenbrenner's theory, child development happens within four nested systems, namely the microsystem, mesosystem, exosystem and macrosystem of which all interact with the chronosystem (Mahlo, 2013:166). Woolfolk (2010:66) echoes the same sentiments that the contexts in which we develop are ecosystemic because they are in constant interaction and influence each other. Every person lives within a microsystem which is part of the mesosystem embedded in an exosystem all of which are part of the macrosystem (Figure 2.1).

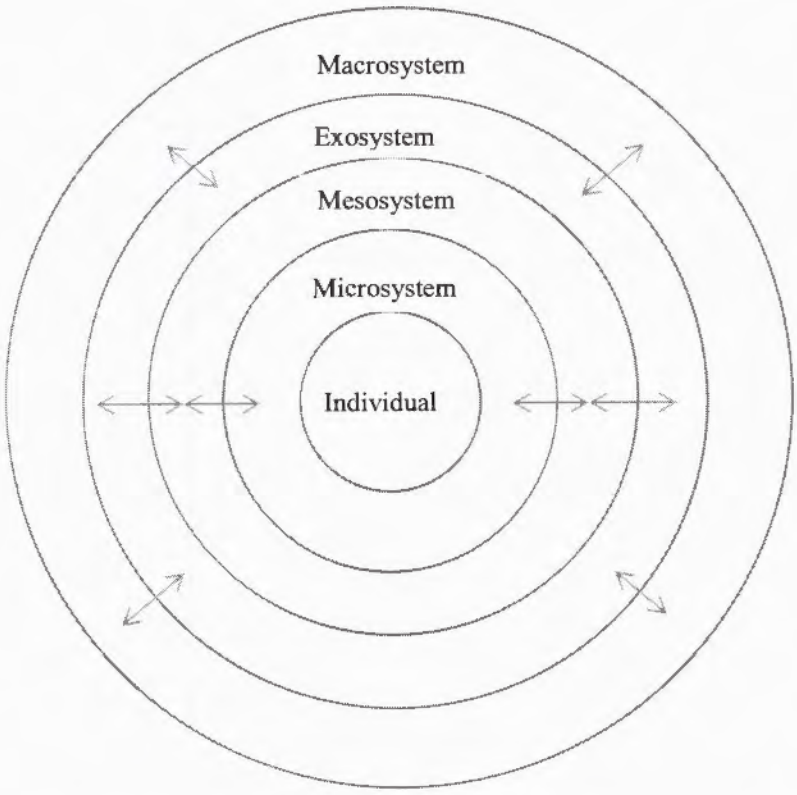

Figure 2.1: Bronfenbrenner's 1979 ecological model

To address disability barriers to learning (Smith, 2007:18), recommends a holistic approach, where a child is seen as existing within different systems. This segment thus discusses the influence of these systems on a learner when addressing disability barriers

to learning. The environment and the specific barriers being experienced by the learners appear to work in tandem to influence the learner's performance.

2.2.2 Application of Bronfenbrenner's theory in addressing disability barriers to learning

2.2.2.1 Micro-system

Microsystem represents an individual's immediate context and is characterised by direct, interactional processes such as family and friendship networks (Bronfronbrenner 1979:25). The microsystem in this study includes the school, class, the principal, the teacher, parent and the peer that the learner interacts with. These microsystems have to make sure that learners experiencing disability barriers to learning reach their highest potential through their support. The learner- teacher relationship is explored at this level, as well as the teacher's ability to address disability barriers to learning that learners experience.

At this level most of the teachers find it difficult to address disability barriers that are experienced by learners because of lack of knowledge (Chataika, Mckenzie, Swart & Lyner-Cleophas, 2012:389). Teachers need to modify their teaching strategies in order to tackle the diverse needs of learners. They should adapt the learning environment, adapt the curriculum, adapt teaching strategies and make use of assistive and instructional technology in order to address disability barriers to learning being faced by learners in the classroom (Dalton, McKenzie & Kahonde, 2012:13).

The peer group must not reject, label or stereotype learners experiencing disability barriers to learning because of being different and perceived as having lesser abilities. An investigation conducted by Geldenhuys and Wevers (2013:9) revealed that mainstream schools are currently not very accommodating and user-friendly microsystems for learners experiencing disability barriers to learning. There is lack of structural modification to accommodate the needs of learners with limited mobility. Class sizes are perceived as the biggest obstacles to address disability barriers to learning (Swart & Pettipher, 2006:184).

2.2.2.2 Meso-system

The mesosystem comprises the interrelations between two or more microsystems or settings in which an individual actively participates (Bronfenbrenner, 1979:25). In terms of the learner, this refers to the relations between settings such as the school, the home and the peer group. The mesosystem can therefore be described as a set of microsystems that continually interact with one another (Donald et al., 2002: 41). What happens at home or peer group has a bearing or influence on how a learner in the classroom behaves and adjusts to the challenges and vice versa. For example, a learner from an unsupportive home environment may not receive the emotional support he or she requires, thus placing the learner at risk of developing disability barriers to learning. However, the learner may also have an attentive and caring teacher who is able to provide a positive environment in which over a sustained period boost the learner's self- esteem and sense of security.

There is need for effective collaboration between microsystems in order to address disability barriers to learning. Teachers need to collaborate with other paraprofessionals. The school needs to work closely with the family and the Institutional Level Support Team (ILST) of the school on planning and implementing an Individual Support Plan (ISP) for learners experiencing disability barriers to learning. It requires collaborative teaming among all involved role players to ensure that disability barriers to learning are accurately identified and that consequently support strategies are appropriately employed.

These role players, according to Beukelman and Mirenda (2005:22), should include the parents, caregivers, different health professions specialists like psychologists, speech therapists, occupational therapists, medical personal and teachers. The Institution Level Support Teams (ILST) and The District Based Support Team (DBST) also have central roles to play in the identification, assessment and support processes. In a study conducted by Pather (2011:1112) a teacher was able to understand one of the learners' who was experiencing a disability barrier to learning after a workshop with paraprofessionals.

Kirk, Gallagher, Coleman and Anastasiow (2009:248) however noted that there are barriers to collaboration between teachers and other professionals as well as collaboration between mainstream and special schools (now known as resource centres). These barriers to collaboration include a lack of time, limited shared resources and large classes. This means that in order to address disability barriers to learning teachers and related service providers should be supported so that they can work together meaningfully. Schools should find ways to provide time and resources needed to allow teachers to collaborate as they work to address disability barriers to learning. Parents should be involved in the education of their children who experience disability barriers to learning. The lack of support from parents places much strain on the teacher which makes it difficult to address disability barriers to learning. Thus schools should create and maintain effective positive partnership through continually involving the parents in all aspects of their child development.

2.2.2.3 Exo-system

Exosystem refers to an environment in which a learner is indirectly involved and is external to his or her experience, yet it affects the learner anyway. For example, the learner's parent's work place, a teacher's involvement in a local community organization, a school policy created by governing bodies (SGBs) to provide for the needs of learners experiencing disability barriers to learning all constitute exosystems that have a bearing on learning. Exosystems also include education system, health services, local disasters and lack of resources that are either human or financial (Yorke, 2008:52 in Mahlo, 2011: 22). If a learner is chronically ill and frequently absent from school as a result of health services, it influences his relation with the parents, teachers and peers as well as the school (Landsberg, 2011:14). In addressing disability barriers to learning the government implements policies. The learner is not directly involved in their formation but decisions made may influence what happens in the settings, thus placing a learner at risk of experiencing disability barriers to learning. In this study the exo-system refers to resources both human and financial that are needed to address disability (physical and sensory) barriers that are experienced by learners.

2.2.2.4 Macro-system

Macrosystem level looks at educational polices, cultural customs and beliefs in which the children are raised (Bronfenbrenner 1979:26). In this study macrosystems refer to the policies that focus on addressing disability barriers to learning or Inclusive education. These include the Education White Paper 6 (EWP6), Curriculum and Assessment Policies Statement (CAPS) and the National Strategy on Screening, Identification, Assessment and Support (SIAS). The Department of Education (2008) has designed a SIAS strategy which is part of the implementation of White Paper 6. The purpose of the SIAS strategy is to allow large numbers of children of school going age with barriers to learning, including those who are disabled, to exercise their right to basic education and to access the necessary support in their local schools as far as possible (Dalton et al. 2012:12).

The DoE (2008) asserts that the SIAS will provide clarity regarding which learner should be admitted to a particular school and how their educational needs would be supported. The strategy should ensure that no one is refused admission to a special school because of severity of his or her disability but it should also ensure that ordinary schools acquire policies, cultures and practices which are welcoming to all learners (DoE, 2008:4). However, according to research finding by (Geldenhuys and Wevers 2013:13), this is not implemented in schools regarding learners who experience disability barriers to learning. Not all schools are welcoming to learners experiencing physical and sensory disability.

The Education White Paper 6 (DoE, 2001) provides the framework for Inclusive Education and also emphasises the need to adopt school programmes to accommodate the diverse needs of all learners. From this researcher's experience, most teachers struggle to comprehend the relevance of the Education White Paper 6 in the context of the current CAPS that they are expected to implement in schools. The CAPS provide guidelines for curriculum content and assessment requirements. However, the CAPS is structured in such a way that it does not support the requirements of Education White Paper 6 which promotes curriculum and assessment differentiation. Yet according to Smith (2008:5) to provide quality education and learning addressing individual learner's needs differentiation is the answer.

2.2.2.5 Chrono-system

The chronosystemic level represents changes that occur over a period of time in any one of the systems and their influence in addressing disability barriers to learning experienced by learners (Donald et al., 2002:43). The development of Inclusive Education policies over time was meant to address disability barriers to learning. Instead of special schools for learners experiencing disability barriers to learning the change in policy envisaged that all learners will be catered for in the mainstream schools by changing the assessment requirements and differentiating the curriculum.

It also accounts for the learner experiencing disability barriers to learning or teachers' challenges at any point in time. For example, the chrono-system level can be used to compare the teacher's interaction with learners experiencing disability barriers to learning before and after attending an in-service or pre-service course on addressing barriers to learning or even after collaboration with other paraprofessionals. It is a level that could be used to find out whether their teaching and learning has changed, whether the teacher will be able to assist learners experiencing disability barriers to learning.

It is clear that to address disability barriers to learning we need to know and understand learners within these systems. Geldenhuys and Wevers (2013:15) found out that no structural modifications have been effected to make mainstream primary schools more accessible for all learners. There is lack of availability of assistive devices to support Foundation Phase learners in primary schools and there is insufficient training and participation of mainstream teachers to address disability barriers to learning. Learners are not being prepared for the changing educational context in which they find themselves and there are no effective support structures available in schools to manage learners experiencing disability barriers to learning.

To summarise the various systems, the CAPS is at macrosystem level: it has to be flexible as a curriculum in order to address disability barriers to learning. The exoxsystem level consists of human and financial resources. Responsibility is put on the School Management Team (SMT) which consist of principals as leaders and their management on managing resources and to ensure that all the learners' needs are met. Their

collaboration with the ILST, SGBS and DBST who have central roles to play in the identification, assessment and support process, then the collaboration of the teacher with other professionals (Bornman & Rose 2010:11) as well as parental involvement and differentiating the curriculum as the teacher teaches as meso systems. Finally, at microsystem, the teacher has to create conducive environments in the classroom using different teaching strategies to accommodate learners experiencing disability barriers to learning. The school should make sure that its building structure, resources, class sizes and discrimination or rejection among peers has been addressed.

Bronfenbrenner's ecological theory therefore takes into consideration that disability barriers to learning experienced by learners can be attributed to environmental factors that negatively affect the leaner such as teaching strategies, classroom management, parental style and involvement and socio economic hardships. Given that the school environment forms part of a child's "bigger whole" it is important to establish how disability barriers to learning are addressed by teachers. The causative factors leading to disability barriers, as well as the strategies that can be used to assist learners experiencing disability barriers to learning, will inform the interaction between the teacher and the learner experiencing disability barriers to learning.

2.3 Overview of disability barriers to learning

According to Nel, Muller, Hugo, Helldin, Backmann, Dwyer and Skarlind (2011:86) "South Africa has proportionately more learners experiencing barriers to learning who have to be accommodated in mainstream schools because intrinsic and extrinsic barriers to learning exist in South African school system." Learners experiencing barriers to learning are those who were in the past identified, labelled and referred to special schools (Engelbrecht et al., 2008:28). These include learners with physical, sensory, cognitive, emotional and the gifted child from different backgrounds, children who are were disadvantaged and children who speak a different language than that of the school the child attends. Landsberg (2011:ix-xv) identified the following barriers to learning that can be experienced by the learner: socio-economic barriers, disability and health

impairments, literacy barriers, attitude barriers, educational barriers, emotional and behaviour barriers as well as giftedness.

All barriers to learning and development should be addressed in our classrooms and schools because they have an influence on learning. As has been pointed out by Donald et al. (2006:23) the learners' interaction with their social context has an effect on how their barriers to learning are caused, maintained, seen and experienced. Adaptations to be made in the classroom vary a lot. Some learners need a lot of assistance and others less. The type of assistance will also vary. Some authors (Lerner & Johns 2012; Kirk, Gallagher, Coleman & Anastasiow 2009; Bornman & Rose 2010; Landsberg et al., 2011; Oswald & de Villiers, 2013:3) suggest some general guidelines that a teacher can follow when addressing disability barriers to learning and development being experienced by learners. These include: curriculum modification, effective classroom management, adapting instruction and teaching methods, healthy classroom environment (physical accommodation) and the use of assistive devices. This study addresses disability (physical and sensory) as a barrier to learning.

2.4 Addressing disability barriers to learning

This group encompasses children with a wide range of sensory, multisensory and physical difficulties. The range extends from profound and permanent deafness or visual disability to lesser levels of loss through a continuum of mobility and coordination difficulties. Children may be born with a disability or such disability may be caused by illness, injuries or heredity.

Learners experiencing disability as a barrier to learning should be welcomed in the mainstream school environment provided necessary support is in place for learners to achieve their full potential. Teams that include parents, teachers and other relevant professionals should establish the nature and extent of support needed by the learner.

According to (Nel et al., 2012: 41) learners who have visual, hearing or physical disability will have some specific learning needs such as braille, or enlarged fonts for visually impaired learners. There is need for more visual learning material for the hearing disability, computer or other aids for a learner that struggles to write because of a physical

disability. Most learners experiencing disability as a barrier have difficulties in socialization. Thus their proximal processes mentioned by Bronfenbrener are affected. Many of them require more time, planning and effort in order to help them learn. In short their support includes academic support such as classroom adaptation, instructions, classroom behaviour needs as well as social needs (Kirk et al., 2009:306).

2.4.1. Addressing physical disability

A physical disability affects a person's outward appearance and or his movements. Some of the learners that may be found in the classrooms might be in a wheelchair, learner with an amputated limb. For instance, an arm may be missing or a hand or limbs cannot be used, with the result that the child requires the use of a wheelchair or crutches. According to Smith (2007:71) learners with physical disability encounter mobility problems, inability to control their bodies, low self-concept as a result of people's reaction to their disability and may fall behind with academic work due to absence from school. Those on medication may feel sleepy and tired.

