“Individuals with Down syndrome let us know that they are able to learn, that they can have fun, be responsible, dependable, and can work hard. Persons with Down syndrome have feelings like other human beings and they have ups and downs. They will be happy when things go well, and they will be sad when they are offended or looked upon as second-class citizens. Persons with Down syndrome demonstrate that they do not have to be segregated, institutionalized, and shunned away, but can be active participants in community life. Displaying a diversity of human abilities and functions, persons with Down syndrome make us aware of the fact that looking upon them with respect and dignity is of utmost importance” (Pueschel, 1999, p. 4).

CHAPTER 1

INTRODUCTION

"My message to all of you is to keep your minds open to the idea that we should be able to make our own choices. If young people with Down syndrome are given opportunities to have many experiences in life, we will be better prepared to make decisions for ourselves. My advice to you is to encourage children and young adults with Down syndrome to have dreams and goals and to believe that success comes from belief in ourselves" (Levitz, 1995, p. 248).

There is an increasing need to research inclusion of children with Down Syndrome attending ordinary public schools in South Africa. The purpose of this study is to document case studies of three primary school aged children with Down Syndrome attending ordinary public schools in Gauteng. The overall functioning of these children in the inclusive school context particularly within the domains of communication, academic skills and socialization is described. Perceptions, attitudes and experiences of the children's parents and educators regarding the inclusion of the children into the ordinary public schools are investigated. Additionally, successful factors, barriers and challenges to the inclusive education of the learners with Down Syndrome are explored. It is envisaged that findings of this research would generate crucial implications unique to its South African context in Gauteng for all professionals, parents and community members involved with educating learners with Down Syndrome. Furthermore, the insights which would be gained from research of this nature are vital for the Speech-Language Pathologist, who works closely with individuals with Down Syndrome and their families.

This chapter provides an introductory overview to the study and covers the following areas: the international and national move towards inclusive education, the meaning and underlying principles of inclusive education, specifically the change in education of children with Down Syndrome towards inclusion within educational settings and its subsequent reactions and changes in the field, the teaching and attainments of academic skills of learners with Down Syndrome, factors related to academic progress within inclusive educational contexts, the inappropriateness in applying global inclusive educational research of children with Down Syndrome to the unique South African context and the subsequent employment of an adapted ecosystemic model (Donald, Lazarus & Lolwana, 2002) in which the current study is situated.

In addition, the critical need to research the field of inclusive education of learners with Down Syndrome from the specific perspective of the discipline of Speech-Language Pathology is highlighted.

In recent years, there has been a growing tendency both internationally and locally in the direction of adopting an educational approach, termed ‘inclusion’ in schools (Afzali-Nomani, 1997; Banerji & Dailey, 1995; Burden, 1995; Sailor, 1991). Inclusion within education implies that children who were formerly trained and educated in special schools are now allowed to attend any ordinary school and participate in classes with their ‘normal’ peers. Thus, those children who were formerly excluded from ordinary schools are currently included (Burden, 1995). Inclusive education is based on the principle that children of diverse abilities and backgrounds can benefit both academically and socially in a learning environment which is programmed along with ‘normally’ achieving children (Banerji & Dailey, 1995). Inclusive education emphasizes the accommodation of diverse learning needs within the ordinary classroom (Lazarus, Daniels & Engelbrecht, 2004; Salisbury, Gallucci, Polombaro & Peck, 1995).

The education of children with Down Syndrome in developed countries has changed drastically over the past 50 years by ‘integration initiatives’ and in recent years by the international inclusion movement (Giorcelli, 2002). This inclusion movement, mainly driven by parents, social theorists and to a smaller degree by teachers, has been an important change in traditional special educational services for learners with Down Syndrome (Giorcelli, 2002). Prior to this inclusion movement individuals with Down Syndrome were regarded as ineducable and either stayed at home or were placed in training centres, which offered day care and relief for parents instead of education for their children (Buckley, 2000). These factors highlight the crucial importance of conducting research regarding inclusive education of learners with Down Syndrome.

