

**A RESPONSIVE CURRICULUM ADAPTATION FOR FOUNDATION
PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN A
DISADVANTAGED VILLAGE IN MPUMALANGA PROVINCE**

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PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN A
DISADVANTAGED VILLAGE IN MPUMALANGA PROVINCE**

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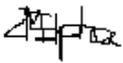
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NOVEMBER 2013

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DECLARATION

I declare that ***A responsive curriculum adaptation for Foundation Phase learners with a mild intellectual disability in a disadvantaged village in Mpumalanga Province*** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.



Ms Z Msipha

Date: 30/11/2013

ABSTRACT**A RESPONSIVE CURRICULUM ADAPTATION FOR FOUNDATION PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN A DISADVANTAGED VILLAGE IN MPUMALANGA PROVINCE**

Many learners failed at school and were often causing over identification of learners with a mild intellectual disability. A national intervention, the Foundations for Learning was regarded as a national curriculum adaptation that addressed many learning needs. The aim of the study was to investigate the responsiveness of the Foundations for Learning in meeting the mathematics educational needs of Foundation Phase learners with a mild intellectual disability who lived in a disadvantaged village in Mpumalanga Province. A survey involving 39 teachers was conducted in the village and data was collected using a questionnaire. The main findings were that the national curriculum adaptation was significantly responsive and promoted mathematics achievement of some of the learners with a mild intellectual disability. The recommendations included that teacher informal identification of learners with a mild intellectual disability needed to be followed by formal assessment by psychologists and support from the District Based Support Team.

Key terms: Inclusive education; mild intellectual disability; Screening, Identification, Assessment and Support (SIAS) strategy; mathematics; National curriculum adaptation; Foundations For Learning (FFL); National Curriculum Statement (NCS); Curriculum Assessment Policy Statements (CAPS); Foundation Phase; disadvantaged village.

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LIST OF ACRONYMS

ANA	Annual National Assessments
CAPS	Curriculum and Assessment Policy Statements
CASS	Continuous Assessment
C2005	Curriculum 2005
DoBE	Department of Basic Education
DoE	Department of Education
DBST	District Based Support Team
FFL	Foundations for Learning
HL	Home language
ID	Intellectual disability
IE	Inclusive education
INEE	International Network for Education in Emergencies
IQ	Intelligence quotient
LoLT	Language of Learning and Teaching
MID	Mild intellectual disability
NCS	National Curriculum Statement
OBE	Outcomes Based Education
RNCS	Revised National Curriculum Statement
SBST	School Based Support Team
SIAS	Screening, Identification, Assessment and Support

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CHAPTER 1

ORIENTATION

1.1 INTRODUCTION

Inclusive Education (IE) is an education system that treats all learners as equals and is accessible to all learners irrespective of the barriers to learning those learners experience (Links 2009:2). The International Network for Education in Emergencies (INEE) (INEE 2010:11) and French and Swain (in Swain, French, Baines & Thomas 2004:169) contend that IE should not be viewed in a vacuum because it means more than simply placing students with disabilities in a mainstream school and providing extra support; it also demands changes within the society itself. Mittler (2000:132) describes inclusive education as a journey with a purpose. During the journey teachers build on their experience and increase their skills in reaching all children. In South Africa, this journey started with the launch of Education White Paper 6 Building an Inclusive Education and Training System and the process of implementation was planned over two decades (2001 to 2021) (Links 2009:10; Department of Education (DoE) 2005:7; Department of Basic Education (DoBE) 2010b:1). In spite of the launch some years ago, growing evidence suggests that learners with intellectual disability (ID) are among the groups which are not accessing the kind of meaningful education (UNESCO 2009c:79-81) which will ensure that they grow up literate and able to participate in economic activities that improve their quality of life (Barnes, Wright, Nobre & Dawes 2007:46). Furthermore research findings of the United Nations Education Support Strategy (UNESS) highlight that agencies that assist poor children often respond to needs associated with gender and minorities but problems arising in connection with intellectual disabilities rarely attract attention (UNESCO 2009d:20-27). Moreover, Cann (2008:3) reveals that with a few exceptions, people with ID have very limited opportunities to participate in the social, political or even in the disability movements. In response to evidence of neglect of learners with ID, Inclusion Europe (2010) and Schmid-Hieber (2010) of Inclusion International state that the education of learners with ID is currently in the global spotlight as evidenced by many campaigns lobbying for access to proper education for people with ID and for the support of their families.

Similar to the aims of Inclusion International, White Paper 6 issued by the South African government in line with the tenets of UNESCO (2009a:43), the DoBE (DoBE 2010a:8) has confirmed the right of every child to quality education as enshrined in the South African Constitution and the Policy of Inclusion. Identification and support of the learners who have a mild intellectual disability (MID), the focus of this study, is very important as these children have special educational needs which may significantly limit intellectual functioning and adaptive behaviour when learning in ordinary schools (Hallahan & Kauffman 2006:135-137). In many instances, ineffective educational practices leave many such students struggling to answer or participate in

learning (Giangreco & Doyle 2007:161; DoBE 2010d:9). Apart from ineffective practices, Engelbrecht and Green (2009:198) concede that some learners who are considered as not having a disability and who come from disadvantaged backgrounds also lack opportunities to acquire the necessary cognitive and adaptive skills to develop to their full potential. As a result, children from disadvantaged backgrounds tend to progress more slowly than their more advantaged counterparts (DoBE 2010g:6-19; Gisela, Modise & Dawber 2008:8-9); consequently such learners may be wrongly diagnosed as having a MID. The accurate identification and education support of such learners is important (Engelbrecht & Green 2009:198).

Although through the promulgation of Education White Paper 6, inclusive education introduced new challenges and needs in schools (DoBE 2010d:61), many schools, in their attempt to include and support all learners in their communities, have adopted the principles and practices of IE (DoBE 2010b:1). The goal is to have students with disabilities functioning successfully in the general education settings (Polloway, Patton & Serna 2001:166). However, while research has helped to identify promising or effective inclusive education practices and programmes, it is essential to consider how well-matched and useful the programmes are to the context of the disadvantaged village, because neither children considered as not having a disability nor the children with disabilities are a homogeneous group where one solution fits all (UNESCO 2009b:1). The DoBE (2010a:10) has developed guidelines for inclusive teaching and learning and recommends curriculum adaptation as a key curriculum process by which learners with disabilities may access the National Curriculum Statement (NCS), including increasing the participation and performance of learners in mathematics (Gauteng DoE 2010:19). Among many interventions to address general school failure is the Foundations for Learning (FFL) (DoBE 2010d:13; DoE Government Gazette 2008; DoE 2008b). The FFL makes it clearer to teachers how they should teach the curriculum, and in the process of doing so, the strategy of curriculum adaptation had been incorporated. In this study, the primary concern was to determine if the use of the intervention of curriculum adaptation was a responsive curriculum delivery strategy for learners with a MID in primary schools in a disadvantaged village in Mpumalanga Province.

Firstly, the background of the study which led to the research problem should be sketched.

1.2 BACKGROUND OF THE STUDY

The main concern of the study pertains to promoting meaningful IE for learners with ID because these learners are often neglected locally and internationally. This section sketches the background of the problem and how the study was conducted. It commences with a discussion of learners with a MID starting with primary issues and concerns in concepts of ID and the related theoretical framework, followed by an exposition of basic concepts, prevalence and screening

characteristics and causes of MID. Considerations for placement and support of learners with a MID and for learning and teaching mathematics and IE follow. Thereafter, curriculum and curriculum adaptation are highlighted. Lastly, the Foundations for Learning (FFL) is discussed.

1.2.1 Learners with a mild intellectual disability

1.2.1.1 *Primary issues and concerns in concepts of intellectual disability*

The concept of ID is linked to intelligence quotients (IQs) which are tied to the normal curve distribution. This means that ID may not always be linked to cognitive impairment but to an academic performance that can be placed at the lower end of the curve. According to UNESCO (2009b:59) and Dudley-Marling and Gurn (2010:1-6), the assumption that IQs distribute along the lines of a normal curve make strong claims that intelligence is fixed. Testing practices based on IQs play a significant role in the over-representation in special education of the poor and of minority students due to the fact that IQ tests are based on assumptions about educational standards and norms of white middle class students in first world countries. According to this line of thinking, learners labelled as having ID are attributed with lack of innate ability, such as found among learners with Down's Syndrome, or they demonstrate poor performance in standardized IQ tests. Although Jooste and Jooste (in Landsberg, Krüger & Nel 2008:282-283) acknowledge that ID can be caused by both intrinsic and extrinsic factors, debate is still ongoing about whether ID is a social construct or an organic disability. One way of dealing with the problems of unsuitable IQ tests is to adapt the standardized assessment tests and make them suitable for the South African context, while preserving meaningfulness of the scores (Archer, Scherman, Coe & Howie 2010:78). Even then the norm is that the number of people with disabilities is higher among poor people than among middle or high income earning people because the curriculum is primarily constructed with children from middle to high income categories in mind (World Bank 2004:2, 10). Hence certain theories used to understand learners with ID should be considered.

1.2.1.2 *Theoretical framework in education of learners with an intellectual disability*

Engelbrecht and Green (2009:204) and Kirk, Gallagher, Nicholas and Coleman (2006:158, 197) discuss some of the theories used when making important decisions about education of learners with ID. Pertinent to this research is Piaget's sequential stages of cognitive development and the medical model. The above-mentioned authors indicate that Piaget's concept of a child as an active learner who is stimulated by inborn curiosity prompted the development of many programmes that promote active participation in learning. Piaget's sequential developmental stages informed considerations for effective education practice and the importance of emphasizing and building on strengths to enhance learning and development (Cook, Klein & Tessier 2008:7). However, the

medical model, which essentially emphasizes the diagnosis of deficits and inabilities, assumes that cognitive development in individuals with ID has been “arrested” and is kept locked in the lower stages of development for life (Raymond 2012:91). Apart from assigning a very low status to people with ID, what seemed to be priority was fixing the disability by using special education; hence some learners were classified as educable, trainable or beyond fixing and uneducable. This then led to the discrimination and segregation of learners with ID and stereotypes and myths about the achievement of learners with ID in ordinary schools. The education policies of integration and mainstreaming also reinforced exclusionary practices by serving only those whose perceived learning needs or diversity could fit into the system (UNESCO 2009a:53), hence the real needs of learners with ID were often disregarded. This problem persisted hence the focus on children with ID highlighted in the introduction to this study is pertinent to removing the tarnished image left behind by the era of the medical model. Certain positivists argued that science had proven that the children at the lower end of the normal curve could not be moved from that position by even the most effective teaching (Dudley-Marling & Gurn 2010:1). In addition, even if the best methods and materials were to be used, they were unlikely to be effective in the hands of teachers who regarded children with an ID from the viewpoint of the medical model (Connelly 2008:244). However, research had shown that learners with ID can learn beyond traditionally expected limits provided the curriculum takes cognisance of their diversity; hence, designing an inclusive curriculum creates multiple paths to learning (Giangreco & Doyle 2007:152).

According to INEE (2010), current trends in education promote inclusive education and therefore contradict with the medical model and the misuse of Piaget’s theory of sequential stages of cognitive development. Adherents of IE subscribe to beliefs mainly derived from the social paradigm and strongly acknowledge and support diversity in line with the view that all learners can be reached (DoE 2001:19). Refusing to recognise that the two models may coexist is often not in the best interest of the learners with disabilities in general (Engelbrecht & Green 2009:198; Connelly 2008:242). From the exclusively social perspective, disability resides in society and not in the person. Hence the entire education system with all its structures, including the curriculum and the teachers, are cited as extrinsic factors responsible for creating disability and the barriers that lead to learning breakdown (United Nations 2007:13). Certainly barriers are not always linked to the disability of the learner alone, but also to circumstances arising from his/her living and learning context (DoBE 2010b:25). However, when supporting learners with a MID a balanced view is advisable: barriers to learning are linked to both extrinsic factors and the intrinsic nature of the disability.

1.2.1.3 Basic concepts of mild intellectual disability

When it came to the basic concepts of MID in the primary school, the notion that MID was just a social construct seemed to hold more water because it was believed that were it not for academic demands made in school, learners with a MID would be undistinguishable from learners considered as not having a disability (Engelbrecht & Green 2009:200). This notion was explained on the basis of Piaget's stages of cognitive development: children in the age range 7-11 years are generally in the concrete operations stage meaning they are mainly concrete thinkers just like learners with a MID (Reinhardt 2009). Raymond (2012:7) asserts that students with a MID at that age can approximate age appropriate behaviours. However, the disability can compromise learning success and lead to school failure, which in turn creates disastrous effects on self-esteem and sense of competence. Raymond (2012:103) adds that when educators and parents help learners with a MID to meet their need for physical security, emotional security and acceptance, the learners are more likely to develop a stronger sense of self, which is a necessary prerequisite to an internal locus of control and learned competence. In that light, mediation roles of teachers and peers considered to be without a disability could provide efficacious outcomes for children with a MID to the extent that the common perception that their organic or intrinsic problems limit them in the learning of basic academic skills has been challenged (Alfassi, Weiss & Lifshitz 2009:302-303; DoE 1997:50).

According to Rosenberg, Westling and McLeskey (2008:7), disagreement prevailed about the concept of MID as learners with a MID vary widely in their ability to do schoolwork and adjust to social situations in school and other locations. However, general consensus indicated that what distinguished MID from other disability categories was that students with a MID tend to have a more generalized delayed development in academic, social and adaptive skills. This is reflected in their low achievement in all learning areas which manifests before age of eighteen years (South African Federation for Mental Health 2010:1; DoBE 2010b:74; Kirk *et al.* 2006:158; UNESCO 2009b:59; Rousselle & Noel 2007:390-391). As the problem of school failure affects many children, it is necessary to review the literature on the prevalence of MID in relation to the study.

1.2.1.4 Prevalence of mild intellectual disability

In this section reference is made to the National Council of Province question 91 (2010) whereby a Member of Parliament (J.R. de Villiers of DA-WC) inquired whether any non-special school in any province was accommodating learners with disabilities. The Minister's response was very positive based on details from the 2007 Annual School Survey. Statistics pertinent to this study indicate that 17 000 learners who had mild or moderate ID attend ordinary schools in South Africa. However, Umsobomvu Youth Fund (2009:7) cautions that statistical information locally and

internationally may be inconsistent because availability of recent accurate statistical information on intellectual disability is scarce as corroborated by the Pomon Project (2011:2, 9) and Maulick, Mascarenhens, Mathers, Dua and Saxena (2011:419-496). The outcome of these last-mentioned studies gives prevalence ratios of people with ID; the highest is in low and middle income countries. The prevalence of MID is almost two times more in low and middle income countries compared to high income countries. Hence, the statistics show considerable inconsistency. In national surveys and reports, oft-repeated issues relate to academic achievement and socio-economic factors. In South Africa poor children attend school in the most deprived communities with little access to intellectual capital, such as libraries, computers and highly motivated qualified teachers (UNESCO 2009a:43-47). These situations are often characterized by high levels of low achievement and poverty; therefore, it is difficult to distinguish learners with a MID from those with a learning disability or simply low achievers without a disability, who show learning difficulties in mathematics; come from disadvantaged backgrounds; lack life skills and content knowledge when assessed and demonstrate problems in other areas of the curriculum (DoE 1997:18; Rosenberg *et al.* 2006:4; UNESCO 2009b:62; Elliot & Thurlow 2006:7; Pieterse 2006:413).

In this study the prevalence of learners with a MID in the disadvantaged village cannot be regarded as authentic because there seemed to be a problem of over-identification. Normally in a community school, about 30% of the learners, inclusive of those with a MID, experience barriers to learning and may need support (DoBE 2010b:4). However, notations in the disadvantaged village indicated that prevalence of MID, excluding other barriers to learning, was much higher than 30%. The senior social worker of the Department of Social Services working in the disadvantaged village noted a high number of 'slow learners' and the Department's major concern was the high grade repetition rate among learners who received grants and support from the social services. The senior social worker explained that the Social Services Department was supposed to offer socio-economic deprivation support to learners up to age of 18 years, an age where it was expected that a student would have completed basic general education (Grade 12). Unfortunately quite a substantial number of learners were still very far from Grade 12 at that age. Although the Department organized bursaries for the learners to complete their basic education, it did not help much as such support is available to the age of up to 21 years. For that reason many orphans and poor young people had to drop out of school when left stranded, without funds to complete their basic education.

It appeared that the high repetition rate occurred in spite of clear directions given in the admissions policy which stipulated that learners should proceed through school with their age group with provision for a learner to repeat only once per phase (DoBE 2009b:48) which translated to only a maximum of three additional years from Grades 1 to 9. The senior social worker did not believe that most learners concerned were "genuine slow learners" and wished for screening tests to

distinguish those with problems related only to language barriers from those who are “slow learners”. The disadvantaged village was a multi-lingual community where several languages were spoken. Learners often exhibited language barriers as only two African languages were taught in the schools yet more than these two languages were spoken in the village. Unfortunately the Department of Social Services did not pursue the issue of barriers to learning as such a problem falls within the ambit of educational psychologists and schools. The senior social worker’s sentiments concurred with DoBE (2010g:19) findings that problems related to education access and poverty are most pronounced in rural areas and many learners are not enrolled at appropriate education levels. Moreover, they also pinpointed inefficiencies of the School Based Support Teams (SBST) in identifying and addressing the needs of the learners (DoBE 2010g:25). The researcher of the study deduced from the encounter with social worker that limited access and enabling services are a serious obstacle to the IE of learners with a MID in the village. The situation amounted to denial of the right to education as it perpetuated widespread exclusion, discrimination and school failure among learners who were prone to low academic performance in school. It certainly increased vulnerability and created more barriers to IE. This was substantiated by a UNESCO (2009c) study which found that over fifty percent (50%) of the respondents indicated that school systems did not accommodate learners with ID. Such situations need to be addressed hence the focus on promoting IE of learners with ID as highlighted in the introduction of this chapter. The DoBE (2011c:5) condemns practices of exclusion and emphasises the importance of recognising and addressing barriers to learning and development in schools in the DoBE support structures and communities.

On a voluntary basis, the researcher often assisted the learners from the disadvantaged village schools with homework tasks and school work. The most common reason for parents seeking the researcher’s involvement was that they believed the learners were ‘slow learners’. They explained that such learners repeated grades and attained poor grades in school because they learned more slowly than the learners who did not have this condition. The term ‘slow learner’ was used in the past to refer to learners with a MID. It was also noted earlier in this study that the senior social worker, although optimistic that all the learners concerned were not genuine slow learners, used the term when referring to learners who were failing in school and repeating grades as in the parents’ diagnosis. If the construct of MID as understood by parents and the social worker was considered, the prevalence of MID in the disadvantaged village seemed to be well above what other studies on prevalence cited earlier in this section considered very high. In agreement with the parents and the senior social worker, UNESCO (2009d:11) also identifies high repetition and dropout rates and weak adaptation of the curricula to the social, economic and cultural context as challenges to quality education in rural areas in Southern Africa. However, this does not mean that all learners affected by grade repetition; school dropout and weak curricula adaptations have a MID. Since teachers were the main respondents in this study, it was necessary to be clear that the

basic concept of slow learner (MID) was uniformly understood by the respondents by including a sub-research question that pertained to screening and identifying the learners with a MID.

1.2.1.5 Screening, identification and assessment of learners with a mild intellectual disability

The national low pass rate in mathematics (Presidency of the Republic of South Africa 2009:65) involves many learners. A possible reason for the low pass rate is many learners with ID who have not been formally screened and identified fall within the group of underachievers. The other possibility is that barriers peculiar to learners with a MID are also peculiar to learners who are not disabled with regards to learning of basic academic skills in mathematics. This was suggested on the basis of the observation of the challenges to quality education already highlighted in the UNESCO study (2009d). However, the information on school failure (DoBE 2009a; Presidency of the Republic of South Africa 2009; DoE 2008c; Gauteng DoE 2010) gives little detail relating to IE; and does not highlight the achievement of particular groups of learners with barriers to learning. Hence no evidence distinguishes a particular disability or a barrier to learning as a contributory factor of school failure in primary schools. This is partly because learners are routinely described in simplistic terms according to levels of the National Curriculum and their performance on Standard Assessment Tests (Quick 2008:13). For this reason, the DoE (1997:12) insists that it is only by focusing on the nature of these barriers, their causes and manifestations that the problems of learning breakdown in South Africa can be addressed. As already mentioned, without meaningful support, the MID will adversely affect the child's educational performance; hence screening and identification is critical in ensuring that such learners receive support that addresses their educational needs. The DoBE White Paper 6 (2010a:74) and the DoE (2008a:91) clearly state that final diagnosis of disability remains the responsibility of other professionals; teachers were not supposed to assign labels to the learners. However, teachers together with parents and learners have a role to play in the Screening, Identification, Assessment and Support Process (SIAS) (DoE 2008a:91-94). Further, the DoBE (2011c:5) highlights the importance of teachers competency in using SIAS strategy. Therefore, teachers should have a sound conceptual understanding of the learners with a MID and the implications for mathematics so as to play a meaningful role in the SIAS strategy.

The main basic concepts that teachers need to consider when screening and identifying learners with a MID are derived from the work of Rosenberg, O'Shea and O'Shea (2006:8-9); Rosenberg *et al.* (2008:7-10) and UNESCO (2009b:59). These include that the learners with a MID have problems in communication in that they will listen and talk but may have difficulties understanding certain concepts and have some limitations with expressive language. They may also have difficulties in attending to tasks, generalizing from task to task or one setting to another, incidental

learning and maintaining motivation. However, on the positive side, they can learn academic subjects and senior primary grades (up to Grade 6) when given meaningful IE and will usually be socially well adjusted if growing up in an inclusive community. Some other pointers to focus on are slow in learning, poor attitude towards work, do not pay attention, never get work completed, rewards and consequences that affect others seem to have no positive or negative effect on the student (Friend & Bursuck 2006:45; Hoover & Patton 2005; Meek 2006). The characteristics mentioned above exemplify the barriers to be overcome for children with a MID to learn effectively and they also inform IE.

1.2.1.6 Considerations for placement and support of learners with a mild intellectual disability

Learners with a MID were often perceived to be in need of intermittent support. This means that intensive support does not necessarily have to be present all the time, especially pertaining to full grown adults (Kirk *et al.* 2006:158). On the other hand, children need help to develop to their full potential and educators should take whatever steps are necessary to ensure that they have equal opportunities and productivity later on in life (Warnock & Norwich 2010:33). UNESCO (2009b:13) indicates that in the past children with disabilities were supposed to be placed and taught in special education settings based on their medical diagnosis. This exclusion and alienation led to a wide gap in the understanding of children with disabilities and their needs. However, during site visits by members of the Curriculum 2005 (C2005) review committee cited in the DoE (2000:66) and in a case study of a learner's transition from mainstream schooling to a special school in Pillay and Terlizzi (2009), general findings were that learners benefited from being placed in the special schools due to instructional practices and provisions that addressed their particular needs as opposed to ordinary school placement where the learners were not catered for and experienced neglect and learning breakdown. Such revelations challenge Links' (2009:4) argument that the special teaching and care offered in special schools could be offered in any ordinary school. Moreover, as the principles of learner centredness, inclusion and other special school practices spread to ordinary schools, there was also gradual decline in academic performance (Horn 2009:515). However, the opposite of decline in academic performance was noted with regard to learners with special needs where effective techniques were used in ordinary schools. According to Kavale in Florian (2007:214); Giangreco and Doyle (2007:173); and Tilestone (2004:39), special needs education demonstrated increased efficacy that could be attributable to effective general education methods that had been adapted for special needs education purposes to promote IE and quality education.

In primary schools, learners with a MID do not always need alternate arrangements but many educators sense the tension between meeting statewide standards and ensuring that children with

disabilities have access to and progress in the general education curriculum, without provision for alternate assessment standards (Cushing, Clark, Carter, & Kennedy 2005:6). The idea of alternate assessment could be favourable to teachers as current reforms prioritize inflexible academic performance requirements that do not take into cognisance the nature of MID especially as learners with a MID may be two or three years lagging behind their peers in academic work (Rose, Meyer & Hitchcock 2005:127-128). As a way of coping with demands for high academic performance, Quick (2008:13) observed that many primary schools reintroduced streaming and class groupings based on assumptions about abilities of the learners. Quick (*op cit*) went on to say that commonly used tests generated anxieties as schools were preoccupied with competitiveness and meritocratic ideology. Such situations in ordinary schools could prompt considerations of reverting back to secluded special schools rather than educating all learners in ordinary classrooms with their peers (INEE 2010:12). Engelbrecht and Green (2009:200) believe that learners with a MID should not be grouped together or placed in special schools on the basis of special education provision. Doing this exaggerates the differences between learners with disabilities and peers considered to be without a disability (Connelly 2008:24). Warnock and Norwich (2010:103) argue that children must have as much of a general curriculum as possible; leaving some areas out is preferable to a separate curriculum. However, according to the DoE (2000:66), practice in ordinary schools often does not provide support for learners experiencing barriers to learning. Neglect of learners experiencing barriers to learning in ordinary schools has also been observed in many cases in Zambia (UNESCO 2009c:83, 119).

According to UNESCO (2009c:94), curriculum differentiation and curriculum adaptation were the main tools used by the South African learner, Cayle to access the National Curriculum (NCS) in order to have the appropriate education she deserved as a South African. In more simplified terms, the curriculum (not Cayle) was actually adapted and adjusted using its flexibility characteristics, in order to overcome barriers to learning caused by the ID. However, Cayle's case may not be applicable for many South African children in poor rural areas like those in the disadvantaged village discussed in the current study. Resources like computers, extensive support from qualified special needs personnel and materials available at Hillcrest Christian Academy are not readily available in the disadvantaged village schools. A regular classroom teacher is the main source of support for the learners with a MID bearing in mind that the teacher often represents the only consistent support in fragile communities and households (DoBE 2010g:17). The teacher needs directions on how to play his/her role productively (Williams, Olivier & Pienaar 2009; Renshaw, Christensen, Marchant & Anderson 2008). In this regard, effective mathematics instructional practices of inclusive education that particularly address the diversity pertaining to MID should be discussed.

1.2.1.7 Mathematics considerations and inclusive education of learners with a mild intellectual disability

According to DoE (2003c:23), considerations for teaching, learning and assessment of mathematics include the recognition that learning of mathematics cannot be rushed; learners learn at different paces through different opportunities; frequent and repeated use of mathematical concepts is critical to learning; understanding develops over time and through use of mathematics. These mathematics considerations can be detected in the three main principles that produce achievement when teaching children with ID. The principles are used to teach academic skills and cognitive strategies to develop attention skills, memory skills and generalization. According to the UNESCO (2009b:65), Rosenberg *et al.* (2008:7-10), DoE (2005:38-39) and Kirk *et al.* (2006:190) those principles are:

- Skill development should be based on learner's baseline and the teachers must divide the new skill into small steps to allow for slow progression.
- Making frequent and repeated use of skills and concepts to promote learning.
- Giving positive reinforcement through a lot of praise and motivation. Morgan (2009:25) contends that motivation should be maintained through use of effective rewards which are attractive, simple, small, frequent, well deserved and well timed.

Solutions to problems of failing to learn mathematics basic skills in general education can be found through instructional practice sensitive to general special educational needs of learners with a MID. Studies that came close to justifying the successful use of both special education methods and general education were done by Lieber, Horn, Palmer and Fleming (2008:18) and Krüger and Yorke (2010), the latter in South Africa. Both studies showed advocacy for the social model but differed in that the South African study recommended additional support such as co-teaching with learning support teachers. In the first study the design targeted specific curriculum modifications and the outcome was the "Children's Schools Success Curriculum". In essence, this was an adaptation of the general curriculum, meaning that the quality and expectations were the same. Using such a curriculum benefitted learners when it came to the national tests and assessments unlike using an alternate curriculum that was exclusive to special education criteria and environments. In support of adapting the general curriculum, Caillods (2006:2) asserts that a quality system recognizes that measurable outcomes should be achieved by all especially in literacy, numeracy and basic skills. Schools, therefore, are to be held accountable for achievement of all learners including those with a MID, hence they are supposed to make adaptations to ensure that all learners achieve the assessment standards in general education (Kirk *et al.* 2006:158; DoE 1997:69; Allington 2006:149; Walther-Thomas, Korinek, McLaughlin & Williams 2000:236).

However, many South African schools face the daily reality of teaching large classes as well as coping with added pressures of curriculum reform and high performance expectations with limited resources and support (DoBE 2010g:17). Nonetheless, some practices promote IE despite the challenges.

According to the UNESCO (2009b:20-21), several guidelines should be adhered to in inclusive education to promote quality and equality in the education system. The guidelines pertinent to this particular study for the learners with a MID were: avoiding segregating or stigmatizing any users; providing adaptability to the users' pace; facilitating the users' accuracy and precision; eliminating unnecessary complexity; being consistent with users' expectation and intuition; arranging a wide range of literacy and language skills; arranging information in consistence with its importance (UNESCO 2009b:20-21; Rose *et al.* 2005:127). Engelbrecht and Green (2009:201-203) suggest that schools should develop school-wide curriculum adaptations especially in basic skills in numeracy and literacy. They also recommend that schools should build a collection of materials, books, and other resources specifically designed for the teaching of those with a MID. Giangreco and Doyle (2007:158) propose that priority goals should be infused into the daily rhythms of the school day and emphasized at the start of the class, during class discussion, in small groups or co-operative learning sessions, while at lunch and in all learning areas. In the same vein, the INEE (2010:12) contends that it is important to promote the idea that progress in IE is not too difficult in a crisis situation as it is mainly about making it easier for all children to take part in learning; some changes in IE involve changing people's attitudes rather than money or equipment.

1.2.2 Curriculum and curriculum adaptation

Connelly (2008:310) views curriculum as more than the words in the formal documents describing only what teachers must teach or how teachers should engage their students; teachers should be expected to put state policies into practice. Lee, Soukup, Little and Wehmeyer (2009:41) explain that curriculum adaptations are modifications to the way the content is presented, represented or the way the student responds to the curriculum. Numerous areas of addressing and overcoming barriers to learning and development regard curriculum adaptation as one of the main elements that result in academic participation of students with ID and other groups experiencing barriers to learning (UNESCO 2009c:77; Denton, Parker & Hasbrouck 2003:42-44; Cushing *et al.* 2005:12; Fuchs, Fuchs, Hamlett & Hope 2006:59-63). The Directorate Inclusive Education and the DoBE (2011:8) stress that the curriculum can be made more accessible to learners by adapting the content. Most studies of successful curriculum adaptation when teaching learners with disabilities have been mainly about adapting content at classroom level (Simpkins, Mastropieri & Scruggs 2009; Tilestone 2004:37-39; Cushing *et al.* 2005; Browder, Flowers and Ahlgrim-Dezell 2004:211-223).

The Directorate Inclusive Education and the DoBE (2011:8) further mention the importance of curriculum adaptations done in such a way that the curriculum is made manageable for a wider range of learners. This, however, does not happen in many schools as the content is not very specific and pressures created by high performance expectations, time constraints and work overload prevail. The situation has led to frequent curriculum reform which adds more problems to teachers who are working with limited resources and support (DoBE 2010g:17). As a result too many learners who, after years of attending school, have not mastered the necessary skills to the extent that some are unable to write a simple sentence or do basic mathematics after completing Grade six (DoBE 2010d:9). School failure is also demonstrated in mathematics achievement in international and regional standardized tests (DoBE 2009a; Gauteng DoE 2010). The background to this study indicates that many schools have no allowance for effective curriculum adaptation at classroom or school level because of problems with the content of the curriculum. Limited resources and lack of support are additional problems. An important step taken by the government at national level to address the problems with the curriculum and school failure was the launch of the Foundations for Learning (FFL) in 2008 which involved getting more materials to primary school learners and making it clearer to teachers how they should teach the curriculum (DoBE 2010d:13). The next section provides details about the FFL.

1.2.3 Foundations for Learning

The FFL originated as an intervention or an adaptation of the content of the curriculum to enhance the teaching and learning of basic academic skills. It was initially a four year (2008-2011) campaign to create a national focus on reading, writing and mathematics abilities of all South African children (DoE Government Gazette 2008:4-5; The Presidency of the Republic of South Africa 2009:65; Mpumalanga Provincial Government 2010:6). The programme was not officially evaluated at the end of 2011 but the milestones, term by term arrangement of content and assessment tasks were incorporated into the new National Curriculum Statement (NCS) especially in the National Curriculum and Assessment Policy Statement (CAPS) Grades R-12. The lesson plans for FFL were to be used in the Foundation Phase and Intermediate Phase during the implementation period 2012-2014 (Western Cape Education Department 2011:1-4; DoBE 2011a:2-3). The researcher's perception about the FFL is that it is a model for curriculum adaptation of the NCS that promises to meet the IE consideration profile for learners with a MID as well as many other learners. For example, having routine and structure allows learners with ID to feel secure and increases their confidence while also allowing them to try new learning experiences in the classroom because they are easily upset by sudden changes to programmes or unpredictable programmes (DoE 2005:39). The National Numeracy Strategy in the United Kingdom also has similar features and encourages teachers to teach the whole class together for a high portion of the time (Farrell 2004:101-103). What is apparent in the two programs is the 'return to basics'

teaching approaches which comprises class lecture, recitation combined with seat work teaching, and class discussion. These teaching strategies mainly use direct teaching methods to address the issue of poor achievement worldwide (Connelly 2008:256). However, Giangreco and Doyle (2007:159) caution teachers not to use strategies that rely heavily on traditional methods (e.g. the lecture method) as they could leave many learners struggling to understand and participate. Therefore, these methods should be adapted to address classroom diversity; lectures should not be too long and boring but brief and interesting to accommodate learners with poor attention and memory skills.

Research on FFL appears to be scarce, apart from featuring as a positive intervention or initiative to patch gaps in RNCS (DoE 2008c:39; Umalusi 2010). Two studies highlight some shortcomings (DoBE 2009a:42; Ensor, Hoadley, Jacklin, Kuhne, Schmitt, & Lombard in Pendlebury, Lake & Smith 2009:55-57). These are more focused on teachers' performance rather than on the effectiveness of the FFL in improving learning and teaching of basic mathematics skills. Therefore, it was argued that a study which investigated the usefulness of FFL in response to learners with a MID in IE in the disadvantaged village schools would be important. The focus on use of the FFL was not to undermine the extra support that learners with MID need. The research problem is stated in the following section of this chapter.