To address these barriers (Kirk et al., 2009:306) suggest that teachers should arrange or rearrange the physical environment. Teachers are also expected to promote social acceptance with peers by informing and educating other learners. The teacher also needs to gain knowledge on the specific disability that a learner experiences.

2.4.1. 1 Classroom adaptation for physical disability

The Department of Education (2002:132) notes that physically disabled learners experience more problems because some do not have wheelchairs or those who have them cannot use them as the community centres are not wheelchair-friendly. Health centres are far from the people and some are too expensive to be accessible to the poor. This challenge is further exacerbated in schools that traditionally have not set appropriate facilities for use by such learners and therefore compromising physical accessibility.

The majority of South African schools are physically inaccessible to a large number of learners and even teachers and other pupils because they were not built to accommodate

the physically disabled learners. The Department of Education (2002:140) indicates that most classroom facilities do not cater for physical and sensory disabilities. For example, teachers and learners who use wheelchairs or other mobile devices, which specifically need ramps instead of stairs, are definitively unsafe for blind and deaf learners. In addition, some buildings are dilapidated due to lack of funds (DoE 2002:141). This may even be a threat to the children's lives.

Schools therefore have to consider how their building and physical environment could constitute a barrier to access. According to the DoE (2002:145), schools would therefore need to adapt classroom and other facilities to allow for access by people who use wheelchairs and adaptive devices.

2.4.1.2 Physical environment for physical disability

Quite often adaptations can be made in the classroom to address physical disability as a barrier to learning. Nel et al. (2012:17) suggest that enough space could be provided in a passage in the classroom for a learner with a wheelchair to move around. It is also a good idea to have a washbasin or even a small bowl with water available in a classroom for learners with physical disability so that learners with crutches or who are in a wheelchair can wash their hands without going to the bathroom. The teacher should make sure that the tables are high enough for wheelchairs and put a frame around the table so that their stationery and books do not fall off (Landsberg et al., 2011:299).

Space should be provided for storing learners' aids such as crutches as well as ramps to help learners in a wheelchair move independently around the school building, opening doors and non-slip floors and toilets (Donald et al., 2006:305). The teacher should also consider the seating arrangement because some learners need assistive aids like arm or foot rests lapboard to write on. Walton (2006:109) suggests that the teacher should appoint a buddy for learners who need assistance to carry their school bags and to assist them to their point of transport before and after school.

2.4.1.3 Teaching strategies for physical disability

The teacher may need to adapt teaching methods and learning strategies, for example, learners with coordination and motor problems may need something to hold paper while they write. The pencil might be attached to a string fastened to the desk so that the pencil cannot drop onto the floor. Learners with writing problems may rather answer orally or tape record their responses. If classes were missed because the learner was absent additional classes can be given. Researchers urge teachers to accommodate learners when written work has to be done by allowing more time to complete tasks and reduce the amount of work (Walton et al., 2009:109). The teacher has to see to it that the learner has all assistive devices needed. As already mentioned, these may include adjustable tables and adapted computers.

2.4.1.4 Psychosocial support for physical disability

Learners experiencing physical disability often have a poor self-image which results in the formation of a negative self-concept (Landsberg et al., 2011:298). They experience being different from others and feel inferior. Learners experiencing physical disability as a barrier to learning may encounter difficulties with socialization and this is how proximal processes are affected as explained in Bronfenbrenner's theory. To address this hurdle, it means that the formation of a positive but realistic self-concept is of great importance to these learners and they need active support. Such learners should realize that in spite of having a disability, they have worth and potential as they also have abilities.

2.4.2 Addressing visual disability

Learners experiencing visual disability range from those who are totally blind to those who are partially sighted. (Landsberg et al., 2011: 363). They pose many challenges for teachers in the classroom (Hallahan & Kauffman 2006:364). It is therefore very important that learners experiencing visual disability be identified as early as possible. Learners who are totally blind are mostly placed in a special school where they can be taught to

use braille. This study concentrates also on partial visual disability and the challenges this poses for the inclusive classroom.

Hallahan and Kauffman (2006:365) gave examples of the signs that show the possibility of partial visual disability and these include poor handwriting, usually the learner cannot write within lines, spaces letters and words too close or too far apart and confuse letters or numbers with similar shapes. The learner holds a book very near to the eyes or too far from eyes and will tilt head and complain of blurred vision or learner may complain that s/he cannot see well. Once the teacher notices these signs, the learner has to be referred for an eye test and this could help the teacher when s/he plans the Individual Educational Programme (IEP) as suggested by Donald et al., (2010:307). The teacher should also make some adjustments or adaptations in the classroom.

2.4.2. 1 Classroom adaptations for visual disability

According to Smith (2007:82) learners with visual disability challenges should be seated where they see best, usually in front of the class, so that they must be able to see on the chalkboard. A portable, chalkboard on wheels is another option. Teachers are encouraged to limit distracting noises as it can confuse the learner.

Adequate lighting is particularly important for learners with visual and hearing disability who need to lip read. Poor lighting can make it difficult for learners to engage in learning activities such as reading, writing and seeing the blackboard or demonstration charts in front (Donald et al., 2010:131).

2.4.2.2 Adapting teaching and learning environment

To adapt the teaching and learning environment for learners experiencing visual disability barriers, Landsberg et al. (2011:379) suggest that the teacher has to make use of large print books and teaching materials. A font size of 18 is a good start and when the teacher hands out printed material, which should be big enough for the learner to read. The

teacher in such a situation is best advised to make use of puzzles to practice motor skills. Visually disabled learners also rely on touch. If they cannot see something well, the teacher should let them touch, feel it and smell it. They must learn to distinguish between textures and surfaces: hard, soft, smooth or rough (Hallahan and Kauffman, 2006:368). For example when teaching shapes, the teacher is advised to let them touch and feel circles, triangles and square objects. In other words the teacher must involve all the senses when explaining concepts.

2.4.2.3 Emotional and social development for visual disability

The teacher and the other learners as micro systems should support and accept the learner experiencing visual disability. Life skills as a learning area in Foundation Phase can be useful in teaching learners certain life skills. During life skills lessons, teachers can teach learners to accept themselves, accept others, get involved in social interaction and learn to cope with a disability. To promote interaction with other learners the teacher should make use of buddy system, group work and role playing (Walton et al., 2009:109).

2.4.2.4 Adapting teaching strategies

It is a well-known axiom to teach from the known to the unknown and as pointed earlier all senses must be stimulated while teaching. According to Landsberg et al. (2011:379) the teacher has to enlarge the space between the lines to accommodate the learner's handwriting and when printed paper is given, white paper with black ink is recommended and, of course, the spaces must be enlarged. It is critical to make use of colour in pictures and other visual aids only if the learner can recognize colour. For Smith (2007:108) visually impaired learners depend on their memory and to practice listening skills and memory the teacher should ask questions and repeat information for adequate internalisation by these learners.

Teachers ought to adapt assessment methods by assessing them orally, a buddy may write down the learner's answers. Teachers should also bear in mind that learners with

visual disability need more time to complete tasks and assessments. Landsberg et al. (2011:380) recommends that learners experiencing visual disability be given an extra quarter to half an hour for every hour allocated to an assessment of able-bodied learners.

2.4.2.5 Adapting technology

Braille is still the basic and unique reading and written medium of communication and learning for learners who are blind according to Moodley (2004:87). Braille must be taught by trained persons. For partially sighted learners, a magnified glass can be used if large-print books are not available and computer software which zooms in on text on the screen can be used. Hallahan and Kauffman (2006:377) recommend the use of closed-circuit television where a teacher does demonstrations underneath a camera while the learner who is visually impaired follows the enlarged images on a television screen near his or her desk. Textbooks can be read onto tape, CD or any other recording device.

2. 4.2.6 Orientation and mobility

The teacher can pair a learner experiencing visual disability with a buddy who leads him or her. Teachers should also make them aware of sounds, smells, textures and temperature differences so that they can identify certain places in their environments well as tasking them to walk independently. As Bornman and Rose (2010:187) note a buddy can offer an arm to guide the classmate and can be careful about keeping the environment free of obstacles. For example, closing cupboard doors, pushing chairs under the desks and keeping classroom equipment neatly in the same place are instances that generate supportive environments and contexts for such learners.

2.4.3 Addressing hearing disability

According to Swanepoel, Storbeck & Friedland (2009) in Landsberg, (2011:382) hearing disability is one of the most prevalent disabilities with an estimated prevalence rate of 3-6/1000 live births in developing counties. According to Swanepoel et al. (2009:784) a learner with hearing disability usually displays the following characteristic: the learner will not react when addressed and lacks interest in what is going on in the classroom. Often the learner is inattentive or daydreaming and does not follow instructions. The learner will ask the teacher to repeat what the teacher has said and usually looks at the teacher's face very intently mostly lip reading. S/he talks more loudly than usual. The main concern is that these learners may miss out on information because s/he did not hear it. They also develop emotional and behaviour problems due to this frustration of not hearing properly (Donald et al., 2010:308). They are disruptive because they are always asking others what to do and in the end may show total dependence on teacher or friends.

2.4.3.1 Classroom adaptations for hearing disability

To address these problems it is good to advise the learner to have a hearing test and to contact parents. The learner may be given a hearing aid, based on the test results. Donald et al. (2010:308) note that hearing aids only work in certain range, cause irritation in the ear and are of no use if the batteries are flat. It is the duty of the teacher to see to it that the aid is working properly. Some learners may also not be able to get one even if it is needed thus the learner has to resort to visual information such as watching lip movements, facial expression and use of gestures. The teacher in such cases has to make sure that there is adequate lighting for the learners to read your lips (Landsberg et al., 2011:394). Learners experiencing hearing disability should sit near the teacher and have a buddy next to them. By watching the buddy, the learner responds better to instructions. The teacher must promote the learner's self-esteem.

2.4.3.3 Teaching strategies

The DoE, (2005: 52) recommends that teacher can adapt teaching strategies by considering different communication methods. The learner with hearing disability depend a lot on what they see this means that there is need of use of a lot of visual aids and cues as well as use of concrete objects. In addition the learner should be placed in front of the class to minimise distractions and the teacher can ask the learner to repeat the instruction back to the teacher. The use of sign language is also recommended this implies that "Educational sign language" can be developed and teachers need to be skilled users of South African Sign Language (SASL) as well as trained teachers of the deaf.

2.4.3.4 Adapting assessment methods

The teacher can also adapt assessment by allowing written assessment instead of oral assessment. The following adaptive methods of assessment have been recommended by the national Department of Education (2002:12-13) Replace listening exercises or assessment for example a story with written work (written story). Feedback should always be preferably in writing and assessment questions can be videotaped. Pictures can be used with great success. A teacher can show different answers as pictures and allow the learner to point out the correct answer by choosing a picture, or study a picture and answer questions on a picture.

2.5 Causative factors leading to disability barriers to learning

Barriers to learning can be addressed by removing the cause. There are both genetic and environmental or systematic causes of barriers to learning. As been observed by Bornman and Rose (2010:28) barriers to learning may arise from a number of sources that may be intrinsic (factors operating mainly within the person) or extrinsic (factors operating from outside the learner).

Disability (physical/sensory) may be congenital (originating prior to birth) or acquired through illness, accidents, drugs and poison. It may also be the result of a hereditary syndrome/ factors, or damage caused to the foetus before birth through diseases or

medication taken by the mother (Frederickson & Cline 2005:365). This is supported by a research conducted by Pather (2011:1109) that consisted of nine learners experiencing physical disability as a barrier to learning. Three were victims of shooting by people in their communities through domestic and community incidences of violence. The other five were due to healthy problems, polio and cerebral palsy but one had a shorter leg than the other (he was born like that).

It is therefore clear that some factors are within the individual whilst others relate to the broader environment or community. According to the Education White Paper 6 (DoE, 2001:17-18) barriers to learning may not arise from disability itself which may hamper the normal development of the child from birth but also from policies that are not properly implemented, negative attitudes, an inflexible curriculum, inaccessible environments, inappropriate and inadequate support services, non–involvement of parents and inadequately trained teachers.

2.5.1 Policies

Policy documents should outline relevant resources, support services and service delivery for learners with different learning needs in an inclusive set up. To address disability barriers to learning, many factors operate at macro, meso and micro levels of education system, that is, the school level system, the classroom, and the individual learner and all these are closely nested around learners experiencing barriers to learning. Therefore active involvement of all stakeholders and positive interaction between multiple systems are important in addressing disability barriers to learning.

With regards to the macrosystem, the current implementation of national policies requires intervention from the National and Provincial Department of Education to ensure that all learners, irrespective of their in/abilities, receive quality and equitable education. For example, all current education polices should be integrated and aligned with Education White Paper 6 to eradicate any confusion and perception that Inclusive Education is an

alternative form of education. Furthermore, flexible curricula should be developed to ensure that learners' diverse abilities are catered for, and should not be prescriptive, but rather provide a broad framework for educators within which they are allowed to adapt the main curriculum to the specific needs of the learner.

Assessment policies should be developed to allow learners to be assessed according to their needs and abilities. Currently all learners are subjected to uniform assessment standards and modes of assessment to the detriment of learners who experience disability barriers to learning. The Curriculum and Assessment Policy Statement Policies (CAPS) provide guidelines to schools in terms of curriculum content and assessment requirements. However as mentioned earlier Geldenhuys and Wevers (2013:15) note that the CAPS are structured in such a way that they do not support the requirements of the White Paper 6, which promotes curriculum and assessment differentiation.

2.5.2 Lack of parental involvement

Parents constitute the microsystem which is a very important layer of the education ecosystem because learners are directly involved in this layer. The active involvement of parents and the broader community in the teaching and learning process is essential for effective teaching and development (Stofile & Green, 2007:22). Such involvement includes the recognition of parents as primary caregivers. Parents should be subjected to parent skilling programmes to improve the quality of their parenthood in cases where they are displaying incongruous behaviour and negative attitudes towards their children who experience disability barriers to learning.

The Department of Education (2002:140) rightly predicts that if parents are not encouraged to be involved in their children's education and not empowered and enlightened as to what is expected of them, they will definitely lack interest in supporting teachers to achieve their educational goals. Engelbrecht et al. (2008:42) view parental involvement from a different angle when they state that lack of parental involvement is often related to school issues, for instance, parents who are illiterate, have HIV/AIDS, abuse alcohol, are poor and unemployed and those who are ashamed of their children's

disabilities. According to Landsberg et al. (2011:237) Some parents work long hours, leaving parenting to siblings, helpers or members of the extended family, they often have little time and energy to be involved in their children's learning at home or at school. It is clear that all these matters can cause barriers to learning. Teachers should for that reason take cognizance of the challenges that some families face when attempting to involve them in their children learning.