This change in the education of children with Down Syndrome has brought about reactions and subsequent shifts in the field of education regarding learners with Down Syndrome (Giorcelli, 2002). Firstly, variations in learning abilities and learning potential of individuals with Down Syndrome have been recognized (Snell, 1988). Secondly, due to disability discrimination legislation in numerous countries, continuous efforts have taken place to carry out inclusive educational practices to a greater degree of success (Giorcelli, 2002). Thirdly, a

considerable and important change in the conceptualization of Down Syndrome has occurred due to the influence of modern images of individuals with Down Syndrome in the media and their participation and inclusion in society, which has created increased expectations of them and consequently a greater emphasis on their academic skills (Giorcelli, 2002).

The teaching of traditional academic skills to children with Down Syndrome has been documented as a source of extensive debate in research since the late 1970s (Buckley, 1985; Carr, 1988; Gibson, 1978). Growing evidence exists that many children with intellectual disability are able to attain at least basic levels in these academic skills (Sloper, Cunningham, Turner & Knussen, 1990). The assertion that these skills "can be a source not only of pride but also of real pleasure to the young people concerned" (Carr, 1988, p. 425) illustrates the need for further research on the specific factors that contribute to greater academic progress. Furthermore, due to the importance placed on individuals with Down Syndrome in society and the demands of the educational curriculum, further research would be beneficial. Specifically, aspects of inclusive educational contexts, such as teacher expectations and training, curriculum, class size, peer interaction and socialization, which may relate to the children's academic progress require additional research. Future research and evaluation should address the notion of how interventions pertaining to these aspects can generate improvements in functioning for individuals with Down Syndrome (Sloper et al., 1990). These factors emphasize the necessity of conducting the current study with the focus of inclusive education of learners with Down Syndrome in South Africa.

Findings of global research studies regarding inclusive education of learners with Down Syndrome conducted in developed countries appear to be inappropriate in terms of their applicability to the unique South African context with its own history, set of challenges and recently formed inclusive education policy and practices. Therefore, the present study is situated within an ecosystemic model, which considers the entire social context, adapted from Donald et al. (2002). Presently inclusive education within the South African context is in its infancy stages. For these reasons the current research hypothesizes that systemic factors within the whole South African social system, wider community and local community would hinder the successful inclusive education of the learners with Down Syndrome participating in the study. However, it is believed that individual factors, primarily the parents of the participating learners would be the most influential force in contributing to the success of the inclusion of their children into ordinary public schools.

There appears to be a paucity of published studies and research regarding inclusion of children with Down Syndrome in South African ordinary public schools, particularly in the province of Gauteng from the perspective of the discipline of Speech-Language Pathology. Since communication impairments are major characteristics of Down Syndrome (Gerber, 1990; Laws, Byrne & Buckley, 2000) and communication has a central role within the school context for example, in terms of learning, socializing, interacting with peers and educators (Kumin, 2004), it is hoped that the current research will highlight the essential role of the Speech-Language Pathologist within the inclusive educational process of learners with Down Syndrome. Additionally, methodological limitations are associated with existing local and international studies within the field.

In order to understand and contextualize the study's area of investigation the next three chapters present relevant international and South African literature and existing research studies within the field. Chapter 2 discusses issues concerning inclusive education in general and specifically for learners with Down Syndrome. An overview of the ecosystemic framework and its model adapted from Donald et al. (2002) for the current research is found in Chapter 3. A discussion of the levels, systems and subsystems of this model in terms of inclusive education of learners with Down Syndrome in Gauteng province, South Africa follows in Chapter 4. The study's methodology is presented in Chapter 5, which is followed by its results and discussion in Chapter 6. The concluding chapter (Chapter 7) includes a general discussion, the implications and conclusions of the study. The significance and value of this research is highlighted by the words of a person with Down Syndrome, "I think that students with disabilities should be able to be included in regular education with other students so that they can make friends and have the same opportunity as all other students" (Levitz, 1995, p. 247).