1.3 RESEARCH PROBLEM

As mentioned in the background of the study, many primary school learners especially in poor rural areas fail to learn basic academic skills and cause South African learners to lag behind their counterparts in other countries in international and regional standardized tests. The DoE (2001:20) has shown that the curriculum has caused many barriers to learning as it does not accommodate different needs and is not accessible to all learners. The FFL is a national intervention to improve efficacy of the curriculum in promoting learning of basic academic skills. Moreover, it essentially has the design features to promote meaningful learning for learners with a MID. Failure of learners with a MID to learn basic academic skills is related to general delay in cognitive development which impacts negatively on the acquisition of language and academic skills but could be addressed through meaningful IE at primary school level (Rosenberg *et al.* 2008:7-10). This means that if learners with a MID receive support in the typical areas of difficulty which include literacy, numeracy, organization and memory functioning (Reinhardt 2009) which are addressed in the FFL, they would be likely to learn the basic skills. However, as with many government interventions to promote learning, the FFL had not been investigated for its efficacy with particular groups of learners, hence this study sought to address this gap by determining the extent to which the intervention (an adaptation of the national curriculum) promotes IE.

The main concern was of measuring the extent to which this national curriculum adaptation fitted or was responsive in improving academic achievement when used for learners with a MID in the Foundation Phase, who were living in the disadvantaged village. However, as highlighted in the background, in the disadvantaged village there seemed to be an additional problem: over-identification of learners with a MID which interfered with the process of screening and identification of learners with a MID. Therefore, achieving a common understanding of the concept of MID among the respondents was critical in achieving the main aim as the researcher needed to be more or less sure that the data collected pertained to the group of learners with a MID. In narrowing down the problem formulation, therefore, questions to be answered by this research addressed teachers' knowledge of screening and identification of learners with a MID, together with investigating the responsiveness of the national curriculum adaptation. The long term target was that learners with a MID should achieve Grade 6 academic skills and beyond (just like peers considered to be without a disability) because of feasible and responsive support (Tilestone 2004:55; Presidency of the Republic of South Africa 2009:72-92). The main research question and sub-questions of this particular study are stated as follows:

1.3.1 Main research question

To what extent is the Foundations for Learning a responsive curriculum adaptation in the teaching of mathematics basic skills to learners with a mild intellectual disability in primary schools in the disadvantaged village in Mpumalanga Province?

1.3.2 Sub-questions

- i. What knowledge do teachers have of inclusive education that will enable them to screen and identify learners with a mild intellectual disability in the classroom?
- ii. Do teachers need to devise specific curriculum goals other than those in the FFL to accommodate learners with a mild intellectual disability?
- iii. Are teachers finding that using learning and teaching activities and requirements outlined in the FFL, meet the educational needs of learners with a mild intellectual disability?
- iv. Does the use of the FFL result in a significant increase in mathematics achievement in learners with a mild intellectual disability in the disadvantaged village primary schools?

1.4 VALUE OF RESEARCHING THE EXPLORED PROBLEM

According to Walther-Thomas *et al.* (2000:4) and INEE (2010:11) inclusion has helped learners who struggle in school but who have never qualified for special education support because IE enables the entire education system and its stakeholders to meet the needs of all children. Furthermore, since building teachers' capacity to screen, identify and deal with ID is vital, so is the process of finding the learners who are not meaningfully participating in school (INEE 2010:12). It was hoped that if the use of the FFL proved to be a feasible and responsive curriculum adaptation for learners with a MID, it would confirm that the NCS was flexible enough to address diversity through special needs concepts and general education techniques used in promoting quality education for all learners in the learning of basic skills. Therefore, demonstrating that the FFL as national curriculum adaptation has potential to yield positive results for learners with a disability is important in the delivery of inclusive education. Furthermore, the strategies used in adapting the NCS to design the FFL are not only applicable to mathematics, but also to other learning areas where learners experience learning breakdown. This is particularly important in disadvantaged village schools where the teacher is virtually the only support that learners have. Where there are large classes and meagre resources, it is not feasible for the teacher to constantly adapt the curriculum to accommodate individual learners with a MID.

According to the INEE (2010:12), "it is better to take small steps now than to postpone thinking about inclusion until there are more resources available". If the FFL is shown to be feasible and responsive in the IE of the learners with a MID, it could also prove useful for mathematics teaching and learning and thus contribute to building an inclusive education system in the village. By focussing on basic foundation skills, poor learner achievement in primary schools may be addressed (University of Johannesburg 2010:5). A feasible and responsive national curriculum adaptation for learners with a MID living under poor conditions in rural areas may thus enhance mathematics achievement in general. Instead of pessimism about the problems in the DoBE, it is better to build on its existing strengths that may contribute to building an IE system.

The aim and objectives of the study are stated in the next section.

1.5 AIM AND OBJECTIVES OF THE STUDY

1.5.1 Aim of the study

The aim of the investigation was to establish the extent of the responsiveness of the FFL as a curriculum adaptation of the NCS in improving mathematics achievement in inclusive education of

Foundation Phase learners with a mild intellectual disability in the disadvantaged village primary schools in Mpumalanga Province.

1.5.2 Objectives of the study

- i. To investigate the kind of knowledge teachers have of inclusive education that will enable them to screen, and identify learners with a mild intellectual disability in the classroom.
- ii. To determine if teachers need to devise specific curriculum goals other than those in the FFL to accommodate learners with a mild intellectual disability.
- iii. To establish if teachers are finding using learning and teaching activities and requirements outlined in the FFL adequate in meeting the educational needs of learners with a mild intellectual disability.
- iv. To determine the extent to which the use of the FFL increases mathematics achievement of learners with a mild intellectual disability in the disadvantaged village primary schools.

1.6 RESEARCH ASSUMPTIONS

It was assumed that the teacher respondents responded honestly and provided information about themselves and the learners whom they considered as having a MID. It was also assumed that the teachers were familiar with the FFL and that they used their teaching experiences when completing the questionnaires.

1.7 LIMITATIONS

The limitation was that the questionnaire may not have fully articulated all the aspects of MID since only a few aspects of academic and adaptive skills applicable in the disadvantaged village were selected for screening and identification. This therefore meant that the content of the measuring instrument had a bias towards MID in disadvantaged concepts and was largely based on literature that the researcher studied. Designing questionnaires that produce measures with high reliability and validity is a complex and challenging task (Fitzgerald, Widdop, Gray & Collins 2009).

1.8 DEFINITION OF TERMS

Curriculum adaptation: The term curriculum includes all aspects of teaching and learning such as the intended outcomes of learning, learning programmes, assessment and methodology. It refers to all the formal and informal opportunities for learning provided by the school to prepare learners for opportunities and responsibilities of adult life (Graham-Joly in Coleman, Graham-Joly & Middlewood 2003:13; Rose in Florian 2007:295 & Farrell 2004:107). In general terms, an adaptation is a goal driven process and is also a change made to better meet the needs of an individual or a group (Wilson 2002:252). While curriculum adaptation refers to making aspects of the curriculum accessible such as the teaching and learning materials to meet the needs of all learners (DoBE 2010a:6). Curriculum adaptation, therefore, is a modification to the delivery of instructional methods and intended goals of student performance that does not change the content but does slightly change the conceptual difficulty of the curriculum. The principle behind curriculum adaptation is that the school is mandated to be responsive to the educational needs of the learners and not simply provide a place for learners with special needs among their peers without variation of instruction (Rose *et al.* 2005:127).

Inclusive education: It is difficult to have a conceptual understanding of inclusive education without explaining the origins of 'inclusion' as a background. Karten (2005:2) reveals that the Latin root word of inclusion is *includo*, meaning to embrace, while the root for exclusion is *excludo*, meaning to separate or shut out. The learners with disabilities are among those who have traditionally been shut out and separated from those considered not to have a disability; hence the concept of inclusion seeks to eradicate the element of exclusion. The concept of inclusion is well stated by Karten (*op cit*) as a way of life and preparation for adulthood and supports the civil rights of all learners. From Karten's perspective, inclusive education is the type of education that embraces and recognises the right to learn and be prepared for life. Put in simple professional terms, it is an education system with policies and practices that uphold the right of learners with disabilities to learn in mainstream education irrespective of the barriers to learning those learners experience. It is also about uncovering and minimising barriers to learning and making quality education available to all learners (Engelbrecht & Green 2009:4; Links 2009:2; DoE 2005:8; UNESCO 2009b:2).

Mild intellectual disability: Intellectual disability is a condition originating before the age of 18 years that result in limitations in intellectual functioning and conceptual, social, and practical adaptive skills. MID is characterised by general delay in cognitive development that influence acquisition of language and basic academic skills, hence in inclusive education, they learn more slowly than grade level peers (Burge, Quелlette-Kuntz & Hutchinson 2008:2; Rosenberg *et al.* 2008:7-10). The range of IQ scores in learners with MID is 51 to 70. Defining MID in terms of IQ

only may leave many teachers and parents without a clear conceptual understanding of MID because IQs are mainly understood by psychologists. The extensive use of IQ tests often leads to stigmatization, discrimination or stereotyping the needs of the group although it is important for teachers to understand the characteristics and specific needs of the group (UNESCO 2009b:59). In South Africa the practice of relying on IQs and other out-dated westernised tests is discouraged; rather the educator, school, learner and parents are central in the assessment process to identify barriers to learning. The prime purpose of which is to identify support needs that would improve the teaching and learning process (DoBE 2010b: 27).

1.9 CHAPTER DIVISION

CHAPTER 1: ORIENTATION

Chapter one focuses on the introduction of the study and the background which lead to the statement of the research problem. This is followed by the research questions and sub-questions; value of researching the explored problem; and aims and objectives of the study. Research assumptions and limitations are discussed followed by the methodology section which consists of the research design; target population and sample; research instruments and data collection procedures; and data presentation and analysis procedures. Definition of terms precedes chapter division.

CHAPTER 2: MILD INTELLECTUAL DISABILITY

The chapter commences with the conceptual understanding of barriers to learning and theoretical construction of disability. These are followed by terminology used for naming ID, general concepts and classification of ID. Basic concepts of MID, prevalence and cognitive conditions and situations that make identification of MID difficult are discussed. These are followed by characteristics; causes and risk factors. Support intensity and considerations, teaching strategies for consideration, assessment and challenges for teachers are highlighted.

CHAPTER 3: INCLUSIVE EDUCATION, CURRICULUM DEVELOPMENT AND CURRICULUM ADAPTATION

The chapter begins with basic concepts of IE, principles of IE and South African policies that support IE. These are followed by development of national curriculum. The introduction of democracy in South Africa resulted in the adoption of the outcomes based education system which led to the development of Curriculum 2005 (C2005), Revised National Curriculum Statement (RNCS) and National Curriculum Statement (NCS). A discussion on different levels curriculum adaptation and related concerns are presented followed by an explanation of the Foundations for

Learning (FFL). The researcher describes important aspects of the FFL, which when implemented by teachers effectively, may ensure quality delivery of mathematics curriculum to learners with a mild intellectual disability in the disadvantaged village primary schools.

CHAPTER 4: RESEARCH METHODOLOGY

This chapter begins with the description and rationale of the selected research design. These are followed by a discussion on population, sampling methodology and the research instrument and data collection procedures. The questionnaire is used in gathering data from the respondents. Data gathering procedures highlight data collection strategy, pilot survey, questionnaire administration and data processing procedures. The measures for trustworthiness are discussed. Lastly, ethical measures are outlined.

CHAPTER 5: DATA ANALYSIS AND INTERPRETATION

This chapter contains the critical evaluation of the results of the study. Data extracted from the questionnaires are presented in the form of tables and bar graphs with a brief description, interpretation and analysis of the data in each presentation in the light of literature reviewed in chapters two and three. The chapter begins with biographical and demographic data which is followed by mild intellectual disability, national curriculum adaptation and language of learning and teaching mathematics. Respondents' inputs on national curriculum adaptation and IE are next, followed by the analysis of categories. Lastly, a concluding remark is given.

CHAPTER 6: SUMMARY, CONCLUSION AND RECOMMENDATIONS

This final chapter contains a summative discussion of the findings, conclusions that can be derived from the results and also gives recommendations on how the findings can be applied to enhance future learning of learners with a mild intellectual disability. Moreover, the recommendations also give directions of possible research areas to be covered in the future. The chapter commences with the summary of the research findings which is followed by conclusions. Recommendations of the study and recommendations for further study are next. Lastly a concluding remark is done.

CHAPTER 2

MILD INTELLECTUAL DISABILITY

2.1 INTRODUCTION

Chapter two focuses on particular concepts and concerns pertinent in screening. Identifying and supporting the learners with a MID. It commences with conceptual understanding of barriers to learning and development and theoretical construction of disability. These are followed by terminology used for naming intellectual disability, general concepts and classification of intellectual disability. Basic concepts and prevalence of MID are next followed by cognitive conditions and situations that make identification of MID difficult. Characteristics, causes and risk factors, support intensity, teaching strategies and assessment are discussed. Lastly, problematic areas and challenges for teachers are highlighted.

2.2 CONCEPTUAL UNDERSTANDING OF BARRIERS TO LEARNING AND DEVELOPMENT

The concept of barriers to learning and development is pertinent to this study since ID is linked to several barriers to learning and development. Barriers to learning and development refer to difficulties or circumstances that arise within the education system, the learner him/herself and/or living context as a whole, which prevent access to learning and development for the learners (DoBE 2010a:6; DoBE 2010b:25-26; DoE 2008a:3). In this light, barriers to learning and development do not necessarily equate to having a disability but rather describe a special need that has to be taken cognisance of for a child to learn and develop. Barriers to learning or the sources of barriers to learning and development include: disability, language and communication; lack of parental involvement; socio-economic factors; attitudes; and the inability of the teacher to convey the skills and knowledge which the learner requires (DoBE 2010a:12; DoBE 2010b:26). Swartz and Schneider in Watermeyer, Swartz, Lorenzo, Schneider and Priestly (2006:235) contend that a barrier free society requires access to a high quality, adequately resourced mainstreamed education. Moreover, Benjamin (2002:55) add that the government has to remove the barriers which get in the way of meeting the needs of all children in order to promote inclusion in the mainstream schools bearing in mind that according to Morrow (2007:185) academic exclusions are conceived as illegitimate in South Africa. Having discussed the concept of barriers to learning, there is a need to examine some of the models and theories that pertain to the construction of disability.

2.3 THEORETICAL CONSTRUCTION OF DISABILITY

2.3.1 Medical and social models

Andrews, Fourie and Watson (in Watermeyer *et al.* 2006:245) and Soudien and Baxen (in Watermeyer *et al.* 2006:154-155) contend that in early medical definitions, disability was equated with deficiency and an agreed upon image of the ideal subject was lacking. Hence this model advocated special treatment and management of people with disabilities reducing them to objects of pity, charity and special education programmes which denied them opportunities to access ordinary school curriculum and equality in society (Dudley-Marling & Gurn 2010:4). Swain (in Swain *et al.* 2004:54) uses the terms “tragedy model” and the “dominant individual model” when relating the bad experiences of people with disabilities as minorities in the western countries when served under the medical model. Andrews, Fourie and Watson (in Watermeyer *et al.* 2006:245) also state that viewing disability as such prompted the social model activists to seek to change public awareness by defining disability as a result of society’s unwillingness or inability to accommodate the needs of all citizens, both those with disabilities and those considered to be without a disability. In other words, the social model views disability as an external factor that is detached from the person with a disability, while the medical model views disability as an internal factor that is within the person with a disability. From a social model view, Bury in Watson (2008:57) summarizes disability as what a disabled society decides to call those seen to deviate from socially constructed norms. He also highlights that tenets of the model recognize the dangers of an over-socialised view and that impairment and disability are closely related but distinct. However, some still hold on to the social view and campaigns are still ongoing in African Newsletters (Dube 2010:13; Mkozho 2010:17; Phiri 2010:4-5; Ramphisa 2008:5). Although seemingly in great conflict, the two models (medical and social models of disability) are important in understanding the construction of ID and the other models seem to have developed from them.

2.3.2 Socio-cultural paradigm: Vygotsky

Based upon the work of Vygotsky cited in Engelbrecht and Green (2009:199); Cesar and Santos (2006:333-346) and Alfassi *et al.* (2009:292-293), Vygotsky highlighted the development of cognitive practices and the role of mediation in determining the zone of potential development. Vygotsky also emphasized the importance of motivation and socio-emotional development to deal with the characteristics pertaining to social barriers, low expectations and social exclusion. In brief, Vygotsky perceived learning as a communicative process and advocated the socio-cultural paradigm for instruction and remediation. This paradigm viewed ID as a social construction more than an inherent characteristic that is not normal, meaning it was just a kind of diversity that has to do with societal issues. Vygotsky’s thinking influenced modern emphasis on adaptive and

necessary supports to help persons with ID to enter fully into adult life (Engelbrecht & Green 2009:199).

2.3.3 Theory of school learning: Bloom

A theory of school learning that deals with student characteristics, instruction and learning outcomes described by Bloom is also pertinent to this study of finding the extent to which national curriculum adaptation can promote inclusive education of the learners with a MID. In the theory, the learning outcomes are level and type of achievement, the rate of achievement and the affective characteristics of the learner in relation to the learning task and self. The three interdependent variables which are central to this theory of school learning are:

- The extent to which the student has already learned the basic prerequisites of the learning to be accomplished (that is the cognitive entry behaviours).
- The extent to which the student is (or can be) motivated to engage in the learning process (that is the affective entry characteristics).
- The extent to which the instruction to be given is appropriate to the learner (quality of instruction and the extent to which cues, practice and reinforcement of the learning are appropriate to needs of the learner) (Bloom 1976:10-11).

Bloom further stated that smaller individual differences in learning are to be preferred to larger individual differences in learning (Bloom 1976:13) hence this statement may imply grouping children according to medical model era and disregard of IE. However, insightfully, Bloom also strongly cautioned that attempts to make changes in the home and the larger social environment related to education and learning were likely to take decades before the effects would be felt in the schools (Bloom 1976:17). This has proven to be true in the sense that it validates why IE has been referred to as a long project (Warnock & Norwich 2010:100) and also why the Minister of Education in South Africa decided on a twenty-year time frame (2001 to 2021) to implement IE (Links 2009:10). The de-merits of the theory, from the researcher's analysis of the above statements, are that Bloom seemed to think that teachers and learners existed in a vacuum and ignored the other main actors in education such as the role played by the positive or negative attitudes of people with power to control others in society. He also seemed to acknowledge diversity but preferred discriminatory practice of dealing with diversity showing lack of concepts of inclusivity, equality and rights; therefore, his cognitive development theory should be complemented by another modern and inclusive practice such as the Cognitive Education: INCLUES. This type of education is about activating a child's basic skills that are involved in learning basic academic skills as well as social, motor, artistic and emotional adaptive learning to develop the child's capacity to learn how to learn and find the clues of learning (INCLUES leaflet 2006).

2.3.4 Post-modern perspective

Thomas and Loxley (2007:3) cite a number of other viewpoints of disability in education. Pertinent to this study is the post-modern perspective which holds that there is no discreet class of people who are disabled; rather the mere existence of excluded groups force people to categorize. The categorizing encourages a particular mind-set about a group, while in reality the groups in question are crosscutting, fluid and shifting. This viewpoint concurs with sentiments about ID highlighted in Special Olympics (2007:10) which state that ID encompasses overlapping groups of considerable diversity, sharing a core set of features related to impaired cognitive function. It is also contended that ID is so contextually bound that the exercise of classifying one as having or not having ID will always be subject to challenge for all but the most profoundly impaired. While the names of other common disabilities, such as deaf or blind, have not changed, terminology for ID has been changing quite a lot. These changes could confirm that construction of ID is not well grounded as asserted by Special Olympics (*op cit*). The next section highlights some terms used for ID.

2.4 TERMINOLOGY USED FOR NAMING INTELLECTUAL DISABILITY

Terms like idiot, imbecile, retarded, mentally disabled, intellectual impairment, feeble-minded, sub-normal, mental deficiency and mentally handicapped were used to describe the disability of ID in the past (Jooste & Jooste in Landsberg *et al.* 2008:380; Raymond 2012:82). Currently, the term ID is increasingly being used and has replaced use of terms like developmental disabilities in Canada, learning disabilities in the UK and mental retardation or developmental impairment in the US (Burge *et al.* 2008:3; Karten 2005:31). According to UNESCO (2009b:58) in the US, developmental impairment was used to describe people with mental retardation, cerebral palsy, autistic spectrum disorder, various genetic and chromosomal disorders and fetal alcohol spectrum disorder. In the UK the term was used simultaneously with the term learning disability. The terminology, although different, often reflected that the source of the problem was only from within the persons cognitive function rather than being also related to barriers within the education system (Engelbrecht & Green 2009:192). As mentioned earlier on in this study, notions of ID are often problematical because of various extrinsic factors that are also considered such as academic functioning, social adaptation and other aspects of ID that are contextually bound (Special Olympics 2007:10). In this regard it should be recognized that disability is an evolving concept. This acknowledges that society and opinions within society are not static (United Nations 2007:13). These societal factors may include cultural differences, the effect of community environment, the individual's relative strengths in particular domains and the level of support systems (DoE 2001:17; Walton 2011:83-92). Nonetheless, there are general concepts that seem to define ID. These are discussed next.

2.5 GENERAL CONCEPTS OF INTELLECTUAL DISABILITY

In general, ID originates before the age of eighteen years and refers to student's inability to learn because of substantial limitations in cognitive and adaptive functioning. It is characterized by below average intellectual functioning and limitations in at least two of the following practical adaptive skills areas, namely, communication, self-care, health, basic academics, leisure, employment, safety, home living and employment (Burge *et al.* 2008:2; Kirk *et al.* 2006:157). According to Engelbrecht and Green (2009:198-199), people with ID develop more slowly but in the same Piagetian sequence as persons without disabilities. Piaget's sequential stages of cognitive development are dependent on the maturation of biological and psychological structures. Most people with ID do not reach the stage of formal operations necessary for independent and abstract thinking. They operate within the concrete operational stage and are limited by this in their understanding of social and cognitive issues. Farrell (2009:70) explains that in Piaget's concrete operational stage, which is usually for children from seven to eleven years old, complex and systematic mental problem-solving using mental representation can take place in relation to concrete and actual events. For this reason, Farrell (*op cit*) together with Kirk *et al.* (2006:181) stress that effectiveness of intervention for learners with an ID has to provide and emphasize extended concrete learning which should be intensive and on-going because once it stops there is a tendency for the children to lose some or most of the gains that they have made in education. The assertions of the authors suggest that ID is a lifelong condition thereby meaning that it is a barrier to learning and development that will always be there as long as the person who has it is alive. It is therefore unlike poverty which can change as and when economic status changes. ID has different classes which are detailed below.

2.6 CLASSIFICATION OF INTELLECTUAL DISABILITY

ID is usually classified using intelligence quotient scores (IQ). Learners classified as having a profound ID have IQ of less than twenty while those with a severe intellectual disability have IQ in the range twenty to thirty-five. Moderate intellectual disability is associated with an IQ thirty-six to fifty. Children who fall under the categories of ID mentioned above can generally be identified very early in life because of obvious physical characteristics and marked developmental delays in many areas. However, those with a MID have an IQ of fifty-one to seventy and are usually identified when formal learning begins at school (Engelbrecht & Green 2009:198; Kirk *et al.* 2006:158). This study focuses on learners with a MID hence there is need to seek deeper conceptual understanding of the disability.

2.7 BASIC CONCEPTS OF MILD INTELLECTUAL DISABILITY

It has already been highlighted in chapter one that the official construction and definition of ID is tied to IQ scores which are also tied to the normal distribution curve. The range of IQ scores in learners with a MID, of fifty-one to seventy were mentioned in the classification. Defining MID in terms of IQ only may leave many teachers and parents without a clear conceptual understanding because IQs are mainly understood by psychologists (Dudley-Marling & Gurn 2010; Kirk *et al.* 2006). MID is characterised by general delay in cognitive development that influences acquisition of language and basic academic skills hence they learn more slowly than grade level peers and demonstrate characteristic low achievement across all learning areas (Burge *et al.* 2008:2; Rosenberg *et al.* 2008:7-10). Reinhardt (2009:1) describes the term MID as also borderline intellectual functioning or slow learners because they tend to be concrete thinkers and have difficulty remembering previously learned information and find it difficult to generalize. Based on the IQ scores that are tied to the normal curve, the term “educable” was used not only to distinguish learners with a MID from other classifications of ID but also in relation to the assumptions that they had the ability to become literate at a basic level and to acquire the basic vocational skills necessary for independent adult living, as opposed to the other categories who were expected to be dependent on other people in their entire lives (Raymond 2012:91). MID is therefore, a cognitive condition of a person with an IQ in the range fifty-one to seventy, originating before the age of eighteen years, which result in limitations in intellectual functioning, conceptual, social and practical adaptive skills. The definition makes IQ score important and can be likened to a letterhead or essential identifying mark in a very important document.

In South Africa diagnosis of a learning barrier does not necessarily equate to an evaluation by a specialist, therapist or psychologist (DoBE 2010b:27). However, normal practice for identification of MID demands relying on psychologists for IQs even if it has been observed that they use the old westernised IQ tests that have been known to doing more harm than good to people with ID and their families (Links 2009; DoE 2001). On the other hand, the verification by psychologists is needed in order for the learners to access the necessary support. It is, therefore, very important for teachers to understand the characteristics and specific needs of the group in order to provide meaningful IE (UNESCO 2009b:59; DoBE 2010b:27). Teachers and parents can therefore make use of complementary definitions such as the one given by the Ministry of Education in the Ontario Curriculum Unit Planner (2002:67). The definition seems to sum up what to expect in school when working with children with a MID. In this planner MID is defined as:

“A learning disorder characterised by:

(a) An ability to profit educationally within a regular class with the aid of considerable curriculum modification and support service.

(b) *An inability to profit educationally within a regular class because of slow intellectual development.*

(c) *A potential for academic learning, independent social adjustment and economic self-support.”*

2. 8 PREVALENCE OF MILD INTELLECTUAL DISABILITY

Determining the prevalence of ID is also directly related to the way ID is defined, meaning that prevalence is tied to IQ scores which are essentially based on the normal curve. The general norm has been to expect that prevalence would be slightly more than 2% of the entire population (Raymond 2012:93). The Special Olympics (2007:4) and Umsobomvu Youth Fund (2009:9) research studies revealed that South Africa has a history of good national surveillance on disability; however the availability of accurate statistical information on ID in particular was scarce. This is because before 2007 mental disorders, emotional disorders and ID were combined in all basic prevalence counts in household surveys done by Statistics South Africa (e.g., in census 1996 and census 2001). ID is now separately identified but there are still inconsistencies in statistical information both locally and internationally. According to Umsobomvu Youth Fund (*op cit*), there are more than one million people with ID in South Africa. Those classified as having a MID are generally estimated to account for about 80%-90% of the entire population of learners with ID (Raymond 2012:93). The prevalence of MID is about ten in every one thousand (10:1000) (UNESCO 2004:143; Engelbrecht & Green 2009:201). The information is inconsistent with internationally based research sources which found that the prevalence of MID in children living in rural South Africa was 29.1 per 1000 (Pomon Project 2011:79). This high prevalence is consistent with other international studies which found that the prevalence of MID was less than 10 per 1000 in developed countries, while it was 25 to 30 per 1000 in developing countries (Pomon Project 2011:1-2; Maulick *et al.* 2011:419-435). Statistics like these do not only inform about inconsistencies but seem to give an impression that the prevalence of MID is not as alarming as where it is reported that over 50% of learners in a class have a MID by some teachers in the disadvantaged village primary schools. Again as already mentioned earlier, the prevalence of children with ID is related to the way ID is defined hence the outrageous over-identification of MID in the disadvantaged village may have much to do with conceptual definition commonly used in the village which often means someone who cannot read or write, grade repeaters or learners not making significant progress in school work. Such learners may be erroneously labelled as having MID. Thus, some of the cognitive disabilities, conditions and practical situations that could easily be confused with MID should be reviewed.

2.9 COGNITIVE CONDITIONS AND SITUATIONS THAT MAKE IDENTIFICATION OF MILD INTELLECTUAL DISABILITY DIFFICULT

2.9.1 Learning disabilities and emotional behaviour disorders

The cognitive disabilities that share features which can be confused with MID are: learning disabilities and emotional behaviour disorders which include Attention Deficit and/or Hyperactivity Disorder (ADHD). According to Boxall (2002:195); Sabornie, Evans and Cullinan (2006:95) and the Ontario Curriculum Unit Planner (2002:70) the two, together with MID, are the three high-incidence disabilities in ordinary schools. Furthermore, the major challenging attribute common to these disabilities is that they all present difficult and controversial diagnostic problems obviously because of similar and common characteristics pertaining to academic failure. The three disabilities are also of high risk, comparative to the normal population, with respect to social failure in school settings; hence the above mentioned authors strongly recommend that considerations for the other two disabilities are very helpful when dealing with any one of them. Rosenberg *et al.* (2008:8-9) also acknowledge that learners with MID share many social difficulties with learners with learning disabilities. These social difficulties include inability to read social cues and interact successfully in conversations; lack of affiliation or involvement in school social activities; low social status and negative self-image.

Among learners with learning disabilities and with reference to learning difficulties in mathematics in particular, two conditions can also be easily confused with MID, namely, dyscalculia and dyslexia (UNESCO 2009b:66-67). When comparing and contrasting them, one finds that they are similar to MID in different aspects. A learner with dyslexia has difficulties pertaining to literacy mainly, which may at times cause mathematics difficulties. For example, a child may not have problems with doing actual calculations but may fail mathematics due to not being able to read and understand the word sums. A child with dyslexia often has problems in attention; memory; speed of processing; sequencing skills; auditory and visual perception; spoken language and motor skills, all of which are problems that are peculiar with MID. The major exception is that a child with dyslexia has average or above average IQ just as in the case with learners with dyscalculia. A child with dyscalculia has a mathematical disorder that is not necessarily linked to reading words and has language abilities that are above average generally but the common ground with MID is that of not being able to learn basic mathematical skills. The above observation highlights how two different conditions may have the same effect as MID. Thus, many students can be easily mistaken for having a MID when it comes to mathematics.

2.9.2 Health and environmental deprivation related problems

It is not only other cognitive impairments that can be mistaken for MID. Children with poor performance are often classified as having a cognitive disability if there is no proper assessment (UNESCO 2009b:66). According to Karten (2005:34), conditions such as epilepsy, heart condition, asthma or even HIV and AIDS may also present an array of learning problems. Therefore, some students with the above conditions may demonstrate characteristics peculiar to those in a child with a MID. Wilson (2002:209-210) concurs with Karten and adds that such conditions can interfere with the child's access to environment and diminish the child's learning opportunities in less obvious ways than in deafness or blindness.

In addition to health problems are environmental deprivation related problems such as poverty, insufficient food or proper sleep due to poor conditions at home. For example, a child who is hungry or has not had proper sleep may have difficulty in focussing or attending in class. This in turn becomes a barrier in that it limits opportunities of engagement in learning and the results are likely to be poor academic achievement. For a child with such a barrier to learning, access to the curriculum is denied because concentration is the most basic prerequisite essential tool to learn and progress (Jooste & Jooste in Landsberg *et al.* 2008). Therefore, ways of minimising the interference of such barriers to learning should be explored to create learning opportunities for children in the Foundation Phase. In this respect, Engelbrecht and Green (2009:198-199) acknowledge that the most likely reason for poor progress in Grade 1 in South Africa is environmental deprivation rather than organic disability. They further reveal that at times, the two may interact such that a mild organic condition, exacerbated by underdeveloped cognitive process, becomes a barrier to learning. Raymond (2012:101) advises that educators and parents should seek to provide a rich and intellectually stimulating environment for all children so that they will be enabled to function at the upper limits of mental aptitude, whatever those may be. It is therefore important for parents and teachers to be able to distinguish the effects of health and environmental deprivation related problems from a MID in schoolwork. As already mentioned in this study, there is lack of early detection of mild disabilities or mild organic conditions.

2.9.3 Lack of success in early detection of mild disability

Apart from difficulties in distinguishing MID from other conditions Rosenberg *et al.* (2005:4) highlight that a reason for lack of success in early detection of mild disability is that children display slight developmental problems that are virtually unnoticeable to the untrained eye. Even in cases where difficulties are noted in pre-school, there is no guarantee that these problems will persist into later developmental periods. Even after identification, it is difficult to be certain that it is ID (UNESCO 2009b:62). Thus, it is possible that even with quality inclusive education and quality

support, learners with a MID may not be identified till late in the primary school. On the other hand, lack of meaningful IE may cause over-identification as highlighted above. Consequently, there is a general lack of awareness and skills for dealing with diversity and identifying needs in learners (DoE 1997:35). This situation suggests that psychologists and teachers face challenges in identifying learners with a MID. This is discussed in the ensuing section.

2.9.4 Challenges involving psychologists and teachers

Soudien and Baxen (in Watermeyer *et al.* 2006:154) highlight that while definitions are constructed to advantage people with disabilities, the opposite is often true. There are serious problems linked to using standardized intelligence tests to assess objectively the mental age or intellectual functioning level of learners (UNESCO 2009b:59; DoE (1997:23). However, as highlighted earlier on, the definition and concept of ID encourages psychologists to come up with formal IQ scores as they play a major role in identification and classification. Frequently, educational psychologists play a solitary role in assessment which runs against the advice of parents and teachers (Birnbaum 2010:18; DoE 2008a) and thus continue to promote non-inclusive ways of working in education (Farrell 2006). Farrell (2006) further notes that in some countries educational psychologists have abandoned their traditional routes in psychology and adopted school-based consultation as a method of working that is more inclusive. This is because the tools they used have erroneously classified many students as having ID after obtaining low IQ scores, while in reality they did not have sub-average intellectual functioning.

In a study involving the policy/practice problem in South Africa education, Jansen (in Kraak & Young 2000:41) observed a growing distance between policy and practice in education. For example, the endeavour to empowering teachers and parents in identification of learners with disabilities may have been taken in the best interest of the learners, but teachers may experience problems since mainstreaming of learners with barriers to learning increases teacher workload significantly (Chisholm, Hoadley, wa Klvulu, Brookes, Prinsloo, Kgobe, Mosia, Narsee & Rule 2005:138). Moreover according to Hoadley (in Maile 2008:149), teachers view identification, support and monitoring of vulnerable children as not only a contributor to job stress but also as an additional and overwhelming task for which they are not equipped. In general, teachers believe that they are not equipped to teach learners experiencing barriers to learning and that specialists should take over once a learning breakdown occurs (DoE 1997:35). This belief has contributed to labelling and to the association of special needs with learner inadequacies. In the context of the study at hand, it appears that teachers lack knowledge and skills to describe MID in terms of ability, potential, limitations and characteristics that may easily lead to screening, identification, assessment and support. This creates uncertainty among teachers about their role in IE; hence their ability to use the SIAS strategy is highly questionable. Teachers need knowledge of

characteristics of learners with a MID in order to help in screening and identifying the learners. Some pertinent characteristics are discussed next.