Engelbrecht et al. (2008:55) endorse the fact that the new policies and legislation in South Africa support the optimal involvement of parents in the education of their children and these policies emphasise that parents must be involved in the process of identifying barriers to learning and means to overcome them. Furthermore, they maintain that parents are components for governance of schools and to facilitate community ownership of school as well as providing a hand where teachers need additional support in the classroom. Where parents are not given this recognition effective learning is threatened and often hindered. The Department of Education (2002:140) is convinced that if parents and the community at large could be well informed about their importance in addressing disability barriers to learning. They would become involved and take full responsibility in supporting their children.

In their research Geldenhuys and Wevers (2013:12) found out that negative attitudes towards parental involvement, lack of resources to facilitate such involvement, lack of parent empowerment and support for parent organisations particularly in poor communities, all contribute to a lack of parental involvement in centres of learning. If parents are not involved in the learning of their children, it may result in their children learning being difficult.

2. *5.3 Negative attitude towards learners*

Attitude barriers can originate from the learners, the teachers, the school, the family, the community and society and often include negative attitudes towards learners who experience disability barriers to learning. The DoE (2002: 136) states that attitudes are significant because they have the potential to affect the way in which people behave.

For example, attitudes could influence policies that people develop, decisions that they make and financing of education. Attitudes are manifest in the way managers and administrators work in their institutions and the teaching and learning strategies deployed to actualize inclusive educational practices. Hence the research undertaken by Bothma et al. (2000:201) found out that some teachers had negative attitude towards learners who experience barriers to learning. The reasons being that most teachers felt that they were obliged to implement policies about which they were not consulted. Teachers did not have a clear understanding of the demands and changes they had to implement and often lacked adequate time to prepare for the implementation. This kind of attitude causes problem in both teaching and learning.

As has been observed by Gargiulo and Metcalf (2010: 69) very often teachers fear the inclusion of a child with a disability in their class and respond negatively to their attendance. Negative attitudes towards disability are picked up by other children who further exacerbate the challenges already pitted against the disabled learner. Many of the negative attitudes towards disability result from some traditional and religious beliefs which denigrate shy away from, and shun disability (Swart & Pettipher 2006:30). The researcher argues that if people could change their negative attitude towards differences in our society then disability barriers to learning may be overcome and the process of inclusion would stand a better chance of being successful.

2. 5.4 Lack of teacher training in inclusive education.

The teacher may lack knowledge on inclusive education and barriers to learning. This may cause that learning problems are not noticed. The teacher may have inadequate training and may lack the skills to support the learners and may lack knowledge of teaching strategies. According to Engelbrecht et al. (2008:94) learners with a wide range of special educational needs are currently in the mainstream classrooms, in the care of teachers who have little or no special training. This implies that teachers are expected to have the knowledge and skills to accommodate a range of diversity among learners. Their

lack of training and resources may lead to negative attitudes in addressing disability barriers to leaning.

A pilot study conducted by Nel (2007:1) with teachers from Secondary and Special Schools in one school district in Gauteng province indicated that the teachers have not been adequately trained in their pre-graduate training as well as in-service training and has a desperate need for knowledge and skills to be able to address their learners specific need.

In addition Greyling (2009:431) conducted a study in Eastern Cape and found out that teachers had little or no training at their initial teacher training colleges in remedial work and inclusive education per se and lacked confidence in addressing barriers to learning that are being experienced by learners in the main stream. In a study conducted by (Oswald & Marie de Villiers, 2013:8) teachers declared themselves inadequately trained to address the needs of all learners, especially those with more challenging learning needs.

It is not surprising that the present government has embarked on a massive Professional Teacher Development project, the National Professional Diploma in Education (NPDE), to upgrade all the under qualified teachers. NPDE empowers teachers to be able to deal with barriers to learning and inclusivity. It is hoped that the exposure to programmes such as the NPDE, Advanced Certificate in Education (Learner support) and the Bachelor of Education Honours (Learner support), will assist teachers to address disability barriers to learning and development. According to (Pivik, Mccomas & Laflamme 2002:105), training is important for addressing barriers to learning with teachers needing not only knowledge and understanding of disability barriers to learning, but also practical teaching that facilitate inclusion.

2. 5.5 The Curriculum

One of the most serious barriers to learning and educational development exists within a curriculum itself and relates primarily to the inflexible nature of the national curriculum, which prevents it from meeting the diverse needs among learners. Burden (2000:28) emphasises that, "curriculum is at the heart of the education and framing system. It may thus be seen as the engine that should drive the values and principles exposed by our society". The nature of the curriculum involves a number of components, which are all critical in facilitating or undermining effective learning.

According to White Paper 6, (2001:9) different aspects of the curriculum include the content that is taught, the language or medium of instruction, how the classroom is organised and managed, the methods and processes used in teaching, the pace of teaching and time available to complete the curriculum and the learning materials and equipment that is used. Donald et al. (2006:22) observes that the content of the curriculum may be above the level of the learner's stage of development and this will become a problem if the teacher is not able to adopt the curriculum. They further note that some subjects may become a barrier, for example, a learner might not be good in mathematics or language. In his findings Pather (2011:1111) revealed that both learners who were experiencing disability as a barrier and non-disabled peers suggested the subject, content, teaching expectations as their barrier to learning rather than disability.

From the researcher's experience there is the official curriculum, then the transactional curriculum (what actually gets taught) and finally there is the hidden curriculum (what is never said but still is so critical) it determines what gets taught and how. Examinations and the power that they exert on schooling is part of the hidden curriculum. One plans and teaches and measures success according to how many learners pass. Inclusive classrooms, especially in the form of "slow learners" are discriminated against because of their potential to affect the schools or teachers pass rate.

2. 5.6 Support services and suitable infrastructure

Inaccessibility to learning material and teachers who lack in-service training in managing the diverse needs of learners in a classroom is some of the contributing factors to disability barriers to learning DoE (2001:31). Classroom facilities mighty not cater for learners with disabilities. According to the Department of Education (2002:138) the blind learners are unable to access the curriculum effectively if braille facilities and other equipment are not available and also due to lack of teachers who are skilled to teach braille and know how to use the audio equipment. The DoE (2002:140) further noted that the majority of South African schools were not built to accommodate the physically disabled learners who use wheelchairs or other mobile devices, which specifically need ramps instead of stairs.

Geldenhuys and Wevers (2013:11) found out that there is lack of support services for learners experiencing disability barriers to learning in full service, special schools and the district support services are not yet functional. According to Smith (2004:25) adequate provision of support services is needed to support diversity and to enable the education system to minimise, remove and prevent barriers that may exist or arise. Where no provision exists for such services, disability barriers to learning and development cannot be overcome and needs cannot be met. Furthermore basic service, which may support learners and the system to minimise and remove barriers or prevent them from arising are often lacking or limited in poor communities.

2.5.7 Class size

In the research conducted by Swart and Pettipher (2006:14) in South Africa they found out that large classes were perceived as the biggest obstacles to address disability barriers to learning. They note that South African schools have 50 or more in a class especially in townships and rural areas and very often the group is comprised of different ages. The more learners experiencing barriers to learning in a class, the less time is given to all other learners as majority of learners who experience barriers to learning need more one on one time from the teachers (Avramids & Norwich, 2002:56). This shows that many

disability barriers to learning are due to insufficient allocated time for teachers to fully address inclusive practices that is time to plan for the following day and time to adapt the curriculum in order to address the disability barriers to learning. Large class diminish the adaptation of learning material, use of differentiated instruction and peer- assisted learning (Mukhopadhyay, Nenty & Abosi, 2012:6).

2.5.8 Assessments

The way learning is assessed may be a barrier. Nel et al. (2012:9) observed that, "assessment processes are often inflexible and designed to only assess particular kinds of knowledge and aspects of learning such as the amount of information that can be memorized rather than the learner's understanding of the concept involved".

The seriousness of such barriers is most obvious where there are a large number of learners who are forced to repeat aspects of the curriculum, even if this means remaining in level where the age gap between the learner and other learners is significant Screening Identification Assessment and Support document (SIAS) (DoE, 2008) declared that "the purpose of assessment, when learners appear to be faced with barriers to learning, is to gather information about their learning which will contribute meaningfully to their learning support". Landsberg et al. (2011:53) suggest that when engaged in assessment, teachers should constantly be setting their sights beyond the assessment or the learning support to meet specific support needs. The teacher's understanding of learning support directs their selection of assessment strategies techniques as well as the actual questions to ask.

Bornman and Rose (2010:42) recommend that assessment should be designed to minimize the impact of learning, physical and sensory barriers to learning. For example for learners experiencing a physical barrier may need adaptive seating or access to a computer. A learner with a visual barrier may need assessment materials placed in a specific location on the work surface. They further noted that some specific modification can be considered when doing alternative assessments that still meets the curriculum standard. This includes changing time to allow learners to complete their work or spreading the assessments over shorter time sessions or even days or giving fewer items.

Allowing, audio tapes, large prints, Braille or computer based assessments to learners experiencing physical disabilities. It should be noted that some of these modifications can easily be implemented in the classroom, while others require procedures prescribed by the National Curriculum Policy to be followed.

In conclusion learners experiencing disabilities will experience barriers differently depending on the family which they are part of, the extent to which their school facilities, access participation and the resources in the communities and societies in which they live. The knowledge of these causes will help the teacher to understand learners experiencing disability barriers to learning better and be able to identify them at a very early stage. As a result, the early identification of learners experiencing disability barriers to learning and development will assist to prevent barriers to learning from escalating or intensifying (Landsberg et al., 2011:38). Teachers who have little or no training in differentiating teaching strategies present new challenges. A general lack of support and resources, as well as the prevailing negative attitudes towards disabilities can cause barriers to learning.

"If the education system is to promote effective learning and prevent breakdown, it is imperative that strategies are structured into the system to overcome existing barriers. Such mechanisms must develop the capacity of the system to overcome barriers which may arise, prevent barriers from occurring, and promote the development of effective learning and teaching environment" (DoE, 2002:141). A range of strategies and processes are needed to support diverse needs and enable the education system, including teachers and learners, to minimise, remove and prevent barriers which may exist or arise. Where no provision exists for such services, barriers cannot be overcome and needs cannot be met.

2.6 Strategies to assist learners experiencing disability barriers to learning

To address disability barriers to learning, a learner-centred approach is needed for teaching and learning. Teachers should bear in mind that there is no single classroom where all learners will be exactly the same, or learn in the same way, and at the same space. As a result, teachers are required to be creative in the use of a variety of teaching strategies to reach learners who are at different levels. As a teacher you have the privilege of making a difference in the lives of children. This, according to Nel et al. (2012: v), will be influenced by the way you interact with your learners, the classroom environment, the curriculum, learning activities and teaching methods you use. Motivating your learners to believe in themselves and making them feel accepted and respected as individuals will also make them more able to learn.

Landsberg et al. (2005:119) mention four important things that are essential for effective teaching and learning when addressing barriers to learning or when assisting learners experiencing barriers to learning. First and foremost the teacher should have the knowledge of learners experiencing barriers to learning. Secondly the teacher has to have the knowledge and skills in the curriculum. Thirdly, there is need for leadership and management skills. Fourth, there is need for professional collaboration skills.

The Guidelines for Inclusive Education learning programmes, DoE (2005:23) maintains that all teaching strategies for assisting learners experiencing barriers to learning should be underpinned by considering the learner as the focal point, that all learners are equally valuable. This implies encouraging the participation of all learners and using learner differences as important resources for learning and assessment. All teaching, learning and assessment should be adopted to suit the needs of learners and not the other way round. Teachers should appreciate learners from different background be it cultural or religious and should give learners the opportunity to record their work in different ways and have high expectation for all learners as well as considering the interest of all learners.

This view is also supported by Donald et al. (2010:16) who mentions that accommodating the diversity of learners' socio-cultural backgrounds and specific learning needs, promoting healthy, physical, intellectual, emotional, social and spiritual development for all learners, as well as healthy learning environments is important when addressing disability barriers to learning. Walton et al. (2009:109) stress teacher aid, and reduced class size as well as manageable teaching load as essential approaches.

Smith (2007:19) echoes the same sentiments that when you plan to support or assist learners experiencing disability barriers to learning, the teacher should keep in mind that intervention must be a holistic approach. Holistic approach to the learner means support must be a joined attempt by role players. The teacher cannot just consider the academic and educational difficulties of a learner when planning support for the learner but they should consider the physical and cognitive development, emotional and social development as well as behaviour and moral values.

In mainstream education priorities will include multilevel or differentiation approach so that teachers can prepare lessons with variations that are responsive to the individual learner needs, cooperative learning curriculum enrichment and dealing with learners' with behavioural problems (White Paper 6, 2001:21). Rather than assuming that all learners will be engaged in the same learning experience and assessment according to the same criteria, multilevel teaching or differentiation can be used as a strategy for engaging learners in a more inclusive way. For the purpose of this study, the researcher will be looking at a differentiation as the best strategy to assist learners experiencing disability barriers to learning. Differentiated teaching is a powerful way to dismantle barriers to learning being experienced by learners in inclusive classroom (Bornman & Rose 2010:25).

2.6.1 Differentiation

To provide quality education and learning addressing individual learners' needs, Smith (2008:5) suggest that differentiation is the answer. The Curriculum and Assessment Policy Statement (CAPS) say that to address barriers to learning in the classroom,

teachers should use various curriculum differentiation strategies and it further describes differentiation as the "key strategy to cater for the different levels of ability, and to mitigate the effects of various barriers to learning" (DoE, 2001:5-7). According to Thousand, Villa and Nelvin (2007:9) curriculum differentiation entails the adjustment of the curriculum, learning activities, content demands, modes of assessments and the classroom environment in addressing different needs. In addition, it assumes that learners come to class with different levels of readiness, interest and learning profile and that to maximize learning, teachers need to modify the curriculum, their teaching methods and learning resources and activities and assessments to be individually relevant (Tomlinson, 2003:212).

Differentiation does not require less or more work from the learner, but it rather focuses on changing the nature of work, doing whatever it takes so that the learner learns. Lerner and Johns (2012:79) maintain that differentiation intends to address a variety of teaching methods that not only focus on transferring facts, but instead ensure that learners take part actively in their learning to make sure that they understand and are able to apply what they have learnt. By using differentiated instruction, the teacher develops teaching and learning methods for learners with different abilities. The teacher takes individual differences into account as he or she plans and assesses the class.

Donald et al. (2010:84) observe that in many classrooms, teachers are so focused on getting the content across that they neglect the process. However the content, process and product also need to be differentiated or changed to meet individual differences, that is, the what as well as the how of teaching is equally important.

Bornman and Rose (2010:73) emphasize that the three elements of the curriculum that can be differentiated are the content (what is taught), process (how it is taught) and product (assessments). Content needs to be relevant as well as challenging for the learners in the process, while different learning and teaching strategies are employed, a multiplicity of skills can be developed. The products that the learner has to deliver can differ from learner to leaner as long as the learner achieves the planned outcome. According to Woofolk (2010:480) a teacher might adapt content by applying learner's interest to curricular material or change presentation strategies by inviting learners to

explore alternative sources of information. Learning environments might be modified by moving a class outside.