CHAPTER 2

INCLUSIVE EDUCATION IN GENERAL AND SPECIFICALLY FOR LEARNERS WITH DOWN SYNDROME

"Schools should accommodate *all children*, regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This should include disabled and gifted children, street and working children, children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalised areas or groups" (UNESCO, 1994, p. 6). This chapter presents a discussion regarding pertinent literature concerning the philosophy of inclusive education and the shift in education system towards inclusive education generally and specifically for learners with Down Syndrome; effectiveness of inclusive education; educational outcomes and reasons for failure of inclusive education for learners with Down Syndrome; global research regarding the success or lack of success of inclusive education for such learners and lastly, previous South African research regarding inclusive education of these children.

2.1) Shift towards inclusive education and its philosophy

Inclusive education involves systematic changes in the educational system. Traditionally, individuals with special needs have been pulled out or removed from the ordinary education mainstream and assigned specialized but separate services until they could 'earn' their way back into the ordinary classroom (Wolpert, 1996). This separatist attitude has always been debatable and much research has revealed lowered teacher expectations of children within special education, which have led to poor self-esteem, limited academic attainments, restricted socialization, and minimal participation in the employment sector (Gresham, 1982; Guralnick, 1981; Wehman, 1985). Thus, it is essential to conduct research regarding inclusion of children with special education needs into ordinary schools, with the objective of changing these negative implications associated with special education.

Wolpert (1996) explains that full inclusion is an approach in which individuals with disabilities obtain all instruction in an ordinary classroom setting, and support services come to the individuals – to the classroom on a 'push-in' basis. Ashman and Elkins (1996) add that full inclusion emphasizes the belief that individuals with disabilities should participate in all the activities of their class peers. However, Wolpert (1996) reports that partial inclusion

includes individuals with disabilities obtaining the majority of their instruction in ordinary education settings, but being 'pulled-out' to an additional instructional setting, such as a resource room, in order to meet their individual needs.

As the current study focuses on inclusion it is essential to clarify the difference between inclusion and mainstreaming in schools. According to the South African Education White Paper 6 on Special Needs Education: Building an Inclusive Education and Training System (Department of Education, 2001) the focus of mainstreaming and integration is on changes which need to occur in the learner so that they can 'fit in', thus the emphasis is on the learner. However, the focus of inclusion involves overcoming barriers in the system which prevent it from meeting the complete range of learning needs. In this case the emphasis is on the adaptation of support systems available in the classroom (Department of Education, 2001).

2.2) Effectiveness of inclusive education

Defining effectiveness is complex as it depends on whose viewpoint is being considered (Sebba & Sachdev, 1997). Simply, effectiveness is concerned with whether the service offers what it is meant to offer. In the context of education, this definition of effectiveness is complicated by the various relative priorities assigned to the different probable outcomes of education, such as academic attainment, social adjustment, life skills, employment and occupational skills, by different individuals. Parents, educators, clinicians, administrators, politicians and the learners themselves, who can all be valuable sources of data, may have diverse opinions regarding priorities. The effectiveness of inclusive education will be shown by researchers primarily in the academic and social progress of all learners. A large amount of the research evidence regarding inclusive education is based on assessing attitudes, social interactions, or academic attainments by applying the traditional special educational framework. Therefore, critical analysis of research studies needs to take place from the viewpoint of the extent to which they evaluate inclusive education in terms of criteria consistent with a model of inclusive education and not on measures related to traditional special education alongside which inclusive practices are prone to fail (Sebba & Sachdev, 1997). Thus, the current study situates its findings within an adapted ecosystemic model which lends itself to the study of inclusive education, as will be discussed in Chapter 3.