2.10 CHARACTERISTICS TO LOOK FOR WHEN SCREENING AND IDENTIFYING LEARNERS WITH A MILD INTELLECTUAL DISABILITY

2.10.1 Physical characteristics

According to Dudley-Marling and Gurn (2010:151), labels are originally designed to help students hence this suggests that knowledge that leads to identifying a child with a MID is critical in enabling learners access the support they need in school (Perold, Louw & Kleynhans 457:2010). There is no rigid or fixed set of characteristics that can describe all individual learners with a MID, however, consideration of certain common beliefs about such learners may be fundamental to their success in inclusive education. As mentioned earlier, MID is usually identified when formal learning starts and this means it is not an apparent disability but a hidden one. According to Karten (2005:34) a hidden disability is not seen by looking at a person. If it were not for the academic demands made in school, learners with a MID would be undistinguishable from children who are considered not to have disabilities unlike in the case with moderate, severe, and profound categories of ID (Engelbrecht & Green 2009:200). Raymond (2012:103) states that learners with a MID may have a few or no observable physical differences but there will be observable developmental problems consisting of slight motoric immaturity or slowness to develop. The more observable characteristics (Ontario Curriculum Unit Planner 2002: 68-70; Rosenberg *et al.* 2006:9; Engelbrecht & Green 2009:198-200; Rosenberg *et al.* 2008:7-10) include: certain cognitive characteristics; adaptive skills, communication and social relations characteristics; and emotional characteristics.

2.10.2 Cognitive characteristics

Some of the characteristics that may be demonstrated by learners who have a MID that show delays in cognitive development are:

- Literacy and numeracy levels that are typically three or more years below their age appropriate placement;
- A tendency to be distracted easily;
- Difficulty in maintaining motivation;
- Difficulty with academic subjects;
- Short attention and interest spans;
- Delays in speech and/ or language acquisition;
- Difficulty in remembering;

- Difficulties in understanding abstract concepts;
- Be easily confused by abstract and figurative language;
- Interpret language literally;
- Require support to generalise and to apply learned concepts to other situations;
- Enjoy routine and repetitive tasks.

2.10.3 Adaptive skills, communication and social relations characteristics

Learners with a MID may demonstrate some of the following characteristics:

- Difficulty in understanding non-verbal cues;
- Difficulty in social language and behaviour;
- Difficulty understanding and expressing a range of emotions;
- Immature behaviour;
- Obsessive compulsive behaviour;
- Appear clumsy;
- Require support with personal care or idiomatic language;
- Require consistency in routines;
- Frequently lose pencils, pens, books and assignments.

2.10.4 Emotional characteristics

- Afraid to take risks or to try new things;
- Use avoidance or misbehaviour to divert attention from their lack of ability;
- Demonstrate withdrawal as a response to feeling overwhelmed or to fear failure;
- Require help or significant support to establish a positive self-image;
- Lack of independent work habits in school;
- Easily frustrated;
- Vulnerable to peer pressure, teasing and embarrassment (Ontario Curriculum Unit Planner 2002: 68-70; Rosenberg *et al.* 2008:7-10).

The characteristics highlighted above suggest that teachers may find it difficult to cope with the learners. However, it is important to re-emphasize that not all students will demonstrate all the characteristics that have been found to be associated with a MID on a daily basis at school. The next part of the review presents causes and risk factors of MID.

2.11 CAUSES AND RISK FACTORS OF MILD INTELLECTUAL DISABILITY

Causes of mild intellectual disability are both intrinsic and extrinsic. They will be discussed under the following headings: genetic, metabolic and neurological disorders, health and poverty related and environmental causes.

2.11.1 Genetic causes

Jooste and Jooste (in Landsberg *et al.* 2008:384) note some intrinsic genetic causes of MID namely, Turner syndrome and Klinefelter syndrome. The first mentioned syndrome only affects females and also causes visual-spatial disorders. The latter only affects males and also causes speech and language disorders.

2.11.2 Metabolic and neurological disorders

In addition to genetic causes, Engelbrecht and Green (2009:201) cite a combination of neurological and metabolic factors. They explain that the failure of some bodies to metabolise certain body chemicals because of lack of a specific chemical or enzyme, give rise to metabolic disorders and neurological disorders.

2.11.3 Health and poverty related causes

The DoBE (2010g:19) asserts that no child is immune to potential vulnerability since vulnerability is not a constant state. Programmes that address barriers to learning for vulnerable children should involve on-going screening in order to be responsive to the children's needs as circumstances change. Disability is both a cause and consequence of poverty since disabled persons often face discrimination and marginalisation which increases vulnerability through poor nutrition, lack of access to health services, greater exposure to violence and unintentional injuries (United Nations 2007:1; Emmett in Watermeyer Swartz, Lorenzo, Scheider & Priestly 2006:208). However, Albert and Harrison (2010:12) argue that referring to the relationship between poverty and disability as a vicious circle obscures the processes of marginalisation experienced by people with disabilities and poor people. For example in IMF World Bank, poverty reduction programmes failed to take into account arguments that it was the globalisation agenda which they supported that helped to create and perpetuate poverty. Albert and Harrison (*op cit*) also state that it should not be assumed that IE was desirable. The sentiments raised above concerning marginalisation of people with disabilities were also the subject of the report, 'Reaching the Marginalized' (Laurin-Bowie 2010:1). The report warned that the global economic downturn risked creating a generation of children whose lives have been irreparably damaged by being denied their right to education.

However, the key message of the report was that failure to place IE at the centre of the EFA agenda retarded progress in ensuring that people with disabilities were not marginalised. Apparently, the two reports had conflicting views when it came to whether IE was desirable or not, but both seemed to agree that globalisation created poverty.

Dube (2010:13) confirms the interrelatedness of disability issues in all aspects of political, social and economic life of a country within Africa. Emmet (in Watermeyer *et al.* 2006:211) further note differences in the types of the “vicious cycles” of poverty between developing and developed countries. In the former, poverty was not an issue in the field of special education, while in the latter disability in impoverished contexts was strongly associated with preventable impairments. Potentially preventable impairments include congenital defects, malnutrition, childhood illnesses, lack of proper sanitation and clean water and accidents (UNICEF 2011:3). According to UNESCO (2009b:60-61), other causes classified as preventable impairments include intake and /or abuse by expectant mothers of various toxic substances such as alcohol, tobacco, drugs including some prescribed medications which can cause MID. Women, who are heavy smokers, expose unborn babies to nicotine poisoning which is likely to cause ID due to underdevelopment. Excessive drinking of alcohol during pregnancy may result in Fetal Alcohol Syndrome or fetal alcohol effects. Many children and adults with Fetal Alcohol Spectrum Disorders in South Africa have a mild intellectual disability and demonstrate social and behavioural difficulties (Adnams 2010:438). Many infectious diseases, if contracted during pregnancy, at birth or after birth, can cause MID and these include whooping cough, measles and meningitis (UNESCO 2009b:60-61).

2.11.4 Environmental causes

According to UNESCO (2009b:60-61), environmental causes include various forms of environmental toxins and hazards and lack of a supportive environment. Environmental toxins include lead and mercury poisoning as well as household materials such as bleaches, ammonia, detergents, floor and furniture waxes and polishes, gasoline, kerosene, medicines, pesticides, paint thinners, weed killers, toilet bowl cleaners and many other toxic materials. Examples of environmental hazards include a blow on the head, radiation, birth injuries, accidents and malnutrition. Apart from environmental toxins and hazards are other contextual factors within the school and the education system, such as uncaring institutionalization. Many of the causes and risk factors infer that once a child has acquired a MID thereby, then all blame for non-achievement at school should be placed on the disability since ID is considered as a permanent barrier to learning. Jooste and Jooste in Landsberg *et al.* (2008:388) mention the stiff finger concept developed by Feuerstein: the finger points at and blames only the child for the failure to learn without considering the teacher. Yet according to the DoE (1997:11), other important stake holders are involved beside the child or the teacher, such as parents, school, education system

community, country and the world at large. Parental involvement is crucial but the reality of poverty and unemployment amongst some rural based South Africans present strong psychological and social problems, hence parental participation should be increased to make homes supportive environments that enhance children's education (Mmotlane, Winnaar & wa Klvulu 2009:537). Moreover, the key to managing inclusivity was ensuring that barriers were identified and addressed by all the relevant support structures namely: School Based Support Teams (SBSTs), teachers, school community, District Based Support Teams (DBSTs), community and special schools as resource centres (DoBE 2011c:5). The support structures must therefore take into consideration the level and intensity of support needed by the learners.

2.12 SUPPORT INTENSITY AND CONSIDERATIONS

When using IQ scores as a guide to providing appropriate support, learners with MID generally require low levels of support (Rosenberg *et al.* 2008:7-10; Kirk *et al.* 2006:158) but meaningful learning in mainstream classes depends on support services available, practical considerations and the special characteristics of individual learners (Engelbrecht & Green 2009:201). Extensive research has revealed that the social skills of learners with a MID improve when they are provided with age appropriate supports and included in general education (Giangreco & Doyle 2007:173; Rosenberg *et al.* 2008:7-10). The UNESCO's (2009a:88) research findings also show that IE is not a threat to quality education and there is no tension between quality and equity. Moreover, Engelbrecht and Green (2009:192) concede that the common recommendation in terms of supporting learners is to move away from supporting individual learners to supporting educators and the education system so as to develop competency to respond to the needs of all learners. It is therefore important not to have low expectations of academic achievement from learners with a MID as Engelbrecht and Green (2009:200-204) warn that this attitude can lead to self-fulfilling prophesy.

Birnbaum (2010:17) and Mittler (2000:131) stress that not all children require special education provision even if they have special educational needs. The existence of specialist provision reinforces deeply held beliefs that special training and expertise are necessary to teach children with disabilities and that such provisions are available in special schools. This leads to the separation of children with disabilities from the majority of children who learn in ordinary schools (Mittler 2000:131). The researcher in this study concurs with Birnbaum and Mittler's statements with reservation. While their observations may be true, attending regular school without making necessary adaptations may create a situation in which those with low level of needs (like MID) do not fit well and are neglected (Warnock & Norwich 2010:156). By right, education should be inclusive responding to the diverse needs and circumstances of learners (UNESCO 2004:143). The needs of learners with ID need to be addressed through among other things curriculum

adaptation and appropriate teacher training (UNESCO 2009c:3). UNESCO's (2009c) report further states the aim that by 2015 all children with ID should have received IE with appropriate support to ensure that each child reaches his/her highest potential. The researcher agrees that if this aim is reached, it will benefit many children. The current study seeks to establish the extent to which a national curriculum adaptation is responsive in IE to learners with a MID who live in a disadvantaged rural area. The most salient aspect deduced from this line of thought is that an adaptation in teaching mathematics basic skills to learners with MID should also work for learners who do not have special educational needs, but are struggling to learn basic academic skills. There is need to promote such programmes in an inclusive way, not as a special education treatment.

Elliot and Thurlow (2006:53-54) warn of a tendency to think that low student performance is evidence that there is a disability (MID in this case), yet there are some students who perform very well in spite of having a disability. They assert that those who perform well, despite having a disability, could perform even much better if they were provided with special needs support. In consideration of individual differences, the strategy highlighted in DoE (2008a:19-20) and Raymond (2012:92) prioritizes strengths and weaknesses of each individual child in order to determine the intensity or appropriate levels of the support that match with the needs of the child. The DoE further notes that levels one and two are low levels of support mainly linked to class teaching strategies, school culture and attitudes within the school. When this support is given, many changes that need to be made (that is, adaptations) will affect the whole school and enhance inclusion and participation of learners experiencing barriers to learning. However, implementing strategies that affect the whole school does not ensure that the progress of other groups of pupils experiencing barriers to learning will take place in the same way as with learners with a MID. In this sense, the NCS is sensitive to other issues of diversity such as poverty, inequality, age, and language (DoBE 2011c:4-5). Thus, an effective environment for learning and teaching is essential (DoE 1997:19). Central to development of such a capacity is the ability to understand the nature of the barriers.

The focus of the DoE to other areas other than the curriculum has been well received by Timperley and Alton-Lee (2008:332). They assert that focussing on curriculum issues without paying due attention to teacher quality is insufficient to improve student outcomes. In conclusion after the review of several studies by Timperley and Alton-Lee, findings were that effective teachers appeared to be effective with students of different achievement levels regardless of the level of heterogeneity in their classrooms. Chisholm (2009:19-25) states that the quality of teachers in South Africa has been high on the agenda since 2004 and the education system has put in place initiatives that focus on improving the quality of teacher education in line with the demands of the new curriculum, that is essentially an IE curriculum. Chisholm also notes that the education

system's initiatives have not met the critical needs for supply and demand of suitably qualified mathematics and Foundation Phase teachers. Smit and Mpya (2011:25) assert that most primary schools experience a lack of appropriately trained and skilled teachers in the field of inclusive education. This shows that IE for learners with a MID has been compromised. Similarly, learners in many other developing countries benefit less from education due to poor quality and quantity of instruction (Arends & Phurutse 2009:1). Some of the teaching strategies for consideration are discussed next.

2.13 TEACHING STRATEGIES FOR CONSIDERATION

According to Kavale (in Florian 2007:212), the use of effective instructional practices moves special needs education support services away from reliance on special needs intervention towards implementing effective instruction that enhances academic performance for all learners. Learners with a MID may also benefit from using such tactics, but Kavale (in Florian 2007:215) and Chisholm (2009:19-25) raise the concern that teachers often resist implementing new strategies in favour of more comfortable and existing practices that have not been effective in enhancing academic performance. Kavale (in Florian 2007) suggests the mnemonic instruction strategy which is used to transform difficult to remember facts into a more memorable form through recording, relating and retrieving information. Such methods should be adapted for special needs purposes to improve comprehension skills in reading and mathematics. An example of a mnemonic for remembering mathematics rules for solving multiple operations equations is, "***Please Excuse My Dear Aunt Sally***" (Karten 2005:213). This assists a child to learn and remember the sequence of the following steps: do what is in parenthesis first, next solve the exponents, then multiply or divide starting working from left to right, and lastly add or subtract working from left to right. Classroom routines also play an important part in developing students' mathematical thinking and reasoning but teachers need to go further and clarify their expectations about how students should contribute and respond (Anthony & Walshaw 2009b:7). Furthermore, in a study on learners engaging with transformation geometry, Bansilal and Naidoo (2012:26-39) conclude that activities which involve movement across different representation are essential for a deepening of understanding. They strongly advocate approaching the learner holistically, individual tuition, small group tuition, hands-on activities, moving from concrete to more abstract content and connecting learning to real life situations.

The few examples that have been cited as good practice in ordinary schools compare well with the good practice for supporting learners with a MID. The list below summarizes literature dealing with the support required for learners with intellectual disability.

- Appreciating and using their abilities to minimize and overcome their barriers to learning, for example, using Premack's principle which is also called Grandma's Law, "First you eat your vegetable, then you can have desert". In this strategy the teacher attaches a wanted but low-probability behaviour to high-probability behaviour, which then becomes a positive reinforcer (Kirk *et al.* 2006:194).
- Motivating learners continuously. It is generally accepted that children with an intellectual disability seem to be motivated more by extrinsic motivation than intrinsic motivation mainly because of low cognitive functioning. However, the problem with extrinsic motivation is that someone will not always be present and ready to give immediate and tangible rewards; therefore it is important to promote intrinsic motivation. Intrinsically motivated learners work harder and longer than those with extrinsic motivation (Kirk *et al.* 2006:196).
- Mathematics may be taught by using mathematics problem story, task analysis of the problem-solving steps; and a graphic organizer (Browder, Trela, Courtade, Jimenez, Knight & Flower 2010:34). Analyzing tasks to ensure that the steps are logical and small enough to comprehend.
- Emphasizing what is really important.
- Verbalizing carefully while explaining learning material.
- Using computers for reinforcing certain important cognitive skills as well as fine-motor difficulties (Jooste & Jooste in Landsberg *et al.* 2008:389).
- Games have drawn together learners and educators and facilitated understanding of their own and other worlds through active learning through role playing simulations (Fox, Fraenkel, Rowntree & Wilmot 2009:41).
- Peer tutoring has been particularly effective in the teaching provided the tutor is properly prepared and supported and the pupil is willing to accept such help (Mittler 2000:23).
- Positive reinforcement, has power to address the special educational needs pertaining to adaptive skills which are characteristic of children with MID. Reinforcement is one of the most important tools and essential for encouraging change in children's' behaviour; but difficult behaviour cannot change if good behaviour is not acknowledged and reinforced (Morgan 2009:22). The TEAM (Together Everyone Achieves More) concept related by Morgan (2009:24) fits in well with what is considered good inclusive practice for learners with MID. TEAM is an effective reinforcement approach which does among many things the following:
 1. Creates strong clear standards which influence class behaviour during the mathematics lessons;
 2. Encourages children to help one another;
 3. Encourages children to inform the teacher of any issues;
 4. Encourages friendship with peers;

5. As a team they are given a common goal which they can all work towards;
6. Does not provoke inappropriate behaviour;
7. Encourages classmates to see their classmates' disapproval of inappropriate behaviour.

Having highlighted effective teaching strategies, assessment practices are discussed, since they also play a role in determining the extent of meaningful IE.

2.14 ASSESSMENT

Assessments can be vital tools that determine if all students are learning. Sometimes it is not a student with disability that causes poor performance but test formats that are not user friendly which disable many children including those with disabilities (Karten 2005:274-279). The main purpose of assessment should be to inform and facilitate effective and efficient teaching and learning, and to identify types of support which are required by learners (DoE 1999:39). There are a variety of assessments that are done at school but in the Foundation Phase, school-based assessment is most common. According to Umalusi (2009:10), school based assessment can assess a greater spread of learners' work and allow teachers to build up a rich picture of an individual's strengths, weaknesses and levels of achievement over a longer period of time. However, reality has been that school-based assessment is geared only at identifying those who have passed and those who have failed and have to repeat grades, without getting any additional support to assist the children to learn basic skills (DoE 2000; DoBE 2009a; The Presidency of the Republic of South Africa 2011; Hoadley in Maile 2008). This research particularly seeks to assess the extent to which the use of the FFL, as a curriculum adaptation of the NCS has resulted in enhancing achievement in learning of basic skills in learners with a MID. This is done partly to achieve one of the most important priority goals for the education and training system, that is, to improve the levels of literacy and mathematics of children graduating from South African primary schools (Taylor, Fleisch & Shindler 2007:34).

It is possible for learners with a MID to learn basic skills in mathematics because research shows that even learners with significant cognitive disabilities are able to achieve statewide content standards (Cushing *et al.* 2005:7). However, the success was due to the availability of a team of professionals and para-professionals involved in adapting the curriculum to meet the child's individual educational needs as highlighted in the introduction of this study. However, such scenarios are not common in South Africa. Pillay and Terlizzi (2009:503) observe that South Africa's mainstream school environment does not provide the necessary structure to address learners with special educational needs adequately. Extensive support may only be available in well-resourced schools in cities or towns and may not be available in poor rural areas like the disadvantaged village, where the general education teachers are the sole natural supports and the

material resources could be minimal. In this regard some problematic areas and challenges for teachers need to be discussed.

2.15 PROBLEMATIC AREAS AND CHALLENGES FOR TEACHERS

Based on low practicability levels of the some of the strategies that can work and problems with school based assessment highlighted above, it may seem difficult to accommodate learners with a MID in the ordinary classrooms. Teachers face challenges when considering the characteristics of these learners that teachers have to deal with in overcrowded classrooms with inadequate learning resources (UNESCO 2009c). Brown, Howcroft and Jacobs (2009:448-459) assert that teaching learners with ID, in particular, is demanding due to the diverse needs of learners and the difficulty in finding a responsive programme that is effective and usable for all learners. Furthermore, Reinhardt (2009:1) informs that learners with a MID may have good verbal conversational skills and consequently others may expect more from them than they are able to produce in the average academic situation without extensive support. Rousselle and Noel (2007:362) observe that lack of basic mathematics skills, such as counting efficiently, understanding the meaning of numbers or calculating as other children do, is a handicap both in and outside school in the same way as not being able to read. Generalisation, visualisation and critical thinking are problematic areas for learners with a MID, hence working with learners with ID poses unique challenges (Brown *et al.* 2009:448; Makina 2010:27; Chezani, Drasgow & Marshall 2012:22).

In addition, challenges emanate from the curriculum. Engelbrecht, Green, Naicker and Engelbrecht (2004:70) mention that the NCS made new demands on teachers and the experience was understandably stressful. Links (2009:9) stresses that the curriculum is among the biggest challenges and barrier to teaching and learning, especially if it is not able to accommodate the full spectrum of learners experiencing barriers. The government's stance to have the responsibility of educating learners with MID in the regular classrooms should recognise that such learners need to have their special needs addressed (UNESCO 2009c:4). According to Smit and Mpya (2011:33), educators need more than subject knowledge to implement inclusive education and to combat a classroom culture of neglect of learners experiencing barriers to learning. Therefore, the curriculum should not be among the barriers or challenges to IE of the learners with a MID. The next chapter reviews IE, curriculum and curriculum adaptation in South Africa.

CHAPTER 3

INCLUSIVE EDUCATION, CURRICULUM DEVELOPMENT AND CURRICULUM ADAPTATION

3.1 INTRODUCTION

Chapter three focuses on inclusive education, curriculum development and curriculum adaptation. It commences with the concepts, policies, milestones in the development and implementation of IE in South Africa. The conceptual understanding of a national curriculum is explored next. It is followed by a review and analysis of curriculum development and changes in the period soon after the inception of democracy in South Africa. This is done keeping in mind the new roles the new curriculum implied to mathematics teaching and learning for learners with a MID. The three national curricula, Curriculum 2005 (C2005); Revised National Curriculum Statement (RNCS); and National Curriculum Statement (NCS), are reviewed. The NCS contains the Curriculum Assessment Policy Statements (CAPS) which used the Foundations for Learning (FFL) in developing the mathematics CAPS. Lastly, FFL is discussed as a national curriculum adaptation.

3.2 THE BASIC CONCEPTS OF INCLUSIVE EDUCATION

Learning needs arise from either intrinsic, extrinsic or both as highlighted in chapter one and chapter two. According to DoBE (2010d: 37), many learners in South African ordinary schools do not receive the special attention they need in spite of the policy of inclusion. Farrell (2009:132) and Nkomo and Vandeyar (2008:3) indicate IE refers to increasing the participation of learners with disabilities under the conditions that will enable the successful implementation of policies that create social justice in the classrooms. Moreover, the curriculum should be rooted in the needs and experiences of the learners.

The DoE (2004:8) states that the education system has an obligation to deliver high quality education for economic growth and social development. Warnock and Norwich (2010:21) note that the greater the pressure to raise academic standards, the worse the fate of those who cannot meet those standards. Warnock and Norwich (2010:33) further indicate that the question of equality at school does not literally mean under the same roof. They argue that in some situations, such as secondary school mainstream placement for learners with a MID, under the same roof was often a very negative experience that could affect and hinder the learners for their entire lives. Conversely, Thomas and Loxley (2007:133) believe that IE means the end of separate schooling systems and the inclusion of all learners in ordinary schools, while paying attention to any features of a student's difficulties that may create difficulties in school. In other words, IE implies that learners with a MID

should learn in the ordinary school classrooms with their peers who are considered to be without a disability. Taylor and Harrington (2003:31) define IE as serving students with a full range of abilities and disabilities in the general education classroom, with appropriate in-class support within a single seamless system and a variety of learning contexts and resources according to need (DoE 1999:8). Anything less than educating learners with disabilities within the boundaries of the regular classroom is not IE, but part and parcel of the previous policies of mainstreaming and integration.

Policies of integration focused on changes or requirements that the learners with disabilities needed to meet to fit in ordinary schools; if not, they had to learn in segregated schools (Engelbrecht in Engelbrecht *et al.* 2011:8; DoE 2001:17). Mainstreaming learners with disabilities, according to Taylor and Harrington (2003:31), meant either a way of implementing the least restrictive environment which may not necessarily have been the regular classroom, or integrating students with disabilities into regular classrooms for the entire day. According to UNESCO (2009a:53), the idea of special school placement in mainstreaming and integration was taken to be counterproductive of IE, hence to be avoided wherever possible. Worse still several researchers described special education placements in special schools as socially isolating, stigmatizing, disempowering, reducing expectations, stressful, shameful and focussed on deficits; and typically delivering poor quality services (Smith in Smith 2010:47; DoE 1999:8; UNESCO 2009b:59; Dudley-Marling and Gurn 2010:1-6). In spite of the above mentioned conceptions of IE, most countries still include special school placement (Wildeman in Pendlebury *et al.* 2009:32).

According to Soudien and Baxen in Watermeyer *et al.* (2006:162), the policies in South Africa also acknowledge that some learners may require more intensive and specialised forms of support which are available in special school placements, to be able to develop to their full potential. Including special needs schools in IE systems of education has been found to be very important because of a few particular impairments, such as severe or profound ID, severe autism or multiple disabilities, where learners may need expensive specialised services that may not be available in ordinary schools (DoE 1997:18). In South Africa, the IE system considers both ordinary schools and special schools, which have the dual purpose of catering for learners with severe and profound disabilities while also acting as resource support centres for schools in the area (DoE 2008a:19). Providing special school placement for some learners has often led to IE being misconceived as still continuing with exclusionary practices or that it is very expensive, impractical or a strictly disability specific issue (United Nations 2007:84). It is not clear when, where or why issues of diversity and democracy should have fixed boundaries, be uniform, restricted and present one solution for all. If this is so, critiques that have described IE as vague, self-insulting, multi-faceted and an abstract concept process (Warnock & Norwich 2010:100) should be taken seriously. Basic concepts of IE should therefore respect that some learners need to learn in special schools, hence IE is dynamic, respects differences and enables education structures, systems and methodologies

to meet the needs of all children (INEE 2010). In reality IE settings have proved generally less expensive than segregated systems because several countries have already developed responsive and cost effective programmes to promote inclusiveness with limited resources (United Nations 2007:84).

In the introduction of this study, IE was described as a journey with a purpose. This means that stakeholders should be able to state at what point in the journey the current developments are located in terms of achieving the ultimate goal. Goals in policy framework and delivery of some full service schools are among features that have already been covered. However, on the whole, the journey seems to be slow. In an endeavour that may contribute to explaining why IE has been moving slowly, a South African study might provide a clue. In a recent South African study, the metaphor “journey’ was critiqued as potentially counterproductive and transmitting conceptual limitations which may affect the way in which IE is practised. The term journey may justify exclusion in terms of limited progress on the road to inclusion (Walton & Lloyd 2011:1-31). The other metaphors identified as inadequate include goal, building and hospitality. The metaphors pertaining to hospitality are strongly critiqued. The metaphor suggests a picture of the education system as a gracious host with rights of admission but now expanding its capacity to receive and accommodate previously unwelcome guests, the extent of which is determined by the school’s capacity to cater for them. As a result use of hospitality metaphors direct focus on the accommodations, catering arrangements and availability of reservations for individuals within the largely unreconstructed education system instead of viewing IE as an on-going and incremental reduction of marginalisation, discrimination and other exclusionary practices. A more acceptable concept of IE would be providing adapted, individually tailored education for all children in peer and age related groups, across a variety of needs, abilities and levels of competences (INCLUES leaflet 2006). This current research is based on the belief that IE should be feasible and responsive to all learners. Thus, FFL is viewed as one of those responsive interventions that can promote IE of all learners experiencing barriers in learning basic skills but with particular focus on those with a MID. The principles of IE, which are inclusivity, flexibility and language (EENET 2011; INEE 2010:11), are discussed next.

3.3 PRINCIPLES OF INCLUSIVE EDUCATION

3.3.1 Principle of inclusivity

Alderson and Martin (2007:171) state that inclusivity in education is primarily about accommodating the diversity of the student population. The DoBE (2011c:5) maintains that inclusivity should become a central part of the organisation, planning and teaching at each school. According to Soudien and Baxen (in Watermeyer *et al.* 2006:152) and Chisholm *et al.* (2005:138),

the Education White Paper 6 projected a new inclusionary policy that learners with special educational need be mainstreamed. The Presidency of the Republic of South Africa (2009:58) and UNESCO (2009a:7) give guidance and concepts useful for determining meaningful inclusivity in IE among which are access to quality education and exclusion. The researcher shall discuss the two issues next.

3.3.1.1 Access to quality education

The concept of quality of education needs to be defined since poor quality of education constitutes exclusion and denial of education access. Jansen (in Pendlebury *et al.* 2009:7) indicates that schools grant access to learners who were considered to be without a disability more easily than they did to children with disabilities and they do not distribute knowledge equally. Thus, physical access does not necessarily mean access to knowledge but exclusion. According to DoE (2008c:39), the curriculum has been identified as a key lever of change in the provision of quality education but has also been identified as the main contributor to exclusion for many learners in both special and ordinary schools (DoE 1999:30). Caillods (2006:2) maintains that quality of education is focussed on measuring learning outcomes and learning achievements of the national curriculum content. This is in compliance with the sixth objective of the Dakar Framework for Action which specifies that the international community is committed to improving all aspects of the quality of education and ensuring excellence for all, so that recognized and measurable outcomes are achieved by all, especially in literacy, numeracy and essential life skills. However, Myers (2006:9) warns against placing too much emphasis on simple, easily observed indicators of quality; instead profiles are useful. Caillods (2006:2) relates that initially, quality of education was equated to inputs, such as qualified teachers, reasonable class size, teacher-pupil ratios and sufficient textbooks. Inadequate provision of materials or equipment needed for learning to take place was also cited by DoE (1997:16) as one of the most serious ways in which learners were prevented from accessing the curriculum. According to Caillods (*op cit*) quality means attention should also be paid to the way the resources are used and the results obtained. In this study, quality entails focussing on inputs and resources that promote access to mathematics curriculum that may be in the FFL and the extent to which they have influenced mathematics results in IE of learners with a MID.

3.3.1.2 Exclusion

In the common view, exclusion focuses on the proportion of school-aged children who are not enrolled (The Presidency of the Republic of South Africa 2009:58). However, when it concerns students with disabilities the concept of exclusion becomes sensitive and broader to include those students whose special educational needs are not addressed at school as related earlier on in this

study. Mittler (2000:95) maintains that the process of educational exclusion begins when children do not know what a teacher is saying or what they are supposed to do. This thinking can be extended to also mean that exclusion can also begin when teachers do not know what to say or what to tell the children to do. This is highlighted in a study done in Vietnam. According to Rydstrom (2010:92), teachers in the IE program in Vietnam lacked competencies to teach learners experiencing barriers to learning, so they wished such students to blend into a regular class and succeed in the usual practices where knowledge is learnt by heart and reproduced in accordance with the abstract skills focussed curriculum. The reason for this was that either the teachers did not know how to make use of the flexibility aspect of the curriculum in assessment or that the assessment mechanisms and regulations were inflexible.

The reasoning highlighted above is rooted in beliefs that assessment processes are often inflexible and designed to only assess particular kinds of knowledge and aspects of learning such as amount of information that can be memorized, rather than the learner's understanding of the new concept involved (DoE 1997:16; UNESCO 2009a:43-47; The Presidency of the Republic of South Africa 2009). The DoE (*op cit*) adds that the seriousness of such barriers is evidenced by the large numbers of learners who are forced to repeat the same grade up to a point where the age gap between the learner and same age group learners is significant. Such situations mean that there is exclusion of learners who are not performing well (Hill, Baxen, Craig & Namakula 2012:253, 257), some of whom could be those with a MID. Furthermore, negative attitudes towards learners experiencing barriers to learning constitute exclusion and labelling learners as dropouts, repeaters or slow learners have negative impact on self-esteem of the learners (DoBE 2009b:47; The Presidency of the Republic of South Africa 2009:93; INEE 2010:12; DoE 1997:15).

The DoBE has the obligation of ensuring that every child has equal access to quality education and is able to read, write and think (Gauteng DoE 2004:3; Barnes *et al.* 2007:46). The lack of progress in learning basic academic skills reflects an incomplete fulfilment of the vision of access to quality education (Etscheidt 2012:199). The fact that the majority of South African children live in poverty in rural areas suggests that many learners lack access to quality education described earlier on in this chapter. Barnes *et al.* (*op cit*), contend that such children seem to have inherited the poverty related circumstances of their forefathers. As research has indicated, massive failure to achieve in numeracy and literacy can mean that the link between access and success is very weak in South Africa (Jansen in Pendlebury *et al.* 2009:8). However, DoBE (2010g:18) informs that the government's effort through pro-finance policies, such as supply of books and stationery, school fees exemptions and the school nutrition programmes has had positive results in terms of quality of basic education access.

3.3.2 Principle of flexibility

Alderson and Martin (2007:172) contend that the curriculum provides a balance between what is common to the education of all students and the kind of flexibility and openness required for education in the 21st century. In this regard, flexibility entails that teaching must be highly adaptive, acknowledging, respecting and accommodating diversity. According to the DoE (1997:16), if a curriculum is inflexible in nature, this will prevent it from meeting diverse needs causing learners' inability to access the curriculum, which consequently results learning breakdown. This principle of flexibility therefore contributes to meeting a diverse range of needs. The education system in South Africa has opted not to have a separate curriculum for learners with ID; instead it has commended flexibility in teaching and learning styles with peer support seen as a major resource in the classroom (DoE 1997:50; DoE 1999:30-34).

3.3.3 Principle of language

Apart from being a principle of IE, language becomes an issue in this study because teaching and learning for many South African learners is not done in Home language (HL), a situation that often leads to significant linguistic difficulties which contribute to learning breakdown (DoE 1997:31). In addition, mathematics has been defined as a language that makes use of symbols, notations and terminology that can be confusing to explain in indigenous languages. This can also act as a barrier to learning (DoBE 2011f:9; DoE 2003c:31-33). Moreover, Dudley-Marling and Gurn (2010:151) contend that the quality of schooling provided to the linguistic minority students in high poverty districts is also problematic and school failure of such students is attributed to alleged intrinsic characteristics, such as genetic inferiority, parental lack of concern and bilingualism. A common mistake in disadvantaged communities is to equate students who have limited language proficiency due to a disability with learners who have language problems that are related to learning through English, which might be a second, third or even fourth language (Elliot & Thurlow (2006:100). Some such students have been erroneously labelled as slow learners because of generalised poor achievement and referred to special classes or special schools for learners with a MID (DoE 1999:36-37; Dudley-Marling & Gurn 2010:151).

According to the Language Policy stated in DoBE (2009a:14, 41-42), DoBE (2010e:4) and DoBE (2010a:14), it is preferable for children to learn in their HL in the Foundation Phase but the children should get a solid foundation in the Language of Learning and Teaching (LoLT) from Grade 1. The policy advocates support in LoLT but sadly the DoBE further notes that this policy is not well implemented as many schools are still following Curriculum 2005 and provincial policies that require learners to start learning English only in Grade three. The confusion of when English was to be introduced can be attributed to the mother tongue emphasis and the three learning

programmes in the Foundation Phase: Home Language (mother tongue), Numeracy and Life skills without accommodation of English as First Additional Language. The current language policy in use is not only heavily influenced by apartheid but by also the preceding colonial era. English still dominates as the language of writing important examinations such as the National Senior Certificate. In this situation parents want their children to learn in English but many children have little exposure to English outside the classroom. Thus, they do not achieve the basic assessment standards necessary for effective learning across the curriculum (The Presidency of the Republic of South Africa 2009:70).