In differentiation instruction pre-assessments are used to determine prior knowledge, learning abilities, interests and talents, so that instructional time can be maximized. The teacher meets the learner at the place just above the learner's level of mastery, the zone of proximal development and assists that learner in moving forward. It also considers ideas about learning preferences, multiple intelligences and Blooms taxonomy (Gargiulo and Metcalf 2010:199). One of the advantages of differentiation as a strategy to assist learners with barriers to learning according to Walton et al. (2009:32) is that learners who experience success are more likely to be motivated to learn as it is discouraging and frustrating when the pace of work is too fast or the work is too difficult and it can be used as a positive method of decreasing inappropriate behaviour (Gargiulo & Metcalf, 2010:200).

Differentiation of the curriculum can be achieved through adaptation, accommodation and modification of teaching and assessments methods and these are ways of teaching and assessing to make it possible for learners to demonstrate their knowledge and skills (Nel et al. 2012:60). Changes can be made to the learning tasks, to teaching methods or the material used and the learning environment and according to Janney & Snell (2000:17) only the course content can be modified, with the subject area remaining the same. They further noted that accommodation and adaptation will depend on each learner's specific need and these include allowing extra time to complete test or examination and this according to Walton et al. (2009:109) will reduce test anxiety.

According to Westwood (2004:6-8) learners can be allowed to sit closer to the chalkboard and to use calculators for calculations. Enlarging and changing font of typed material as well as changing the background colour of paper will also help learners with low vision (Walton et al 2009:120). Woolfolk (2010:480) recommends that the teacher should make sure that lights in the classroom is enough for learners with visual problems and not to hide the teachers face for learners with hearing problems who need to see the teacher's face.

In grading or marking learner's performance. Learners experiencing disability barriers to learning would not be penalized on criteria like spelling or handwriting at the same time teachers can differentiate by changing the venue of examination to reduce distractibility (Walton, 2006:120). The DoE (2005:89) advocate that access to buildings can be modified, for example ramps, adopted toilets and speaker system where applicable, braided signage on door frames, passages and buildings, assistive devices like braille, learning aids, tape recorders, computers and wheelchairs.

2.6.1.1 Universal Design for Learning (UDL)

It is a strategy on its own but according to Kirk et al. (2009:59) when teachers use the principle of Universal Design for Learning (UDL), differentiation is planned for the lesson at its inception, not added afterwards. For example, In Universal design, the assistive supports are built in, rather than added as an afterthought. In fact, as pointed out by Gargiulo and Metcalf (2010:119), UDL implementation supports differentiated instruction and vice versa.

Universal design is a concept first used in architecture in the context of building. It refers to the practice of designing from the beginning to provide access to everyone rather than modify the building later. According to Nel et al.(2012:126) when the term is used in education it refers to the need to plan lessons with teaching and learning activities, which are accessible to, and enable the participation of all learners right from the beginning. This is preferable to planning, teaching and learning and then afterwards trying to modify them to ensure that all learners can be included.

The approach starts with the facts about the learner and then the content, product and process are designed to fit the learner's abilities (Thousand et al., 2007:9-12). As teachers, we know how difficult it is to be in a room for approximately seven hours a day with sometimes thirty or more diverse learners at a time with limited planning time. It is time-consuming to prepare a variety of presentation and to implement and organize a variety of assessments.

UDL is one of the strategies to provide the teacher with an environment that can be usable by the largest possible number of learners experiencing disability barriers to learning. Gargiulo and Metcalf (2010:180) indicate that UDL designs materials and activities that have the flexibility to match learner strengths and needs so that they can reach their goals. It considers the different abilities of the learner "to see, hear, speak, move, read write, comprehend English, attend, organize, engage and remember." A good example of UDL flexibility is what Kirk et al. (2009: 590) call closed caption, standard on most television sets, so that learners experiencing hearing disability can read the text at the bottom of the screen. The same message is being delivered visual and auditory. In a classroom situation a teacher can use an overhead projector. To allow flexibility in their expression, instead of giving a paper and pencil answer, a learner may use drawing or respond through a computer.

According to Dalton et al. (2012:3) Universal design for learning is a potential framework to deal with teacher's lack of skills on how to design and present the curriculum in ways that can meet the diverse needs of learners in their classroom. Teacher training programmes do not appear to be adequately addressing this need, resulting in stress for teachers and lack of progress of learners with disability barriers to learning (Chataika et al., 2012; Engelbrecht, 2006).

The three core principles of UDL according to Dalton et al. (2012:3) are multiple means of representation, where the teacher can present the learning methods through a variety of media (visual, auditory or tactile), and provide multiple examples that can be modified in complexity to meet a range of learning needs. The second principle is multiple means of action and expression, for example, the teacher may use strategies that allow the learner to practice tasks with different levels of support and can demonstrate their knowledge and skills in a diversity of ways. The third principle is multiple means of engagement, the teacher can create interesting learning opportunities that motivate and stimulate learners according to their personal backgrounds and interests. At the heart of UDL is the design of goals, methods, materials and assessment to make them possible for all learners including those experiencing disability barriers to learning.

2.6.1.2 Multi-level teaching

Multi- level teaching is a strategy that can be used for differentiation. It refers to the practice of teaching one concept or topic at different levels of complexity within the same classroom (DoE, 2005:91). An obvious way of teaching at more than one level is to first divide the learners in a classroom into groups according to their performance, abilities or readiness to learn then to design teaching and learning activities according to different groups. Woolfolk (2010:404) refers to these groups as ability groups and recommends that ability grouping should be very flexible and learners should not be grouped for the year, or even the term, depending on how teacher think that they will learn. Groups should be different across different subjects to reflect individual strength.

2.6.1.3 Scaffolding

Donald et al. (2010:87) define a scaffold as a temporary structure that is erected around a building process until it is completed. When applied to education, scaffolding is when teacher helps the learners to know how to do something in order for the learners to do a task independently at a later stage (Kirk et al., 2009:169). For example a learner can use the figures or an abacus to do calculations or to count. When s/he master the skill s/he will calculate without using a calculator or an abacus.

Donald et al. (2010:87) further noted that scaffolding is closely related to Vygotsky's notion of mediation in a particular area of knowledge. Depending on what the learners are able to do on their own, they may need assistance of an experienced person who will scaffold their instruction. This according to Bornman and Rose (2010:81-82) is done by providing substantial amount of support and assistance during early stage of teaching a new concept and then slowly withdrawing the support as the learners gain experience by means of a great deal of practice.

Scaffolding can take a number of instructional forms, including explanations, modelling, demonstrating and questioning. According to Westwood (2004:7) allowing learners to use dictionaries and calculators can also build confidence and success. Westwood (2004:8) gives examples of activities that can scaffold learning and these include providing more

time to complete class work, some learners who work very slowly might be paired to sit to a learner who works quickly, who can encourage them to finish. The amount of work may be altered. Learners who never finish work on time because they are too precise can be seated next to a study buddy who works at a faster pace. He further advocates for the use of themes that really interest the learners and use of aided language, stimulation that impact on how children learn by providing them with a strong understanding or receptive language foundation. For example, teachers can use pictures on the board or graphic symbols while speaking, thereby providing the learners who experience hearing disability an additional cue. Learners will not only listen to teacher's voice but they also see picture of words, which help them to understand and remember.

2.6.1.4 Assistive devices

The use of assistive devices is supported by Gargiulo and Metcalf (2010:169) as well as Woolfolk (2010:480) who pointed out that assistive devices are not a luxury, it is necessary for individuals with disability barriers to learning to achieve everyday tasks and to reach their dreams and aspirations. From the researcher's experience struggling readers and writers in Foundation Phase often display behaviours such as logging their heads down, staring off into space indicating that they are uninterested, or lack the motivation in the topic at hand. In reality, the new content seems impossible for the struggling learners to decode or make meaningful. Thus the use of assistive devices can provide struggling readers and writers with different ways of approaching their academic tasks.

Woolfolk (2010:480) noted that for learners who require small steps and many reputations to learn a new concept, computers are the perfect patient tutors. According to Walton et al. (2009:106) learners who are blind may use braille readers and type writers. Those with hearing disability benefit from using multi-media such as microphones, hearing aids as well as boards for pointing to and composing messages (Kirk et al., 2009:59). Those experiencing physical barriers need wheelchairs, walkers, modified tricycles and standing frames (DoE, 2005:13). However, not all inclusive practices described have been incorporated into South Africa policy guidelines, for example teacher aids and special

needs coordinators are not mentioned in White Paper 6 and specialists support personnel are envisaged to operate at district, rather than school level (DoE, 2005:17).

In their findings Weeks and Erradu (2013:11) concluded that besides the normal everyday assistive devices, like wheel chairs, walkers, crutches, hearing aids, spectacles and assistive computer technology, access to other forms of assistive devices via the Department of Education was minimal to the extent that teachers are left to their own devices in accessing these much sought after assistive devices. Walton et al. (2009:109) mention that an individual learner who experiences sensory barriers to learning may need to rely on assistive devices such as microphone and braille translators to facilitate access and participation in the general classroom.

The major challenge for teachers is to find ways to address barriers to learning such as physical and sensory disability as barriers while maintaining an appropriate learning environment for all learners. Only if this is achieved will the majority of learners experiencing barriers to learning benefit from inclusive education

2.7 Conclusion

This chapter discussed how disability (physical and sensory) is perceived as a barrier to learning and offered suggestions emanating from the literature on how such experiences by learners can be addressed. To address disability as a barrier to learning there is need for educational adaptations which include adapting the learning environment, adapting the curriculum, adapting teaching strategies and making use of assistive and instructional technology.

The most causative factors that lead to disability barriers were also discussed as well as the strategies that can be used to assist learners experiencing disability barriers to learning. The review of literature shows that disability may be congenital, acquired through illness, accident, drugs or poison or can be hereditary. However it was also noted that some disability barriers to learning that are experienced by learners are caused by contextual factors that are systemic influences embedded within the family, the school, or the education system. These contextual factors comprise other micro level systemic influences such as lack of parental involvement, peer group, lack of knowledge for the

teachers to address barriers to learning. Lack of resources in relation to education as exosystems and government policies as macro systems could also extend the challenges faced by such learners. From this literature review, differentiation approach which entails the adjustment of the curriculum, learning activities, content, modes of assessment and the classroom environment is seen as the key strategy to cater for learners experiencing disability barriers to learning.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three outlines the methods of study and the rationale behind the methodology employed. These include discussion on survey as a research strategy that was used, the use of quantitative methods, the population and ultimate sample selected for the study and the instrument used. This chapter further explains the procedures on data collection and analysis that were followed. The reliability and validity of the research design as well as the research methods are also discussed.

3.2 Research design

Creswell (2009:3) describes a research design as a plan and procedure of what the researcher would like to do and how the research is conducted, that is identifying the data gathering methods, the instrument to be used, how the instrument is administered and how the information gets to be ultimately organised and analysed. In this study the researcher has addressed disability barriers to learning using a quantitative approach based on a survey method, where data was gathered through a questionnaire and analysed through descriptive statistical analysis. Survey research involves asking questions of a sample of individuals who are representative of the group under study (Drew & Esten, 2008:166).

3.3 Research Paradigm

The research paradigm proposed in this study was post positivistic which is generally quantitative and involves the use of numeral measurements to examine social phenomena and views, reality as consisting of phenomena that can be observed and measured (Johnson & Christensen, 2008:33). Post positivist thinkers focus on establishing and searching for evidence that is valid and reliable in terms of the existence of phenomena rather than generalization. This is in contrast to the positivist approach of making claims about absolute truth though establishment of generalized laws (Maree, 2007:65). Post positivistic approach implies the existence of one objective reality (Creswell, 2009:7).

According to Creswell (2009:6) the post positivists hold a deterministic view of philosophy in which causes probably determine effects or results. Thus the problem studied by these theorists reflects the need to identify and assess the causes that influence outcomes. Creswell further asserts that post positivism is also reductionist in that the intent is to reduce ideas into small discrete set of ideas to test the variables that make up the hypothesis or questions. In this research questions were used to locate, define and evaluate the problems associated with the inclusive classroom and the challenges faced by learners with disabilities therein.

The reason for choosing this paradigm was to obtain an overview of the phenomenon " disability barriers to learning" in the identified population and to collect objective information by means of a questionnaire from the educational world in order to understand and explain the trends as well as realities pertaining to how disability barriers to learning being experienced by learners can be addressed, the causative factors leading to disability barriers to learning as well as the strategies that teachers can use to help learners experiencing disability barriers to learning.

3.4 Research approach

A quantitative approach, which is an approach that gathers and analyses data in the form of numbers, was used in this study. According to McMillan and Schumacher (2010:21), quantitative research design emphasises objectivity in measuring and describing phenomena. As a result, the design maximizes objectivity by using numbers, statistics, structure and control. This is also supported by Maree (2007:145) who point out that quantitative research is a process that is systematic and objective in its ways of using numerical data from a selected subgroup of the population to generalize the findings to the universe that is being studied. The three important issues that are relevant are objectivity, numerical data and generalizability.

The researcher tested theories deductively, "building in protections against bias, controlling for alternative explanations and being able to generalize and replicate the findings" (Creswell, 2009:4). The quantitative researcher tests the theories about reality, looks for cause and effect and uses quantitative measures to gather data, to test hypotheses or questions. The researcher relates the variables to determine the magnitude and frequency of relationships (Maree, 2007:265). The quantitative approach was used because it brings the strength of conceptualizing variables, profiling dimensions, tracing trends and relationships, formalising comparisons and using large representative samples (Drew, Hardman & Hosp, 2008:26).

3.5. Empirical research

3.5.1. Study Population

Population refers to the total group from which the researcher wants to obtain information in order to generalize the sample results (McMillan & Schumacher, 2010:129). The study population consisted of all foundation phase teachers in Mafikeng Area Office (N=347). The Foundation Phase teachers were selected specifically because they come into contact with learners between the ages of six to nine and it is during this time that

symptoms of most disability barriers to learning that are experienced by learners are recognized. In addition, as the name indicates, this foundation phase is regarded as the critical stage for providing foundation in education and developing positive attitudes towards schooling.

3.5.2 Sample and sampling procedures

A sample is a group of people from whom data is collected and sampling is the process of choosing a sample from the population (McMillan & Schumacher, 2010:129). A sample of n=94 of the population was included by randomly selecting 11 schools out of the 46 Primary schools in Mafikeng Area Office. The researcher used simple random sampling. According to McMillan & Schumacher (2010:132) in simple random sampling, "subjects are selected from the population so that all members have the same probability of being chosen." Simple random sampling was used to save time and money without sacrificing accuracy and, as observed by Leedy and Ormrod (2013:207), it avoids bias because every member of the population has equal chance to be selected.