Thomas, Walker, and Webb (2000) explain that although inclusive education has succeeded partially due to evidence from educational research demonstrating that special schools are not

as effective as one would expect or hope, it has succeeded mostly since "it is *right* that it should have done so" (Thomas et al., 2000, p. 5). Arguments for inclusive education are based on principles arising from concern for human rights. However, an inclusive philosophy has been criticized as being inappropriate and misleading (Thomas et al., 2000). For example, within the Deaf community Mason (1994) proposes that inclusive educational discourse has emphasized economic, political, bureaucratic, administrative and professional factors, rather than the outcomes of inclusive education for individual children. Consequently, one of the aims of this research study is to describe the overall functioning of children with Down Syndrome in the inclusive school context, specifically with regard to communication, academic skills and socialization. Dorn, Fuchs, and Fuchs (1996) caution that by concentrating on inclusive education the accomplishments collected over years in support of people with disabilities and learning difficulties may disappear. However, contrary to this notion it is believed that inclusion of learners with special education needs into ordinary schools would promote greater awareness of individuals with disabilities and their needs amongst educators and society in general. This awareness would in turn foster positive attitudes in favour of children with disabilities and learning difficulties.

"Regular schools with inclusive orientation are the most effective means of combating discrimination, creating welcoming communities, building an inclusive society and achieving education for all, moreover they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system" (UNESCO, 1994, p. ix). Scala (2001) in recounting her teaching experience described improvements in motivation and self-esteem and positive changes both academically and socially in learners with disabilities by being included in ordinary educational settings. However, current evidence regarding the academic, social and emotional benefits of inclusive educational settings is unclear due to methodological concerns in research studies, which undermine their validity (Thomas et al., 2000). Examples of such methodological limitations include: selection bias, sampling bias, researchers employing small sample size, which limit generalization of findings to the broader population, and the difficulty of matching participants on all variables except educational placement within a comparative study.

2.2.1) Inclusive education: Academic and social benefits and outcomes

With regard to outcomes of inclusive education for children with Down Syndrome Farrell (1997) explains that a relatively small amount of research evidence exists which compares the

performance of children with Down Syndrome attending ordinary schools versus special schools. In this regard, Steinberg and Tovey (1996 in Thomas et al., 2000), reporting primarily on American research, highlight the difficulty of comparing outcomes of inclusive versus special education in situations where selection bias occurs. Such selection bias refers to the inclination to choose children who are 'harder to teach' for placement in special classrooms and 'easier' children for inclusive settings. They also specify that the heterogeneity of disabilities makes matching for control groups difficult or impossible. The researcher believes that matching groups, for example, in terms of intelligence quotient (IQ)/mental age, socio-economic variables, amount of intervention received and previous forms of schooling would be difficult but vital in order to eliminate extraneous variables as possible influencing factors, besides educational placement, to the learners' outcomes.

Thomas et al. (2000) explain that in spite of such difficulties in comparisons, numerous researchers present their findings. For example, Baker, Wang, and Walberg (1995) indicate from three meta-analyses that a small-to-moderate positive effect of inclusive education exists in terms of social and academic outcomes for children with special needs. Additionally, Lipsky and Gartner (1996) review various studies which describe academic and social benefits resulting from inclusive education. Research has found that learners with learning difficulties who attended inclusive classrooms did not show high levels of loneliness and that a remarkable increase was evident in the amount of reciprocal relationships that they formed (LeRoy & Simpson, 1996; Vaughn, Elbaum & Schumm, 1996). Furthermore, existing studies do demonstrate that primary school aged children with Down Syndrome attending ordinary schools perform better academically in the domains of reading, writing and numeracy than those learners within special schools (Casey, Jones, Kugler & Watkins, 1988; Lorenz, Sloper & Cunningham, 1985; Sloper et al., 1990).