Van der Walt, Maree and Ellis (2008:489-504) developed an instrument to assess learner's language proficiency, which could help teachers and psychologists plan, implement and assess intervention in mathematics timeously. The researcher of this study supports this initiative and adds that mathematics terminology and language should be introduced in the language of writing mathematics Grade 12 examinations, which is English, in the case of the disadvantaged village. As an example, observations are that learners in the Foundation Phase are required to master names of geometric shapes in indigenous languages or fill in four lines with words just to write a three digit number in words in mother tongue. However, such skills and vocabulary are confined to the Foundation Phase only as they are not required in upper grades, at home or in other social circles. Insisting on mastery of such activities therefore shows lack of conceptual understanding that developmental progression and consistency in mathematics vocabulary are critical in tackling persistent problems in mathematics (Elliot & Thurlow 2006:76; Ensor *et al.* in Pendlebury *et al.* 2009:57).

However, in contrast to the issues raised above, some high school learners support the use of Home Language as language in learning and teaching in mathematics (Setati 2008:114). In the disadvantaged village, this may be contested by high school learners because of the use of several HLs which differ from the HLs offered in the schools (IsiNdebele and Sepedi). Learners may also side with the teachers in opposing the use HL and supporting English as LoLT for mathematics because of its social and economic power. The results of the study by Setati also show that students learning English as an additional language are not a homogeneous group; some learners are concerned about their fundamental right to learn using their mother tongue while others and teachers are mainly concerned about success in mathematics and conforming to set standards in line with the social and economic environment. To illustrate the problem of diverse opinions on this issue, MacLean in Knowles (2011:27) states that children learning English as an additional language came from diverse regions and cultures. Multi-lingualism is not confined to South Africa and it occurs in other countries as well (Leepang 2009:58). Since research findings are generally that the prevalence of language difficulties and delayed language development are high in children with an ID (Engelbrecht & Green 2009:200), an appropriate stance to support learners with a MID

in learning mathematics skills may be to teach and reinforce the language of mathematics using the correct LoLT vocabulary consistently (DoE 2001:16; DoE 2003c:31-32). From the principles of IE, the researcher moves on to policies and legislation that support IE.

3.4 SOUTH AFRICAN POLICIES THAT SUPPORT INCLUSIVE EDUCATION

The launching of anti-discrimination legislation and policies show that people with disabilities are increasingly conceptualising their lives in political terms and rejecting domination by people who are considered as not having a disability (Abberley in Watson 2008:18-19). The Dakar Framework made it clear that an inclusive learning environment was an essential attribute of high quality education and that education was to be inclusive, responding to the diverse needs and circumstances of the learners in the ordinary classrooms (UNESCO 2004:143). It has already been shown that while the notion of IE usually entails absolute absence of special needs provision of any kind outside the regular mainstream classrooms, the policies in South Africa acknowledge that some learners require more intensive and specialised forms of support available in special school placements to be able to develop to their full potential. There have been substantial achievements in policy and legislation (Inclusion Today 2008:1) but such has had limited impact on the lives of many children with disabilities because of poor service delivery and bottlenecks (UNICEF 2011:4; Hengari 2009:48; Gauteng DoE 2010:54). Jansen (in Kraak & Young 2000:48-49) showed that lack of implementation was due to the deception of policy makers who worked more diligently on appearing to improve schooling than on actually doing so. Policymakers work under stressful conditions and at an incredible pace to meet imposed deadlines, hence they often failed to incorporate suggestions from curriculum review committees and other stake holders (DoBE 2009a). However, from the perspective of some experts from the legal fraternity, Jamieson, Hall and Kassan (in Pendlebury *et al.* 2009:12-13) report that current legislation only provides a broad framework and lacks details of the exact nature of commitment required to make effective laws that can work within the legal framework. Thus, many policies do not work practically to improve the lives of many children with disabilities. Stromstad in (Allan 2003:33) believes that in democracy, people participate to make decisions in issues concerning themselves but since the current legal policies are not strong enough to mandate the government to honour its obligations in providing services for people with disabilities, a lot must still be done in this regard. The following sources of literature highlight pertinent South African policies, legislation and other documents that support IE: DoE (1999:3); Consultative Paper No 1, Gauteng DoE (2010:23-26); Phillips and Estey (2010:11-12) and DoBE (2009a). Pertinent policies, legislation and documents are as follows:

- Education White Paper 1 on Education and Training (1995) which was on the importance of addressing the needs of learners with special needs in both ordinary and special schools;

- South Africa Schools Act 108 of 1996 Section 29(1) which stated that school principals and heads of departments should consider the rights and wishes of parents in deciding where learners with special needs should be placed;
- The Constitution of South Africa Section 9(2) 9(3), 9(4) and 9(5);
- Report of the National Commission on Special Needs in Education and Training (NCSNET) and the National Committee on Education Support Services (NCESS) (1997). This report was mainly based on quality education for all learners. This report describes special needs as barriers to learning and development, with disability highlighted as one of the barriers;
- Curriculum 2005 (1997);
- Consultative Paper No. 1 on Special Needs Education: Building an Inclusive Education and Training System (DoE 1999);
- Education White Paper 5: Special Education Building an Inclusive Education and Training (2000);
- Education White Paper 6:Special Needs Education (2001);
- Revised National Curriculum Statement (RNCS);
- Convention on the Rights of Persons with Disabilities. This instrument was set to be used to engage countries in the promotion of human rights issues for everyone but mainly for people with disabilities (Phiri 2010:4);
- National Strategy on Screening, Identification, Assessment and Support school pack (2008);
- Support Needs Assessment Learner's Pack (2008);
- Curriculum and Assessment Policy Statements (CAPS) (2011).

3.5 DEVELOPMENT OF NATIONAL CURRICULA AND INCLUSIVE EDUCATION IN SOUTH AFRICA

3.5.1 The period soon after the inception of the democratic government

The period soon after the inception of democratic government in 1994 is noteworthy in this study as it gives important background of the foundation of both the national curriculum and inclusive education in South Africa. Jansen (in Kraak & Young 2000:42-43) and DoE (1999:31) described it as a race to establish a legal framework and policy under which education would be conducted in the new democracy government. The White Paper on Education and Training, notice 196 of 1995 discussed the implications of the new constitution for the education system especially in respect to fundamental rights and social justice. Special emphasis was on addressing the inequalities of disadvantaged groups such as learners with special educational needs (DoE 1995:16-17). The DoE (2003b:5-6) mentioned that social justice referred to one's responsibility to care for others to common goal of society and served to remind all humanity, both government and civil society, that

the needs of all individuals were to be met and all people should have equal opportunity to improve their living conditions. The changes were mainly politically motivated; Borat (in Chisholm 2004:31) and Naicker (2000:3) informed that from the onset of the democratic rule in South Africa, developments leading to outcomes based education were political. According to Harley and Wedekind (in Chisholm 2004:196) the aim was to purge the syllabi that existed to remove offensive, sexist and outdated content. Hill *et al.* (2012:256) and DoE (2003a:4) also concurred that the post-apartheid education system was political and not founded on principles of democratic citizenship and social justice. However, contrary to the above motivation for curriculum change, the DoE (2008c:39) argued that curriculum reform in South Africa was economically motivated as the evolution of the country from a largely agricultural and mining-based economy to an industrialized and service-based economy necessitated the adoption of a new curriculum. These economic changes brought along demand for skills that saw the curriculum being changed from teacher-centred to learner-centred outcomes based education. In support of the economic reasons for curriculum reform, UNESCO (2004b:226) affirms that the quality of education influences the speed with which societies become richer and the extent to which individuals improve their efficacy. The researcher of this study holds the view that both political and economic and globalisation issues are interrelated and all of them constituted strong motivation for changes in the education system especially with regards to IE.

In line with developments in IE, the DoE (1995:24; 1996:20) found that Education Support Services (ESS) and Special Needs in Education and Training (SNET) functioned separately and were poorly coordinated. Consequently, the Minister of Education appointed a commission to make an analysis and recommendations. According to the DoE (1997:3; 1999:5-6), historically special needs and support services tended to focus on the delivery of highly specialised interventions to a small percentage of children with disabilities in urban areas. The majority of those in disadvantaged areas and many learners with learning problems in the mainstream received little or no education support services. In addition, a division existed between education support services and special needs education. Thus, one of the tasks of the commission was to suggest ways of amalgamating the two. There was also a division between these areas and mainstream education. This meant that there was segregation of people with disabilities from accessing education in the mainstream society and the National Disability Strategy condemned the segregation (DoE 2001:10). Therefore, the other major task after inception of democracy was to change the dual system of education that encouraged segregation and discrimination of children with disabilities (DoE 1997:3).

Naicker (2000:1-3) notes that the establishment of a single education system was complex because South Africa had to shift from the dual system to an inclusive outcomes based approach with the intention of ending the separate systems that had existed for over a century. The DoE

Consultative Paper No. 1 related that there were also Green Paper processes which arose from the need for transformation of Education Support Services and Education for learners with Special Educational Needs. One of the most important challenges reflected in the green papers was the need for policy makers to focus on the full range of diverse learning needs in the entire system, in recognition that learning difficulties were experienced within all bands of education and training and across the curriculum (DoE 1999:4). Muthukrishna and Schoeman in Rix, Simmons, Nind and Sheehy (2005:53); (DoE 1999:3; Phillips and Estey (2010:11-12); and DoBE (2009a) also noted that the shift from using the term special needs education to barriers to learning and development occurred after the release of the NCSNET/NCESS report in 1997. It has already been mentioned that the official launch of building an IE and training system in South Africa occurred in 2001 and the process was to take twenty years in a context that embraces the democratic values of equality, human rights and the recognition of diversity (Engelbrecht 2006:253). According to Hill *et al.* (2012:245-246), White Paper 6 extended the perspectives laid out in the 1997 NCSNET/NCESS report. It emphasized the need to build a system that recognized many learners beyond those with disabilities, who experienced extrinsic barriers to learning arising from the system and the classrooms, whose needs were not being met by the system. Although development of IE started with the focus mainly on the desegregation and consideration of learners with disabilities, there has been a progressive broadening of the focus of IE from diversity and social justice to a concern about the benefits that came from valuing diversity (Thomas & Loxley 2007:1). It followed that to be inclusive in general education should adopt teaching methods and curricula that benefited all children (United Nations 2007:82).

The other important development that occurred soon after inception of democracy was constructing a centrally controlled single national education system from 18 departments of education to the new system which had nine sub-systems (Reddy 2006:77; Harley & Wedekind in Chisholm 2004:196; DoE 2008c:39; Sayed in Chisholm 2004:257-258). The other step taken focussed on assessment which was another crucial aspect of the curriculum. An integrated approach to education was linked to the development of a new National Qualification Framework (NQF) (DoE 1995:9). In addition to the NQF there was Continuous Assessment (CASS). According to Muller (in Chisholm 2004:223), the idea of CASS was largely borrowed from the UK and was introduced in South Africa as early as 1995 and implemented in schools in 1996. From what has been noted above, the main task was to develop a new education system and a national curriculum with appropriate assessment procedures to accommodate all children, both those in special education and those in mainstream education. The researcher's understanding of the period after inception of democracy is that both sectors, special education and mainstream education had to reform by moving towards IE and this reformation partly necessitated the development of a curriculum for all learners irrespective of barriers to learning or diversity. The new curriculum therefore, was expected to demonstrate the ministry's acceptance that learning

needs existed among learners and that where these needs were not met, learners failed to learn effectively or became excluded from the system (DoE 2001:17-18). Understanding of what a national curriculum entails is discussed next.

3.5.2 Basics of a national curriculum in inclusive education

The main aim of a national curriculum, as envisaged by Farrell (2004:107), is that all schools should provide a balanced and broadly based curriculum that promotes all-round development of learners at school and in society. In general terms, the national curriculum has statements on important values, concepts, opinions, learning strategies, selected content and planned learning experiences that have educational outcomes (Giangreco & Doyle 2007:152; Kelly, Luke & Green 2008:vii-x; Graham-Joly in Coleman, Graham-Joly & Middlewood 2003:5). The view of national curriculum, in Australian standards, includes the above basics, but adds school ethos and the ways in which students and staff behave towards one another (Alderson & Martin 2007:170). The South African concept of national curriculum augurs well with the above concepts and, according to the DoBE (2009a:11), the national curriculum statement (NCS) is at the heart of its education system as the primary source of direction for learning and teaching in the education system. Nkomo and Vandeyar (2008:3) and DoBE (2011f:5) state that access to basic education for all and inclusivity are major strongholds of the NCS. Farrell (2009:78) further maintains that the basic skills or the key skills that permeate the whole curriculum include literacy, numeracy and problem solving skills. Consequently, this study focuses on the learning of such skills by learners with a MID. The DoBE (2009a:60) noted the neglect of such students and others experiencing barriers to learning by teachers in the mainstream. Warnock and Norwich (2010:32-33) noted that learners with special needs were indiscriminately lumped together in the mainstream without paying much attention to the fact that children needed particular considerations to develop and enjoy their rights to quality education.

Curriculum development in South Africa has been ongoing as new trends keep arising. According to the DoBE (2009a:38), large scale international studies on curriculum indicate a strong discipline-based approach to school subjects which provide clear, specific, easily understood and measurable curriculum documents linked to textbooks, that provide curriculum statements that specify content at specific year levels and show progression over time. The current trend in South Africa and other countries is towards a single national curriculum, which is a 'one size fits all' but allows flexibility to reach out to all children. To emphasize what has been stated above, the Directorate Inclusive Education and DoBE (2011:4) state that all schools (special, ordinary, rural, metropolitan) are required to offer the same curriculum to all learners while simultaneously ensuring variations in mode of delivery and assessment processes to accommodate all learners. For IE to be realised in South Africa, Naicker (2006:5) believes that the national curriculum is the

single most important vehicle since the traditional curriculum alienated learners with disabilities from the mainstream classes. In South Africa, the implementation of the national curriculum started after introduction of democracy as highlighted earlier in this review. Three national curricula, namely Curriculum 2005 (C2005), Revised National Curriculum Statement (RNCS) and National Curriculum Statement (NCS) with Curriculum and Assessment Policy Statements (CAPS) have been implemented so far. Developments and analysis of which provide essential background knowledge for this particular study. The curricula shall be reviewed next.

3.5.3 Curriculum 2005 design and shortcomings

Curriculum 2005 (C2005) was approved as policy by the council of Education Ministers on 20/09/1997 and implementation began in 1998 (DoBE 2009a:12). According to Harley and Wedekind in Chisholm (2004:197-201), Outcomes Based Education (OBE) was one of the three main features of Curriculum 2005 (C2005). The other two were the philosophy of learner-centred education and an integrated approach to learning. The new approach sought to align to international standards as well (Gauteng Department of Education 2010:17). OBE and learner-centred education are discussed in more detail.

3.5.3.1 Outcomes Based Education

According Alderson and Martin (2007:163-179) an outcomes approach means shifting away from an emphasis on what is to be taught and how and when, to an emphasis on what is actually learnt by each student thereby making teaching using OBE liberating but also complex, intellectually challenging and not for the faint hearted. The fundamental of OBE was the understanding that student learning could be understood and monitored in terms of a progression and that all students were capable of learning and worthy of the teachers' support (Alderson and Martin 2007:171-173). The complexity of OBE was acknowledged by Berlach (2004:2-3) when he likened OBE to a chameleon in that, when its defining attributes were discernible, it changed colour. He stated that at first people tended to agree with OBE that "all children can learn;" "flexibility", "learners' pace," "design down," and all the other appealing premises of OBE but problems with OBE cropped up when details of what OBE ascribed to had to be done practically. However, Nes in Allan (2003:69) was more worried about the fact that OBE, as a new educational reform that was imported from the western countries and arose from the needs of globalisation and economic policies of developed countries ignored the fact that 80% of the population in South Africa lived in villages. According to Berlach (2004:7-9), OBE suffocated teachers with work overload in that teachers were required to adapt instruction to each learner in the class and continually monitor what each student has mastered and give immediate feedback. This created assessment overload, not an easy task for a class of more than 25 learners. Laugsch, Aldridge and Fraser (2007:14) stated that in

overcrowded classes the frequent formative assessment tasks in OBE translated into increased work pressure for the teachers.

3.5.3.2 *Learner centred education*

The DoE (1999:5) and DoE (2001:19) described learner centredness as an approach to teaching and learning that recognised that developing learner's strengths, empowering and enabling them to participate actively and critically in the learning process involved identifying and overcoming the causes of learning difficulties. The DoE (2001:19) further stated that the approach was consistent with international approaches that focussed on providing quality education for all learners; hence it was critical for learners experiencing barriers to learning and IE. The roots of learner centredness, according to Muller (in Chisholm 2004:223) were in philosophies of progressivism imported to South Africa from overseas in the 1930s. It survived apartheid in the private and Model C schools and was also given as an alternative to apartheid education in Peoples Education before finally being included in C2005. Muller (in Kraak & Young 2000:61) added that progressive education was what the liberation movements wanted precisely as this was what they had been denied. Horn (2009:511-515) gives a detailed comparison between learner-centredness and traditional education. Of importance to this research is that the three Rs (reading, writing and arithmetic) were not biological processes that developed like speech, basic number sense and psychomotor skills that in normal circumstances follow a definite and universal sequence. The three Rs, according to traditional education model, were artificial constructs that must be explicitly taught. Therefore, teaching was viewed as an act of direct and purposive instruction. In contrast, to the old view, the new model viewed teaching as an act of creating situations that stimulate natural learning and development. This education contends that all cognitive and intellectual powers developed automatically and followed the child's own natural pace of development. In the traditional view, the teacher was perceived as an enforcer of knowledge and executor of prescribed syllabus, while in the new model the teacher was perceived as a guide, facilitator, helper and a planner who was able to adapt learning activities to the specific needs of the learners (Links 2009:2). Although learner centredness sounded appealing, as the new model of learner-centredness spread in the 20th century, there was also gradual decline in academic performance (Horn 2009:515).

In South Africa it was highlighted that, just like OBE, learner centredness was difficult to realise in large classes (Harley & Wedekind 2004: 205-206). However, child-centred education also faltered in advantaged schools overseas and this suggests that disadvantage may not be the only factor to explain decline of academic achievement in schools. According to Lowe (2007:110-111), in the UK child centred education did not work and the public called for the return of the more rigidly structured curriculum more or less like "the old-fashioned values and proper education when

learners could spell and do long division". However, a British expert advised that the public stance was wrong and likely to downgrade the rest of the curriculum since the old ways advocated for in raising standards in numeracy and literacy were not a guarantee of educational success (Lowe 2007:133). Evidence available at the University of Johannesburg suggests that even in good systems, students who do not acquire adequate basic skills during their first years at school, have very little chance of recovering the lost years and failure perpetuated throughout their school careers (University of Johannesburg 2010:5). The DoE (2000a:19) and Lowe (2007:161) concur that the basics that children need to know have expanded as society continues to demand particular academic outcomes from schools and higher levels of the 3Rs. Moreover, back to basics or old ways in South Africa, may not be favourable considering that formerly learners with a MID and other groups of learners experiencing barriers to learning were excluded in general curriculum planning for basic education. The earlier focus was on such learners fitting into a system prepared for people considered as not a disability (DoE 2001:17; UNESCO 2009a:53; Naicker 2011:21). Curriculum implementation is discussed next.

3.5.3.3 Implementing Curriculum 2005

Tadema, Vlaskamp and Ruijssenaars (2008:529-540) and the DoBE (2010e:2) contend that implementing a new curriculum is a difficult process and is accompanied by many problems. In the case of C2005, the DoE (2000:89) asserted that implementation occurred in conditions that did not enable C2005 to meet either social or educational goals. The DoE (*op cit*) further revealed that the period in which C2005 was introduced was one of fiscal restraint and social pressure for immediate visible change. Under such conditions, much important detail was likely to be neglected. Nes in Allan (2003:69) cautioned that only previously white schools would benefit from the implementation of the reform, thereby producing further inequalities. Harley and Wedekind (in Chisholm 2004:200-201) argued that half of the primary schools and underserved schools failed to implement C2005 while historically advantaged schools flourished with C2005. The problem of learners who did not master basic skills existed mainly in learners who were from poor areas of the country (DoBE 2010d:9). Several analysts presented their views on the observations. Bloch in Maile (2008) argued that poor children in South Africa did not have adequate resources and backup from the DoE. Ensor (2004:11) observed that children from disadvantaged backgrounds were unable to grasp mathematics because they were not used to the forms of engagement promoted in OBE activities. Whatever the case, Nkatha (2011:10-12) maintained that inadequate provision put children in circumstances that caused infringement of the rights to education, equality, human dignity and protection from neglect and degradation.

In line with screening and identification of learners with a MID for the purposes of providing learner support services, there were problems when mass screening, identification, labelling, and

classification done by educational psychologists was discontinued and replaced with teacher produced diagnostic tests (Naicker 2000:11). Bearing in mind the problems cited (DoE 1997; DoE 2000), it was highly unlikely that teachers were given adequate skills to take over the leading role of identifying learners with a MID. It is therefore not astonishing that currently some teachers in the disadvantaged village believe that more than 50% of the learners in their classes have a MID and should be taken to special schools. Lomofsky, Roberts and Mwamba (in Engelbrecht *et al.* (2011:71) believe that resistance to general education change might be addressed through staff development and the whole school approach.

Apart from reasons cited above, the implementation of C2005 was certainly going to be very difficult for mathematics because of the design. In line with the fundamental principles used in the designing C2005 discussed earlier in this study, the designers of C2005 indicated that the content would not be prescribed and that teachers would choose what content to teach; what was more important was to ensure that the learning outcomes had been achieved (Reddy 2006:79). In the review on education research in the 1970s and 1980s, Young (2008:18) cited studies that indicated similar support for opposing the specificity of the curriculum. Special education is also a field where specifying content is controversial as it relies mainly on the principle of learner centredness. C2005 seemed similar to the special education behaviour techniques of teaching learners with moderate, severe and profound ID described by Thomas and Loxley (2007:21). They saw this as a system of teaching that involved breaking down learning into dozens of behavioural objectives wherein a child had to be seen to be doing something even if that thing was sub-standard. It also valued and insisted on verification of meaningfulness of learning through observation. Engelbrecht *et al.* (2011:21) verified that C2005 was compatible with IE and that emphasis was placed on establishing the conditions and opportunities within the system that enabled and encouraged all students to achieve success and regarded each successful learning experience as a stepping stone to more success. Due to such perceptions, the stance of not prescribing content was therefore deliberate.

The effects of not specifying content range, depth and quality of learning were more pronounced in mathematics and science as these subjects are specifically dependent on the selection and sequencing of content and the assessment and performance indicators depend on the content or concepts that are to be taught (Reddy 2006:84). Hence writing outcomes for these learning areas cannot be done without specifying content (DoE 2000:44). According to Nolet and McLaughlin (2000:5), the primary purpose of the content and performance standards was to focus the general education curriculum on ensuring that every student received instruction according to the same challenging standards. Since 1994 the government has emphasised the centrality of mathematics and science to the human development strategy of South Africa (Reddy 2006:77-92: Gauteng Department of Education 2010) yet the designers of C2005 failed to uphold this stance by ignoring

the fundamentals of the subjects. In mathematics emphasis was placed on relevance to learners' daily lives, contexts in which they lived and integration of mathematics with other learning areas; this led to teachers not teaching and learners not grasping mathematics per se (Ensor 2004:11). This situation was perpetuated by the fact that outcomes were so vague and had room to accommodate almost anything a child did and could be manipulated to suit one or other outcome (Berlach 2004:3). Yet what made the situation even worse was that outcomes were designed at phase level rather than at grade level (DoE 2000:44-45). Furthermore, C2005 discouraged the use of marks and percentages and introduced a number of complicated assessment requirements, such as portfolios and research projects (DoBE 2009a:8). These decisions were among many that led to the failure of the curriculum. This became apparent from the beginning as evidenced by poor performance in local and international tests and the output of public outcry about the unsuitability of the OBE curriculum (DoBE 2009a:8; Jansen in Pendlebury *et al.* 2009:8). A review was commissioned by the then Minister of Education, Kader Asmal and some of the observations and recommendations are discussed below.

3.5.3.4 The review of Curriculum 2005

As might have been expected, the review committee found that chunks of mathematics content had not been covered during teaching and learning since content was not specified (DoE 2000). They also observed that having eight learning areas in the General Education and Training band (Grades 4-9) meant that insufficient time was provided for the development of effective and efficient reading skills, foundational mathematics and core concepts in the sciences. They then suggested that there should be rationalisation of learning time and re-allocation of teaching time (DoE 2000:47). The observations and suggestions were consistent with findings from research that student achievement in mathematics was positively related to the time spent studying the subject at school, both across and within countries (UNESCO 2004:48; Grouws & Cebulla 2000:10). The work of the committee led to the overhaul of the national curriculum and the introduction of the Revised National Curriculum Statement (RNCS) that re-defined the structure and simplified some of the complexities of the first version of the C2005 which undermined the mathematics delivery of the curriculum in the General Education and Training and Further Education and Training curriculum. The aspects of C2005 that remained and were used in the aims of the RNCS were the Critical Outcomes and the Developmental Outcomes (DoBE 2009a:13). The RNCS were completed in 2004 are discussed next.

3.5.4 Revised National Curriculum Statement design and shortcomings

The DoBE (2009a:13, 45) revealed that RNCS explicitly attempted to shift from a local, primarily skill based and context dependant body of knowledge inappropriate for schooling system in OBE.

The review panel noted advanced academic purposes of the curriculum and guidance on what teachers should be doing in the classroom (DoBE 2009a:15). One of the main changes was the learning outcomes and assessment standards which were designed down from the critical and developmental outcomes. RNCS was introduced through learning area statements and learning programmes that were to be used by teachers in planning and pacing their work over long and short term periods, while having also to keep separate assessment portfolios for teachers and learners (DoE 2003b:11-14; Chisholm *et al.* 2005:16-18). According to DoE (2003b:6-11; 2005:41) and DoBE (2009:13), the RNCS was not a new curriculum but a simplified, streamlined, strengthened and clarified version of C2005. However, in reality only the critical and developmental outcomes remained. The message that RNCS was not a new curriculum caused confusion. Provinces developed their own interpretations and supporting documents of RNCS that led to widespread confusion about what constituted official education policy (DoBE 2009:13). Instead of developing proper assessment policy, RNCS introduced various forms of content framework, which were meant to provide the content and the teachers were required to teach while continuing using the old assessment policy for C2005 (DoBE 2009:13). Chisholm *et al.* (2005:17) stated that in RNCS, assessment strategies were amongst the items to be identified in the learning programmes, work schedules, and lesson plans. The statement simply meant that assessment procedures were scattered in many documents and were not clear. Moreover, further guidelines for assessment were done at provincial level; provinces developed their own interpretations of the RNCS. As might have been expected, the result was an uneven specification of content and assessment across all learning areas, subjects and grades necessitating the need to produce additional documentation where gaps existed (DoBE 2009a:13). Too many documents on assessment were challenging and the rapid, ongoing and frequent restructuring of the curriculum over a short period of time caused uncertainty and anxiety among teachers (Reddy 2006:79). This led to work overload and job stress (Chisholm *et al.* 2005:19-20).

With regards to IE the DoE (2005:48) asserted that RNCS could be adapted through the principle of flexibility, and that competencies could be demonstrated in a variety of ways using different modes of response, both verbal and non-verbal. Furthermore, the DoE (2005: 97) emphasized that inclusive assessment strategies formed part of everyday teaching and learning and were not confined to formal assessment or continuous assessment. Assessment standards did not prescribe method (DoE 2003b:14) meaning final decisions on assessment were left at the discretion of teachers. Learners experiencing barriers to learning because of ID required a curriculum which straddled two or more grades or phases. However, it was impossible to do grade straddling with vague assessment standards that were limited in showing progression. This made the additional paperwork that teachers had to do in planning for learners with an ID fruitless (DoE 2005:21). The most critical revelation about the RNCS was that in some learning areas, the assessment standards and learning outcomes did not include content just as in the case with

C2005. Thus, there were no guarantees that the key content concepts and skills were being covered. In this regard, the researcher of this study vividly remembers how this was a problem for teachers during the Economic and Management Sciences (EMS) NCS training in 2006 in Gauteng North. The facilitator struggled to make the teachers understand the concept of “unpacking” assessment standards to make phase plans and grade work schedules. Interestingly during group report backs one would notice marked differences in interpretation and understanding of certain concepts. One could actually question if there was justice done to the children by “leaving considerable room for creativity and innovation on the part of teachers in interpreting what and how to teach” (DoE 2003b:12). This meant that RNCS was ineffective in providing a means for “designing down” what to teach. Making adaptations for learners experiencing barriers to learning was impossible since the content of what was to be designed down could not be pinpointed (DoBE 2009a:45). The teaching of learners experiencing barriers to learning was an issue for teachers due to lack of learning and teaching support materials. Teachers lacked guidance on how mainstreaming of the learners was to work practically, thereby contributing to job stress and teacher workload (DoBE 2009a:60; Chisholm *et al.* 2005: 20 &138). As a result, there were reports of neglect of learners experiencing barriers to learning (DoBE 2009a:60).

With so many shortcomings, several minor interventions were made over time but these changes did not have the desired effect (DoBE 2009a:5) and evidence of school failure was mounting (Jansen in Pendlebury *et al.* 2009:3). Thus, the DoBE decided to suspend participation in regional and international standardised tests until further notice. For example, The Presidency of the Republic of South Africa (2009:65) decided that South Africa would not participate in 2007 TIMSS (Trends International Mathematics and Science achievements) until further notice in order to focus on addressing the problems of school failure. The FFL was launched in 2008 to promote learning and teaching of basic academic skills; at the same time it provided more clarity on content, progression and assessment (DoBE 2009a:46). Within the period of the FFL, the last curriculum review was commissioned by the Minister of Basic Education in July 2009 and the final report was submitted to the Minister in October 2009 (DoBE 2009a:5). According to the DoBE (2011b:4) the Minister of Basic Education announced the decision to implement the recommendations of the task team on 20/10/2009.

3.5.4.1 The review of the Revised National Curriculum Statement

The review of RNCS committee of the DoBE (2009a:45-48) noted that some of the recommendations of the C2005 review committee had not been addressed in RNCS, such as overcrowding of learning areas in the Grades R-9 (GET Phase) (Chisholm *et al.* 2005:15). The committee came up with a five year plan consisting of short, medium and long term interventions which were to improve teaching and learning with the main focus on assessment as the area

where most of the criticism had been aimed in C2005 and RNCS. The main recommendation was that simple and subject specific assessment guidelines should be included in the Curriculum and Assessment Policy Statement to replace complex and generic assessment requirements (DoBE 2009a:65). The other recommendations that are pertinent to this research on IE relate to the principles of IE: inclusivity, flexibility and language.

On the issue of reported neglect of learners experiencing barriers to learning, the review panel recommended that clear guidelines had to be made available to teachers and training of teachers provided, where necessary, in identifying and supporting learners with special educational needs (DoBE 2009a:60). Firstly, the needs of the child should occupy a position of prime importance in the assessment of disability (Andrews *et al.* in Watermeyer *et al.* 2006:250). The panel also recommended the investigation and improvement of the functioning of SBST where necessary. The recommendations were in line with one of the key elements of IE policy as identified in DoBE (2010c:5) that South African IE included providing enabling education structures, systems and learning methodologies to meet the needs of all learners. The teaching of English as First Additional Language (FAL) and Language of Learning and Teaching (LoLT) was to be given priority and to be taught in parallel with Home Language (HL) or Mother Tongue from Grade 1 (DoBE 2009a:50). In this regard, the Foundation Phase needed to change to four subjects, instead of three, to accommodate the teaching of English with HL recommended to be taught for six hours, while English to be taught for five hours per week.

The last crucial aspect impacting on IE was the management's capacity to mediate the curriculum in interpretation of curriculum documents for implementation in the classroom. The recommendation of the review committee was that principals teach as directed in the policy and that their role as curriculum instructional leaders be asserted (DoBE 2009a:58). The RNCS was a curriculum for all learners and teachers were encouraged to make use of the principle of designing down, breaking down or scaffolding in planning or adapting learning programmes, work schedules and lesson plans (DoE 2005:41). These could not be done due to variable confusing interpretations and lack of specificity in content and assessment of the RNCS already cited in this study; RNCS could therefore not be classified as responsive to the needs of learners at national level. The RNCS, therefore, needed to be adapted at National Level for it to be measurable in terms of the extent it was responsive to the need of all learners to learn basic academic skills. As highlighted in the definition of terms, the main purpose of doing curriculum adaptation is to fulfil the mandate to be responsive to the educational needs of the learners in the education system and not simply provide a place for learners with special needs among their peers without variation of instruction or assessment (Rose *et al.* 2005:127). The NCS is discussed next.

3.5.5 National Curriculum Statement (NCS)

Among content written on the covers of CAPS documents are: National Curriculum Statement (NCS); Curriculum and Assessment Policy Statement; and CAPS-structured, clear, practical, helping teachers unlock the power of NCS. However, clarity in schools is lacking about the name of curriculum that is being phased in. According to the DoBE (2011c:iv; 2011e:2), the name of the new curriculum is National curriculum Statement (NCS) and National Curriculum and Assessment Policy Statements (CAPS) is one of the three documents that constitute the NCS. The other two documents are National Policy pertaining to the programme and promotion requirements of the NCS and the National Protocol for Assessment Grades R-12. The NCS was built on previous curricula. Thus it is an updated version that addresses some of the problems and complaints that had been raised in the former curricula by providing clearer specifications of what is to be taught and learnt on a term by term basis and reducing the number of school documents to be consulted to three (DoBE 2011f).

The other major change is careful attention not associate the NCS with OBE by removing terms such as “outcomes” in headings, which are replaced with terms like general aims. On closer scrutiny, those are the critical, developmental and specific outcomes, learning outcomes and assessment standards that were in the RNCS. However, most of the rhetoric about IE has been retained, including that teachers have to have a sound understanding of how to recognize and address barriers to learning (DoBE 2011c:5). However, the DoBE has to work towards fulfilling and supporting its action plans and goals to ensure effective implementation of IE (DoBE 2010g: 24). In spite of the recommendation of the panel of experts on the time required for support in LoLT, in CAPS, allocation is maximum of three hours per week for English FAL instead of the recommended five hours (DoBE 2011c). This oversight might affect teaching and learning of mathematics since the official LoLT for mathematics is English in the disadvantaged village. Having more time allocated to learning English is likely to enhance the learning and teaching of mathematics in the upper grades. However, the process of making clear what, how and when to teach curriculum content seem to have been addressed. The main question that remains is to determine how the effected curriculum changes support IE of learners who are experiencing barriers to learning. Curriculum adaptation is discussed next.