Names of the schools were provided by the Area Office (AO) District manager and were arranged alphabetically by the researcher. Each school was given a number in ascending order and every fourth number was picked until the target sample of 11 primary schools were reached irrespective of the cluster they fell in. All foundation phase teachers in the eleven school selected were used in the study.

3.5.3 Research instrument

Data was collected by means of a semi-structured questionnaire. A questionnaire is a self-report data collection instrument that each respondent fills as part of a research study. Researchers use questionnaires so that they obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality and behavioural intentions of research participants (Johnson & Christensen, 2008:170). The reason for utilising a semi-structured questionnaire was that it offers the advantage of calculating percentages and statistical data. A questionnaire also collects data from a very large sample within a short space of time.

According to McMillan and Schumacher (2010:195) a questionnaire is relatively economical, has the same questions for all subjects and can ensure anonymity This is also supported by Leedy and Ormrod (2013:191) who point out that a respondent can respond to questions with the assurance that their responses would not come back to haunt them. Moreover, with most of the items of the closed type, greater uniformity of stimulus and greater reliability can be achieved and because the questionnaire is anonymous it encourages great honesty and frankness (Cohen, Manion & Morrison, 2011:128).

A semi-structured questionnaire which was developed by the researcher was used for the purposes of obtaining quantitative data. Structured questions require respondents to choose from a limited number of responses that are predetermined by the researcher (Johnson & Christensen, 2008:176). They also require no significant amount of writing by the respondent and their analysis is straight forward Maree (2007:161). Data obtained from the administration of structured question is easier to analyse than from open questions. The objective in the use of structured questions was to lead the respondents to express agreement or disagreement with an explicit point of view.

A total of 120 questionnaires were issued to the teachers to complete and collected on the same day. The teachers were required to answer the questions without revealing their names. The questionnaire was designed to gather information on how to address disability barriers to learning, causative factors leading to disability barriers to learning as well as the strategies that teachers can use to assist learners experiencing disability barriers to learning as the dependent variables in this study. Independent variables included biographies and demographics with items such as gender, age, teaching experience and professional-cum-academic qualifications.

3.5.4 Pilot study

The questionnaire was pilot tested to determine its content validity before it was used for the main study. A questionnaire was designed and handed out to five (5) Foundation Phase teachers who were not participating in the pilot research. Two of the teachers were

teaching Grade 2, two were teaching Grade 1, while one was teaching Grade 3. This was to determine whether they had any difficulty understanding of the questions before questions were used in the main study. Those that were involved in the pilot study were not included in the final sample used in this study.

On dates agreed with the schools, the researcher went and distributed the questionnaires to all the foundation phase teachers as respondents for completion and collected the completed questionnaires from the respondents on the same day.

3.5.4.1 The contents of the Questionnaire.

Section A of the questionnaire consisted of biographical data: gender, age, qualifications and teaching experience.

Section B dealt with how disability barriers to learning are addressed.

Addressing disability barriers to learning:

- Adapting the learning environment
- Adapting the curriculum
- Adapting the teaching strategies
- Adapting assessment methods
- Promoting social acceptance with peers
- Using assistive device
- Using buddy system

Section C focused on the causative factors leading to barriers to learning

- Polices not properly implemented
- Negative attitude of teachers towards learners
- Lack of training in inclusive education

- Inflexibility of the curriculum
- Inadequate provision of support services to schools
- The learning environment that does not accommodate diversity
- Lack of collaboration to plan inclusion with paraprofessionals, and related services
- High pupil- teacher ratio

Section D was based on the strategies that teachers can use to assist learners experiencing disability barriers to learning.

- Multi-level teaching
- Scaffolding
- Adaptation
- Accommodation
- Modification
- Individual Educational Plan (IEP)

In the review of literature the above mentioned strategies are used by teachers to assist learners with disability barriers to learning, but after a pilot study the researcher expatiated these so as to allow the respondents to understand concepts. It was difficult for the respondents to understand terms like multilevel teaching, scaffolding, adaptation and accommodation. Section B on addressing disability barriers to learning and section C about the causative factors were not changed but only section D on the strategies was changed slightly after the pilot administration of the questionnaire.

The following changes were effected so that the respondents would understand the questionnaire better. To find out if teachers use multi-level teaching, teachers were asked if they use ability grouping and assistive devices. For scaffolding teachers were asked if extra time is given to the learners for completion of tasks. To find out if teachers use accommodation, adaptation and modification teachers were asked to respond to the

following questions: Do you modify the classroom environment? Teachers were asked whether or not they read assessment instructions for learners and if they made spelling concessions for learners with barriers as well as modifying the assessment performance of learners by allowing oral responses. Appendix D has the final questionnaire on strategies that teachers use to assist learners experiencing barriers to learning after pilot study.

3.5.5 Validity and reliability

Joppe (2000:1) provides the following explanation of what *validity* is in quantitative research; "validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are." If an instrument is designed to measure disability barriers to learning, for example, does it actually measure understanding and not opinions or beliefs? In other words, does the research instrument allow one to hit 'the bull's eye' of one's research object? Insofar as this definition of validity in quantitative research is concerned two issues are pertinent: Firstly, whether the means of measurement are accurate and secondly, whether they are actually measuring what they are intended to measure. There are various forms of validity, which include; face validity, content validity, construct validity, criterion-related validity (or predictive validity), factorial validity, concurrent validity, convergent validity and divergent (or discriminant validity) (Creswell, 2009:149). This study looks at the first two namely face and content validity.

Face validity is defined as the extent to which casual, subjective inspection of an instrument's items indicates that they cover the content that the instrument claims to measure (Maree 2007:217). According to Leedy and Ormrod (2013:92), face validity can be established simply by asking other individuals in the researcher's field of study or even those who are going to complete the test (population of interest) about the relevance of the items to the construct the researcher intends to measure. In this study, face validity of instruments was determined by the respondents to each instrument and a panel of experts working in the same university where the researcher was registered.

Content validity refers to the extent to which a test or instrument measures a representative sample of subject-matter content, for example the coverage of the content of a syllabus (Maree, 2007:217). In the case of determining disability barriers to learning, *content validity* addresses the question of whether the instrument's items actually capture (are relevant to) the constitutive tenets. These tenets can be learning environment, curriculum, teaching strategies, use of assistive devices among others. Content validity is usually established by consensus among content experts. A team of experts working in the same university where the researcher is registered and some teachers in schools were used for piloting content validated the instruments used in this study.

Joppe (2000:1) defines reliability as:

> ...the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.

Embodied in this citation is the idea of replicability or repeatability of results or observations. Reliability procedures are designed to find out whether the items in the test measure the same thing (Creswell, 2009:149). These are so-called internal consistency measures for assessing the inter-item consistency or homogeneity (items measure one trait or attribute) of Likert-type instruments such as the ones used in this study. The Cronbach alpha is widely used to assess such reliability. The questionnaire that was developed for this study demonstrated internal consistency, Cronbach Alpha coefficient was calculated and the coefficient average value of 0.80 was found. Maree (2007:216) observes that 0.80 indicates an acceptable reliability coefficient and this proves that the questionnaire used in this study as the main data collection tool was reliable.

3.5.6 Data analysis

Descriptive statistics, which is the data analysis technique that enables the researcher to meaningfully describe data, was used to describe the data (Leedy & Ormrod, 2013:270). Frequencies and percentages were calculated to represent data in tables, pie charts and graphs. Graphs and pies chart provide an overall image of description of units of analysis as a whole group.

From the graphs, tables and pie charts conclusions were drawn regarding how disability barriers being experienced by learners can be addressed, their causative factors as well as the strategies that teachers are using to assist these learners. For tables each item was analysed individually, for bar graphs each bar was analysed separately and for pie charts each sector was analysed.

3.5.7 Ethical consideration

Permission to administer the questionnaires was sought from Mafikeng Area office as well as the principals of the primary schools of Mafikeng before conducting the research. Appointment visits were made in advance so that the research activities did not interfere with teaching and learning in schools. The researcher explained the purpose of the study to the respondents before administering the questionnaire. Teachers were allowed to ask questions about the research before asking them to fill in the questionnaire to the best of their knowledge.

It was made clear beforehand that any of them who did not want to participate in the study should feel free to decline (Johnson & Christensen, 2008: 117). Questionnaires were completed anonymously to ensure a true reflection of the respondent's views and to meet the ethical criterion of confidentiality, thus ensuring content validity and reliability. The researcher assured the respondents that information collected was confidential and would be used for purposes of the study only (De Vos, Strydom, Fouche & Delport, 2005:61).

During the study the researcher strove to be honest, respectful and sympathetic towards the respondents who required debriefing after answering the questionnaire. The researcher provided and made the necessary referrals to a professional who could provide such services. The researcher also gave principals and teachers the undertaking that a copy of the entire study report would be made available to them upon completion of the project.

3.6 Conclusion

The research paradigm of this study was post positivistic world view which is linked to quantitative research approach. A survey was conducted and the questionnaire was employed as the instrument for collecting data. Statistical techniques like frequencies, percentages, tables, pie charts and histograms were employed to verify the perceptions of teachers about how disability barriers to learning can be addressed, the causative factors leading to disability barriers to learning as well as the strategies that teachers could use to help learners with disability barriers to learning in Foundation Phase.

CHAPTER 4

DATA PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presented and interpreted the data collected on addressing disability barriers to learning. The data was analysed quantitatively based on the information collected. The analyses and interpretation of data was based on ninety-four (n=94) questionnaires. Questionnaires were administered in all primary schools of Mafikeng Area Office. The questionnaire consisted of four sections. Section A consisted of the biographical particulars of the teachers, section B dealt with how disability barriers experienced by learners can be addressed. Section C focused on the causative factors leading to barriers to learning and section D was based on the strategies that are used by teachers to assist learners experiencing disability barriers to learning. The results were presented in tables, pie charts and graphs.

4.2 Objectives of the study

The objectives of the study were to:

- Establish how disability barriers to learning that are experienced by learners can be addressed.

- Determine the causative factors leading to disability barriers to learning.

- Suggest strategies that can be used to assist learners experiencing disability barriers to learning.

4.3 Response rate

Out of the 120 questionnaires distributed among the teachers, 94 were returned to the researcher.

Table 4.1: Teachers' response rate (n=120)

Number of questionnaires distributed	Number of questionnaires Returned	% of questionnaires returned
120	94	78%

The number of questionnaires received back is crucial since it enables the researcher to draw valid and reliable conclusions from the study. Table 4.1 indicates that 78% of the questionnaires sent out to teachers were received back. According to Anderson (1990:167) a minimum response rate of 70% is required to draw valid and reliable conclusions. In this instance therefore 78% return rate validates the conclusion.

4.4 Biographical information

The first section of the questionnaire gathered biographical information about the teachers participating in the study. It was necessary to determine whether the teacher's gender, age experience and qualifications were related to supporting learners who experience disability barriers to learning.

4.4.1 Gender of respondents

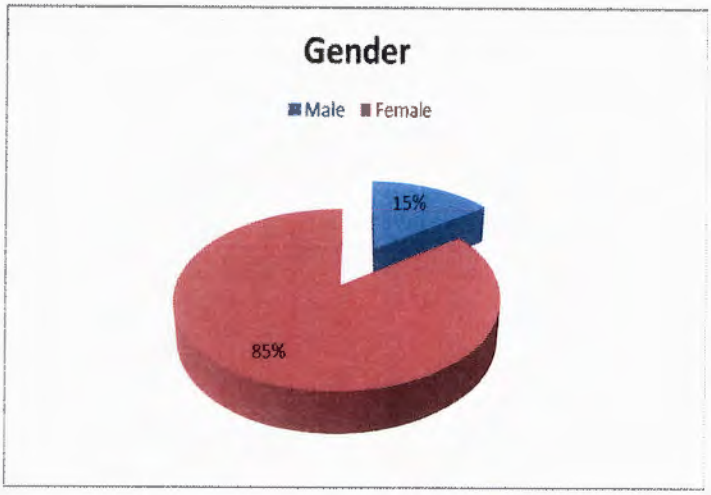

Figure 4.1: Gender of respondents

Fig 4:1 shows that most respondents 80 (85%) are female and 14 (15%) are male teachers which confirms the observation that the majority of Foundation Phase are female teachers. This is similar with the findings of Lessing and Witt (2010:23) who had a low percentage of male participants in their study because most of the participating teachers were teaching foundation phase. This confirms that teachers in the foundation phase are usually female. According to Brodin (1997:139) female teachers show more empathy with learners experiencing disability barriers to learning. Female teachers are suitable to handle children in the Foundation Phase.

The myth that female teachers were suitable for Foundation Phase has its origins in the initial training of teachers. The majority of male teachers were trained to teach at senior primary or secondary school. The acknowledged stereotype is that mothers have a better understanding of children at a lower level. Brodin (1997:139) further notes that a female teacher represents a motherly figure and is more acceptable to younger children in primary schools acting *in loco parentis*.

4.4.2 Age of respondents

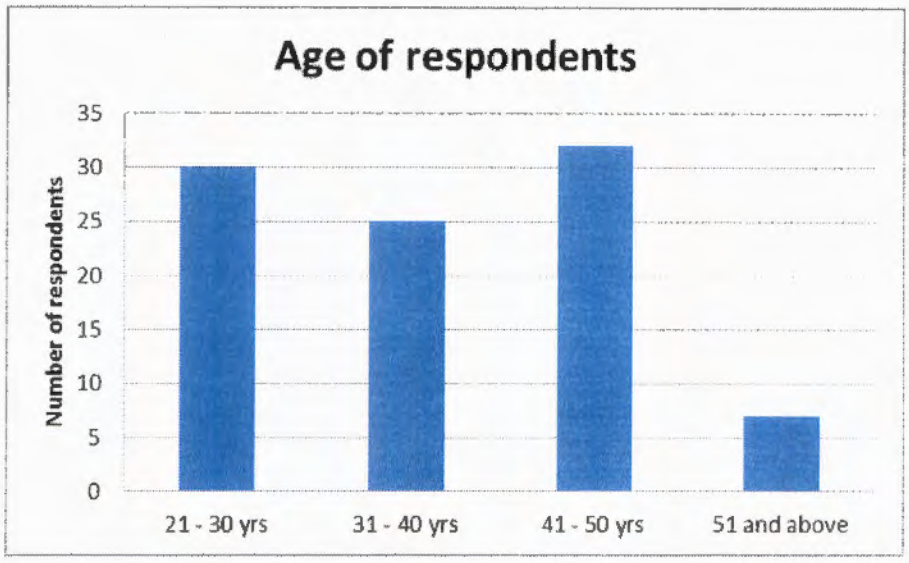

Figure 4.2: Frequency distribution according to the age of the respondents

According to Figure 4.2 the majority (32 out of 94) of the teachers are in the age group 41-50 years. This could be attributed to the fact that not many school leavers pursue a career in teaching due to perceived low status about teaching, low salaries, challenging working conditions and openings in other professions. Younger teachers are seeking better paying jobs elsewhere. Bornman and Rose (2010:247) reports that in 2005 there were 8 144 South African teachers in Britain the reason being that they were being paid much more than in South Africa.