However, in all these studies (Casey et al., 1988; Lorenz et al., 1985; Sloper et al., 1990) children in the sample were not matched based on forms of therapy/intervention, if any, received at the time the studies were conducted. The samples of children in the study reported by Lorenz et al. (1985) were matched for mental age using the Stanford-Binet (Form L-M) assessment, however no indications were provided for matching the groups based on socio-economic factors. Similarly, the study documented by Casey at al. (1988) did not consider social variables such as ethnic origin, family size, parental education or social class in the selection process. Furthermore, in this study educational variables for example, class size,

curriculum and presence or absence of extra teaching support were not controlled (Casey et al., 1988). These variables, which were not considered by the researchers, serve as limitations to their studies as they might have influenced the higher academic attainments of children attending ordinary schools versus special schools.

Due to the methodological difficulties of comparing inclusive educational outcomes for children who attend ordinary schools versus schools for learners with special education needs, the current study is not comparative in nature but rather descriptive with the aim of documenting case studies of primary school aged children with Down Syndrome attending ordinary public schools. Although this research is also associated with selection bias, at the time of the study it was found that a limited number of learners with Down Syndrome were being included into ordinary public school in Gauteng. Additionally, as a result of the heterogeneity found in individuals with Down Syndrome (Kumin, 2004; Marshall, 2004; Selikowitz, 1997) a qualitative case study design was used in this study, which precludes generalizations of its findings. Therefore, this research has endeavoured to support, validate and add to findings of existing research studies characterized by methodological limitations to further enhance the reliability of information obtained.

2.3) Down Syndrome: Shift towards inclusive education

Children with Down Syndrome have different learning styles that generally demand more thought to curricular choices and experiences, which in the past has directed educational programming to be more segregated, involving specialized services and smaller groupings. Recently, parents of children with Down Syndrome have expressed feelings of apprehension that their children's education in a more specialized programme was isolating, especially when the children reached adolescence. They want their children to socialize and spend time with peers during early childhood and the school years, in preparation for adulthood where they must interact with peers and function in a heterogeneous society (Wolpert, 1996). In the early 1980s the majority of learners with Down Syndrome received education in special, segregated settings. However, presently a large number of these learners attend ordinary schools in most developed countries (Giorcelli, 2002). This major educational shift has been derived from the principles of a "free and appropriate education being provided wherever possible in the least restrictive environment and, wherever practicable, in the neighbourhood school" (Giorcelli, 2002, p. 54). The recent change in educational provision and placement for

children with Down Syndrome emphasizes the necessity to conduct research in the field with the essential objective of improving service delivery to these learners in ordinary schools.

2.4) Down Syndrome: Educational outcomes of inclusive education

Misinformation and too little information regarding the educational potential of school children with Down Syndrome have caused school teachers, psychologists and other school personnel to have low educational expectations of these children (Rynders, Abery, Spiker, Olive, Sheran & Zajac, 1997). Similarly, Bird and Buckley (1994) report that preconceived notions regarding limits on performance may be restrictive and lead to self-fulfilling prophecies. Therefore, one of the aims of the current study is to describe the functioning of children with Down Syndrome in ordinary schools in terms of academic skills, with the hope of creating greater awareness in the field. Cunningham, Glenn, Lorenz, Cuckle, and Shepperdson (1998), in a review of the extent and impact of mainstream placements, propose that generally the evidence is for greater educational progress among children with Down Syndrome in ordinary schools. “These findings have implications for both the educational placement and the curriculum for such children, and support the policy of placing children in mainstream schools wherever possible” (Sloper, Cunningham, Turner & Knussen, 1990, p. 292). Sloper et al. (1990) believe that the reason for the greater progress of children in ordinary schools in terms of traditional academic skills may be found in the different emphasis placed on the teaching of such skills in the different types of schools.