3.6 CURRICULUM ADAPTATION

3.6.1 Curriculum adaptation basic concepts

The impoverished curricula frequently provided to learners with a MID in special schools or remedial classes was a problem because the ideas and concepts frequently untaught or de-

emphasised were the very ones needed in everyday life and in the workplace (Grouws & Cebulla 2000:12; Naicker 2000:4; Dudley-Marling & Gurn 2010:6). Taylor and Harrington (2003:93) concede that the benefits of having children with disabilities participating in ordinary school classrooms are that their expectations are raised. They also explain that the higher expectations often lead to changes in the curriculum, educational strategies, and increased use of accommodations or adaptations to assist the students in reaching higher standards. Studies by UNESCO (2009c:77) and Fuchs *et al.* (2006:59-63) pointed at curriculum adaptation as one of the main elements that result in inclusive education.

According to Reinhardt (2009:2-3), the term adaptive skills when used in education of learners with a MID pertains to factors such as gaining social skills, self-awareness, flexibility, independence, motivation and positive attitudes. These all play a crucial role in equipping learners with functional skills that enable learners to function in ordinary schools. However, when the term curriculum adaptation is used in the national curriculum, it concerns a shift from the individual to the education system structures and has a lot to do with implementation of the accommodations or modifications on attributes of education content or requirements that may be helpful to ensure success in education, such as extra time for tests and reduced amount of work in class assignment. Basilicato (2012:2) and Lee *et al.* (2009:41) explain that curriculum adaptations are modifications to the way the content is presented, represented or the way the student responds to the curriculum. The principle behind curriculum adaptation is that the school is mandated to be responsive to the educational needs of the learners and not simply to provide a place for learners with special needs among their peers without variation of instruction (Rose *et al.* 2005:127). More specifically to the South African context, the DoE (2005:8) defines curriculum adaptation as any modification or adjustment made to learning, teaching and assessment or any of the components of the RNCS that relate specifically to instruction or the content of the curriculum. The DoBE (2011f:14) emphasises that the number of activities to be completed by learners experiencing barriers to learning should be adapted without compromising the concept and skills that are addressed in mathematics. In the following section curriculum adaptation for individual learners in the classroom are discussed, followed by curriculum adaptation for school, district and national levels.

3.6.2 Curriculum adaptation at classroom level and related concerns

Swartz and Schneider (in Watermeyer *et al.* 2006:235) distinctly state that a school with very poor facilities and inadequate resources, inadequately qualified teachers and large classes could not reasonably hope to provide optimal learning opportunities for learners with disabilities. Morrow (2007:94-95) revealed that the system had thousands of teachers who neither had the competences nor the willingness to implement policies capably. Oyler (2011:207) emphasised that

teacher training programs should urge teachers to teach inclusively because of the differences and not in spite of the differences. However, contrary to the above sentiments, Mittler (2000:132) contends that most teachers already have knowledge and skills needed to teach inclusively but lack confidence in their competence due to long-standing mystification of special needs expertise, which made them believe that special training was a precondition for inclusion. Special education was taken to mean not just segregation in special schools and mainstream education but also the special procedures, techniques and systems used when teaching learners with special educational needs (Thomas & Loxley 2007:19; DoBE 2010c:5-6).

According to Simui (2009:73), the way IE was perceived by people was influenced to a large extent by its origins in special education. Therefore, to have IE as a sub-unit within a special needs education department as is the situation in some countries perpetuates the perception that IE was synonymous with special education, which was exclusive to learners with disabilities. In South Africa IE is not a sub-unit in special education. However, Hill *et al.* (2012:253); highlighted a case study in Mpumalanga Province where teachers conceptualised IE in terms of ability and disability as in the case of special education. To this effect the DoE should see to it that teachers are fully aware that IE is not synonymous with special education and that inability to do academic tasks is not synonymous with disability (Hill *et al.* 2012:253). In consideration of the above information, the researcher concurs with Oyler's (2011:207) call for teaching programs that properly prepare teachers for their important role of providing learners with working arrangements responsive to their learning needs in mathematics (Anthony & Walshaw 2009a:151-152; Kruss 2009:15). Moreover, placement of learners with a MID in general education should not mean that they are the only ones to receive special or individual attention in class (Burge *et al.* 2008). Other factors influencing learner performance should be considered when making curriculum adaptations for individual learners in the classroom (DoE 2005:90).

According to Morrow (2007:186), good teaching necessarily starts at the present level of the learner in relation to what was being taught. According to the Directorate Inclusive Education and DoBE (2011:18), lesson adaptations should be based on the learners' readiness, developmental levels, interests, backgrounds and learning profiles. Wilson (2002:212) and Cushing *et al.* (2005:12) discuss considerations teachers should take into account when developing adaptations in the classroom and they outline four types of adaptations: age-appropriate, functional, meaningful and least intrusive adaptations. They also explained that an adaptation that was too intrusive isolated students from their peers or hindered their participation in class and thereby was likely to result in stigmatization. Levels of adaptations were not the same at classroom level for all children. The DoE (2005:35-36) illustrates what has been highlighted above in the form of a ladder as shown Figure 3.1.

	Ask
	1. Can the learner do the same as peers?
If not	2. Can the learner do the same activity but with adapted expectation?
If not	3. Can the learner do the same activity but with adapted expectation and materials?
If not	4. Can the learner do the similar activity but with adapted expectation?
If not	5. Can the learner do the similar and activity but with adapted expectation and materials?
If not	6. The learner does a different parallel activity.
If not	7. The learner does a practical and functional activity with assistance (e.g. play work with a puzzle, game, flash cards etc. assisted by a buddy or class aid.

Figure 3.1 Curriculum adaptation ladder

The explanation given by the DoE (2005: 36-37) pertaining to how the curriculum adaptation ladder work suggests that the amount of work, level of difficulty, level of support needed, and the participation of the learner in the task must be adjusted to meet the needs of individual learners within the same learning outcomes and assessment standards to the greatest extent that is possible. The DoE further informed that the ladder could be extended upwards to plan more challenging tasks. Hall, Campher and Smit in Engelbrecht, Green, Naicker and Engelbrecht (2011:157) contend that the practicalities of adapting classrooms to accommodate the learning needs of all learners have fallen mostly on class teachers. In line with practicality in mathematics, the DoE (2003c:33) added that even limited financial capacity, such as the inability of the school to buy commercial concrete objects, should not prevent IE practices (i.e. providing concrete objects together with practical activities for learners experiencing barriers to learning) (DoBE 2011f:14). Learners can use many resources in the immediate environment that can substitute for commercial counterparts. Unfortunately, many studies do not dwell on practical curriculum adaptation in the face of limited resources, such as in the disadvantaged village (Kara 2012; Yoon, Liu, & Goh 2010; Stickles 2011; Forbes 2011). Other studies on IE dwelt mainly on teachers' beliefs, attitudes and perceptions (Steyn 2009:113-137; Kriek & Stols 2010:439-456; Mestry, Hendricks & Bisschoff 2009:475-490; Lubisi in Vithal *et al.* 2005:111; Molepo, Maunganidze, Mudhovozi & Sodi 2010:44-51). Another study reviewed interventions for adults with a MID (Brown, Duff, Karatzias & Horsburgh 2011:31-45).

3.6.3 Curriculum adaptation at school level and related concerns

Stromstad in Allan (2003:38-39) states that an inclusive school must give adapted education so that all students can be exposed to challenges in proportion to their abilities and interests. Curriculum adaptations for particular groups of learners experiencing barriers to learning seem to

have been detailed in the last chapter of the DoBE 2010 Guidelines for Inclusive Teaching and Learning, Education White Paper 6 (DoBE 2010a). However, guidelines for learners with ID were not clearly put like guidelines for other groups. For example, for learners with visual problems details of curriculum adaptations which included reasons, principles and approaches for adaptation were given for different categories of classification (DoBE 2010a:88-89). Such clarity was not given in the section for ID as if to imply that learners with ID did not need specified curriculum adaptations (DoBE 2010a:74-75). However, on analysing the suggested strategies, it appeared some of the curriculum adaptations for ID were infused into the strategies. Curriculum adaptations for learners with a MID would work if the adaptations involved adoption of approaches that were responsive to the educational needs of learners with MID. Engelbrecht and Green (2009:204) recommended that there was need to find approaches that were more functional in linking assessment with intervention and also recognised that, although learners with a MID were different, they were in many respects children like all others. Therefore, the main task of the school was to narrow the gap between what was demonstrated to be possible for learners with a MID and current ways of providing instructions (Kavale in Florian 2007:215).

Simpkins *et al.* (2009) did a survey to investigate the effectiveness of curriculum differentiation on particular groups of learners in a Grade 5 science class. It was found that differences between students with learning disabilities and students considered to be without a disability on each item in the study were small. Further replicated studies were done by the same researchers and results were that class-wide peer tutoring with materials differing in levels of difficulty resulted in higher production test gain scores. Comments on the model used in the studies stated that although there was no formula for differentiation, the model focused on curriculum adaptations to the instructional materials, products of instructions, instructional delivery agent (class peers) and environmental adaptation (class-wide peer tutoring). These curriculum adaptations allowed for flexibility in instructional delivery for learners at different skill levels. Students were able to progress through activities of different difficult levels in peer tutoring at a rate of learning that was targeted to the skill of each student. The results therefore suggested that differentiated materials implemented in peer tutoring formats provided important support for learning in Grade 5. The most outstanding feature of these studies is the use of simple, feasible responsive curriculum adaptations.

Stromstad (in Allan 2003:38-39) observed that IE demanded not only a variety of methods in the classroom but also that students be taught to take a certain responsibility for their own learning in school. Mwakapenda (2008:200) noted a need to conceptualise approaches that acknowledged that just as new curriculum placed heavy demands on teachers, they also placed demands on learners. In addition, many challenges related to the breakdown of culture of learning and teaching worldwide, including South Africa. In a case study, in Johannesburg, Jewitt (2008:241-267) found

that multimodality enabled the assertion of students' identity, cultural practices and community to enter the school context in ways that were suitable for enhancing literacy and teaching in the primary schools. In the same line, Weeks (2012:2) observed that the breakdown of a culture of teaching and learning in a number of South African schools was reflected in multifaceted socio-educational problems encountered in schools and communities. However, Quick (2008:9) asserts that the faults of schools originated from the exclusionary aims of the education system as a whole which creates winners and losers and continues to contribute to the reproduction of hierarchical and oppressive social structures. This critique, according to Cummings, Dyson and Millward (in Allan 2003:59), relates to a punitive accountability system which leads schools to meet and comply with education standards and practices at the expense of their vulnerable children.

The DoBE (2010d:57) supports the current shift towards prescriptions and inflexible minimum requirements of achievements in each grade; hence the Annual National Assessments (ANA) was introduced. The goal of the DoBE was to improve the levels and quality of learner performance in the critical foundational skills in literacy and numeracy and ANA was one of the instruments the department uses to monitor whether learner performance is improving (DoBE 2012:3). In defence of the ANA, the DoBE (2010d:14) reasons that the main objective of ANA is not to make public the winners and losers, but rather to let schools and parents know how well learners are doing in comparison to schools in the community and nationally. However, according to this researcher, the DoBE is announcing winners and losers and Mpumalanga Province is usually announced among the losers. What could be more appropriate for IE is to publicize efforts made by the provinces to improve IE as reflected in DoBE (2010d:5-6) goal 26: to increase the number of schools which effectively implement the IE policy and have centres which offer specialist services. Moreover, Goal 25 DoBE (2010d:5-6) states the importance of the use of the schools as locations to promote access to public health and poverty reduction interventions. This has direct implication for addressing the preventable causes of MID, instead of focussing on schools being used as provincial academic competition grounds.

The danger of emphasizing pass rate alone is that it may compromise the democratic rights and IE of learners with a MID (Kirk *et al.* 2006:181; Simpkins *et al.* 2009:300; Rose *et al.* 2005:128). Leroy and Lacey (2010:110-113) note that as the curriculum became more demanding in Michigan, US, it appeared that IE of learners with ID was less prominent, especially after the policy of "No Child Left Behind" unintentionally created barriers to inclusion of learners with an ID. They stated that it was specifically due to annual yearly progress procedures which forced schools to meet standardized achievement benchmarks annually or risk having their financial and other resources cut. Thus, schools preferred not to have students with ID, thereby working against IE. Inclusive practices should bring clear, unequivocal, academic and social benefits for student with and without disabilities (Smith in Smith 2010:41; Links 2009:4).

Bloch in Maile (2008:129) asserts that poor children in South Africa are most disadvantaged. Nonetheless, Grobber, Bisschoff and Beeka (2012:40-45) indicated that principals had a great probability of impacting positively on their schools by ensuring that certain attributes, such as overcrowding in the classrooms, were not allowed in their schools. For example, the norm established by the DoBE in South Africa was that the learner: teacher ratio was not to exceed 40:1 in primary schools. In reality in rural districts in the Foundation Phase, classes generally accommodate more or less 62 learners (The Presidency of the Republic of South Africa 2009:67). Overcrowding is a factor that encourages neglect of learners with barriers to learning by teachers in the ordinary classrooms. Thus, some barriers to learning are worsened by or even created by the circumstances arising from the learners' living and learning conditions. In overcrowded schools therefore, chances of having individual curriculum adaptations are highly unlikely. Yet some schools in rural areas have managed success despite unfavourable socio-economic conditions. Moloï, Dzvimbo, Potgieter, Wolhuter and Van der Walt (2010:475-490) did a study on three schools with recurrent good Grade 12 performance despite being impoverished and located deep in the Mpumalanga Province. The study focused on black learners' perspectives as to what contributed to their school success. The findings were that the successes of the rural schools were attributed to their adherence to pedagogic dialogue. To state the findings in simple terms based on the learners' responses, teachers were responsive and supportive to the learners' needs, thereby providing meaningful IE. Although the schools had the primary grade sections, details of what primary school grades contributed to the success were not provided because the respondents were mainly high school learners and success details provided were the matric results. From this study, therefore, primary learners' perspectives of what contributed to school success were not established. However, these research findings confirm that although low socio-economic factors affect learners' motivation, all learners irrespective of their socio-economic status could be motivated towards scholastic achievement (Grobber 2009:94,109).

Apart from seemingly too focussed on announcing pass rates, the DoBE's (2010b:4) approach of addressing barriers to learning and minimising exclusion is consistent with a learner-centred approach to teaching and learning and latest international approaches that focus on providing quality education for all. In consideration of quality education for all, McGrath (2007:54) contends that teachers are in control of the curriculum and could use inclusive practices to make sure that the curriculum moves at the right pace, is not too demanding and remains within students' reach. Unfortunately, research has shown that worldwide, authorities deliberately exclude teachers from initiating, planning and formulating school change and this has resulted in frequent failures when implementing school changes. A recent study showed that a South African sample of teachers when compared with six other countries, were exceptionally keen to be involved in responsibilities concerning school change. Possibly, the experience of exclusion faced by the South African teachers created the desire to be involved, despite the heavy workload (Swanepoel 2009:472-

473). Swanepoel (2009:464) also emphasised that the teachers were the keystones in the arch of education and reasoned that one could provide all the material necessities but without the teacher or with an incompetent one, the results would be disastrous. This then explained why teachers, even though not involved in the creation of programmes are often blamed where change is introduced and implementation fails (Engelbrecht & Green 2009:59). The reasons for the blame include incompetence, non-cooperation, and lack of commitment. Links (2009:10) considers these as negative attitudes towards inclusion emanating from the system's inability to fully empower teachers and schools to implement inclusive education.

Studies done in Ghana indicated that the majority of teachers had conceptual knowledge of IE and their attitudes to the teaching of learners with disabilities were likely to be positive, but IE had many challenges that needed to be overcome to make it work (Deku & Ackah 2012:152-161). Corroborating studies are Magare, Kitching and Roos (2010:52-62); DoBE (2010b:1-5); and The Presidency of the Republic of South Africa (2009:65); UNESCO (2009a:43-58). Smit and Mpya (2011:25, 35) warn that if teachers' call for the Department of Education and other stakeholders to make IE to work was ignored, the situation could produce a classroom culture of neglect of learners experiencing barriers to learning. However Karten (2005:281) observes that many students view mathematics as a major challenge and many children visualize themselves failing mathematics before they write tests. Such negative thoughts often became self-fulfilling prophecy and cause disappointing achievements in mathematics despite all the additional attention the subject has been given (The Presidency of the Republic of South Africa 2011). By focussing on basic foundation skills, the lack of achievement by many learners in the primary schools may be addressed (University of Johannesburg 2010:5).

According to the DoBE (2010b:25), factors that need to be considered by school governance to ensure an inclusive school are:

- School policy is written in such a way that it created a good framework for building an inclusive environment of learning, care and support;
- Effective and visionary School Management team and School Governing Body;
- Professionalism and good code of ethics within the school;
- The school time table is organised so that it accommodates diversity of learning styles and programmes;
- Educators, principals and members of School Governing Body are open to on-going learning about ways of addressing barriers to learning;
- Educators have evenly distributed and manageable workloads (DoBE 2010b:10).

3.6.4 Curriculum adaptation at provincial level and related concerns

There are differences in academic performance of provinces in South Africa (The Presidency of the Republic of South Africa 2009) and the situation exists in other countries as well such as the US (Lubisi in Vithal *et al.* 2005:111). Studies analysing trends in poor performance by the learners in South Africa revealed that students with low scores were from provinces that inherited large rural homelands in the country's reconfiguration after apartheid, such as Mpumalanga Province, and many children in such provinces lived in poor communities (The Presidency of the Republic of South Africa 2009:65-67; The Presidency of the Republic of South Africa 2011:3). In the disadvantaged village, the challenges of improving achievement cut across all school phases and was evidenced by the number of learners who failed and repeated grades at the end of the year in primary, senior (Grades 7 to 9) and Further Education and Training (FET Grades 10 to 12) schools. According to the DoE (1997:29), in 1996 in Mpumalanga province, an estimated 18,2% of the learners enrolled in schools were repeating a grade in the Foundation Phase. Years later, the systematic evaluation of the National Quality Assurance report revealed that grade repetition did not improve learners' scores but did the opposite (DoE 2003a:ix). Such could be the case in the disadvantaged village as the researcher has observed that a number of children in the community spent more than seven years in the primary school because of repeating grades and their academic performance was still not good. According to Mwakapenda in (Vithal *et al.* (2005:250), interest in developing and reflecting on interventions allow for inclusiveness in mathematics learning. The researcher was aware of some voluntary mathematics initiatives in Gauteng Province to improve learning of basic skills, such as Wits School of Education and Gauteng Department of Education, Mathematics Olympiads, TUT Teachers Program and the contributions of AMESA (South African Association for Mathematics Teachers), to mention a few. These initiatives were quite beneficial to both the teachers and learners but did not cover other provinces like Mpumalanga which has no university. The researcher distinguished the two mathematics facilitators in the Gauteng North Province who supervised her during the five years' teaching experience in South Africa. The directions given by the facilitators showed that they were already committed to IE as they subscribed to the doctrine that all children could learn mathematics if supported well.

However, another documented study came close to answering the research problem raised in this study: an evaluation of a number skills development programme in the Foundation Phase in the Limpopo Province (Pietersen 2006:413-425). The study, Shuttleworth/Rotary number skills programme, was a success because of the availability of high quality concrete materials (the manipulatives) and good instructional quality. These were some of the most pertinent components regarding students with special educational needs in inclusive education. Although the studies were not focussing on IE of learners with a MID per se, the comments of the teachers insinuated

some degree of interest in IE of learners with a MID. Teachers highlighted how the programme helped learners experiencing barriers to learning to generalise acquired skills. Unfortunately the programme was not extended to cover the entire country due to the use of expensive teaching materials and its application in urban schools where learning conditions are usually favourable. Some of the programmes, research and initiatives that have been a success under favourable socio-economic conditions may not necessarily be feasible and responsive in poor economic conditions. Thus, such efforts have not yet impacted positively on the general mathematics pass rate because as mentioned earlier on, the majority of learners stay in disadvantaged rural areas.

The Gauteng DoE (2010:28) acknowledged that in all previous efforts to enhance achievement, there was correct identification of what needed to be done. The only obstacles lay in the effective implementation of the plans in a sustained way, uniformly implemented throughout the system. The Gauteng DoE observed that when interventions are implemented successfully in one or more schools, there are impediments in scaling these up into large numbers of schools due to factors, such as the individual personalities of teachers, principals and district officials that play a role in success. Findings of research study by Mestry, Hendricks and Bisschoff (2009:475-490) also revealed that teachers perceptions were influential in implementation of intervention programmes. The other observation of the Gauteng DoE was that the education system was in a continuous state of change, hence other various interventions impacted on each other in different ways (Gauteng DoE 2010:28; DoBE 2010b:preamble). The latter observation incorporated the essence of what this study was all about, namely, investigating the possibility of the positive impact or the extent to which a national curriculum adaptation aimed at teaching learners basic academic skills was responsive in the IE of learners with a MID. Curriculum adaptation at national level is discussed next.

3.6.5 Curriculum adaptation at national level and related concerns

The intense focus on quality is perpetuated by the understanding that education systems act as pathways to national economic developments and learning of basic skills is important because they are later applied in practical work and community settings (Ross 2006:1; Kirk *et al.* 2006:189; DoBE 2009a:63; DoE 2003b:19). The cognitive challenges that learners contend with in learning mathematics are universal even in developed countries, such as Australia, the US and the UK (Farrell 2004:101-102; Soudien & Baxen in Watermeyer *et al.* 2006:153; US Department of Education 2011:1). According to Schollar (2008:1), much research and policy literature flowing from developed countries has an increasing focus on the nature of the curriculum and the underlying theory of constructivism is under pressure to provide empirically reliable evidence that it is an effective theoretical basis for a national curriculum and especially for the teaching of mathematics basic skills to young learners in primary schools. The stance is in line with the

description of accessible school environments in the universal design and the UN Convention on the Rights of Persons with Disabilities that states that programmes and services are to be usable by all people to the greatest extent possible without the need for constant adaptation or other specialised arrangements (UNESCO 2009b:18). In consideration the above information, therefore an inclusive national curriculum or a programme that is inclusive of learners with a MID should not be constantly designed down, altered, adjusted or adapted and so on. It should more or less have content, pacing, teaching methods and assessment procedures that seem to be sensitive and responsive in addressing the barriers to learning that are due to MID.

A few programmes involve curriculum adaptation at national level. Aghazadech (2008:1-12) related a situation in Iran where the national curriculum was not responsive in promoting the quality of teaching and learning in rural multi-grade classes, so the national curriculum was adapted as a short-cut. The output of the exercise included an adapted curriculum which had dual features namely: loyal to the national curriculum; and relevant to the local facts and realities. Among the principles used as indicators of effectiveness of curriculum adaptation were flexibility of the adapted curriculum to accommodate the needs of multi-grade classes; sensitivity of the curriculum adaptation on issues and specialities of multi-grade classes; and responsiveness and accountability of curriculum adaptation to needs and demands of local community. In the model teachers were not only accepted as curriculum implementing agents and facilitators, but also as curriculum developers. Experts at world level evaluated the national curriculum adaptation model for multi-grade classes as a new educational practice that could be effective in teaching and learning. In Ethiopia, the alternate basic skills programme was introduced. Onwu and Agu (2010:75-86) examined some aspects of the quality of the alternate basic education provision which aimed to provide good quality basic education through an alternative mode of delivery suited to the socio-economic and cultural realities of the regions. However, the outcome of the research revealed that the quality was unsuitable for learners as the programme was not aligned to the national assessment framework. Moreover, facilitators were not well trained and there was high staff turnover due to low salaries.

In South Africa national programmes have resulted in improvement in mathematics, but these focus on Grade 12 learners mainly (The Presidency of the Republic of South Africa 2009:66), while those for primary schools are scarce. The only national programmes for primary schools that the researcher of this study found was not concerning mathematics. According to Taylor, Fleisch and Shindler (2007:4), the DoE started to develop a number of policies in the area of literacy. These included a "Tool kit" for schools which described methods of reading and writing and provided benchmarks for each school term and grade. The other programme was the "Drop-ALL and Read Campaign" aimed at publicizing the need to set aside time for reading at school. However, these literacy programmes did not add up to anything substantial.

The study done by Meidl and Meidl (2011:16) described use of curriculum adaptation of the mandated curriculum in the classroom. Participants in the study used a term, “tweak,” to portray the way curriculum was perceived to be adapted to create a ‘good programme’ which worked in the classroom. The participants believed that doing the curriculum adaptations or “tweaking,” patched up the limitations of the curriculum, thereby making it fit the learners in the class. The researcher of this study has “tweaked” the national curriculum learning programmes while teaching mathematics to learners in the Intermediate Phase prior to the introduction of the FFL, when using the RNCS assessment standards and documents to reach out to all children in the mathematics classes. Inefficiencies of the RNCS to deliver quality learning of basic academic skills were discussed earlier on in this chapter in section 3.5.4. Ensor *et al.* (in Pendlebury *et al.* 2009:55) informed that the development of basic academic skills was crucial for children’s meaningful access to basic education. On recognising the crisis in mathematics and literacy, the former education minister, Naledi Pandor, launched the FFL. The FFL campaign has been regarded as a step forward in addressing numeracy problems by specifying curriculum content, pace, instructional methods and equipment to be used for teaching literacy and mathematics in the Foundation Phase and Intermediate Phase (Gauteng Department of Education 2010; Mpumalanga Provincial Government 2010; DoE 2008c; DoBE 2010f). Based on above statements, the FFL is a curriculum adaptation at national level because it retains the learning outcomes of the prescribed curriculum and adaptations are provided so that the students can access the national curriculum (Government of Alberta 2012:1).

When using the FFL, the researcher found that there was minimal “tweaking” and less demand for remedial activities for many learners including those who seemed to be slow in learning. This then led the researcher to think that the FFL could be seen as an adapted programme likely to be the solution for the problems of “slow learners” in the disadvantaged village primary schools. However, the researcher also found that adaptations had also to be made for the learners gifted in mathematics (top three in class) as the pacing was too slow and they found the repetitive activities irrelevant. The concern of fairness was raised by teachers who also noted that while adaptations may be necessary to meet the needs of all students, but some students may find the pace of instruction too fast and difficult while others may find it too slow and easy (Rose *et al.* 2005:131). In the case of the use of FFL, the outcome was not so surprising because, as mentioned earlier on in chapter one, the programme had been designed to address the issue of learning basic academic skills which also happened to be key content area for learners with a MID. Details of the content of the FFL are presented in the next section.

3.7 FOUNDATIONS FOR LEARNING

3.7.1 Background

Engelbrecht *et al.* (2011:3) were not surprised that the dramatic changes in South African society in the past years which included the movement away from segregated settings for learners with special educational needs to IE, were received with misgivings by some. They also viewed IE as an unending set of dynamic processes instead of an ideal state or idea. In this regard it is important to recognize the nature and extent of the problems which existed in the education system but it was also equally important to recognize visible strengths throughout the system (DoE 1997:40). Such strengths must be critically analysed so as to engage in a process of evaluation and ongoing transformation towards a system of education for all. In this light therefore, it must be acknowledged that many countries also face challenges pertaining to failure to teach basic mathematics skills to both learners who had an ID and learners who did not have the disability. However, they have not devised a national programme, like the FFL to specifically address the issue of school failure (DoE Government Gazette 2008:3-7; UNESCO 2009c:22). Concurrently, it had been observed that it fundamentally has the main features of promoting meaningful learning for learners with a MID. This meant that if learners with a MID received support that took into cognisance the typical areas of difficulty which were being promoted in the FFL, they were likely to learn the basic mathematics skills. There was need, therefore, to conduct the study on the FFL as a responsive national curriculum adaptation for foundation phase learners with a MID.

The researcher of this study had looked forward to the official evaluation of the FFL at the end of the four-year intervention period but the campaign was ongoing as the FFL forms part of the CAPS (DoBE 2009a:7, 63). The use FFL lesson plans was cited among the major resources for lesson planning to be used with CAPS (DoBE 2011d:101). The move of incorporating FFL into CAPS was not clear in the documents. However, as a result of pressure on the DoBE to end OBE curriculum and following the curriculum news updates, the researcher found that just copying and pasting the FFL into CAPS, without proper evaluation of the programme efficacy, seemed an easy way out for the DoBE. There were also flaws in delivering FFL materials to schools as noted in curriculum news; some schools were still waiting for delivery for materials in May 2010 (DoBE 2010f:2, 10), meaning they would not have enough time to implement the FFL hence the evaluation could not be done.

However, the initial plan was FFL was targeted at all primary schools in South Africa to increase learner performance pass rate in mathematics to no less than 50% by the end of 2011. All primary schools were to undergo annual national assessment in literacy and mathematics to measure

progress towards achievement of the set targets (Gauteng North District 2008; DoE 2008c:39). FFL was also used in Annual National Assessment (ANA) in mathematics and language. Therefore, the decision of the DoBE to deviate from the original plan to formally evaluate the FFL yearly and at the end of 2011 has been a setback. This is because within the education system, it has been concluded that what gets measured gets done and data on interventions, review of effectiveness of policies and processes is the life blood of continuous improvement in education (UNESCO 2009a:71-72; Moloi *et al.* 2010:477). However, with reference to South Africa, little attention was paid to investigating the responsiveness of national curriculum or intervention in meeting the educational needs of learners in IE.

3.7.2 Literature and content pertaining to the Foundations for Learning

It has already been mentioned in this study that the FFL was highly commendable, however, Ensor *et al.* in Pendlebury *et al.* (2009:55-57) noted that the FFL was very difficult for some teachers to follow. Such assertions were based on a study in Western Cape, poor semi-urban area and the main observations were that teachers in the Foundation Phase did not follow the FFL guidelines and lesson templates. For example, instead of a whole class discussion as recommended in the FFL guidelines, there was lots of “teacher talk.” Whole class discussion has an important place in the classroom together with other instructional practices because some of the opportunities offered in whole class discussions, such as depth of student understanding and identifying misconceptions, do not occur in small groups or individual settings (Grouws & Cebulla 2000:24). Findings of research by Smit and Mpya (2011:33) also showed that teachers needed practical experience, understanding, ongoing support and positive perceptions to help them embed effective techniques in their daily practice. The government therefore, needed to enable schools to provide teachers and learners with appropriate financial and other resources to ensure success in learning (Smith in Smith 2010:113).

However, one study did involve the use of the FFL in the Foundation Phase. According to Umalusi (2010:36-47), the study compared aspects of the FFL and RNCS with mathematics curricula of Canada, Singapore and Kenya. The FFL did best compared with the other countries in aspects like specification of content breadth and depth, pacing sequencing, progression and assessment; especially in relation to the topic of number and calculations. FFL was frequently mentioned for filling in missing gaps in the RNCS and also for de-emphasizing group work like in the OBE in RNCS. Little good was said about the RNCS and the number of mathematics documents that needed to be consulted for assessment (390 pages). The FFL provided good detail in a single document. The only general positive comment about the RNCS was the acknowledgement of guidance for teachers. However, this was scattered in too many documents, was unclear and repetitious and incoherent (section 3.5.4). What was not done was to compare learner

achievement or more so shed more light on inclusivity, instead the research concentrated only on how the FFL was user-friendly and available to teachers. Basically, studies on FFL are very few, and do not answer the questions and concerns raised in this study. Notwithstanding the observations highlighted above, the researcher of this study seeks to unmask important aspects of the FFL, which when implemented by teachers effectively, may ensure quality delivery of mathematics curriculum to learners with a MID in the disadvantaged village primary schools. As described in Ensor *et al.* (*op cit*); Umalusi (2010); DoE Government Gazette (2008) and DoE (2008b) these aspects include:

1. Stipulation of milestones to guide teachers in pacing curriculum content over a school year;
2. Term by term arrangement of content to be taught and formal assessment tasks to be written;
3. A template for managing instruction in a typical lesson with routine activities and teaching methods;
4. A list of appropriate apparatus and resources to be placed in all classrooms;
5. Standardized assessment programmes;
6. Teacher support.

Berlach (2004:4) argues that the only way to test if an approach works in education is to take it to the teachers and ask the questions. To the researcher of this study questions raised in this study have not yet been undertaken. The next chapter deals with research design.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter focuses on the research methodology. It begins with the rationale for research followed by the research design and thereafter discussions on population, sampling methodology and sample. Next presented are data gathering procedures including the research instrument, details on the pilot survey conducted to test the efficacy of the questionnaire, questionnaire administration and data processing procedures. Lastly, issues pertaining to measures of trustworthiness and ethical considerations are discussed.

4.2 RATIONALE FOR RESEARCH

Chapter two and Chapter three reported that the Department of Basic Education in South Africa opted for one curriculum for all learners and the adoption of inclusive education. Since the inception of democracy in 1994, teachers found themselves not only having to cope with diverse learners' needs and learning styles but also with numerous curriculum changes. The different curricula have been found to be having problematic aspects and there were several commissions of enquiry and curriculum adaptations. Challenges in teaching basic mathematics skills, inclusive education of learners with intellectual disability and poverty were among many problems where solutions were still being sought hence this study primarily sought to focus on addressing these challenges. The aims and objectives of the study were highlighted in section 1.5 of this study as follows:

The aim of the investigation is to establish the extent of the responsiveness of the FFL as a curriculum adaptation of the NCS, in improving mathematics achievement in inclusive education of Foundation Phase learners with a mild intellectual disability, in the disadvantaged village primary schools in Mpumalanga Province.

Objectives of the study:

- i. To investigate the kind of knowledge teachers have of inclusive education that will enable them to screen, and identify learners with a mild intellectual disability in the classroom.
- ii. To determine if teachers need to devise specific curriculum goals other than those in the FFL to accommodate learners with a mild intellectual disability.

- iii. To establish if teachers are finding using learning and teaching activities and requirements outlined in the FFL, adequate in meeting the educational needs of learners with a mild intellectual disability.
- iv. To determine the extent to which the use of the FFL result increase in mathematics achievement of learners with a mild intellectual disability in the disadvantaged village primary schools.

In general, quantitative research has been regarded as not capable of doing justice to the experiences involving disability since the data can be limited in various ways (Walliman 2009:270), but it can nevertheless provide some useful insights (Wagner & Okeke in Garner, Wagner & Kawulich 2009:60; Emmett in Watermeyer *et al.* 2006:221). According to Gorard (2004:229) some researchers call for more statistical quantitative studies in social sciences because producing statistics is a social enterprise and without statistics, what remains in the research are subjective judgments. Selecting an appropriate design should consider the nature of the research questions and how the results will be analysed (Evans & Rooney 2011:20). In the structure of the survey design, there is a problem setting phase, sampling, measurement and analysis (Lehtonen & Pahkinen 2004:5). The first three chapters of the study have covered the requirements of the problem setting phase of the survey design. The research design is discussed next.