4.4.3 Qualifications of respondents

From Figure 4.3, it is clear that the majority of the respondents possess professional qualifications. 25 (27%) of the teachers had a degree with education, 17 (18%) of the teachers had honours degree in education. 15 (16%) had a teacher diploma, 2 (2%) had a Master's degree in education. 31 (33%) had other qualifications such as musicology and an advanced certificate in educationmay be because they are teaching in primary schools.

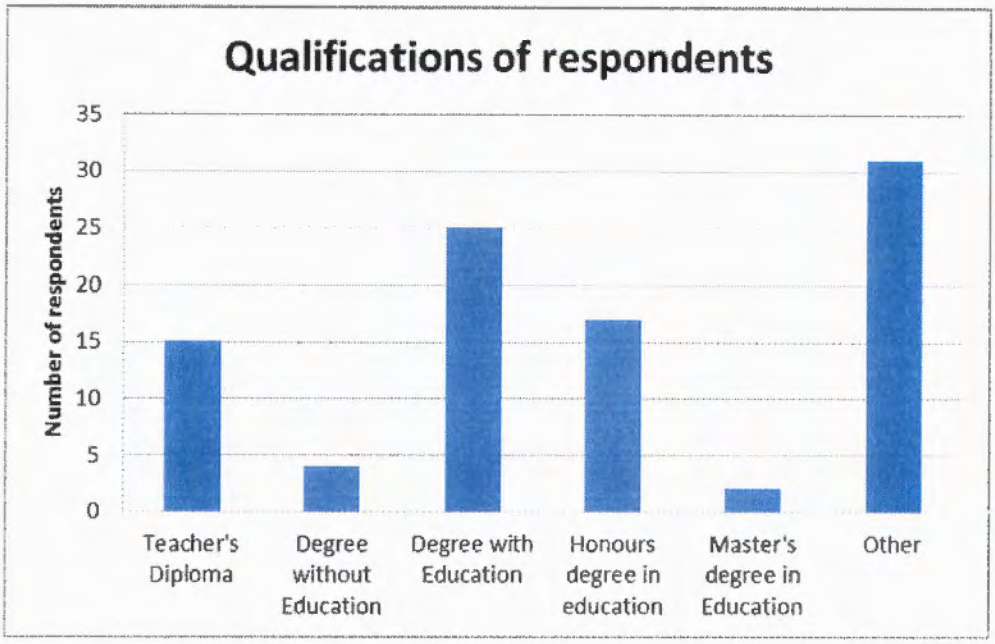

Figure 4.3: Qualifications of respondents

The contents and curricula of diplomas and certificates are more practical than theoretically oriented courses and are therefore more appropriate for teaching young primary school children (Griessel, Louw& Swart, 2005:71). Only 4 (4%) teachers had a degree without education.

Inadequate qualifications may result in inefficient execution of responsibilities by teachers, which may have a negative impact on addressing disability barriers to learning. According to Van der Westhuizen (1995:95), under qualified teachers may experience a greater degree of difficulty meeting the demands made on them as teachers. The opposite can be said of adequately qualified and experienced teachers. Lack of qualification and strong knowledge base is an extrinsic barrier to learning.

4.4.4 Teaching experience

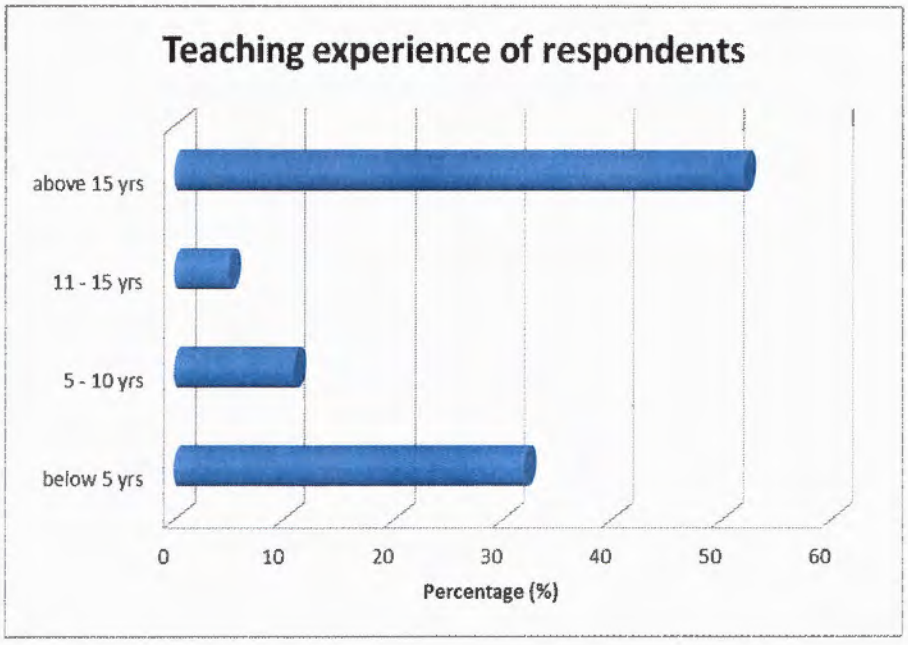

Figure 4.4: Teaching experience of respondents

Experience, together with the adequate training, is needed for the responsibilities and demands imposed on teachers in including learners who experience disability barriers to learning in the mainstream classrooms.

Figure 4.4 shows that 49 (52%) of the teachers have 15 years or more teaching experience. 5% (5) had 11 to 15 years teaching experience. 10 (11%) had 5 to 10 years teaching experience which add up to 64 (68%) of the respondents having a teaching experience above 5 years. 30 (32%) of the teachers are below 5 years of teaching experience. This shows that most teachers in this investigation are adequately experienced and possess sufficient skills to address disability barriers to learning. Over and above experience, teachers need the necessary training to empower them to meet the demands and responsibilities imposed on them in an inclusive classroom. The more experience and training teachers have the more confidence, motivational skills and expertise they have accrued over the years to become competent teachers, for example being able to adapt to curriculum changes easily (Ainscow, 2000:12).

Continuous professional development and experience are prerequisites for teachers to keep a pace with the rapid pace of change in education. The fact that the majority of the teachers have been teaching for many years, one would expect that most of them would be masters of the art and knowing with certainty how learners learn, and what factors affect children's learning. Due to their experience, some teachers had accumulated a wealth of knowledge regarding issues that hinder learner's academic performance and growth.

4.5 Addressing disability barriers to learning

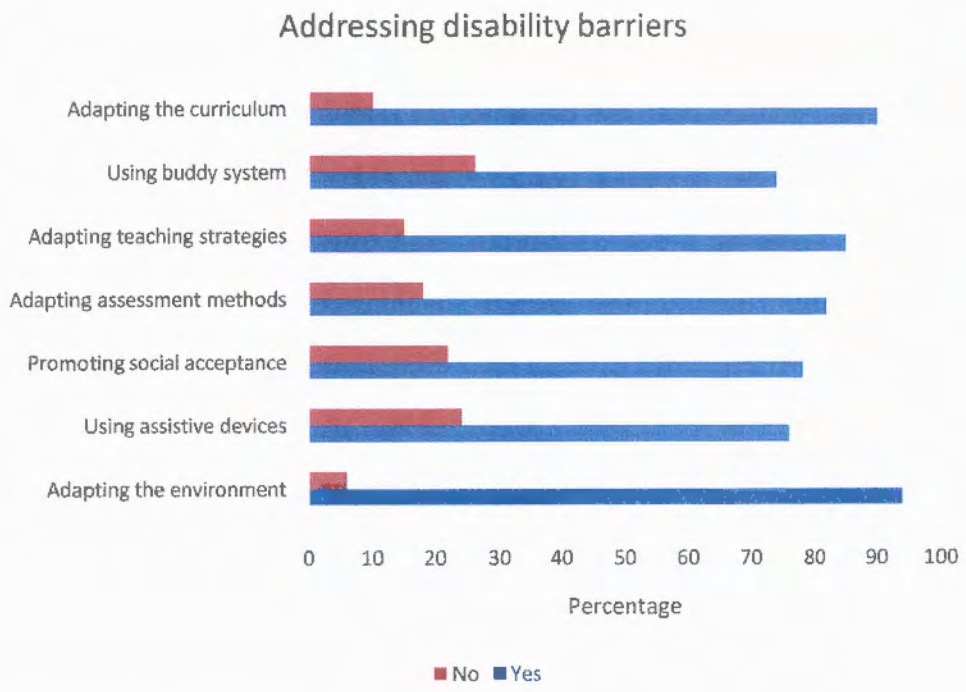

Figure 4.5: Addressing disability barriers

The graph in Figure 4.5 reflects how disability (physical and sensory), barriers to learning that are experienced by learners in Mafikeng Area Office can be addressed.

Most of the teachers (90%) indicated that adapting the curriculum is a way of addressing disability as a barrier to learning. As pointed earlier in the review of literature different aspects of the curriculum, according to the White Paper 6 (2001:9), include the content that is taught, the language or medium of instruction, how the classroom is organised and managed, the methods and processes used in teaching, the pace of teaching and time available to complete the curriculum and the learning materials and equipment that is used. It is the duty of the teacher as part of the microsystem to adapt the curriculum in order to meet the needs of learners experiencing disability as a barrier to learning.

The teacher can change, modify, or adapt the curriculum without sacrificing its basic integrity. Even a small change can be beneficial for a learner experiencing disability as a barrier. For example, using visual aids to supplement oral and written information benefits those with hearing problems. Allowing challenged learners to take assessments orally instead of writing the answer helps those experiencing visual disabilities.

Using buddy system was indicated by 74% of the respondents. A teacher can pair a learner experiencing visual disabilities with a buddy who leads or guides the learner, keeping the environment free from obstacles. A buddy can also read for a learner experiencing visual disabilities as well as writing key points discussed for learners experiencing hearing disabilities so that these learners can follow during group work and class discussion. The teacher can also appoint a buddy who pushes those experiencing physical disabilities who need to be pushed and those who need assistance to carry their bags as well as assist them to their point of transport before and after school. Learners experiencing hearing as a disability should sit near the teacher and have a buddy next them, by watching the buddy the learner will respond better to instruction. By doing this, teachers would be addressing the sensory disability which falls under personal factors on the bio-ecological theory of Bronfenbrenner.

Of the sampled teachers 85% indicated that adapting teaching strategies is a way of addressing disability barriers to learning. According to Hallahan and Kauffman (2006:369) teaching strategies have to be adopted according to the needs of learners experiencing disability. Learners experiencing visual disability as a barrier to learning need specific support in the classroom. Teachers should teach from the known to unknown. For

learners experiencing visual disabilities the teacher should make use of large print books and teaching material. Landsberg et al. (2011: 373) recommends that a font size of 18 is good for a start. It seems urgent for teachers to practise listening skills and memory retention drills because learners experiencing visual barriers depend on their memory. The teacher can read the text books material on a tape for a learner to listen. As many senses as possible should be harnessed. The teacher to make use of concrete objects and pictures to teach those experiencing hearing disabilities as well as sign language.

Adapting assessment methods was indicated by 82% of the teachers as a way of addressing disability as a barrier to learning. This concurs with the findings of Walton (2006:109) who pointed out that assessment is an important area where modifications may be made to minimise both physical and sensory disabilities. From the review of literature modifications can be made in a way the learner performs a task, for example reading a task to the learner with visual disabilities if there is no braille or use of sign language as well as allowing written assessment instead of oral for those with hearing disabilities or by providing additional time.

A large percentage (78%) also indicated that promoting social acceptance with peers is another way of addressing disability as a barrier to learning. The peer group as a microsystem should not discriminate, reject, label or stereotype those experiencing physical and sensory disabilities as a result of them being different or having lesser abilities. According to Bornman and Rose (2010:168), having positive relationships with peers is crucial for learners' social development and schools should encourage positive relationships between peers and they ought to create interaction and support opportunities for learners of diverse abilities in and outside the classroom. During Life Skills lessons teachers can teach learners to accept themselves, accept others, engage in social interaction and strive to cope with disability. This relates process factors according to the bio-ecological theory of Bronfenbrenner and in this way teachers will be addressing disability barriers to learning.

Learners experiencing disability as a barrier to learning may need to rely on assistive devices to facilitate access and participation in the mainstream classroom. 76% of the teachers who participated in the study indicated that using assistive devices is a way of

addressing barriers to learning. Male (2003:71) stresses that using assistive devices offers learners independence and the opportunity to enjoy maximum success. Learners experiencing sensory disabilities may benefit from using microphones and braille translators. Those experiencing physical disabilities can use wheelchairs, adapted computers and adjustable tables. Hearing aids as well as boards for pointing to and composing messages for those experiencing hearing disability would alleviate some of the challenges. According to Bronfenbrenner's bio-ecological theory, this relates to context and in this way teachers will be addressing disability as a barrier to learning.

Adapting the environment is noted as a way of addressing disability as a barrier by the highest number of teachers. An overwhelming percentage of 94% indicated that to address disability barriers to learning (e.g. physical, visual and hearing) there is need for adapting the learning environment. This finding agrees with the findings of the (DoE 2002:12) which states that to address disability as a barrier to learning, the school as a microsystem needs to modify or change the environment to meet different kinds of support that individual learners experiencing physical and sensory disability require. These include modified access to buildings such as ramps and adapted toilets. Brailed signage on door frames, passages and out buildings and enlarged print as well as best seating places need to be availed. Learners with visual and hearing disabilities should sit in front and those experiencing physical disabilities can sit at the front of the class, near or close the door since they need enough space to move their wheelchairs between desks as well as storing their crutches.

It is clear from the results that it is the duty of the teacher and the school as microsystems to adapt the curriculum, teaching strategies, assessments methods, the environment, making use of assistive devices and using buddy system as well as promoting social acceptance in order to accommodate disability as a barrier to learning.

4.6 Causative factors leading to disability barriers to learning

Table 4.2: Causative factors of disability barriers to learning

Factor	Frequency	%	Frequency	%	Frequency	%
Polices not properly implemented	53	56.4%	23	24.5%	18	19.1%
Negative attitude towards learners	45	47.9%	24	25.5%	25	26.6%
Lack of training in inclusive education	60	63.8%	17	18.1%	17	18.1%
Inflexibility of the curriculum	55	58.5%	22	23.4%	17	18.1%
Inadequate provision of support services to schools	58	61.7%	21	22.3%	15	16.0%
The learning environment that does not Accommodate diversity.	57	60.6%	22	23.4%	15	16.0%
Lack of collaboration to plan inclusion with Paraprofessionals and related services	55	58.5%	26	27.7%	13	13.8%
High pupil-teacher ratio	65	69.2%	21	22.3%	8	8.5%

Out of the 94 respondents 53 (56.4%) agreed that policies that are not properly implemented cause disability barriers to learning, 23 (24.5%) were unsure and 18 (19.1%) disagreed. Geldenhuys and Wevers (2013:15) note that the CAPS are structured in such a way that they do not support the requirements of the White Paper 6, which promotes curriculum and assessment differentiation. In other words, there is no provision for learners experiencing disability barriers to learning as long as the perceived

discrepancies between the EWP6 and CAPS continue to exist. Teachers will remain confused on how to address disability barriers to learning in primary schools.