2.5) Down Syndrome: Reasons for failure of inclusive education

The main causes of situations where inclusive education placements of learners with Down Syndrome do not work appear to be associated with the difficulties encountered by the school, in terms of adapting the curriculum or handling the child’s behaviour, rather than with difficulties experienced by the learners (Lorenz, 1999). The current study hypothesizes that the participating schools may experience difficulties with regard to curriculum adaptations and managing the child’s behaviour, which could potentially act as barriers and challenges to the success of the participating children’s inclusive education. Usually when children with Down Syndrome reach the stage of changing schools, they move to special education (Lorenz, 1999). The reason for this shift is strongly related to the negative attitudes held by ordinary schools and professionals towards inclusive education of learners with Down Syndrome. According to Cuckle (1999) extensive resourcefulness with regard to underlying attitudes within a school, commitment to staff training and willingness to have realistic

expectations about what the child can achieve facilitate successful placement. “It makes all the difference if a child is seen as having special needs to be met rather than a problem to be overcome” (Cuckle, 1999, p. 99). Lorenz (1999) explains that ordinary schools may display unwillingness to undertake the challenge of including a learner with Down Syndrome or professionals may have concerns that the learner will not cope in the ordinary school. “With little if any evidence upon which to base their decisions, professionals have tended to play safe and recommend the less ‘risky’ option of special school” (Lorenz, 1999, p. 17). Therefore, one of the objectives of the current study would be to provide evidence for factors which contribute to successful inclusion of children with Down Syndrome into ordinary schools.

2.6) Down Syndrome: Global research – success or lack of success of inclusive education

In 1996 Wolpert conducted a study in the United States of America (USA) on inclusive education and Down Syndrome in order to determine the success or lack of success of inclusive practices, and to survey national trends in inclusion programmes for children with Down Syndrome. The aim of the study was to elicit parents’ and teachers’ expectations and reactions to their experiences of inclusive education, and to determine the extent to which they felt it to be beneficial for a child with Down Syndrome. Wolpert (1996) believes that latest trends in education and attitudes have developed into being more accepting of individuals with special needs. Wolpert’s (1996) study revealed that the inclusion of individuals with Down Syndrome in typical education classes is a suitable option for educational programming. Nevertheless, much administrative support is required in order to provide well-planned transitions and training of personnel. Furthermore, the key to success with inclusion in schools is good communication among parents and a multitude of professionals (Wolpert, 1996).

Wolpert (1996) emphasizes that planning and development of educational programmes within inclusive education are extremely important, including formal teacher training through workshops and informal child or classmate preparation. The public education system should provide and pay for formal support, including extra staff, adaptive curriculum materials and technological aids. Furthermore, when an individual with mental or physical challenges is included in an ordinary education classroom, that ordinary education teacher should receive the extra help of a full or part-time inclusion aide. At times a consultant teacher would act as a

curriculum specialist and provide support and aid to the ordinary education teacher. Alternatively, a team-teaching approach should be implemented, in which an ordinary education teacher is paired with a special education teacher and both share classroom teaching responsibilities. This technique may be referred to as collaboration. Friends, family, professional advocates and classmates may take an active or supportive role in the inclusive educational experience, which are forms of natural support that are more humanistic (Wolpert, 1996). Formal programmes have been developed to help foster this humanistic interaction, for example, a 'Circle of Friends', that focuses on enhancing the individual's social support network (Perske & Perske, 1988 in Wolpert, 1996). These factors may be viewed as elements which contribute to the success of the inclusion process within education settings.

The sample used in Wolpert's (1996) study consisted of parents of organizations affiliated with the National Down Syndrome Society (NDSS) in the USA and their children's teachers. This sample selection reflects sampling bias as the parents' responses could have possibly been influenced by their knowledge of the organizations' and the NDSS' attitudes towards inclusive education. Therefore, parental responses might not have been objective with regard to inclusive education of children with Down Syndrome. Furthermore, inclusive practices and programmes for children with Down Syndrome and parents' and teachers' experiences of inclusive education for these children are extremely different in the USA, which is a first world developed country compared to those practices, programmes and experiences in South Africa, a developing country. Factors influencing inclusive education of learners with Down Syndrome such as the local community, specifically schools, wider community including structures of the Department of Education and the whole social system comprising of the socio-economic political climate are vastly different in the USA as compared to South Africa. Thus, the current study with the purpose of documenting case studies of primary school aged children with Down Syndrome in inclusive educational public settings specifically in the South African context is vital.