4.3 RESEARCH DESIGN

Locke, Silverman and Spiroluso (2004:130) emphasize that the research question must guide the selection and use of research methods. Having considered the research aim that sought to determine the extent to which the FFL is a responsive curriculum adaptation for learners with a MID, survey research was considered as the most appropriate design for this study. Survey research involves a quantitative description of specific aspects of a given population and is defined as a method of collecting information by asking a set of pre-formulated questions, in a pre-determined sequence using a questionnaire, to a sample of individuals drawn so as to be representative of a defined population (Blaxter, Hughes & Tight 2003:77 2003:77). Statistics Canada (2010:20) defines a survey as:

“...any activity that collects information in an organized and methodical manner. It is usually motivated by the need to study the characteristics of a population, build a database for analytical purposes or test a hypothesis.”

From the analysis of the definitions sighted above, it could be concluded that the survey design should involve a questionnaire as an instrument of collecting data, a group of people who are

members of the population that needs to be studied and that the results should be statistical. The aim of the survey is to obtain a representative description of characteristics of an identified population (McMillan & Schumacher 2010:236). According to Gray (2009:218) surveys are common methodology, not only because they help find associations between variables, but also in consideration of the tendency to control and minimize error and bias. The tendency to control error and bias to a certain extent result good estimates for the true information about the population (Blaxter *et al.* 2003:79) that can be used in education curriculum planning, assessment and evaluation within a given period of time. The survey research design is applicable in schools to examine curriculum, diversity and instruction (Gay & Airasian 2003:279; Mertens 2010:173-177) and enables analysis of the data in order to illuminate important educational issues (Blaxter *et al.* 2003:77). Efforts to try to elicit true information pertaining to the problem stated in chapter one of the study through qualitative means, such as observational techniques, may not only be feasible but are also unlikely to measure the extent to which the national curriculum adaptation is responsive to the educational needs of learners with a MID in the entire village.

Since surveys can be conducted to find specific information, the information can be collected in a short period of time (cross-sectional) or over a long period of time (longitudinal) (Bogdan & Biklen 2007:45; Newman & McNeil 1998:3). The cross-sectional survey research was suitable for this study since the aim specifically required once-off statistically oriented measurement outcomes. Furthermore, the financial implications can be determined for feasibility during the planning stage (Cohen, Manion & Morrison 2000:169-174). With regard to this study, the survey research required affordable resources in terms of time and financial considerations, bearing in mind that the researcher developed the research instrument and could administer it without much constraints. Although the results obtained from the study were of a particular disadvantaged village in Mpumalanga Province at a particular point in time, the study can be replicated at another time to check if there are any variations, replicated in another place with similar characteristics or can be done in a non-disadvantaged place to compare certain attributes. The results can be generalized to other similar situations (Lehtonen & Pahkinen 2004:5). Details of the population are discussed next.

4.4 POPULATION, SAMPLING METHODOLOGY AND SAMPLE

4.4.1 Population

Gay and Airasian (2003:102) define population as the group to which the results of the study will generalize. Therefore a survey is conducted on a subset of a population, and may involve a large percentage of the population, however if 100% of the population is involved, then what is being dealt with is no longer a survey, but a census (Stopher 2012:8). Notwithstanding the concept of

population defined above, in social sciences it is very rare that the data is collected from a random sample of the general population and the question of a having a normal distribution is often irrelevant (Nishisato in Kaplan 2004:3). There is usually a target population which is the group being studied, the group about which one wishes to draw conclusions (Enyelsen, Larsen, Lund, Smith-Hall & Wunder 2011:52). The population of this study constituted teachers who teach in the Foundation Phase in the disadvantaged village in Mpumalanga Province. The research design, considered a population which comprised teachers who teach Grades 1, 2 and 3 in public schools; leaving out Grade R teachers. As mentioned earlier on in this study in chapter two section 2.9.3 early detection of MID during pre-school years is not successful unless a teacher is exposed to techniques of screening and identifying the learners (Rosenberg *et al.* 2005:4). The curriculum for Grade R does not usually have content that deals with extensive basic skills that are problematic for learners with a MID. Also to be excluded were the teachers who teach in the independent school.

At the end of 2011 the school engaged a psychologist to assess all learners whom the teachers considered to be slow in learning. The psychologist referred the learners to schools in Pretoria. Some parents who have learners whom they consider to be slow in learning were seeking alternative placement as the independent school did not accommodate learners with a MID nor considerations for inclusive education. Moreover many learners in the independent school came from outside the disadvantaged village. They were primarily not from disadvantaged backgrounds; hence their involvement in this study may have misrepresented what was a typical disadvantaged background in the disadvantaged village in Mpumalanga Province.

4.4.2 Sampling methodology

The purposeful exclusion of the Grade R teachers and the teachers from the independent school avoided extraneous variables and sampling error since the sample did not contain people who were not members of the target population (Gray 2009:239). Moreover, Stopher (2012:69) contends that having the best sample for the study can generally be achieved when the probability that any member of the population can be included or excluded from the sample is known. The total number of educators who could have participated was 46, a small population. This is above the minimum range of 20-30 required in order to produce statistically significant results in quantitative research (Walliman 2009:117). According to Wetcher-Hendricks (2011:340), selecting respondents from the population identified may prove time consuming and costly for the researcher. Apart from costs and time constraints, this study considered that the population was small and opted to use the census type of sampling. Newcomer and Triplett (in Wholey, Hatry & Newcomer 2010:6) explain that in the census type of sampling, the whole population is surveyed and it works well when dealing with small populations. Gay and Airasian (2003:113) also state that

for smaller populations of less than 100 respondents it is advisable to survey the entire population. The rationale for including all the teachers in Grades 1, 2 and 3 in the government schools was also considered especially when dealing with ethical considerations.

According to Stopher (2012:81-86) ethical considerations include that respondents participate voluntarily and it was ethical to consider or anticipate that some teachers would rightfully opt not to participate in the study or be absent at the time of the session of completing the questionnaire at the schools and consequently reduce the number of respondents. When considering such factors, it was in the best interest of this study to avoid employing sampling procedures that would reduce the number of respondents seeing that the number of respondents was much close to the number considered as the minimum to produce statistically significant results in quantitative research. Therefore, census type sampling guaranteed the possibility of having the largest sample possible from the target population. Walliman (2009:276) states that when dealing with small numbers where there might be no difficulty in collecting data, it is advisable to collect data from each potential respondent in order to get better survey results.

4.4.3 Sample

The question of having an unrepresentative sample did not apply because the sample consisted of respondents who could provide information on inclusive education of learners with a MID and how the national curriculum adaptation has been responsive to the learners' special educational needs. The sample constituted the mathematics teachers of grades 1, 2 and 3 in the four government primary schools (School A, School B, School C and School D) in the village. The total number of respondents was 39. The researcher was made aware that in School B, the anticipated number of respondents (17) was more than expected because most of the grade Heads of Department of the Foundation Phase and the overall Head of the entire phase, were not teaching mathematics, meaning that they were included erroneously when the researcher took possible numbers of potential respondents during proposal stage. On the day of the research session, the Heads of Department had a meeting and the only Head of Department who teaches mathematics could not participate in the survey due to attending the important phase meeting. The eleven respondents who participated in the survey in School B were still a high representation of the school. The participation of eleven instead of seventeen respondents in School B avoided possible biased research (Babbie 2010:60) which could have been due to the participation of the people who were not teaching mathematics. Numbers of respondents in the four schools were presented in figure 4.1.

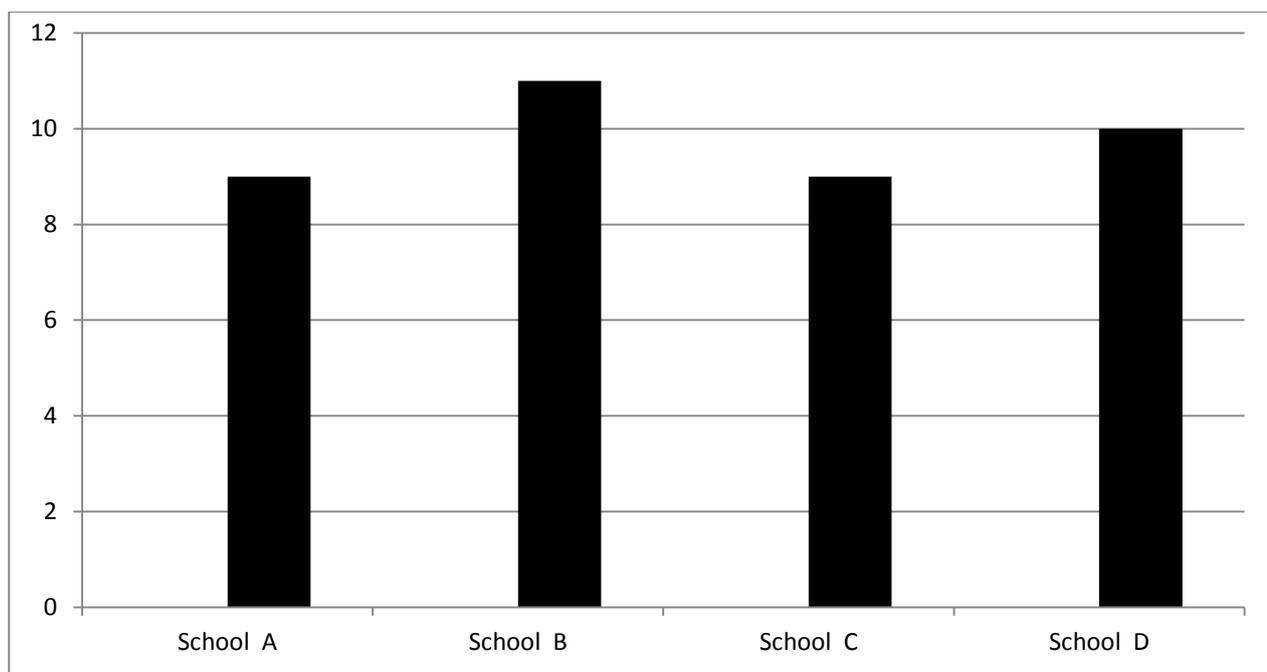


Figure 4.1 Number of respondents per school

The study needed to give details of the research instrument and data collection procedures that were compatible with collecting data in the village.

4.5 RESEARCH INSTRUMENT AND DATA COLLECTION PROCEDURES

4.5.1 Research instrument

Survey design features can have substantial effects on data quality (Blasius & Thiessen 2012:26) hence the need to be vigilant when designing the research instrument. The research design used the questionnaire as the instrument of collecting data. Questionnaires involve gathering information through written questions (Blaxter *et al.* 2003:154). Highly structured closed questions were useful because they generated frequencies of response suitable to statistical treatment and analysis. According to Cohen *et al.* (2000:247), frequencies enable the researcher to compare groups, for example, the different schools in the population. The questionnaire used in the study was not adapted or copied from other researchers. It was designed by the researcher specifically to collect data to answer the research question. Measuring categories and scales, apart from the demographic details, are based on the main research question and sub-questions so as to fulfill the objectives of the study and to minimize bias (Blasius & Thiessen 2012:89; Blaxter *et al.* 2003:79).

One of the fundamental tools for creating survey questionnaires is to use question formats that effectively measure particular concepts (Dillmann, Smyth & Christian 2009:70-73). The question format were mostly closed ended questions which provided the respondents with a multiple choice format and a few “other-please specify” options where applicable. This was done so as to generate data that could easily be recorded using simple statistics (Evans & Rooney 2011:21). The questionnaire (Appendix 1) had two sections; section A was for biographical and demographic data, while section B had questions pertaining to learners with a mild intellectual disability (MID), inclusive education (IE), curriculum adaptation and the Foundations for Learning (FFL). There was also an open-ended question as the last question in the questionnaire, whereby the respondents were asked to share their own ideas on issues they considered important in inclusive education of the learners with a MID, that were not addressed in the questions.

According to Dillmann *et al.* (2009:70), open-ended questions provide a blank space where respondents write in their responses using their own words and responses to such questions should be entered and coded before they can be analysed. However, the responses for the open ended questions in this study were not coded following strict guidelines of handling qualitative data but issues raised by the respondents were noted in consideration of the importance of all the responses in providing answers to the research questions. The deeper understanding of the meaning of the statements written by the respondents was not done but rather the commonness of their statements were important to describe the knowledge of IE of learners with a MID and national curriculum adaptation. It was indicated in the introduction of this chapter that this study sought to generate quantitative results that were not merely subjective judgments involving a few teachers hence the research questions and questionnaire design were mainly quantitative. How one writes a survey question should also depend strongly on how the questionnaire is going to be delivered to the respondents because different survey modes rely on different communication channels (Dillmann *et al.* 2009:68). The data gathering procedures were discussed next.

4.5.2 Data gathering procedures

4.5.2.1 Data collection strategy

The “delivery and collection questionnaire” was selected for this study because it was feasible in the disadvantaged village compared to an online questionnaire option as some schools and teachers did not have access to internet. It also had the advantage over the postal questionnaire as it allowed some direct contact with the respondents that might encourage many respondents to complete the questionnaire (Gray 2009:230). The respondents could complete the questionnaire

in the presence of the researcher (Wetcher-Hendricks 2011:343), as in the case of this study. Felstead, Jewson, Fuller, Kakavelakis and Unwin, in Townsend and Burgess (2009:117) contend that the role of the quantitative researcher provides a legitimate reason to be present in the field as the researcher will engage in activities that are widely recognized by the respondents such as distributing and collecting the questionnaires. In this study, the letters of requesting permission, informed consent forms and questionnaires were distributed by the researcher and completed by the principals, Heads of Foundation Phase and respondents in the presence of the researcher. The researcher then collected the completed forms and questionnaires. More details on the pilot survey and questionnaire administration are discussed below.

4.5.2.2 Pilot survey

A questionnaire should be pre-tested on a small group of respondents so as to minimize problems of comprehension and confusion before the actual survey research (Walliman 2009:282). According to Blaxter *et al.* (2003:135) piloting is the process whereby one tries out the research methods and techniques one has in mind, see how well the methods work in practice and if necessary modify the plans accordingly. The pilot study was carried out using three Grade R teachers who had learners with a mild intellectual disability in their classes. Since the purpose was to find if there could be any problems of comprehension or other sources of confusion, the researcher followed all the steps outlined in the study plan commencing with the formalities of introduction and courteously giving details about the study, simple instructions and thanking the respondents. The respondents were able to complete the questionnaires within 15 minutes. No problems were noted during the pilot study and the respondents seemed to appreciate the use of yes/no options as ideal since the response choices were not confusing but straight to the point. The objective of the research was to solicit a genuine appraisal on the effectiveness of the national curriculum adaptations in the inclusive education of the learners with a MID in the village. The teachers regarded the open-ended question at the end of the questionnaire as an opportunity to “really tell them”, that is telling the officials of the Department of Basic Education about the considerations for learners with a MID in the ordinary classrooms.

4.5.2.3 Questionnaire administration

After the pilot survey, the questionnaire (Appendix 1) was administered in the four schools in the disadvantaged village in Mpumalanga Province. The respondents were the teachers of the Foundation Phase and the total number of respondents was 39. The numbers of respondents in each school were as follow: School A (9); School B (11); School C (9); School D (10). The procedures leading to the administration of the questionnaire were the same in all the schools. In each school the first step was asking for permission and signing of informed consent by the principal (see Appendix 3). With the consent from the principal, the next step was asking

permission, signing of informed consent and giving the researcher an appointment date for the survey by the Head of Department of the Foundation Phase (see Appendix 4). The appointments were usually within a few days' time and the survey was conducted immediately after school, not during teaching and learning time. The respondents filled in the consent forms and the questionnaires during the survey (see Appendix 1 & Appendix 2). The researcher managed to get to the schools a few minutes before the appointment time and found that the classrooms where the survey was to be conducted were well prepared.

During the survey, the teachers were very attentive and the researcher followed the ethical guidelines. The fear that the researcher had was that some respondents would opt not to participate in the study or terminate their participation at some point during the study, although they were free to do so. However, no respondent opted to terminate their participation in the survey and the respondents complied with the instructions of the completion of the informed consent forms and the questionnaire. After collecting the forms, some of the respondents in School A and School D, discussed some pertinent issues pertaining inclusive education and mathematics with the researcher. Data processing procedures were discussed next.

4.5.2.4 Data processing procedures

Many small scale research studies which use questionnaires as a form of collecting data will not need to go beyond the use of descriptive statistics and the exploration of the interrelationships of the variables (Blaxter *et al.* 2003:216). Although the use of simple descriptive statics may give the impression that all is very easy, it is not true as a lot of attention should be given to ensuring that data from the questionnaire is entered correctly before commencing the numerical analysis. There was need to write identifying numbers on the questionnaires such that each questionnaire had a unique number that identified it in terms of school it was collected from and the number pertaining to the ordinal number it got during data capturing. The system allowed the researcher to be able to check that the data captured for each question in each questionnaire was truthful.

After ensuring that all data had been captured correctly, it was possible to organize the data into tables. According to the American Psychological Association (2010:105), frequency tables with percentages enable researchers to process, describe and present a large amount of information efficiently and make data more comprehensible. The data was therefore organized using frequency tables with percentages so as to be able to view responses of each question item per school and overall. No particular theory was used in the analysis and interpretation of the data. Comparison of outcome figures in the tables, that is the percentages; with the spotlights revealed in the literature review chapters, chapter two and chapter three, helped to enlighten and give meaning to the data from the questionnaires. The analysis and interpretation of the overall

percentages of the respondents' responses to the questions that solicited answers to the research questions gave statistical significance of the result findings. The measures for trustworthiness are discussed next.

4.6 MEASURES FOR TRUSTWORTHINESS

Locke *et al.* (2004:49) contend that biases should be minimized because failure to do so could easily make the results less believable no matter how well other aspects of the study were executed. One of the advantages of using survey questionnaires is that the questions are designed to be unbiased (Blaxter *et al.* 2003:79). However, according to Blasius and Thiessen (2012:30) construct bias exists when the items intended to measure a construct fail to have identical meanings among the respondents. At times some respondents may fail to respond to a question(s) if they find the questions ambiguous or intrusive (Gray 2009:238-244). Stopher (2012:77) confirms that such situations may compromise the truthfulness of the results. For the sake of checking respondents understanding of the questions and also of minimizing biases of non-response and construct bias this study indicated that the respondents will complete the questionnaires in the presence of the researcher.

Questionnaire design features were made user-friendly and questions were unambiguous since questionnaire design features can have substantial effects on data (Blasius & Thiessen 2012:26). Effort was made to make the instructions clear and questions easy to answer, in order to reduce the biases. It is also contended that it is often risky to make inferences about the population from a non-probability sample because the method of selecting respondents is subjective and can result large biases (Statistics Canada 2010:13). Stopher (2012:78) and Blasius and Thiessen (2012:89) contend that one of the ways to reduce or avoid bias was to adhere to strict rules of random sampling without any compromise. Such contentions about doing random sampling were not possible to be applied in this study considering the population size of less than fifty potential respondents. In order to minimize the biases in such situations can be a challenge, however, Donnelly and Trochim (2010:32) and Locke *et al.* (2004:49) assert that, the larger the sample, the smaller the error of measurement. Blaxter *et al.* (2003:79) validate that the survey relies on breadth rather than depth for its validity hence it is crucial that small-scale researchers survey all potential respondents in order to address issues of truthfulness and accuracy. Since the study opted to include all the teachers who teach Grades 1, 2 and 3 in government schools in the village, it means that the study addressed some issues pertaining to validity and reliability. Bias, due to sample error, was also simultaneously minimized as the problems of over-coverage or under-coverage were not applicable. The other source of bias could have been the researcher.

The bias from the researcher can take many different forms hence Blaxter *et al.* (2003:157) recommend that a moment should be taken to consider the effects the researcher might have on the respondents and on the results of the survey. According to Dillmann *et al.* (2009:69), respondents need to be properly motivated because they may ignore instructions, read questions carelessly, provide incomplete answers or skip questions hence researchers may need to be present to encourage respondents to respond to each question. However, Gray (2009:244) and Rea and Parker (2005:53, 60) disclose that it is unethical to force or induce respondents into giving answers. The study was not concerned with the inability of the teachers to complete the questionnaire fully as the study recognized that the respondents were trained in the teaching profession. The concern was that of making the questions to have common understanding among all the respondents so as to avoid inaccurate or no-response which in turn could affect the truthfulness of the results of the study. Therefore the presence of the researcher during the completion of the questionnaires, was to check first-hand the understanding of the respondents to constructs and the questions as a way of minimizing construct bias (Blasius & Thiessen 2012:30) so as to enhance truthfulness and validity of the study results (Blaxter *et al.* 2003:79).

The research methodology considered that the researcher be present when respondents complete the questionnaires regardless of possibilities that the researcher's presence could have influenced some of the respondents to respond in ways that they thought were favourable to the researcher. The facts were that the researcher stayed in the same village with some of the respondents. Some of the teachers in the schools were aware of the researcher's personal beliefs about inclusive education of learners with a MID since the researcher did voluntary work as a learning support teacher in two schools. However, since the context of the survey was different from that of the learning support programmes, it could be said that the researcher's involvement in the schools did not influence the respondents to respond in a particular manner during the survey. Respondents can be substantially influenced by the context of the question (Dillmann *et al.* 2009:70-72), hence to minimize the bias that could emanate from the researcher, the research design included instructions that were meant to promote honest and objective responses; and that care was taken to record responses accurately and enter them without error into the computer (Gray 2009:238-239). There were also some ethical considerations that needed to be applied. These ethical measures are discussed next.

4.7 ETHICAL MEASURES

All social science research gives rise to a range of ethical issues around privacy, informed consent, anonymity, confidentiality, being truthful and taking care not to provide respondents with biasing or manipulative information (Blaxter *et al.* 2003:158; Walliman 2009:283). The researchers also do not keep their findings to themselves as communicating results is an important part of the research

process (Evans & Rooney 2011:21). In consideration of the importance of ethical concerns, it was a requirement that the researcher submit formal ethical clearance applications to the Mpumalanga Department of Education (DoE) and UNISA. Procedures for the application submitted to the Mpumalanga DoE were similar to the proposal that was submitted to UNISA in that both required adherence to particular specifications and details pertaining to the entire study. The Mpumalanga DoE seem to have focused on how the research questions, aims, objectives, and background could benefit the learners and then recommended the study be conducted in the schools as it complied with the curriculum needs of the Department. The researcher received a written permission to conduct the research in designated schools in the Nkangala District in Mpumalanga Province (see Appendix 5).

After obtaining the permission to conduct the research from the Mpumalanga DoE, an application was made to UNISA. The application was submitted to the UNISA College of Education Research Ethics Committee which approved the application and granted the Ethical Clearance Certificate (see Appendix 6). The application to UNISA was done by completing an application form electronically and attaching the drafts of the questionnaire, letters of informed consent and asking permission from the principals and Heads of Department of the Foundation Phase and teacher consent forms. The permission from the Mpumalanga DoE was also attached.

The entire procedure ensured that essential principles of ethical conduct were considered by the researcher prior to the actual field work. This endeavor seem to have benefited the respondents, UNISA and above all the researcher because the approved application gives the researcher confidence that the plans of the study are within acceptable levels of professionalism that may be unlikely to harm the concerned parties. As might have been expected, the research proceeded according to plan and the researcher is pleased with the response rate especially considering that there was no pressurizing of people to participate in the study or to complete all the questions. None of the respondents opted to pull out during the study. The support given by the principals and Heads of Department of the Foundation Phase was also overwhelming.

The next chapter focuses on data presentation, analysis and interpretation.

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

This chapter focuses on data presentation, analysis and interpretation. According to the American Psychological Association (2010:105) and Dimitrov (2008:65-70) frequency tables and figures enable researchers to organize and present a large amount of information efficiently and make data more comprehensible. In this regard the findings of the study were presented in the form of tables, graphs and descriptive statements. The presentation of the results followed the order in which the questions were presented in the questionnaire. The presentation started with data from Section A, the biographical data. The presentation of section B was next and had questions that were related to the research questions. These were followed by findings that resulted from the inputs from the open ended question, analysis and comparison of categories and lastly, the concluding remark.

5.2 BIOGRAPHICAL AND DEMOGRAPHIC DATA

Biographical and demographic data section covered questions on the gender; age range; experience in teaching in the Foundation Phase; teaching qualification for Foundation Phase; Foundation Phase Curriculum and Assessment Policy Statements (CAPS) training; knowledge of Screening, Identifying, Assessment and Support (SIAS) National Strategy training; grade currently teaching; and the total number of learners in the class. The data from this section gave contextual information that was pertinent in the interpretation, analysis, conclusions and formulation of the recommendations of the study. The data was presented below.

5.2.1 Gender

Findings were that all the 39 (100%) of the respondents were females. In the case of the disadvantaged village, only female teachers were employed in the Foundation Phase. The findings observed the norm that was discovered through many years of research that found that primary school learners who are taught by females scored higher marks than learners with male teachers hence it was favourable to have females teaching the learners in the Foundation Phase (UNESCO 2004:48). Data was presented in Table 5.1.

Table 5.1 Gender

School	Male		Female	
	n	%	n	%
A	0	00.00	9	100.00
B	0	00.00	11	100.00
C	0	00.00	9	100.00
D	0	00.00	10	100.00
Village Total	0	00.00	39	100.00

5.2.2 Age groups

Highest number of the respondents 16 (41.03%) were in the age range 41-45 years. The second highest was the age range 46-50 years, 11(28.21%) followed by those in the 51⁺ category, 10 (25.64%). This meant that 37 (94.88%) of the respondents were mature females. The number of young teachers was minimal 0-40, 2 (05.12%). School C had 4 (44.44%), the highest number of respondents who were above 50 years. Table 5.2 showed distribution according to age groups.

Table 5.2 Age groups

School	0-30 Years		31-35 Years		36-40 Years		41-45 Years		46-50 Years		51 ⁺ Years		School Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
A	0	00.00	0	00.00	0	00.00	4	44.44	3	33.33	2	22.22	9	100.00
B	1	09.09	0	00.00	1	09.09	5	45.45	1	09.09	3	27.27	11	100.00
C	0	00.00	0	00.00	0	00.00	4	44.44	1	11.11	4	44.44	9	100.00
D	0	00.00	0	00.00	0	00.00	3	30.00	6	60.00	1	10.00	10	100.00
Village Total	1	02.56	0	00.00	1	02.56	16	41.03	11	28.21	10	25.64	39	100.00

5.2.3 Experience in teaching in the Foundation Phase

Teaching experience was highest in the 16-20 years, 11 (28.21%) and above 20 years, 11 (28.21%) categories. It was lowest in the 5-10 years, 4 (10.26%). School B was the only school that had the majority (7=81.81%) of respondents having 20 years and less than 20 years' experience. Table 5.3 showed the distribution according to teaching experience.

Table 5.3 Experience in teaching in the Foundation Phase

School	Below 5 Years		5-10 Years		11-15 Years		16-20 Years		Above 20 Years		School Total	
	n	%	n	%	n	%	n	%	n	%	n	%
A	2	22.22	1	11.11	3	33.33	1	11.11	2	22.22	9	100
B	2	18.18	2	18.18	0	00.00	5	45.45	2	18.18	11	100
C	1	11.11	1	11.11	1	11.11	2	22.22	4	44.44	9	100
D	2	20.00	0	00.00	2	20.00	3	30.00	3	30.00	10	100
Village Total	7	17.95	4	10.26	6	15.38	11	28.21	11	28.21	39	100

5.2.4 Foundation Phase teaching qualification

In section 2.12 Smit and Mpya (2011:25) asserted that most primary schools experienced lack of appropriately trained and skilled teachers in the field of inclusive education. Other previous research findings also concurred that the education system critically needed suitably qualified Foundation Phase teachers (Chisholm 2009:19-25), but the majority of the teachers in the disadvantaged village (34=87.18%), were professionally qualified to teach in the Foundation Phase, as shown in Table 5.4. This meant that the majority of the learners were taught by teachers who were familiar with good quality education for the learners in the Foundation Phase.

Table 5.4 Foundation Phase teaching qualification

School	Yes		No		School Total	
	n	%	n	%	n	%
A	8	88.89	1	11.11	9	100.00
B	9	81.82	2	18.18	11	100.00
C	8	88.89	1	11.11	9	100.00
D	9	90.00	1	10.00	10	100.00
Village Total	34	87.18	5	12.82	39	100.00

5.2.5 Curriculum and Assessment Policy Statement (CAPS) training

The majority of the respondents (36=92.31%), compared with 3 (07.69%) indicated that they had attended the Curriculum and Assessment Policy Statement (CAPS) training. It has been noted in section 3.5.2 of this study that Nkomo and Vandeyar (2008:3) and DoBE (2011f:5) found that access to basic education for all and inclusivity were the major strongholds of the NCS. Since CAPS is a component of NCS, it followed then that inclusive education of the learners experiencing barriers to learning was dealt with in the training. The results were presented in Table 5.5.

Table 5.5 Curriculum and Assessment Policy Statements training

School	Yes		No		School Total	
	n	%	n	%	n	%
A	8	88.89	1	11.11	9	100.00
B	10	90.91	1	09.09	11	100.00
C	8	88.89	1	11.11	9	100.00
D	10	100.00	0	00.00	10	100.00
Village Total	36	92.31	3	07.69	39	100.00

5.2.6 Screening, Identification, Assessment and Support (SIAS) training

More than half of the respondents (21=53.85%) indicated that they had not received any training pertaining to SIAS. The respondents who had SIAS training were from all the schools. It was not clear whether or not that the CAPS training, highlighted above as attended by 36 (92.31%), addressed the issues of IE adequately or left out the IE part for the specialists of IE. The expectation was that by attending CAPS training, the teachers would also learn about SIAS of the learners with mathematics barriers to learning, including those with a MID. In this light it appeared that teachers needed new skills training and support from the department (Dalton, McKenzie & Kahonde 2012:18-20) but there was need to think deeply about what skills were needed by the teachers in order to promote inclusive education.

In section 3.3.5.3 concern was raised that the mass screening, identification, labelling, and classification that was done by educational psychologists was problematic and after it was discontinued, it was replaced with teacher produced diagnostic tests (Naicker 2000:11). However, it was also noted that the decision put teachers and parents on a tight spot as they were not qualified to take over the responsibility of professional psychologists, hence the gap of properly identifying learners with a MID has not been closed. It was not surprising then that the results of the study also confirmed that the dilemma was still ongoing, putting children with a MID or other mild cognitive barrier to learning at risk of not being screened or identified properly in order to get appropriate support. In the midst of the problem, teachers were given some form of workshops and training, or guidelines of responding to diversity, yet the diagnosis procedures were unclear and not formalized. Data was presented in Table 5.6.

Table 5.6 Learning about Screening, Identification, Assessment and Support (SIAS) of learners with a mild intellectual disability

School	Yes		No		School Total	
	n	%	n	%	n	%
A	4	44.44	5	55.56	9	100.00
B	7	63.64	4	36.36	11	100.00
C	2	22.22	7	77.78	9	100.00
D	5	50.00	5	50.00	10	100.00
Village Total	18	46.15	21	53.85	39	100.00

5.2.7 Current teaching grade

The number of respondents were the same for each grade, 13 (33.33%), this meant that each grade had more or less equal representation in the sample. Table 5.7 shows the distributions.

Table 5.7 Current teaching grade

School	Grade 1		Grade 2		Grade 3		School Total	
	n	%	n	%	n	%	n	%
A	3	33.33	3	33.33	3	33.33	9	100.00
B	4	36.36	3	27.27	4	36.36	11	100.00
C	3	33.33	3	33.33	3	33.33	9	100.00
D	3	30.00	4	40.00	3	30.00	10	100.00
Village Total	13	33.33	13	33.33	13	33.33	39	100.00

5.2.8 Number of learners in the class

On overall very few teachers, 3 (07.69%) had ratios that were within the stipulated maximum of 40 (The Presidency Republic of South Africa 2009:67) learners in the primary school. In schools A and D, the results showed that teacher-pupil ratio of 61+ was quite high, 3 (33%) and 7 (70%) respectively. According to Organisation for Economic Cooperation and Development (OECD) (2013:38), very high teacher-pupil ratios reflect a clear shortage of teachers in schools but this was not always the case in the village as there were two teachers who shared learning areas in one class with more than seventy learners, while in other instances there was actually one teacher for a similar workload. Table 5.8 presented the data of the four schools.

Table 5.8 Number of learners in the class

School	40 & below		41-45		46-50		51-55		56-60		61+		School Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
A	1	11.11	1	11.11	0	0.00	0	0.00	4	44.44	3	33.33	9	100.00
B	1	09.09	4	36.36	4	36.36	2	18.18	0	0.00	0	0.00	11	100.00
C	1	11.11	2	22.22	2	22.22	3	33.33	1	11.11	0	0.00	9	100.00
D	0	00.00	0	00.00	2	20.00	1	10.00	0	0.00	7	70.00	10	100.00
Village Total	3	07.69	7	17.95	8	20.51	6	15.38	5	12.82	10	25.64	39	100.00

The data from Section A of the questionnaire revealed that the respondents were mature, had attended CAPS training and qualified to teach in the Foundation Phase. The concern of the study at this stage was that the high numbers of learners in the classes and lack of SIAS training were not enabling factors in the IE of the learners with a MID in the village. The next section presented data from Section B of the questionnaire and started with mild intellectual disability.

5.3 MILD INTELLECTUAL DISABILITY

5.3.1 Knowledge of screening and identifying the learners

Section 2.7 of this study revealed that MID is characterised by general delay in cognitive development that influence acquisition of language and basic academic skills hence learners with a MID learn more slowly than grade level peers and they usually demonstrate characteristic low achievement across all learning areas (Burge *et al.* 2008:2; Rosenberg *et al.* 2008:7-10). Reinhardt (2009:1) describes the term MID as also borderline intellectual functioning or slow learner because they tend to be concrete thinkers and have difficulty remembering previously learned information and find it difficult to generalize. In the context of inclusive education, MID was appropriately defined as a learning disorder characterised by: ability to profit educationally within a regular class with the aid of considerable curriculum modification and support service (Ontario Curriculum Unit Planner 2002:67). Most of the attributes mentioned above were included as question items which sought to find the knowledge the respondents had on MID, which they considered when screening and identifying the learners. The results were presented in Table 5.9.