Negative attitude towards learners was indicated by 45 (47.9%) respondents as a cause of disability barriers to learning, 24 (25.5%) were unsure and 25 (26.6%) disagreed. This shows that some teachers have negative attitude towards learners with disability barriers to learning but some do not experience negative feelings towards these because of inclusion policies.

In a study carried out by Mpofu, (2003) and another one by Mpofu, Kasayira, Mhaka, Chireshe & Maunganidze (2007) about teacher's attitude towards learners with disability as a barrier in the mainstream schools findings reported negative attitudes of teachers toward including learners experiencing disability as a barrier to learning in their classroom. As mentioned in the review of literature, peers or teachers should not reject or label those experiencing disability barriers to learning because of being different and perceived as having lesser abilities. Teachers should use learners to help one another by means of group types, peer assisted learning and buddy system. This ensures that learners feel included and supported within the classroom by both the peers and the rest of the learners.

Lack of training in inclusive education as a causative factor that leads to disability barriers to learning was identified by 60 (63.8%). 17 9(18.1%) were unsure and 17 (18.1%) disagreed. The training of teachers was informed by old apartheid education system that produced teachers who had limited knowledge and skills to adapt and adjust to new transformative challenges. This result agrees with the findings of Ainscow (2000:77), Burden (2000:37) and Hall (2002:36) who confirm the need for teacher training for Inclusive Education in order to address barriers to learning. Teachers need to be adequately trained to correctly identify learners experiencing disability barriers to learning and to implement necessary teaching strategies to assist learners experiencing disability barriers to learning.

Of the 94 respondents, 55 (58.5%) also agreed that inflexibility of the curriculum is one of the factors that causes disability barriers to learning, 22 (23.4%) were not sure and 17

(18.1%) disagreed. This implies that the learners experiencing disability barriers to learning must be exposed to a differentiated curriculum and an education system which will enable them to progress at their own rate and at their own levels while still placed in mainstream classes. The curriculum will have to be adapted to suit the learners rather than learners to fit in to the curriculum.

Inadequate provision of support services to school such as resources and in-service training was agreed as one of the factors that leads to disability barriers to learning. 58 (61.7%) agreed, 21 (22.3%) were unsure and 15 (16%) disagreed. This shows that there is inadequate provision of support services to address disability barriers to learning that are being experienced by learners. This explains the reason why Vosloo (2009) recommended that teacher support with resources and training was necessary in keeping teachers motivated and informed in order to address disability barriers that are experienced by learners. In a research conducted by Pather (2011:1106) found out that there is no safe and inviting school environment and limited human resources in the form of specialists such as psychologists, therapists and remedial teachers is also a barrier. Given the large classes averaging teacher-pupil ratios of 33:1 (DoE, 2006) limited support services as well as resources, teachers need knowledge of how they can assist learners experiencing disability barriers to learning.

The learning environment that does not accommodate diversity as a causative factor of disability barrier to learning was agreed by 57 (60.6%). 22 (23.4%) were not sure and 15 (16%) disagreed. This view collaborates with that of (Stofile & Green, 2007) who also pointed lack of supportive learning environment at mainstream schools as a contributing factor in addressing disability barriers to learning. A case study by Pillay and Terlizzi (2009:8) of a learner's transition from mainstream schooling to a school for learners with special educational needs (LSEN) suggest that the mainstream school environment did not provide valuable and necessary resources to meet the learner's psychological, social and academic needs.

Lack of collaboration to plan inclusion with paraprofessionals and related services was agreed by 58.5% (55) of the respondents to be a causative factor of disability barriers to learning. 26 (27.7%) were not sure and 13 (13.8%) disagree. According to Mukhopadhyay

et al. (2012:7) collaboration between mainstream teachers and special education teachers is essential in developing a work environment that addresses disability barriers to learning. Mainstream teachers should collaborate as much as possible with the teachers in special schools now known as resource centres in developing IEPs, in team-teaching in regular classroom, and in providing assistance to each other regarding learners experiencing physical and sensory barriers.

Furthermore, (Donald, Lazarus & Lolwana, 2002:19) note that a whole school approach is necessary to address disability barriers to learning, the teacher, the school management team and other professionals such as therapist, psychologists and parents should collaborate in assisting learners experiencing physical, sensory, and emotional as well as behaviour barriers.

High pupil-teacher ratio is one of the factors that causes disability barriers to learning and 65 (69.2%) respondents attested to that. 21 (22.3%) were not sure and only 8 (8.5%) disagree. As mentioned in the literature review the teacher-pupil ratio is too high in Government schools unlike in private schools where the DoE (2006:4) mentions that private schools are known for their low teacher-pupil ratio of 1:16. This researcher strongly believes that the reason for small classes is effective support for teachers who teach learners who experience disability barriers to learning.

Large numbers in the classrooms make it difficult for teachers to give each learner experiencing disability barriers to learning individual attention. Large class sizes diminish the adaptation of learning material, use of differentiated instruction and peer-assisted learning (Oswald & Marie de Villiers, 2013; Mukhopadhyay et al., 2012). This finding is affirmed by the findings in Lesotho that revealed that large class sizes tend to take a toll on the social and intellectual growth of learners with and without disabilities.

4.7 Strategies for assisting learners with disability barriers to learning

Table 4.3: Strategies for assisting learners with disability barriers to learning

	Never		**Often**		**Always**	
Factor	Frequency	%	Frequency	%	Frequency	%
Extra time is given to the learners for completion of tasks	11	11.7%	37	39.4%	46	48.9%
Modifying the classroom environment	8	8.5%	30	31.9%	56	59.6%
When marking, spellings concessions are made for learners by allowing oral responses	17	18.1%	37	39.4%	40	42.5%
Modifying the assessments performance of learners by allowing oral responses	24	25.6%	32	34.0%	38	40.4%
Reading assessments to the learners	15	16.0%	31	33.0%	48	51.0%
Ability grouping	2	2.1%	49	52.1%	43	45.8%
Role play	18	19.2%	49	52.1%	27	28.7%
Assistive devices	66	70.2%	15	16.0%	13	13.8%
Individualised Educational Programmes are formulated for learners with barriers	49	52.1%	26	27.7%	19	20.2%

Table 4.3 indicates the extent to which various strategies that address barriers to learning are used by teachers in their classrooms.

Out of 94 teachers 46 (48.9%) indicated that they always give extra time to learners for completion of task. 39.4% (37) often give extra time and only 11 (11.7%) teachers never give extra time. By allowing extra time to learners to complete class work, teachers will be using scaffolding (Donald et al., 2010:81). At the same time by allowing extra time to learners to complete test or examinations teachers will be using accommodation, and adaptation and this, according to Walton et al. (2009:109), will reduce test anxiety. The National Department of Education (2002:1-13) as well as the National curriculum 2005 Assessment guidelines for inclusion recommends that learners experiencing disability barriers to learning be given additional time, up to a maximum of 30 minutes for every hour necessary.

Regarding classroom modification, 56 (59.6%) teachers indicated that they always modify the classroom environment, 30 (31.9%) often and 8 (8.5%) never. This result shows that teachers are modifying their classroom environments to accommodate learners who experience disability barriers to learning.

In this study, 40 (42.5%) teachers indicated that when marking spelling concessions are always made for learners who experience disability barriers to learning. 37 (39.4%) often make spelling concessions and 17 (18.1%) never make spelling concessions when making for learner experiencing disability barriers to learning. Bradley and Calvin (1998:27) advocate that in grading or marking learner performance, learners who experience physical and sensory barriers to learning would not be penalised on criteria such as spelling and handwriting.

Furthermore, 38 (40.4%) teachers indicated that they modify the assessments performance by allowing oral responses. 32 (34%) teachers indicated that they often modify the assessment performance of learners by oral response and 24 (25.6%) teachers never modify the assessments performance. According to Walton et al. (2009:109) assessment is a significant area where modification can be made to reduce the impact of any disability barriers to learning. Teachers can modify assessments by

reading the task to the learners, or allowing oral response in place of the move cumbersome writing.

As shown on Table 4.3, 48 (51.1%) teachers indicated that they read assessments to the learners and 31 (33%) often read assessments to learners who struggle to read but 15 (16%) teachers indicate that they never read assessments to those learners who struggle.

On the other hand, 43 (45.8%) of the respondents indicated that they use group work as strategy to assist learners experiencing disability barriers to learning. 49 (52.1%) teachers often use and only 2 (2.1%) of the respondents indicated that they do not make use of group work. When learners are helped to engage in meaningful discussions among themselves in groups work, it motivates and enhances meaningful learning, social and personal development of those experiencing disability barriers to learning.

Interestingly, 30 (28.7%) use role play, 49 (52.1%) often use role play and 18 (19.2%) never use role play as a strategy to assist learners who experience disability barriers to learning.

Assistive devices, according to Male (2003:71), offer learners independence and opportunity to enjoy maximum success. Only 13 (13.8%) of the teachers who participated in this study make use of assistive devices, 15 (16%) often use them and 66 (70.2%) never use assistive devices. This may be because of low numbers of learners who experience sensory barriers in the schools that participated in this study.

Only 19 (20.2%) of the respondents indicated that they always formulate Individualised Educational Plans (IEPs) for learners experiencing barriers to learning.26 (27.7%) often use IEPs and 46 (52.1%) (4 never formulate IEPS for their learners experiencing disability barriers to learning. IEPs are thus sometimes used in schools, although the use of IEPs is well documented in literature. This result indicates that the majority of learners who struggle or who experience disability barriers to learning are taught using the same curriculum as the rest of their peers and that these learners' needs are not taken into consideration when planning their educational programmes. This shows that some teachers are still using the traditional education approach where the curriculum is placed in a rigid frame.

4.8 Conclusion

In this chapter, an attempt has been made to give some picture of information provided by the teachers in their answers to the questionnaire. Data collected from teachers on addressing disability barriers to learning were organised into frequency distribution tables and graphs. The responses to the questionnaire were analysed and findings discussed. The last chapter of this study is a summary of findings, recommendations and conclusion.

CHAPTER 5

DISCUSSION OF THE FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter focuses on the discussion of the findings based on the information provided by the respondents and data analysis. Conclusion is reached and recommendations of the research and suggestions for further study are made.

5.2 Summary of findings

5.2.1 Objective 1: To establish how disability barriers experienced by learners can be addressed

Responses from the respondents reveal that in order to address disability as a barrier to learning there is need to adapt the learning environment. Schools as microsystems need to adapt the classroom and other facilities to allow access by learners with disabilities. The majority of South African schools are physically inaccessible to those who use wheelchairs and adaptive devices. Adapting the curriculum, teaching strategies and assessments were indicated by the respondents in the study as ways of addressing disability barriers learning. Promoting peer acceptance as well as the use of assistive devices and buddy system were also indicated by the teachers in the study as key in addressing disability as a barrier to learning. The teacher as the microsystem is responsible for making all these educational adaptations in a bid to accommodate learners experiencing disability as a barrier to learning.

5.2.2 Objective 2: To determine the causative factors leading to disability barriers to learning

The researcher found out that disability barriers to learning are imposed by contextual factors that are systemic influences embedded within the learner, the school or the education system. Most educators agreed that high pupil-teacher ratio, lack of training in inclusive education, inadequate provision of support services and resources to schools all suggest that the learning environment that does not accommodate diversity. There is evidence of lack of collaboration to plan inclusion with paraprofessionals and related services, inflexibility of the curriculum as well as polices that are not properly implemented and essentially are the causative factors leading to disability barriers to learning.

According to Pillay and Terlizzi (2009:493) collaboration is important when a learner experiencing disability is placed in a regular class. Teachers need time to prepare; they need to have an Individual Education Plan (IEP) and they need to pass the plan to the next teacher at the beginning of the next school year. The results show that there is too little collaboration between special teachers, regular teachers and parents. Respondents also indicated that large class sizes is another obstacle when addressing disability barriers to learning and this implies that including learners experiencing disability barriers into learning in regular classrooms creates even more barriers for teachers. These findings corroborate with the findings of (Oswald & Marie de Villiers, 2013:12) whose findings reflect that major obstacles in addressing disability barriers to learning arise from limited time, large class sizes as well as lack of resources. These results thus reveal the need for reduced class sizes, more material and human resources as well as sufficient time for teachers to collaborate.

Most teachers (75 out of 94) indicated that they lack training in special education and this causes a barrier to learning to those learners with hearing and visual disability. Similarly, Oswald & Marie de Villiers (2013:12) pointed out that most learners with visual and hearing disability placed in ordinary schools in South Africa did not have adequate human and material support. In addition Nel (2007:1) reported that the non-acceptance of learners experiencing disability barrier to learning in mainstream schools by teachers is

mostly due to lack of training and resources to equip teachers in handling learners experiencing disability barriers to learning.

Training in special education needs in order to address barriers to learning is therefore important for teachers to address disability barriers to learning. Policy makers should ensure that training is offered and made available to all teachers. Curriculum for all training institutions should include teaching methodologies to different curriculum in order to address disability barriers to learning.

5.2.3 Objective 3: To suggest strategies that teachers can use to assist learners experiencing disability barriers to learning

Based on the empirical results presented in chapter 4, the strategies that teachers can use to assist learners who experience disability barriers to learning were identified. As indicated in table 4.2, modifying the classroom environment, such as seating arrangement and lighting were indicated by 56 (59.6%) teachers as the strategies that they always use to cater for learners with visual and hearing disabilities. The fact that they use it always shows that it is effective.

Reading assessments to the learners was the second best strategy with 48 (51.1%) teachers indicating that they use it always. Giving extra time to the learners for completion of task was also considered one of the best strategies with 46 (48%) of the respondents indicating that they use it always to help learners experiencing disability barriers to learning. In instances where learners cannot write down their responses, oral and pictorial responses are accepted by the teachers. This finding concurs with the findings of Weeks and Erradu (2013:11) who carried an investigation of how Foundation phase learners who are intellectually impaired can be supported by teachers.

Ability grouping is always used by 43 (45.8%) teachers sampled in this study and 40 (42.5%) indicated that spelling concessions are made for learners experiencing disability barriers to learning.

This shows that teachers are using multi-level teaching by using ability grouping to divide learners in a classroom into groups according to their abilities then design teaching and learning activities according to different groups. Teachers also use scaffolding by allowing extra time for completion of tasks.