2.7) Down Syndrome: Previous South African research regarding inclusive education

As the current study is situated in the South African context, a brief review of past research studies carried out in South Africa regarding inclusive education particularly of learners with Down Syndrome will follow.

Muthukrishna, Farman, and Sader (1996) report on qualitative research regarding three inclusive education initiatives in the province of KwaZulu-Natal in South Africa, involving primary school aged children with Down Syndrome. Descriptions of the three case studies were provided in terms of features of successful inclusive education, for example, a commitment to making it work with no specific preparation for the process; no restriction in beliefs of what resources should be accessible; staff members being open-minded; accountability; advocacy and appropriate administrative and legislative arrangements. The authors review priorities for children with Down Syndrome, including the need to value diversity rather than normality, sharing information and encouraging open opinions regarding the curriculum and its development. At the time, KwaZulu-Natal was characterized by continued presence of gross inequalities for children with special educational needs and the continuance of special schools separated by disability and race (Muthukrishna et al., 1996).

A further study was conducted in KwaZulu-Natal by Sader (1997) regarding inclusive educational experiences of two primary school aged children with Down Syndrome. Findings of the study indicated that parents did not believe that it was their right to choose an ordinary educational placement for their children. The decision to include the children with Down Syndrome lay with the school. Although school staff expressed initial apprehension in terms of their knowledge of disabilities and skills regarding including learners with Down Syndrome, they demonstrated a positive attitude to their inclusion into the ordinary schools. The general ethos at the school settings generated environments which were conducive to inclusive education. Strong leadership qualities were evident by the school principals who made sure that the teachers worked as part of the shared visions and values of the schools. Although parents were excluded in the decision making process with regard to the curriculum, they were viewed as an important source of information and had a vital role of reinforcing the skills taught at school. Curriculum factors were viewed to either facilitate or hinder the inclusive education process. The educator at one of the ordinary schools attempted to create an atmosphere of learning which would offer optimal learning opportunities for all learners, whereas the educator at the second ordinary school had not provided any curriculum adaptations (Sader, 1997). .

Sader (1997) emphasized the importance of educators at ordinary schools involved in teaching learners with special educational needs, in developing ordinary education contexts that cater for all children and in which all learners can learn effectively. The philosophy of

learner diversity is seen as vital in the development of the curriculum, which is viewed as a dynamic process. Flexibility within the curriculum and appropriate teaching techniques which cater for the diverse learning needs of all learners are viewed as factors which would contribute to the successful inclusive education of learners with Down Syndrome (Sader, 1997).

Since the sample sizes of both these research studies (Muthukrishna et al., 1996; Sader, 1997) were small, their findings may not be generalized to other children with Down Syndrome attending inclusive educational settings in KwaZulu-Natal and generally in South Africa. Consequently, further research in the area is warranted, which was the objective of the current research. Furthermore, as these studies were conducted in KwaZulu-Natal, characterized by its own challenges including the existence of major inequalities for children with special educational needs and the continuance of special schools segregated by disability and race (Muthukrishna et al., 1996), the applicability of their findings to the situation in Gauteng is questionable. Thus, the current research study investigated the area of inclusive education of learners with Down Syndrome particularly in Gauteng.

An additional study carried out in Gauteng, South Africa regarding inclusive education for learners with Down Syndrome was completed by Newmark (2002). This study examined the role of the educational psychologist in terms of facilitating the inclusive education process of children with Down Syndrome. Findings of the study revealed the critical importance of carrying out diagnosis, assessment and therapeutic support for learners with Down Syndrome, who attend inclusive education settings, within an ecosystemic framework. In addition the role of the educational psychologist, within the inclusive education process for learners with Down Syndrome, as a mental health facilitator was found to cover many areas, such as psychotherapist, assessor, mediator, collaborative consultant, administrator and lifespan development facilitator (Newmark, 2002). A limitation of the study identified by Newmark (2002) is the small sample size used, specifically ten learners with Down Syndrome, which limits the generalization of the study's findings. Therefore, further studies in the area are essential.