Table 5.9 Knowledge of screening and identifying learners with a mild intellectual disability

Statements that were agreed to		n	%
1.1	Slow learners have low achievement in all learning subjects.	23	58.97
1.2	Slow learners learn better when given concrete objects to work with	28	71.79
1.3	Slow learners pay attention for a very short time during lessons.	32	82.05
1.4	Slow learners often display up to standard behaviour in the classroom.	13	33.33
1.5	Slow learners have difficulty in remembering mathematics skills and concepts.	32	82.05
1.6	Slow learners frequently lose school items such as pencils, books or homework assignments.	27	69.23
1.7	Slow learners seem to have delayed language development.	22	56.41
1.8	Slow learners can learn basic mathematics skills with age-group peers in primary school grades, when given appropriate support.	14	35.90
1.9	Repeating grades does not help slow learners to get pass marks.	28	71.79

The results showed that few respondents (14=35.90%) considered knowledge that slow learners could learn basic mathematics skills with age appropriate peers when given appropriate support. However, many teachers (32=82.05%), considered knowledge that learners with a MID had problems of short memory and short attention span. The other items that had high considerations, 28 (71.79%), were that learners with a MID learned better when concrete materials were used and that repeating grades did not help the learners to get pass marks. The finding that only 23 (58.97%) of the respondents considered the knowledge that learners with a MID had generalized low achievement was unexpected considering the pass rate in disadvantaged rural areas was generally low as highlighted in chapter one of this study. On the other hand, such findings could be explaining that some the learners whom the teachers refer to as “slow learners,” could be having a cognitive disability other than MID.

Review of literature in section 2.9.1 of this study revealed that the cognitive disabilities that have some features which can be confused with MID are; learning disabilities and emotional behaviour disorders which include Attention Deficit and/or Hyperactivity Disorder (ADHD). According to Boxall (2002:195); Sabornie *et al.* (2006:95) and the Ontario Curriculum Unit Planner (2002:70) the two, together with MID, are the three high-incidence disabilities in ordinary schools. The fact that only 13 (33.33%) of the respondents considered that learners with a MID often displayed up to standard behaviour in the classroom suggests that the majority of the respondents considered that the learners with a MID present behaviour problems. The findings may to some extent complement extensive research evidence stated in section 2.12 of this study where findings were

that the social skills of learners with a MID improved when they were provided with age appropriate supports and included in general education (Giangreco & Doyle 2007:173; Rosenberg *et al.* 2008:7-10). but the situation was not so in the village. The reason that explained the results of the current study could be that some of the learners had repeated grades several times and could have had emotional issues that emanated from not learning with age appropriate peers, hence their behaviours did not improve when learning in general education. A wide range variation in understanding and lack of agreement on definitions and terminologies has contributed to problems in collection and interpretation of epidemiological data on intellectual disability (Adnams 2010:436). However, section 3.5.4.1 of the current study indicated that teachers had a sound understanding of how to recognize and address barriers to learning (DoBE 2011c:5) but according to the DoBE (2010g:24) the DoBE has to work towards fulfilling and supporting its action plans and goals to ensure effective implementation of IE.

5.3.2 Additional knowledge from the respondents

The questionnaire had item 1.10 whereby the respondents had to fill in their own knowledge that was not represented in the items 1.1 to 1.9 of question 1 in Section B. 16 (41.03%) of the respondents did not fill in the portion. The respondents who completed the portion did not simply state what was already included in the question items considered in 1.1 to 1.9 but provided additional information. The statements that were most common pertained to lack of concentration. Statements such as; easily get distracted; playful; experience fatigue problems; and like making noise when others are listening, simply emphasize that learners with MID have attention and concentration problems. Some respondents also stressed some deficits in memory in the following statements; no matter how hard you try to teach them, they find it difficult to remember what you have been teaching them; and they are forgetful. Item 1.5 had a statement on difficulty in remembering and the response rate was very high (32=82.05%), although the statement was not as well stated as the respondents put it in item 1.10.

Statements which denoted problems in adaptive behaviour included; 'slow learners bully other learners; they are stubborn; they are shy and reserved; they undermine themselves; slow learners do not have self-confidence; and they are disruptive. The statements that related to written tasks included that the learners with a MID are unable to transcribe from the chalkboard; they do not differentiate between b and d, or b and p; the work is mostly untidy and always incomplete; they do not want to write; they have bad handwriting; absenteeism is high on slow learners as they are bored because they do not know much. The statements that seem not to conform to the definition and especially the "sub-average intellectual functioning" aspect were: slow learners excel in mathematics; and they do not achieve low marks in all subjects. While most of the above

statements pertained to learners with a MID as discussed in section 2.10; most of the statements were also applicable to other situations and cognitive conditions.

The discussion in section 2.9.1 highlighted that the major cognitive conditions which made the identification of MID difficult were; learning disabilities and emotional behaviour disorders which include Attention Deficit and/or Hyperactivity Disorder (ADHD). The major challenging attribute common to these disabilities was that they all presented difficult and controversial diagnostic problems obviously because of similar and common characteristics pertaining to academic failure. The main distinguishing factor was that learners with other conditions did not have low IQs like in the case with those having a MID. This meant without formal assessments from educational psychologists who state IQs and official diagnosis of the cognitive disability, the teachers do not really know the nature of the barriers to learning and cannot provide appropriate intervention. This explains why some respondents indicated that learners with a MID were excellent in mathematics yet to be excellent in mathematics one needs to have intellectual functioning which is above average. Not identifying the nature of barriers, such as dyscalculia and dyslexia, only add to the problem of over-identification of learners with a MID. Section 2.9.2 explained that learners with health and environmental deprivation related problems such as HIV/AIDS and poverty find it difficult to concentrate in school and therefore do not access the curriculum; eventually such learners are mistakenly identified as having a MID. However, if the living conditions of the learners improve health-wise or economic-wise, they may be able to improve and negate common beliefs about the abilities of learners with a MID, especially the idea that MID can be addressed by grade repetition.

The responses that were expected to be written in question 5 in Section B were also included in this section. These included that; slow learners are unable to complete their work because of overcrowding; overcrowding is a big problem because we cannot attend learners individually and successfully; slow learners need their own school that caters for them; lack of information in handling slow learners is very detrimental to the learners and the educators; and support is needed from the DoBE. The researcher did not view the inclusion of the statements as mistakes but rather as signs of the urgency to inform the research that overcrowding and existence of learners with a MID in the village schools were causing lots of job stress for the teachers yet the DoBE did not act quickly to take the learners with a MID to special schools. The impression given by some of the respondents was that the schools were not user-friendly for learners with a MID meaning that the learners with a MID needed to change themselves to be like the other learners to fit into the schools. The very fact that specialist provision is available reinforced deeply held beliefs that special training and expertise were necessary to teach children with disabilities and that such provisions were available in special schools, thus then separated children with disabilities from the majority of children who learn in ordinary schools (section 2.12).

The attitude of the respondents can also be detected in situations whereby teachers turn a blind eye when learners stay in the same grade for years against government policies of repeating grades. This is done without much thought of the concerns of the social worker that at some point some of the over-aged learners are left without financial means to continue with their education while still in the lower primary school grades, as the learners will have reached maximum age for receiving financial grants (section 1.2.1.4). The learners then become school drop-outs and at high risk of participating in substance abuse, crime, early convenience marriages and other anti-social activities that can compromise having quality adult life. Therefore, stipulated policies need to be observed by all stakeholders with foresight that engaging learners in unlawful grade repeating has detrimental effects that actually diminishes the learners' life chances. It is unfortunate that there is lack of proper legal measures that could take violators to court. However much effort needs to be directed at finding a way out so that the learners with MID access activities that are meaningful, such as vocational skills training and participation in Special Olympics.

The fact that the respondents advocated for special school placement confirmed that there were assumptions that low performance reflected the presence of intellectual disability. In Section 2.12 warning to the teachers was given not to think that low student performance is evidence of a disability (MID in this case) because some students performed very well in spite of having a disability. In this regard it may happen that the students that the teachers think should be sent to special schools may not have a MID while those whom they think are coping well could actually have a MID. It is therefore very important that the informal identification by the teachers be followed up by formal assessment by the educational psychologists. The curriculum is for all learners and when adaptations are made, the aim would be to make the curriculum inclusive. Findings on national curriculum adaptation were discussed next.

5.4 NATIONAL CURRICULUM ADAPTATION

5.4.1 Curriculum goals in grade overview

The majority of the respondents, (35=89.74%), indicated that they needed to devise mathematics curriculum goals other than those in the grade overview. In other words, the results indicated that the curriculum goals in the grade overview were not a perfect fit for the learners with a MID because the respondents needed to devise alternative curriculum goals. The views of the respondents were consistent with the statements cited in section 3.5.2 of this study whereby the Directorate Inclusive Education and DoBE (2011:4) stated that all schools (special, ordinary, rural, metropolitan or any other type of school) were required to offer the same curriculum to all learners while simultaneously ensuring variations in mode of delivery and assessment processes to accommodate all learners. Parajuli (2012:5-10) noted that a curriculum developed at national level

could not address the geographical, social, cultural, linguistic and economic diversities hence it disregards that indigenous communities are one of the target groups of the community. However, the finding that 4 (10.26%) did not need to devise other curriculum goals for the learners with a MID, confirm that there is a probability, although still small, that national curriculum adaptations can promote inclusive education for learners with a MID. Table 5.10 presented the data on curriculum goals in the grade overview.

Table 5.10 Need to devise mathematics curriculum goals for slow learners, other than those that are in FFL/CAPS overview for the grade

School	Yes		No		School Total	
	n	%	n	%	n	%
A	9	100.00	0	00.00	9	100.00
B	8	72.73	3	27.27	11	100.00
C	9	100.00	0	00.00	9	100.00
D	9	90.00	1	10.00	10	100.00
Village Total	35	89.74	4	10.26	39	100.00

5.4.2 Foundations for Learning

The issue of lack of progress in learning basic academic skills reflected an incomplete fulfilment of the vision of access to quality education (Etscheidt 2012:199). It has been explained in this study that the FFL is a national curriculum adaptation for the RNCS. The RNCS was ineffective because content to be taught was not specified therefore making adaptations for learners experiencing barriers to learning impossible since the content that was to be adapted could not be pin pointed in many instances (DoBE 2009a:45). The content in the RNCS was then adapted in the FFL and later included in the NCS, especially in CAPS, as already highlighted in the introduction of this chapter. The components of the FFL/CAPS that the study focused on were the assessment methods, daily mathematics activities and concrete learning and teaching materials.

5.4.2.1 Assessment methods

Only 14 (35.90%) of the respondents found the assessment methods suggested in FFL/CAPS suitable for learners with a MID. The findings depicted that generally the assessment requirements and procedures of formal assessment were inflexible as with the notations in section 3.3.1.2 of the current study. This study in section 3.3.2 noted that the principle of flexibility contributed to meeting a diverse range of needs especially since the education system in South Africa opted not to have a separate curriculum for learners with ID but commended flexibility in teaching and learning styles with peer support being recognised as a major resource in the classroom (DoE1997:50; DoE 1999:30-34). The DoE (2005:97) emphasizes that inclusive assessment strategies formed part of everyday teaching and learning and were not confined to formal

assessment or continuous assessment. Section 3.6.3 of the current study also recommended approaches that were more functional in linking assessment with intervention and also that recognised that although learners with a MID were different, they were in many respects children like all others (Engelbrecht & Green 2009:204). The data was presented in Table 5.11.

Table 5.11 Assessment methods suitable for slow learners

School	Yes		No		School Total	
	n	%	n	%	n	%
A	3	33.33	6	66.67	9	100.00
B	4	36.36	7	63.67	11	100.00
C	3	33.33	6	66.67	9	100.00
D	4	40.00	6	60.00	10	100.00
Village Total	14	35.90	25	64.10	39	100.00

5.4.2.2 Mathematics lesson activities

The United Nations (2007:82) stated that to be inclusive in general education should among things adopt teaching methods and curricula that benefited all children. Section 2.13 discussed the TEAM (Together Everyone Achieves More) concept related by Morgan (2009:24) that fitted well in promoting inclusive methods considered good inclusive practice for learners with MID. TEAM was an effective reinforcement approach which, among many things, encouraged children to help one another since as a team they were given a common goal which they all worked towards. The results of the study showed the FFL/CAPS contained inclusive practice as 17 (43.59%) respondents found that that using the daily mathematics lesson activities suggested in the FFL/CAPS promoted learning of mathematics basic skills in learners with a MID. Table 5.12 presented the data.

Table 5.12 Daily mathematics lesson activities promote learning in slow learners

School	Yes		No		School Total	
	n	%	n	%	n	%
A	5	55.56	4	44.44	9	100.00
B	5	45.45	6	54.55	11	100.00
C	3	33.33	6	66.67	9	100.00
D	4	40.00	6	60.00	10	100.00
Village Total	17	43.59	22	56.41	39	100.00

5.4.2.3 Concrete learning and teaching materials

The majority of the respondents (25=6410%) supported that use of concrete learning and teaching materials promoted the learning of basic academic skills in learners with a MID. The results

agreed with section 2.5 of this study, whereby it was noted that Farrell (2009:700) and Kirk *et al.* (2006:181) stress that effectiveness of intervention for learners with an ID has to provide and emphasize extended concrete learning which should be intensive and on-going because once it stops there is a tendency for the children to lose some or most of the gains that they have made in education. The results also disagreed with the literature review in section 3.5.4 of the current study which maintained that the teaching of learners experiencing barriers to learning was an issue for teachers due to lack of learning and teaching support materials and guidance on how mainstreaming of the learners was to work practically, thereby contributing to job stress and teacher workload (DoBE 2009a:60; Chisholm *et al.* 2005:138). Table 5.13 presented the data.

Table 5.13 Concrete learning and teaching materials promote learning in slow learners

School	Yes		No		School total	
	n	%	n	%	n	%
A	7	77.78	2	22.22	9	100
B	6	54.55	5	45.45	11	100
C	7	77.78	2	22.22	9	100
D	5	50.00	5	50.00	10	100
Village Total	25	64.10	14	35.90	39	100

5.5 LANGUAGE OF LEARNING AND TEACHING MATHEMATICS

Twenty-two (56.41%) of the respondents found the suggestion of the use of Home Language (HL) in learning and teaching mathematics in FFL/CAPS did not promote learning of mathematics basic skills in learners with a MID. The findings could have been influenced by the fact that while education in mother tongue is granted, there is difficulty in availing resource materials in mother tongue if it is different from the dominating official language of learning and teaching (Parajuli (2012:16). Since the results in Table 5.14 showed that teachers who advocated for use of HL and those who did not were more or less the same. This means that the teachers are using both languages, that is, HL and English. The researcher observed that the wall charts and number cards with the small numbers in the range 1 to 10 were in both languages, but when it came to bigger numbers it was only English. The main concern was pertaining to requirements that teachers needed to translate work for preparation and teachers resources to HL. Most of the worksheets and concrete materials for learners were also in English but teachers did not raise much concern on lack of learning materials in HL. Studies in Nepal also noted that there was difficulty in availing resource materials required in mother tongue (Parajuli 2012:16). Moreover, in section 3.3.3 of the current study, mathematics was defined as a language that makes use of symbols, notations and terminology that can be confusing to explain in indigenous languages. This can also act as a barrier to learning (DoBE 2011f:9; DoE 2003c:31-33). Data was presented in Table 5.14.

Table 5.14 The use of Home Language promotes learning of mathematics basic skills in slow learners

School	Yes		No		School Total	
	n	%	n	%	n	%
A	3	33.33	6	66.67	9	100.00
B	5	45.45	6	54.55	11	100.00
C	4	44.44	5	55.56	9	100.00
D	5	50.00	5	50.00	10	100.00
Village Total	17	43.59	22	56.41	39	100.00

5.6 MATHEMATICS ACHIEVEMENT

Results showed that the majority of the teachers (25=64.10%) did not find that the FFL/CAPS promoted increase in mathematics achievement in learners with slow learners. Just above a third of the teachers 14 (35.39%) indicated that FFL/CAPS promoted a significant increase in mathematics achievement in slow learners. Findings show that School A, 5(55.56%); and School D, 4 (40.00%) found that the use of FFL/CAPS promoted a significant increase in mathematics marks, in spite of having higher teacher-pupil ratios as compared with School C, 1 (11.11%), which had the lowest teacher pupil ratios. Such findings may indicate that overcrowding may not be the only pertinent issue in IE. High marks were required in order to classify learners as having passed notwithstanding warnings cited in section 3.6.3 of the current study that the danger of emphasizing marks compromised the democratic rights and IE of learners with a MID (Kirk *et al.* 2006:181; Simpkins *et al.* 2009:300; Rose *et al.* 2005:128). More literature reviewed in section 3.6.3 of the study and also Karten (2005:281) supposed that many students viewed mathematics as a major challenge and the tension that came with such a belief resulted in many children visualizing failing mathematics before they even wrote the tests. Such negative thoughts often became self-fulfilling prophecy. Thus, achievement in mathematics disappoints despite all the additional attention the subject has been given (The Presidency of the Republic of South Africa 2011). Details of findings of the study are shown in Table 5.15.

Table 5.15 Increase in mathematics achievement in slow learners

School	Yes		No		School Total	
	n	%	n	%	n	%
A	5	55.56	4	44.44	9	100.00
B	4	36.36	7	63.64	11	100.00
C	1	11.11	8	88.89	9	100.00
D	4	40.00	6	60.00	10	100.00
Village Total	14	35.90	25	64.10	39	100.00

5.7 INPUTS FROM THE RESPONDENTS ON NATIONAL CURRICULUM ADAPTATION AND INCLUSIVE EDUCATION

As already highlighted in Section 3.6.3 of this study, inclusive practices should bring clear, unequivocal, academic and social benefits for student with and without disabilities (Smith in Smith 2010: 41; Links 2009:4). While the FFL/CAPS, involved getting materials to primary schools and making it clearer to teachers how they should teach, the responses from the open ended question 5 in section B proved otherwise. The analysis of the contributions of the respondents seemed to centre on the concerns which should have been addressed by the FFL/CAPS and SIAS.

The following concerns were noted: requests for teacher training and workshops on dealing with diversity; requests for concrete teaching and learning materials from the government; using English as the language of learning and teaching and learning mathematics; recommendation to have a special schools in the village to support learners because overcrowding does not allow teachers to give the slow learners individual attention and “serious supervision”; curriculum is not suitable for the learners with MID hence there should be extra adaptations on methods; too many activities in CAPS that are too difficult for the slow learners; and lack of parental support with homework. Such revelations echoed sentiments raised in section 3.2 of this study which stated that the greater the pressure to raise academic standards, the worse the fate of those who could never achieve according to such standards (Warnock & Norwich 2010:21). In addition, IE is not compatible with overcrowding as it promotes neglect of learners experiencing barriers to learning (DoBE 2009a:60). However, section 3.2 of the current study discussed that special school placement was socially isolating, stigmatizing, disempowering, reducing expectations, stressful, shameful and focussed on deficits; and typically delivering poor quality services (Smith in Smith 2010:47; DoE 1999:8; UNESCO 2009b:59; Dudley-Marling & Gurn 2010:1-6). Hence clear guidelines had to be made available to teachers and training of teachers provided, where necessary, in identifying and supporting learners with special educational needs in ordinary schools (DoBE 2009a:60).

Section 3.6.2 of the study discussed considerations teachers should take into account when developing adaptations in the classroom and outlined four types of adaptations as: age-appropriate, functional, meaningful and least intrusive adaptations. They also explained that an adaptation that was too intrusive, isolated students from their peers or hindered their participation in class thereby likely to result stigmatization (Wilson 2002:212; Cushing *et al.* 2005:12). However, some respondents proposed that a separate arrangement be made for the learners outside the classroom; this is not curriculum adaptation-wise as CAs should be done in the classroom to promote meaningful IE. In this regard this is the reason why CAs at national level can cover a wide range of learners; hence such should be promoted, instead of continuously blaming teachers for incompetence, non-cooperation, and lack of commitment (section 3.6.3).

5.8 ANALYSIS OF CATEGORIES

The study selected the responses from the respondents who had indicated that they had training in Screening, Identification, Assessment and Support (SIAS) strategy and presented the data as shown in Table 5.16.

Table 5.16 Respondents who had training in Screening, Identification, Assessment and Support (SIAS) of learners with a mild intellectual disability

Categories	Yes		No		Total	
	n	%	n	%	n	%
Assessment methods	8	44.44	10	55.56	18	100.00
Lesson activities	9	50.00	9	50.00	18	100.00
Use of Home Language	8	44.44	10	55.56	18	100.00
Mathematics achievement	10	55.56	8	44.44	18	100.00

The data of the “yes” responses were then compared with the “yes” responses in the village totals. The following categories were considered: assessment methods; lesson activities; use of Home Language in teaching mathematics; and mathematics achievement. The findings were that there was substantial difference in percentages especially in responses pertaining to mathematics achievement as shown in Figure 5.1. The difference in use of HL in teaching mathematics was minimal.

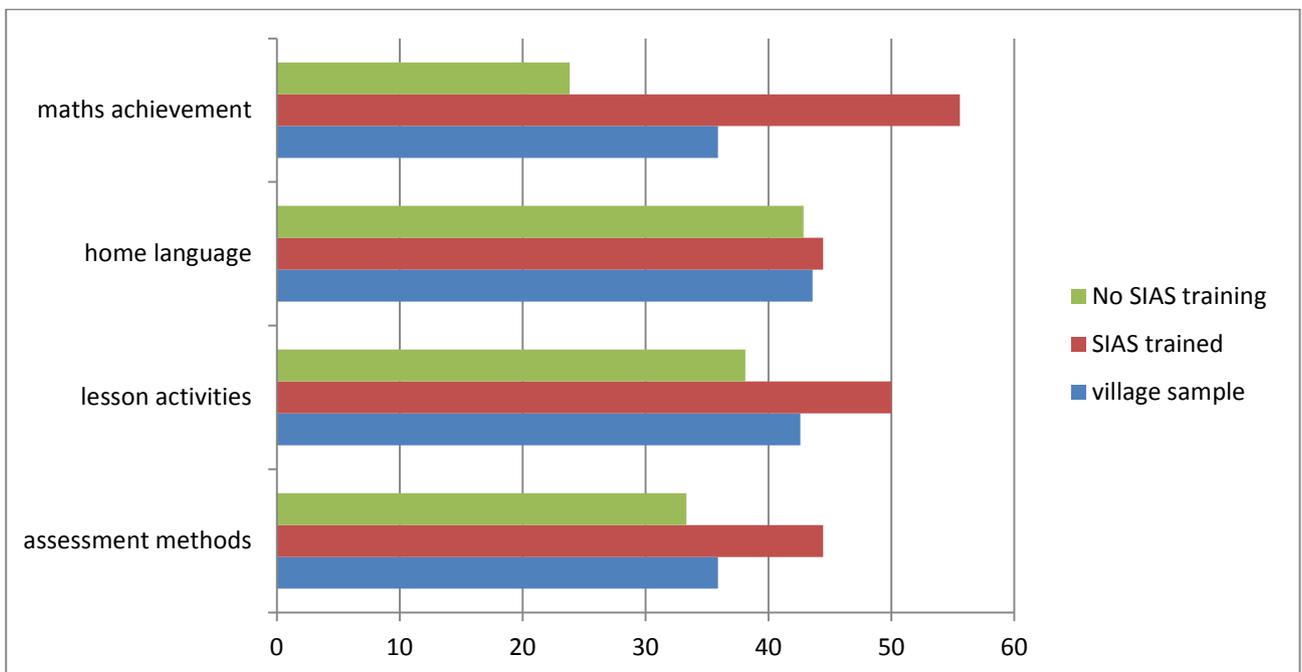


Figure 5.1 Comparison of categories

5.9 CONCLUDING REMARK

The study was an eye opener in that the factors contrary to IE may start with good intentions yet end negatively affecting the education of learners and IE. An apt example of such a situation is preventing psychologists to do mass screening and identification of cognitive disabilities as it was argued that the use of the old westernised IQ tests was doing harm to people with ID and their families, especially with regards to erroneously placing learners in boarding special schools (section 2.7). With good intentions, the leading role in screening and identifying learners was given to teachers and parents (section 2.9.4) who are not professionals in determining IQs and therefore should not be at the forefront. In the end many learners were given the label “slow learner” by teachers and parents without paying attention to IQs which play a major role when identifying learners with a MID. With a wide range of learners sharing the same label, the characteristics become so varied and it is easy to unintentionally disregard the nature of the barrier to learning and just work on the effects which in many cases amount to general school failure. This situation makes mass formal identification of learners with a MID by educational psychologists a critical issue. The psychologists need to work together with parents and teachers in an inclusive way, not necessarily playing a solitary role (section 2.9.4) so as to identify the learners formally and to give appropriate support.

Particular learning needs peculiar to those with a MID can be embraced and addressed at a national level but with so much confusion at grassroots level, support given to individual learners seem to be greatly compromised. It is true that the national curriculum used to be the biggest barrier to learning (section 3.5.3 & 3.5.4) before the recent national curriculum adaptations in FFL/CAPS which made the curriculum more specific, responsive and inclusive (section 3.5.5; section 3.6.5 & section 3.7). However, the national curriculum was not the only stakeholder as parents, teachers, SBSTs, DBSTs, psychologists, the DoBE and other service providers need to work together to support the learners. This chapter presented and analysed the data that was gathered in order to find the extent to which the national curriculum adaptations were responsive in the IE of learners with a MID in the disadvantaged village. The summary of findings, as well as the research conclusions and recommendations are presented in the next chapter.

CHAPTER 6

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter sought to reveal the significance of the research findings from the study; hence the purpose of the chapter was to demonstrate whether the aims and objectives of the study were achieved. The main bases that were used in arriving at the findings of the study were the literature review and the data from the questionnaires that were completed by the respondents. The chapter commenced with the introduction, which was followed by the summary. The summary was then followed by the conclusions, recommendations and lastly, the concluding remarks. The first section focuses on the summary of findings from the literature review.

6.2 SUMMARY

6.2.1 Summary of findings from the literature review

The literature considered in this chapter incorporated all the chapters that were covered in this study. Chapter one contained the background which mainly revealed that the learners with intellectual disability were among the groups of children who were not receiving quality education. Some global campaigns, which focused on meaningful inclusive education of learners with intellectual disability, were highlighted. The problems facing the learners with a mild intellectual disability and the failure to learn basic mathematics skills by many students in South Africa who lived in disadvantaged villages were discussed. The national curriculum adaptation, particularly the FFL/CAPS in mathematics were viewed as potential solutions to the problems, having considered the resemblance in the principles of teaching learners with a MID and the principles of teaching mathematics. Moreover, section 2.5 revealed that the normal learners in the Foundation Phase, just like learners with a MID, are in Piaget's concrete operational stage whereby learning of concepts and skills can take place in relation to concrete and actual events (Farrell 2009:70). Statement of the research problem was made together with the research questions, sub-questions, aims and objectives of the study. The chapter outline was also given in chapter one.

Chapter two dealt with the nature of MID. It is unfortunate that MID cannot be detected early like moderate, severe or profound intellectual disability otherwise there would not be so much confusion as to who has it or does not have it. Section 2.9.3 highlighted that one of the reasons for lack of success in early detection of mild disability was that children displayed slight developmental problems that were virtually unnoticeable to the untrained eye; and even after identification, it was difficult to be certain that it was MID. Formal assessments needed to be done so as to be able to

give appropriate support to the learners with a bearing in mind that there were many conditions and situations that could be easily confused with having a MID. Even if it may not be certain that the learners being discussed in this study have genuine MID, the respondents were justified to be concerned that overcrowding and work overload were major factors that made learners with a MID not to access the curriculum. The situation of teaching more than 60 learners in the Foundation Phase, and the worst being of having 72 Grade 1 learners in one class with one teacher, was certainly a condition which creates various barriers to learning. However, the problems of overcrowding and overload may take time to get solved since IE has been likened to a journey.

Chapter three reviewed literature pertaining to inclusive education, national curriculum development in South Africa and curriculum adaptation and FFL. In section 3.2 the metaphor 'journey' was analysed as being potentially counterproductive of implementing the policies of IE as it could be coined to justify exclusion in terms of limited progress that was made within the road to inclusion (Walton & Lloyd 2011:1-31). It could be easily seen that describing IE as a 'journey with a purpose' (section 1.1) was not inclusive of every child since the learners who learn in disadvantaged villages seemed to be left out in the cold since 2001 when the Education White Paper 6: Building an Inclusive Education and Training System started. This meant that such learners were certainly not going to reach a desirable destination of IE unless they got interventions that were feasible and responsive to their needs. The DoBE had opted for a one curriculum for all learners but the curriculum could not address the country's poor performance in literacy and mathematics. International and local test results showed that South African children, particularly those who lived in disadvantaged villages, performed poorly in the international tests. FFL was conceived as a national curriculum adaptation which was supposed to be responsive to the educational needs of many children so as to address the country's general poor performance in mathematics and literacy.

The features used in the design of the FFL, particularly in mathematics, resembled the typical curriculum that catered for the learning needs of children with a MID. The problem in the village was that there were too many learners who were referred to as slow learners. Such learners struggled with schoolwork and also failed and repeated grades because of poor academic performance. This implied that the learners were not receiving proper education which was responsive to their learning needs. Since the FFL had been commended for efficacy in promoting the learning of basic skills, it was necessary to carry out the survey so as to find out the extent to which the curriculum adaptations were responsive to the learners with a MID who lived in the village. According to McMillan and Schumacher (2010:439), surveys yield data on the present conditions of selected groups of situations. A survey using questionnaires was conducted in the village primary schools and details of the data collection and analysis procedures were given in chapter four. Chapter five dealt with presentation and analysis as these provided answers to the

research questions of the study since the questionnaire was designed with the research questions and sub-questions in mind. The next section of the summary dealt with the findings on data from the questionnaires.

6.2.2 Mild intellectual disability and demographic and biographical data

The findings from Sections 5.2.1; 5.2.2; 5.2.3; 5.2.4; and 5.2.5 indicated that the majority of the respondents (94.88%) were mature females who had experience and Foundation Phase teaching qualification. These respondents had also attended the CAPS training. Based on the results of training and experience, the respondents should have had the basics concepts of MID and the associated basic educational needs. This was evidenced by responses for question 1 Section B of the questionnaire whereby many respondents selected the key basic concepts and characteristics of learners with a MID as knowledge they used to screen and identify learners with a MID. It appeared that the respondents had an informed informal assessment guide despite the fact that the majority (53.85%) indicated that they had not been trained to screen and identify learners with a MID. The findings were inconsistent with findings in section 2.12 which showed that the DoBE initiatives for improving quality of teacher training appeared not to have met the critical needs for supply and demand of suitably qualified mathematics and Foundation Phase teachers. Since ID and other disabilities can start at any time before the age of 18 years, on-going screening and identification is important so that learners get support as soon as possible. It is therefore necessary to have a full time inclusive education coordinator in each school to facilitate the SIAS process. Therefore teachers need not seem to be working without support from the SBST or the DBST because lack of support creates negative attitudes.

The study done in Ghana discussed in section 3.6.3 found that the majority of teachers had conceptual knowledge of IE and their attitudes to the teaching of learners with disabilities were likely to be positive, but IE had many challenges that needed to be overcome to make it work (Deku & Ackah 2012:152-161). Similarity of the findings of the study with the studies done in Ghana were mainly to do with teachers' conceptual knowledge of IE and that there was a lot that needed to be done to make IE work effectively. However, a difference in the findings was that the attitude of respondents in the current study seemed to have been more likely to be negative because the respondents seemed to expect learners with a MID to pass grades, yet they were not given any support to do so by the teachers. They also expected the learners to pass with strict adherence to the requirements of the grade before moving to the next grade which was highly unlikely without a responsive support programme. There were also many suggestions that the learners with a MID needed to go to special schools, yet the needs of the learners may not have been on levels that warranted special school placements. Such evidence can be associated with negative attitudes. The negative attitudes were influenced by the fact that some learners with a MID had good verbal conversational skills and consequently teachers expected more from them

than they were able to produce in the average academic situation without a responsive support system (section 2.1.5).

The other factor that could have influenced the respondents could have been that the learners whom the respondents referred to as having a MID may not have had the disability but some other cognitive condition or situation that could be easily confused with a MID (section 5.3.2). Some conditions or situations were temporary, unlike MID which was permanent, and could easily go away if the barriers to learning were removed. There seemed to be a gap in the system of SIAS as evidenced by the findings that over 50% of the respondents did not have any form of SIAS training (section 5.2.6). The situation created in schools promoted negligence of the needs of learners with a MID as it perpetuated barriers to learning and therefore impacted negatively on inclusive education.

One of the challenges in the village was overcrowding in the classrooms. Initially, inability of the teachers to respond to the learning needs of learners with a MID seemed to be due to overcrowding; on further analysis it appeared that not following the progression procedures allowed so many learners to repeat grades. The high rates of grade repeating resulted in classes with a very high prevalence of the learners with a MID who required the teachers support. Obviously the teachers were not able to cope with the abnormal classes with over-aged learners and too much workload. The classroom level curriculum adaptations for individual learners were unlikely to be feasible in such classes. The national curriculum adaptations which covered all the learners in the country needed to be considered. The next section focused on national curriculum adaptations.

6.2.3 National curriculum adaptation

The absence of clear referral mechanisms that may lead to formal assessment by psychologists caused system breakdown in the National strategy, the SIAS, as learners were often not able to access appropriate recognition and support from the SBST and DBST. This meant that, no matter how appropriate the national curriculum adaptations were for the learners with a MID, the learners were not going benefit much as they were not supported since being retained in the same grade did not equate to formal assessment and appropriate support. The importance to develop a national curriculum in compliance with inclusive concept in order to make it inclusive was emphasized (Parajuli 2012:15), but findings of recent studies revealed that rural areas remain the most marginalized with very poor services for children with ID and low priority of intellectual disability continue to result in unmet educational needs (Adnams 2010:439).

6.2.3.1 Curriculum goals in grade overview

The majority of the respondents (35=89.74%), indicated that they needed to devise mathematics curriculum goals other than those in the grade overview. The results simply meant that the curriculum goals in the grade overview were not adapted enough to be inclusive of the learners with a MID. Even if they may not be suitable for learners with a MID, at least they exist and are specific unlike in OBE and RNCS where the goals were not clear (section 3.5.3 & 3.5.4). The adapted curriculum goals done by the teachers at classroom level are applicable at various levels so that the learners access the curriculum (section 3.6.2).

6.2.3.2 Assessment methods

This study supports the DoBE (2012b:7) stance that all learners must have the option of following the ordinary curriculum and be supported through the mechanisms of curriculum and adapted assessment procedures. The adapted assessment procedures were not available at the time the study was conducted hence only 14 (35.90%) of the respondents found the assessment methods suggested in FFL/CAPS suitable for learners with a MID. However, it has been reported in section 3.4 of the current study that current legislation only provided a broad framework and lacked details of the exact nature of commitment required to make them to qualify to be effective laws that can work within the legal framework, hence many policies did not work practically to improve the lives of many children with disabilities (Jamieson, Hall & Kassan in Pendlebury *et al.* 2009:12-13). This then calls for those in authority to closely monitor that the assessment requirements and tests given in ANA; formal and informal assessment from the school clusters, districts and provinces; and also the promotion and progression requirements; must be flexible enough to allow the learners with a MID to participate in inclusive education.