Modifying assessment performance of learners by allowing oral response is used to varying extents. The use of assistive devices and the formulation of Individualised Educational Programmes were the least indicated strategies that are being used by teachers to assist learners with disabilities. IEPs are never used by many teachers: forty nine of the respondents 46 (52.1%) indicated that they never use IEPs, although the use of IEPs is well documented in literature. Given the relatively low numbers of learners experiencing visual, hearing and physical disabilities, it is to be expected that assistive devices are never used by 66 (70.2%) of the respondents. This might be an indication that mainstream classes in Mafikeng Area Office do not have many learners with visual and hearing disabilities but they are found in full service schools and resource centres.

5.3 Limitations of the study

The study was conducted in Mafikeng Area Office only and none of other Area offices are included in this study. This could have impact on the external validity of the results. Much more comprehensive result could be drawn had this reflected the two offices in Mafikeng Area Office. A further limitation is that lived experiences and deeply held beliefs or feelings cannot truly be determined through quantitative survey questions, in which the set of numbers are expressed on predetermined language, formulated by the researcher (Henning, Gravett & Rensburg, 2005:34).

Thus the instrument used a closed structured questionnaire, may not have included all possible ways of how disability barriers to learning can be addressed and the causative factors leading to disability barriers to learning. Mental disability which is an important barrier to learning has been excluded in the study. These results should be regarded as tentative and only indicative of trends. However not withstanding these limitations, this study identified important areas that can contribute to address disability barriers to learning in Mafikeng Area Office.

5.4 Implications of findings

To address disability barriers to learning many factors operate at the micro, meso and micro levels of education system (i.e., the school level system, the classroom, and the individual learner) and are closely nested around learners experiencing physical and sensory disabilities. Therefore active involvement of all stakeholders and positive interaction between multiple systems is important to address disability barriers to learning.

Collaboration between general education teachers and specialists is essential, yet Friend and Cook (2010:123) reported a general lack of collaborative and trusting relationships between teachers, parents and professionals for addressing disability barriers to learning being experienced by learners. According to Pillay and Terlizzi (2009:493), barriers to collaboration include lack of time, limited shared resources, and difficulties with class loads or sizes. The researcher is of the opinion that if collaboration is necessary, ways must be found to support teachers and related service providers so that they can work together meaningfully. In other words at mesosystem level schools should find ways to provide the time and resources needed to allow collaboration as they work to address disability barriers to learning being experienced by learners. Principals as the leaders of the school management team have to provide good management styles, skills to manage the school resources and finances, the school premises, the human resources, the supply of resources and the admission of learners experiencing barriers to learning especially physical and sensory disabilities. School principals should arrange teaching schedules, reduce class sizes, provide in-service training as well as make appropriate use of specially trained teachers.

If all systems work together all learners even those experiencing disability barriers to learning will reach their full potential. The microsystem is important for the support of learner experiencing disability barriers to learning. In a research carried out by Pather (1996) cited in Pather (2011:1107) an 11 year old learner who was experiencing a hearing disability was successfully included in the local mainstream primary school in Durban because of the support from her parents, siblings, the school and her peers. At school her principal had an attitude of welcoming any child into the school believing in their

capabilities, which contributed significantly to an open and welcoming ethos and support from teachers.

Schools have a responsibility to promote effective learning by a conducive and supportive learning environment within which learners feel appreciated, curriculum and teaching strategies complement learners who experience disability barriers to learning and teachers understanding the uniqueness of every learner experiencing disability barriers.

To address disability barriers to learning teachers must be trained to accommodate and support learners experiencing disability barriers to learning in their classrooms by changing their teaching strategies and creating an environment that is conducive for all learners in the classroom.

5.5 Recommendations

This study suggests a set of recommendations to ensure that learners experiencing disability barrier to learning can be addressed in Foundation Phase mainstream primary schools of Mafikeng Area Office.

- Teachers should be trained on how to address disability barriers to learning. In-service training in Inclusive education should be arranged for teachers, staff and school administration to help them on addressing disability barriers to learning. This training can be provided through collaboration between District Support Based Teams (DSBT), parents, healthy practitioners such as psychologists and therapists, and could take on the form of pamphlets and workshops. Higher education institutions should look into the possibility of accredited certificate courses for in-service training.

- Teachers need time to prepare and plan collaboratively and need to be assured of a reasonable work load and class size that enables them to meet the needs of all

the learners in their classes. I recommend that teachers can form groups in which they help each other in planning and how to assist learners experiencing disability barriers to learning. Teachers from special schools, who are experts in dealing with aspects of barriers and development, can in future assist in training mainstream teachers to plan and provide support to learners experiencing disability barriers to learning in their classroom.

- The government must build more classrooms or schools to reduce teacher people ratio or introduce hot sitting where the school will have two sessions, other learners attending in the morning and the other session attending in the afternoon.

- Incentives should be offered to administration and teachers for showing positive attitude towards inclusion and assisting of learners experiencing disability barriers to learning in the mainstream schools. The incentives can be in the form of monetary reward and acknowledgement or a gift.

- In a classroom consisting of learners with diverse learning needs, teachers can employ differentiation as a strategies that enhance learning for all learners, as well as providing specific support to those who experience disability barriers to learning.

- The researcher urges all teachers to consider and attend to various aspects of differentiation before limiting or otherwise modifying the curricular content for learners experiencing barriers to learning.

- Assessment polices should be developed to allow learners to be assessed according to their needs and abilities. Currently all learners are subjected to uniform assessment standards and modes of assessment to the detriment of learners who experience disability barriers to learning.

5.6 Recommendations for further research

- This study was limited to one Area Office of the North-West province; it would thus be advisable that further research in this field should include a larger sample of schools, teachers and learners thereby covering a bigger area of North-West province.

- Further research should be done regarding the training required to assist teachers with dealing with various barriers to learning and development. The focal point of White paper 6 is based on the notion that all teachers will have knowledge and skills to identify and support learners experiencing barriers to learning in any given context. This compels the higher educational institutions to revisit their teacher training strategies with pre-service as well as in-service training. The researcher would recommend that the North-West University introduce a Diploma or degree in Specialised Education, specialising in different barriers to learning including sign language and braille. This would enable teachers who have no qualification in special-needs education to retrain and become professionally qualified in addressing disability barriers to learning that are being experienced by learners in mainstream schools.

- Every educator who graduate as a professional must be able to recognise barriers to learning. Teachers should be skilled in the use of sign language and braille for communicating to learners experiencing hearing and visual disability. Only if the above mentioned recommendations are acted upon will disability barriers to learning experienced by Foundation Phase learners can be addressed.

5.7 Conclusion

This study was conducted with the aim of addressing disability barriers to learning. In the past two decades, South Africa has introduced inclusive education. Learners experiencing barriers to learning are now being educated within the mainstream school and this has impacted on teachers' methods of teaching. This study investigated Foundation Phase teachers in government schools on how physical and sensory barriers to learning that learners encounter in their classrooms can be addressed, their causes and the strategies that teachers can use to assist the learners experiencing these barriers to learning. The study gives a brief overview of how to address barriers to learning particularly in mainstream schools. The study should be seen as an introductory study and not as exhaustive and should therefore be regarded as the beginning of the journey to address disability barriers that are experienced by learners in their inclusive classrooms.

The majority of the teachers in this study is female and has been teaching for many years, ranging from five to over fifteen years. This reveals that the majority of the teaching corps in the Foundation Phase consists of female teachers. Most of the respondents 85 out of 94 in the study were female. Possible reasons were that female teachers show more empathy with Foundation Phase learners and with learners who experience disability barriers to learning. Learners with physical and sensory disability as a barrier to learning need to be shown love and patience. Female teachers are patient and understand the behaviour of young children better than male teachers.

The results of this study indicated that to address disability barriers to learning there is need for classroom support which includes adapting the learning environment (where to teach), adapting the curriculum (what to teach), adapting the teaching strategies (what skills to teach) and employment of appropriate communication. The teaching and learning environment should be adapted and managed according to the needs of the learner

experiencing disability barriers to learning. Most of the teachers who participated in the study agreed that in order to address disability as a barrier to learning that are being experienced by learners. There is need to adapt the learning environment, curriculum, teaching strategies as well as promoting peer acceptance. Using assistive devices as well as buddy system was also indicated as key to address disability as a barrier to learning.

Teachers also need to be aware of the root cause of disability barriers to learning and need to use differentiation approach to help learners experiencing barriers to learning. When teachers effectively differentiate instruction constantly assessing learners understanding, teaching responsively, and enabling learners to demonstrate competence in varied, meaningful ways learners experiencing disability barriers to learning can participate successfully as full members of the heterogeneous inclusive classroom. Indeed, effectively differentiating instruction in heterogeneous classrooms is a powerful tool that enables teachers to create inclusive schools and classrooms within which all children can be valued equally, treated with respect and provided with real opportunities at school.

Overall, the results indicate that, to address disability barriers to learning it is apparent that the learner's ecological system has to be considered. There is need for changes in the microsystem level, the knowledge of the teacher in addressing disability barriers to learning. Mesosystems that is the learner's relationship with the teacher and the peers as well as parental involvement, availability of both human and financial resources at exosystem and at macrosystems level, the government has to create a conducive environment to accommodate learners experiencing disability barriers to learning by adapting the curriculum and implementing educational policies to accommodate all learners including those experiencing disability barriers to learning. It may be concluded that the objectives of this research have been attained.

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APPENDIX A

NORTH-WEST UNIVERSITY
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The District Official
Mafikeng Area Office

Date 13 July 2014

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

This is to confirm that Ms E. Gororo (Student Number 23933070) is an MEd(Psy) student registered at the North West University, Mafikeng Campus. One of the student's assignments is a research project. The topic of this project is Addressing barriers to learning in Primary Schools of Mafikeng Area Office.

Permission is requested to enter Primary Schools of Mafikeng to collect data from the teacher(s) and principal(s). Data collection will be by way of questionnaire.

Collection of data will occur outside school contact time so it is not going to interfere with teaching and assessment processes or office duties.

Participants will participate voluntarily in the data collection. The identity of the participants,the school and district will be kept anonymous. The information collected therefore cannot and will not be used to evaluate the District/school in terms of its performance in comparison with others, because the information collected will not be about academic results or teachers' teaching performance in specific schools.

Should you enquire more information about the project, kindly contact the supervisor for this project: Dr Loate 082020389.

Herewith permission is requested to perform this research in your District. It would be appreciated if you would kindly grant permission to this student. Any assistance given to the student to perform the research will be appreciated.

Yours sincerely

P du Toit

Prof P du Toit

Director: School for Education Leadership Development

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APPENDIX B

Education and Sport Development
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NGAKA MODIRI MOLEMA DISTRICT

Enquries : Kokong NM
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Date 21 August 2014

TO WHOM IT MAY CONCERN

Permission is herewith granted to **Ms E. Gororo, (student No: 23933070)** to conducted research at Primary schools in the North West Province.

- ***The Role of educators in managing learner discipline in school.***

Disturbing lessons and teaching time must be totally avoided. A copy of the research finding should be made available to the Area Office and the schools that you will be attending to.

Wishing you well in your study

Mr NM Kokong
Area Manager

APPENDIX C

NORTH-WEST UNIVERSITY
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2 November 2015

TO WHOM IT MAY CONCERN

CERTIFICATE OF EDITING

I, **Muchativugwa Liberty Hove**, confirm and certify that I have read and edited the entire dissertation **"ADDRESSING BARRIERS TO LEARNING IN FOUNDATION PHASE LEARNERS IN MAFIKENG AREA OFFICE, NORTH WEST PROVINCE"**

by Evernice Gororo, student number 23933070

who is a registered Master of Education student in Educational Psychology, in the School of Educational Leadership, North-West University, Mafikeng Campus.

Evernice Gororo was supervised by Dr. I.M. Loate.

I hold a PhD in English Language and Literature in English and am qualified to edit academic work of such nature for cohesion and coherence.

The views and research procedures detailed and expressed in the thesis remain those of the authors.

Yours sincerely

Dr M.L.Hove

Original details: Dr M L Hove(22055215) C:\Users\22055215\Desktop\CERTIFICATE OF EDITING.docm
7 November 2015

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APPENDIX D

Questionnaire for teachers

The purpose of the questionnaire is to obtain information on learners with barriers to learning. All information provided will be confidential.

Kindly read the questionnaire very carefully and then answer by writing in the spaces provided or by placing a tick in the appropriate box.

Section A: Biographical information

1. Gender

☐ Male ☐ Female

2. Age

1	21 - 30 years
2	31 -40 years
3	41 – 50 years
4	51 and above

3. Qualifications

☐ Teacher's diploma ☐ Degree without Education

☐ Degree with education ☐ Honours degree in education

☐ Master's degree in education ☐ Other.....

4. Teaching experience

☐ Below 5 years ☐ 5 years – 10 years

☐ 11 – 15 years ☐ above 15 years

Section B: Learning barriers

5. Addressing barriers to learning

Indicate whether the following ways can address disability (physical and sensory) barriers to learning encountered by learners			
5.1	**Ways of addressing barriers to learning**	Yes	No
5.1.1	Adapting the learning environment		
5.1.2	Adapting the curriculum		
5.1.3	Adapting the teaching strategies		
5.1.4	Adapting assessment methods		
5.1.5	Promoting social acceptance with peers		
5.1.6	Using assistive devices		
5.1.7	Using Buddy system		

Section C: Factors that contribute to barriers to learning

Do you agree that the following are some of the causative factors that lead to barriers to learning?			
6. Factors	Agree	Unsure	Disagree
6.1 Polices not properly implemented			
6.2 Negative attitude of teachers			
6.3 Lack of training in inclusive education			
6.4 Inflexibility of the curriculum			
6.5 Inadequate provision of support services to schools e.g. resources and in-service training			
6.6 The learning environment that does not Accommodate diversity.			
6.7 Lack of collaboration to plan inclusion with mainstream teachers, special teachers, paraprofessionals, and related services.			
6.8 High pupil-teacher ratio			

Section D: Strategies for assisting learners with barriers to learning

How frequent do you use the following strategies in assisting learners with barriers to learning?			
7 **Strategies**	Never	Often	Always
7.1 Extra time is given to the learners for completion of task.			
7.2 Modifying the classroom environment, e.g. seating arrangement, lightning etc.			
7.3 When marking spelling concessions are made for learners with barriers to learning.			
7.4 Modifying the assessments performance of learners by allowing oral response.			
7.5 Reading assessments to the learners			
7.6 Ability grouping			
7.7 Role play			
7.8 Assistive devices (e.g. microphones, braille, translators, computers)			
7.9 Individualized Educational Programs are formulated for learners with barriers.			

APPENDIX E

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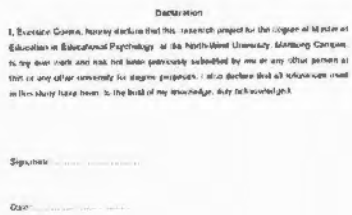

Declaration

I, Everisto Gororo, hereby declare that this research project for the Degree of Master of Education in Educational Psychology at the North-West University, Mafikeng Campus, is my own work and has not been previously submitted by me or any other person at this or any other university for degree purposes. I also declare that all references used in this study have been, to the best of my knowledge, duly acknowledged.

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Date .....

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