6.2.3.3 Mathematics lesson activities

The results of the study showed that the FFL/CAPS contained inclusive practice as 17 (43.59%) respondents found that using the daily mathematics lesson activities promoted mathematics achievement in learners with a MID. Curriculum Implementers (CIs) of mathematics need to raise awareness amongst teachers about the existence of learners with a MID and the learning approaches that are inclusive of learners with a MID. They should also demonstrate practical IE lessons and give the teachers a variety lesson plan templates that comply with IE and the fundamentals of mathematics. In section 3.6.4 the researcher distinguished the two mathematics facilitators in the Gauteng North Province who believed that all children could learn mathematics if supported well. The researcher remembers how the facilitators stressed the importance of dividing new skills into small steps to allow for slow progression and also the need of frequent repetitions which were in the form of short weekly or fortnightly tests. These strategies have greater potential

to promote mathematics than teaching several mathematics topics in one day as a way of providing frequent repetition of work done. Too many topics may confuse the learners and make it difficult to identify and evaluate the new skills covered during the day or the entire week.

6.2.3.4 Concrete learning and teaching materials

The use of concrete materials needs to be over-emphasized for all the learners in the Foundation Phase. The majority of the respondents (25=64.10%) supported that use of concrete learning and teaching materials promoted the learning of basic academic skills in learners with a MID. Over teaching of basic mathematics concepts need to be done together with the use of concrete materials (section 1.2.1.7).

6.2.4 Language of learning and teaching mathematics

Teachers are using both English and HL when teaching mathematics as shown in Table 5.14. many of the learning materials are in English. Mathematics is a language and English happens to be the dominant language used in official mathematics exam. The fact that both languages are used promotes learning that starts from known to unknown. Teachers need HL to teach mathematics concepts in English and this is a focused decision when considering that when learners reach Grade 4, the official language for teaching mathematics changes from African Languages to English. There will be consistency in building a solid foundation for mathematics and learning some of the important English mathematics vocabulary, hence disregarding any of the languages may be problematic for many learners.

6.2.5 Inputs from the respondents

Findings from the inputs of the respondents were that the schools in the disadvantaged village did not have extensive IE support structures that were readily available to enable teachers to provide meaningful support to the learners who experience barriers to learning. In other words, the enabling factors that promoted IE of the learners with a MID were generally scarce in the village schools. The findings were consistent with observations cited in section 2.14 of the study which asserted that the South Africa's mainstream school environment did not provide the necessary structure to address learners with special educational needs adequately and that the teachers were sole natural supports that the learners had in poor rural areas.

The systems in the village schools seemed to make the situation worse by allowing learners with a MID to repeat grades as if the expectation was that the learners' barriers were going to disappear if learners were given extra years in the same grade. In the next grade the same learner would be

given another year and by the time the learner was in the second year in Grade 3, the age mates were doing their final year in the Intermediate Phase or already in the Senior Phase. Such scenarios, although seemingly hard to believe, were done out of the good heart of the teachers who thought that they should not just “push” the learners to the next grade if they have failed; while in reality such considerations of grade repeating were anti-inclusive education because IE stresses the importance of learning with age mates. IE further recognises that some learners progress very slowly but their small achievement is noteworthy.

Repeating grades contributes a lot to overcrowding which seems to be the main concern for the teachers. The researcher speculated that what motivated the teachers to keep learners in the same grade was that they have success stories to tell about the slow learners who made it in life after doing several years of grade repeating. This study pointed out the over-identification learners with a MID in the disadvantaged village and many learners were negatively affected by too much grade repeating (section 1.2.1.4) at the expense of providing appropriate school based support. Some learners appeared not to be genuine slow learners but learners who needed their health, social, economic or language problems solved to access the curriculum. In this regard teachers needed full support from parents, SBSTs; DBSTs, psychologists, the DoBE and other service providers that can work together with teachers to provide meaningful IE for learners with a MID in the disadvantaged village.

6.2.6 Mathematics achievement and analysis of categories

According to section 2:12 there seemed to be general consensus that the needs of learners with ID need to be addressed through, among other things, curriculum adaptation and appropriate teacher training (UNESCO 2009c:3). The findings from the comparison of categories concurred with the above statement since they showed that the teachers who had SIAS training had higher ratings in terms of finding the FFL promoting mathematics achievement and the other categories (Figure 5.1). This means that teacher training which incorporates IE concepts is a very important aspect in addressing the needs of the learners with a MID. Conclusions are discussed in the next section.

6.3 CONCLUSIONS

Conclusions of the study are drawn from the analysis of the data that was presented in chapter five. Since the data was collected in order to answer the research questions, it means that the conclusions are answers to the main research question and sub-questions. The respondents' biographical and demographic data also contributed in making the conclusions.

6.3.1 Screening and identification of the learners with a mild intellectual disability

On the sub-research question that sought to find the knowledge teachers had of inclusive education that enabled them to screen and identify learners with a mild intellectual disability in the classroom, the following conclusions were drawn:

- Most of the respondents (34=87.18) were well trained Foundation Phase teachers who had adequate knowledge of screening and informally identifying the learners with a MID. However, such knowledge did not help much in promoting IE of the learners with a MID because the school environments were not user-friendly for learners with a MID.

6.3.2 Curriculum goals in grade overview

On the sub-question which sought to find if the teachers needed to devise specific curriculum goals other than those in the FFL/CAPS to accommodate learners with a mild intellectual disability, the following conclusions were drawn:

- The majority (35=89.74%) of the teachers needed to devise specific curriculum goals other than those in the FFL/CAPS (section 5.4.1) because they found the prescribed minimum requirements of achievement in each grade in the Foundation Phase too numerous and difficult for the learners with a MID.

6.3.3 Learning and teaching activities and requirements

On the sub-question on whether the teachers found that using learning and teaching activities and requirements outlined in the FFL/CAPS, met the educational needs of learners with a mild intellectual disability, the following conclusion were drawn:

- Formal assessment methods suggested in FFL/CAPS were not suitable for many learners with a MID, especially considering that the principle of flexibility was not used. Since the teachers devised their goals other than those in the FFL/CAPS, it should have followed that assessment methods and procedures were to be adapted at classroom level to accommodate the needs of the learners. Unfortunately, that may not have been the case as the DoBE (2012b:7) acknowledged that many learners who were inclined towards a skills or vocational track, found that the NCS Grade R-12 was not a sufficiently flexible and accessible vehicle to realize their full potential. The reason for this was that assessment seemed to be geared only at identifying those who have passed and those who have failed and have to repeat grades, without getting any additional support to assist the children to

learn basic skills (section 2.14). It can also be concluded that what was purported in section 3.6.3 (i.e., teachers were in control of the curriculum and could use inclusive practices to make sure that the curriculum did not go too fast, was not too demanding and did not remain out of reach for some students) was not true in this study.

- FFL/CAPS created a cost effective IE programme for disadvantaged learners and it advocated the use of ordinary school strategies that promoted improvement in mathematics in all learners. From afar it could be concluded that the prescriptive content was too much content to learners with a MID and therefore did not provide adequate time for over-teaching opportunities, hence the pacing was not considerate of the typical needs of the learners with a MID. However, on closer examination, the bulk of the content was actually prescribed revision work which was perceived as new concepts. In this regard it could be concluded that prescribing too much content for revision was not compatible with the needs of the learners with a MID. In other words, if only the core content to be taught was prescribed and revision left at the teacher's discretion, the results would have been more favourable as the pacing, methods and other requirements in FFL/CAPS were not too much.
- The use of concrete learning and teaching materials supports the IE of learners with MID and other learners in the Foundation Phase, so steps should be taken to ensure that the materials are available in schools.

6.3.4 Mathematics achievement

In answering the sub-question on whether the use of the FFL/CAPS resulted in a significant increase in mathematics achievement in learners with a mild intellectual disability in disadvantaged village primary schools, the following conclusions were drawn:

- Mathematics achievement can be enhanced if teachers observe the principle of inclusive education which advocates the use of HL when teaching learners, and also at the same time pays respect for mathematics as a language that happens to use English for instruction (in the disadvantaged village). This means that both English and HL should be used to lay a strong foundation for mathematics in learners with a MID.
- In consideration of the results of the study, findings showed that 35.90% of the respondents indicated that mathematics achievement improved with use of FFL/CAPS. Thus, it is possible that some teachers could find a "one-size-fits all" situation when dealing with certain

mathematics concepts at primary school level (as it has been indicated in chapter one of this study). In many respects, there were similarities in principles of teaching mathematics and in effective teaching of learners with a MID.

- It can also be concluded that it may not be always necessary to force some teachers to specify adaptations or curriculum differentiation for learners with a MID as they would find that the FFL/CAPS is feasible and responsive to the educational needs of these learners. Consequently teachers would have less workload when doing lesson planning, and more time for teaching, especially considering that research finding showed that the majority of the respondents (36=92.31%) had more than the required teacher-pupil ratios in their classes.

The final conclusions were drawn from the entire study and were based on the main research question which was stated as:

To what extent is the Foundations for Learning (FFL)/CAPS a responsive curriculum adaptation in the teaching of mathematics basic skills to learners with a mild intellectual disability in disadvantaged village primary schools in Mpumalanga Province?

- The strategies that the FFL/CAPS suggested were not new to the teachers because many teachers knew about the use of the concrete teaching and learning materials, bad effects of overcrowding in content to be taught and inflexible assessment requirements.
- If the areas of overcrowding and inflexible formal assessment methods were addressed, then lesson activities and strategies suggested in FFL/CAPS would be, to a great extent, easily implemented in the schools thereby making national curriculum adaptation usable by a wide range of learners including the learners with a MID.
- The use of appropriate national curriculum adaptations is responsive in some of the learners with a MID to an extent that they are responsive, even with prescribed minimum requirements of achievement in each grade in the Foundation Phase. National curriculum adaptation can be responsive in IE of the learners with a MID and can improve the learning of mathematics basic skills.
- Teachers need support from the parents, SBST and school management in order to provide meaningful IE for the learners with a MID.

6.4 RECOMMENDATIONS

The following recommendations are given based on the findings of the study and also in consideration that the learners who have a MID, who live in disadvantaged villages, also experience other barriers to learning that are directly related to poverty and lack of service delivery. It was highlighted in section 2.12 of the current study that other than learners with a MID, the National Curriculum Statement (NCS) is sensitive to other issues of diversity such as poverty, inequality, age, language and other factors (DoBE 2011c:4-5). The study also take cognisance that in the particular disadvantaged village, learners with a MID can be easily confused with learners who have the other barriers to learning.

6.4.1 Screening and identification of the learners with a mild intellectual disability

The study recommends that teacher identification of the learners with a MID should be immediately attended to by the school's IE coordinator, who would then facilitate the involvement of SBST and DBST to ensure that quality service delivery and professional assessments are done by a psychologist. Both the SBST and the DBST should keep a close eye on learners with a mild intellectual disability so that they facilitate their movement to the vocational skills training in the Senior Phase when the time comes. The DoBE should check if IE policies are followed in all the districts.

Professional assessments are expected to establish the nature and extent of the intellectual disability while also highlighting the strengths, needs, and suggestions for inclusive education. The researcher of this study is aware that there is a team of health professionals such as speech and language, visual and hearing specialists; physical therapists; occupational therapists and doctors from the referral hospital who visit the local clinic regularly, on monthly basis. This study recommends that an educational psychologist be part of the team of specialists that conduct disability assessments in the clinic and if possible have a mobile unit to go around the village schools to assess the learners and also validate the assertions that there are many slow learners in the village.

6.4.2 Curriculum adaptation of content in the grade overview

Concerning too many topics within a short period of time, the study recommends that the grade overview could indicate only the core topic for the week or weeks and not prescribe too many topics, some of which seem to be intended for revision. Teachers think that teaching more than three different concepts in one day confuses learners and does not allow over-teaching of concepts which may enhance mastery of skills.

6.4.3 Language of teaching mathematics and mathematics achievement

With respect to the nature of MID, the nature of mathematics having its own language whereby some concepts are difficult to represent in some indigenous languages and the fact that generally the learners in the Foundation Phase and Intermediate Phase operate in the concrete operations stage, whereby the learners are not yet competent to deal with abstract concepts and transfer of knowledge; this study recommends that mathematics be written in the language that the school will use to write official end of school examinations, which is English in the disadvantaged village. This means that, to a large extent the teachers should use the indigenous languages to explain concepts but when it comes to writing numbers, names of signs and other vocabulary, the teachers should use English.

6.4.4 Policy pertaining to repeating grades

It is also recommended that putting means in place to guard against violations of policies pertaining to repeating grades be prioritized together with support in inclusive education. For the learners who have been academically affected by the system; and are significantly over-aged (for example the learners above 16 years old) while they are still in the primary school; this study recommends that they be tested and if found to be having a MID, special transitional classes need to be arranged in one of the schools so that learners are taught skills to prepare them for the vocational skills training route (DoBE 2012b:7).

6.4.5 Empowering the teachers

It was noted in section 3.7.2 of the current study that teachers needed practical experience, understanding, on-going support and positive perceptions to help them embed effective techniques in their daily practice. The government therefore, needed to enable schools to provide teachers and learners with appropriate financial and other resources to ensure success in learning (Leroy & Lacey in Smith 2010:113). The study recommends that the school management, parents, and SBST work closely with teachers to guide, support and appreciate the good work done by the teachers in an effort to change some of the negative attitudes teachers may have towards IE in general.

6.4.6 Community support programmes

There are some community workers who do work in the schools. Mostly they do cleaning and gardening but the work can be extended to assist in making some teaching and learning resources for the learners since teachers have work overload. They can make number cards, paint ice-cream sticks to make colourful counters, make three dimensional shapes, abaci, and other concrete learning materials that are required in teaching mathematics. They can also assist in dishing food to the learners during lunch so that teachers can have a lunch break. They can also assist learners with homework and after school support programmes since some learners do not have people to assist them with schoolwork at home. According to Bond (2009:6), learning support programmes offer a broad range of benefits to learners from disadvantaged backgrounds as learners benefit academically and socially.

6.4.7 Empowerment of parents in inclusive education

According to section 3.11.4 of the study, parental involvement is crucial but the reality of poverty and unemployment amongst some rural based South Africans present strong psychological and social problems. Thus, there is a need to deliberately increase parental participation in order to make homes supportive environments that enhance IE. This study therefore recommends that parents/guardians be well informed about IE, importance of supporting learners at home and high risk factors of MID. Many parents or guardians may not know that some causes of MID can be prevented and that MID can start any time before birth, during birth or any time before the age of eighteen years. Section 2.11.3 highlighted that preventable impairments include intake and /or abuse by expectant mothers of various toxic substances such as alcohol, tobacco, drugs including some prescribed medications which can cause MID. Many children and adults with Fetal Alcohol Spectrum Disorders in South Africa have MID and demonstrate social and behavioural difficulties (Adnams 2010:438). Awareness of adverse effects smoking and drinking can help parents make informed decisions that help promote prevention of MID.

6.4.8 Department of Basic Education

The official visits by people from the DoBE should incorporate assessment of whether the school is a favourable environment for implementation of inclusive education and to support schools in minimizing barriers to learning. It is recommended that programmes of prevention of MID be put in place in schools, especially considering that it was clear that disability in impoverished contexts was strongly associated with preventable impairments and environmental causes as highlighted in Sections 2.11.3 and 2.11.4 of this study. These included lack of proper sanitation and clean water;

various forms of environmental toxins; hazards; lack of supportive environment; and contextual factors within the school and the education system.

It is also recommended that the DoBE demonstrate a united front on inclusivity by ensuring that all officials comply with IE. This means that care should be taken that every dealing that the DoBE has that is directed to schools, teachers or learners should be IE compliant, paying much attention not to give contradicting instructions to teachers. In this regard, the DoBE officials should not be found violating the basic principles of IE: inclusivity, language and flexibility (Section 3.3). Furthermore, DoBE district officials should not endorse grade repeating that is against the stipulation of once per phase in the primary schools. Instead the DoBE should help teachers to screen and identify learners with a MID.

6.4.9 Promoting team work

It is recommended that teamwork be done at classroom level up to national level. Curriculum implementers should emphasize the use of inclusive methods together with direct teaching. At school level, teamwork should note that the levels one and two are low levels of support that are mainly linked to class teaching strategies, school culture and attitudes within the school. Thus, when this support takes place, many of the changes that need to be made (adaptations) will affect the whole school to enhance inclusion and participation of learners experiencing barriers to learning (section 2.1.2).

6.4.10 Empowering the learners with a mild intellectual disability

According to section 3.11.4, it was common to blame the learners with MID for non-achievement and Section 5.3.2 discussed findings that some learners with a MID were let down by individuals who took IE lightly, especially when they enforced unlawful grade repeating decisions instead of seeking appropriate support to the learners. The study recommends that the SBST and DBST have an up-to-date database and support records on learners who experience barriers to learning and also inform the parents of the progress and services that can promote quality education.

6.4.11 Workers unions and South African Council of Educators (SACE)

Teachers are often blamed instead of addressing the problems in the system. It is recommended that workers unions and SACE work together to improve IE by ensuring that the teachers work under favourable conditions as stipulated in the general conditions for workers (e.g. they should have an official lunch break). The organizations must strive to ensure that teachers have the specified number of learners in the classrooms because overcrowding creates barriers to learning.

6.5 RECOMMENDATIONS FOR FURTHER RESEARCH

6.5.1 Comparative studies

This study established that although the schools are in the same village, they are different in many respects. An in-depth study needs to be carried out to find out how the SBSTs of the schools operate and how they view the problem of slow learners in the village. There is also need to find out why the schools with low teachers-pupil ratios are more equipped compared to the schools with high teacher-pupil ratios.

6.5.2 Teachers and teacher unions

Studies need to be done to find out why teachers and teachers unions in a democratic country like South Africa tolerate disabling factors such as work overload, poor working conditions and overcrowding in classrooms. Further research needs to answer the question why teachers unions allow teachers to work under conditions that promote negligence of learners with a MID.

6.6 CONCLUDING REMARK

It may not be obvious which national curriculum adaptations would be responsive for a particular group of learners. However, what may be obvious is that the concept of inclusive curriculum or curriculum for all contradicts its basic meaning if teachers are to be constantly doing classroom adaptations for some groups of learners who have long been in the ordinary school system, such as those with a MID and those who live in disadvantaged rural areas. The UN Convention on the Rights of Persons with Disabilities states that programmes and services should be usable by all people to the greatest extent possible without the need for constant adaptation or other specialised arrangements (UNESCO 2009b:18).

The focus of inclusive education should not be so much on the school's physical appearance but also on how the learners access the national curriculum and the social environment. It is necessary that measurement of quality education be associated with increased academic achievement and meaningful participation of all learners, including the learners with a MID. According to the DoBE (2012b:4), teachers and parents are excited about CAPS but the biggest challenge in curriculum is the translation of the delivery agreement and action plan from national level to classroom level. Therefore, termly statistics needed by the DoBE should highlight performance of the learners who experience barriers to learning so that the DoBE and ANA will have insight on how learners with a MID are responding to national interventions. If the DoBE does not monitor how the groups of learners who experience barriers to learning respond to

national curriculum adaptations, there is danger that the curriculum may disregard some essential components that are critical in addressing the needs of many learners in inclusive education.

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APPENDICES

APPENDIX 1: THE QUESTIONNAIRE

Dear Respondent,

Thank you for your willingness to participate in the educational research. Your contribution is greatly appreciated.

I am a student at the University of South Africa (UNISA) and the questionnaire forms part of my masters' studies. The study investigates the extent to which the recent national curriculum adaptations have been responsive in teaching mathematics to Foundation Phase learners with a mild intellectual disability (slow learners). It should be noted that part of the University of South Africa's mission is to undertake research and knowledge development guided by integrity, quality and rigour. By participating in the research, you are assisting the university in reaching this goal.

The information you fill in the questionnaire shall be confidential and will be used exclusively for the purposes of this study. For the sake of anonymity, please do not write your name, the name of your school or the names of the learners. Please regard the completion of the questionnaire as voluntary and be aware that you may choose to terminate your participation at any time should you wish to do so.

The questionnaire may take about 15 minutes to complete. Please follow the instructions below and respond to the questions honestly and objectively.

Instructions

- Please answer all questions as this will improve the integrity and reliability of the research data and research findings.
- Please select only one option per question and write an "x" in the appropriate box, unless otherwise stated.
- Where asked to specify or to express your own opinion, please keep answers short and to the point.
- Please remember that there are no wrong answers.

Thank you very much for participating in the study.

SECTION A: Biographical and demographic data

1. Gender: Please indicate whether you are male or female.

Male	Female

2. What is your age range?

30 years and below	31-35 years	36-40 years	41-45 years	46-50 years	51 years and above

3. What is your experience in teaching children in the Foundations Phase?

Less than 5 years	5-10 years	11-15 years	16-20 years	More than 20 years

4. Do you have a teaching qualification that includes a component of teaching the learners in the Foundation Phase?

Yes	No

5. Did you receive Foundation Phase Curriculum and Assessment Policy Statement (CAPS) training?

Yes	No

6. Did you learn about screening, identifying, assessment and supporting learners with a mild intellectual disability (slow learners) during your teacher training, CAPS Training, circuit meetings, staff development workshops or any other educational training that you attended?

Yes	No

7. Please indicate the grade that you are currently teaching in the Foundation Phase.

Grade one	Grade two	Grade three

8. What is the total number of learners in your class?

40 and less	41-45	45-50	51-55	56-60	Over 60

2. Do you need to devise mathematics curriculum goals, other than those that are in FFL/CAPS overview for the grade, to accommodate slow learners?

Yes	No

3. Do you find the assessment methods suggested in FFL/CAPS suitable when considering the educational needs of slow learners?

Yes	No

4. Do you find that using the daily mathematics lesson activities suggested in the FFL/CAPS promote learning of mathematics basic skills in slow learners?

Yes	No

5. Do you find that using the concrete learning and teaching materials suggested in the FFL/CAPS promote learning of mathematics basic skills in slow learners?

Yes	No

6. Do you find that the suggestion of the use of Home language in learning and teaching mathematics in FFL/CAPS promotes learning of mathematics basic skills in slow learners?

Yes	No

7. Do you find that using FFL/CAPS promotes a significant increase in mathematics achievement in slow learners?

Yes	No

8. Please write comments on the national curriculum adaptations, or provide any other information which you think should be considered when teaching slow learners who live in disadvantaged villages.

End of questionnaire

THANK YOU VERY MUCH FOR COMPLETING THE QUESTIONNAIRE

APPENDIX 2: CONSENT FORM: FOUNDATION PHASE TEACHER**RESEARCH PROJECT: A RESPONSIVE CURRICULUM ADAPTATION FOR FOUNDATION PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN DISADVANTAGED VILLAGES IN MPUMALANGA PROVINCE.**

Dear Teacher,

My name is Zenzile Msipha and I am a student at the University of South Africa (UNISA). I am doing research on national curriculum adaptation and inclusive education of learners with a mild intellectual disability (slow learners), in disadvantaged village schools. The Mpumalanga Department of Education has granted me the ethical clearance to conduct the educational research. The purpose of the research is to establish the extent to which the national curriculum adaptations of the National Curriculum Statement (NCS) are responsive in addressing the special educational needs of Foundation Phase learners with a mild intellectual disability (slow learners).

The purpose of this letter is to ask you to agree to participate voluntarily in the educational research, because your school is situated in a disadvantaged village in Mpumalanga Province. You are therefore a Foundation Phase teacher who can provide useful information that is very important for the achievement of the purpose of this study. The benefits that may arise from the completion of the research include being able to determine the extent to which the learners with a mild intellectual disability (slow learners) in disadvantaged village schools access the national curriculum.

The research will be conducted using questionnaires with mainly multiple choice questions. However, spaces will be provided for the teachers to write the responses that are not represented in the multiple choices answer options. The questionnaire may take more or less 15 minutes to complete. The questionnaire will be completed by Foundation Phase teachers who teach Grades 1, 2 and 3 in different schools in the village. The number of teachers who are expected to participate in the research is between 40 and 50. After completing the questionnaires, I will collect the questionnaires to record the findings. At the end of all the stages in the research, I will provide each participating school with a printed copy of the summary of the findings, conclusions and possible recommendations.

No risk of discomfort or harm is foreseen by participating in the research. Participation in the study is voluntary and you have the right to terminate your participation in the research at any point. For the sake of maintaining anonymity you will not be asked to write your name, the name of your school or any information

that can lead to your personal identification on the questionnaire. Furthermore, all the information pertaining to the research will be treated confidentially and will be used exclusively for the purposes of this study.

Would you kindly please complete the declaration below as proof that you have agreed to participate voluntarily in the research. You also need to acknowledge that you have been informed and also read what this research process involves.

With the consent of The Principal and the Head of Foundation Phase, I _____,
as a teacher in the Foundation Phase at _____ Primary School, declare
that I am willing to participate voluntarily in the educational survey research conducted by Z Msipha, who
has been granted permission by the Mpumalanga Department of Education. I was well informed concerning
the research process procedures and the handling of research data confidentially and anonymously. The
purpose of the research was explained to me. I have been informed that no risk of discomfort or harm is
foreseen by participating in the research. I have also been informed that I may terminate my participation in
the study at any stage.

Signed: _____
Teacher

Date: _____

Details of the researcher:

Zenzile Msipha

Box 441 Wagensdrift,

Cullinan. 1002.

Cellphone number: +27786340079

Email: zemsipha@yahoo.co.uk

APPENDIX 3: LETTER OF REQUESTING PERMISSION FROM THE PRINCIPAL**RESEARCH PROJECT: A RESPONSIVE CURRICULUM ADAPTATION FOR FOUNDATION PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN DISADVANTAGED VILLAGES IN MPUMALANGA PROVINCE.**

Dear Principal,

My name is Zenzile Msipha and I am a student at the University of South Africa (UNISA). I am doing research on national curriculum adaptation and inclusive education of learners with a mild intellectual disability (slow learners) in disadvantaged village schools. The Mpumalanga Department of Education has granted me the ethical clearance to conduct the educational research. The purpose of the research is to establish the extent to which the national curriculum adaptations are responsive in addressing the special educational needs of Foundation Phase learners with a mild intellectual disability (slow learners).

The purpose of this letter is to ask you permission to allow the teachers in your school, to volunteer to participate in the educational research. The other purpose is to ask you to allow the Head of the Foundation Phase to make arrangements with the teachers and the researcher on suitable time for the research. The Foundation Phase teachers in your school can provide useful information that is very important for the achievement of the purpose of this study, because your school is situated in a disadvantaged village in Mpumalanga Province. The benefits that may arise from the completion of the research include being able to determine the extent to which the learners with a mild intellectual disability (slow learners) in disadvantaged village schools access the national curriculum. The other benefit may be to promote learning support for slow learners which may result a reduced school failure in mathematics.

The survey will be conducted using questionnaires with questions that focus on the curriculum adaptations that promote inclusive education of the "slow learners". The questionnaire may take more or less 15 minutes to complete. The questionnaire will be completed by Foundation Phase teachers who teach grades 1, 2 and 3 in different schools in the villages. After completing the questionnaires, I will collect the questionnaires to record the findings. At the end of all the stages in the research, I will provide each participating school with a printed copy of the summary of the findings, conclusions and possible recommendations.

The number of respondents foreseen is between 40 and 50. No risk of discomfort or harm is foreseen by participating in the research. Participation in the study is voluntary and the respondents have the right to terminate their participation in the research at any point. All the information pertaining to the research will be treated confidentially and will be used exclusively for the purposes of this study. For the sake of anonymity the teachers will not be asked to write their names, the names of their schools or the names of the learners on the questionnaire.

Would you kindly please complete the declaration below as proof that you have agreed to give consent to the teachers to participate voluntarily in the research. You also need to acknowledge that you have been informed and also read what this research process involves.

I _____ as the principal of _____ Primary School, declare that I have agreed to give consent to the Grades 1, 2 and 3 teachers to participate voluntarily in the educational research conducted by Z Msipha, who has been granted permission by the Mpumalanga Department of Education. I was well informed concerning the research process procedures and the handling of research data confidentially and anonymously. The purpose of the research was explained to me. I have been informed that no risk of discomfort or harm is foreseen by participating in the research. I have also been informed that the teachers may terminate their participation in the study at any stage.

Signed: _____

Principal

Date: _____

APPENDIX 4: LETTER OF REQUESTING PERMISSION FROM THE FOUNDATION PHASE HEAD OF DEPARTMENT**RESEARCH TOPIC: A RESPONSIVE CURRICULUM ADAPTATION FOR FOUNDATION PHASE LEARNERS WITH A MILD INTELLECTUAL DISABILITY IN DISADVANTAGED VILLAGES IN MPUMALANGA PROVINCE.**

Dear Head of Department,

My name is Zenzile Msipha and I am a student at the University of South Africa (UNISA). I am doing a research on national curriculum adaptation and inclusive education of learners with a mild intellectual disability (slow learners) in disadvantaged village schools. The Mpumalanga Department of Education has granted me the ethical clearance to conduct the educational research. The purpose of the research is to establish the extent to which the national curriculum adaptations of the National Curriculum Statement (NCS) are responsive in addressing the special educational needs of Foundation Phase learners with a mild intellectual disability (slow learners).

The purpose of this letter is to ask you for permission to allow the teachers in your phase, to volunteer to participate in the educational research. The other purpose is to ask you to arrange suitable time and classroom where the researcher will meet the teachers. The Foundation Phase teachers in your school can provide useful information that is very important for the achievement of the purpose of this study, because your school is situated in a disadvantaged village in Mpumalanga Province. The benefits that may arise from the completion of the research include being able to determine the extent to which the learners with a mild intellectual disability (slow learners) in disadvantaged village schools access the national curriculum. The other benefit may be to promote learning support for slow learners which may result a reduced school failure in mathematics.

The survey will be conducted using questionnaires with questions that focus on the curriculum adaptations that promote inclusive education of the "slow learners". The questionnaire will be completed by Foundation Phase teachers who teach Grades 1, 2 and 3 in different schools in the villages. The questionnaire may take more or less 15 minutes to complete. After completing the questionnaires, I will collect the questionnaires to record the findings. At the end of all the stages in the research, I will provide each participating school with a printed copy of the summary of the findings, conclusions and possible recommendations.

The number of respondents foreseen is between 40 and 50. No risk of discomfort or harm is foreseen by participating in the research. Participation in the study is voluntary and the respondents have the right to terminate their participation in the research at any point. All the information pertaining to the research will be treated confidentially and will be used exclusively for the purposes of this study. For the sake of anonymity the teachers will not be asked to write their names, the names of their schools or the names of the learners on the questionnaire.

Would you kindly please complete the declaration below as proof that you have agreed to give consent to the teachers to participate voluntarily in the research. You also need to acknowledge that you have been informed and also read what this research process involves.

With the permission from the principal, I _____, as the head of Foundation Phase at _____ Primary School, declare that I have agreed to give permission to the Grades 1, 2 and 3 teachers to participate voluntarily in the educational survey research conducted by Z Msipha, who has been granted permission by the Mpumalanga Department of Education. I have also agreed to make suitable appointments as well as other arrangements pertaining to the classroom where the teachers will meet the researcher. I was well informed concerning the research process procedures and the handling of research data confidentially and anonymously. The purpose of the research was explained to me. I have been informed that no risk of discomfort or harm is foreseen by participating in the research. I have also been informed that the teachers may terminate their participation in the study at any stage.

Signed: _____

Date: _____

Head of Foundation Phase

Details of the researcher:

Zenzile Msipha

Box 441 Wagensdrift,

Cullinan. 1002.

Cellphone number: +27786340079

Email: zemsipha@yahoo.co.uk

APPENDIX 5: RESEARCH ETHICS CLEARANCE CERTIFICATE



Research Ethics Clearance Certificate

This is to certify that the application for ethical clearance submitted by

Z Msipha [46957294]

for a M Ed study entitled

**A responsive curriculum adaptation for foundation phase learners
with a mild intellectual disability in disadvantaged villages in
Mpumalanga Province**

has met the ethical requirements as specified by the University of South Africa
College of Education Research Ethics Committee. This certificate is valid for two
years from the date of issue.

A handwritten signature in black ink, appearing to read 'CS le Roux'.

Prof CS le Roux
CEDU REC (Chairperson)
lrouxcs@unisa.ac.za

25 April 2013

Reference number: 2013 APR/46957294/CSLR

APPENDIX 6: PERMISSION TO CONDUCT EDUCATIONAL RESEARCH IN MPUMALANGA PROVINCE



education
DEPARTMENT: EDUCATION
MPUMALANGA PROVINCE

Private Bag X 11341
Nelspruit 1200
Government Boulevard
Riverside Park
Building 5
Mpumalanga Province
Republic of South Africa

Isithoko leJemzuzulwvo
wezemifundo

Iminyango weFundo

Department van Onderwys

Iminyango

Enquiries: A.H. Baloyi (013) 756 5476

Mrs. Mzipha Zenzile

Moloto Village

KwaMhlanga

1022

RE: APPLICATION TO CONDUCT EDUCATIONAL RESEARCH IN MOLOTO SCHOOLS OF NKANGALA DISTRICT.

Your application to conduct educational research for **M.ED** program on the topic: "A responsive curriculum adaptation for the foundation phase learners with mild intellectual disability in Moloto Village" was received in November 2012.

Your research proposal, research questions, objectives, aims and the background gives an impression that your study will benefit the learners with intellectual disabilities and the entire department. Given the motivation and the anticipated report of the study, it gives me pleasure to approve your application to conduct your research in the designated institutions of the Nkangala District.

You are further requested to read and observe the guidelines as spelt out in the research manual which was forwarded to you earlier. The importance of this study cannot be overemphasized as solutions towards improving the education of learners with special educational needs in the Province is a standing priority of

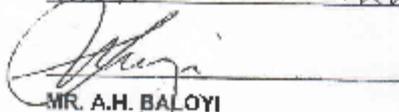
the Department: therefore you are expected to share your findings with the Department and all affected stakeholders. It will be appreciated if you can present your findings in electronic form and make formal presentation to the strategic planning's research unit and the inclusive directorate.

For more information kindly liaise with the department's research unit @ 012 766 5476 or p.baloyi@education.mpu.gov.za.

The department wishes you well in this important study and pledge to give you the necessary support you may need.

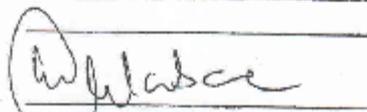
RECOMMENDED/NOT RECOMMENDED:

The study is recommended as it complies with the curriculum needs of the department.


MR. A.H. BALOYI
RESEARCH SUBDIRECTORATE

04/12/2012
DATE

APPROVED/NOT APPROVED:


MRS MOC MHLABANE
HEAD OF DEPARTMENT

04/12/12
DATE