As Newmark's (2002) study focused specifically on examining the role of the educational psychologist with regard to facilitating the inclusive education process of learners with Down Syndrome, further research studies with different objectives to Newmark's (2002) within the

field of inclusive education of learners with Down Syndrome in Gauteng are necessary. Therefore, the present research aimed to document case studies of primary school aged children with Down Syndrome attending ordinary public schools in Gauteng from the perspective of the discipline of Speech-Language Pathology. One of its specific aims would be to describe the children's functioning in terms of communication, speech and language skills, within the inclusive school context.

In conclusion, few studies appear to have been conducted in the field of inclusive education for learners with Down Syndrome in Gauteng, South Africa. This important area is of great need of further investigation due to its academic, educational and social advantages for the learner with Down Syndrome and the usefulness inherent in an inclusive education policy. Especially, as the policy of inclusive education is in its infancy stages within the South African context it is of crucial importance to explore ways of implementing it effectively. Findings of research studies carried out globally, especially in developed countries, are important to consider, as on the one hand they could be a source of inspiration for developing counties such as South Africa. However, on the other hand it is felt that their appropriateness and relevancy to the South African context is highly questionable, especially since the area of inclusive education is intricately associated with the local and wider community and the whole socio-economic political system in which it occurs. Furthermore, previous national and international studies concerning inclusive education of learners with Down Syndrome are characterized by methodological constraints. Therefore, this research study has endeavoured to expand and build on existing research by documenting case studies of three primary school aged children with Down Syndrome attending ordinary public schools in Gauteng province, South Africa by employing an ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002), which will be described in the next chapter.

CHAPTER 3

ECOSYSTEMIC FRAMEWORK

This chapter covers a discussion regarding firstly, the different theories and models reviewed in choosing an appropriate framework for the current study; secondly, the ecosystemic perspective/framework which was regarded as applicable to this research; and thirdly, the ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002) used for the current research.

3.1) Review of various theories and models

In selecting a framework in which to situate the current study, various theories and models were reviewed and critically analysed. Firstly, it was found that Bronfenbrenner's ecological systems theory, which has recently been renamed the bioecological systems theory, focuses on and is oriented towards understanding child development (Boemmel & Briscoe, 2001; Papalia, Olds & Feldman, 1998; Paquette & Ryan, 2001). The present study does not aim to research the development of children with Down Syndrome within inclusive educational settings and furthermore, is not longitudinal in nature. Therefore, Bronfenbrenner's ecological/bioecological systems theory as a primary focus was not viewed as appropriate for the purpose of the current study in documenting cross-sectional case studies. Secondly, since the foundation and emphasis of the systems model of human behaviour arises from recognition of three main features of an individual, including mind, body and spirit (Huitt, 2003), this model did not indicate relevance for the purpose of the current research. The third model reviewed was the one used by Harcombe (1993) in her research study regarding stress adjustment, namely the interactive, contextualizing model of the stress process which was adapted from Turton (1986 in Harcombe, 1993). This model's application to the stress process specifically made its relevance to inclusive education of learners with Down Syndrome difficult. Finally, analysis of the ecosystemic perspective (Donald et al., 2002) indicated its applicability and relevance to the current research as will be discussed below.

3.2) Ecosystemic perspective/framework

"In the southern African region generally, and in South Africa particularly, a crucial challenge is to develop a process of education that is appropriate to this social context, that responds to its particular needs, and above all that addresses the issue of quality education for all"

(Donald et al., 2002, p. 3). Therefore, an ecosystemic perspective, which according to Donald et al. (2002) is beneficial in understanding people in relation to their social context, was chosen as a framework to the current study. A significant and essential theme to this perspective is that "people are seen as shaped by – and as active shapers of – their social context" (Donald et al., 2002, p. 42).

According to Donald et al. (2002) the ecosystemic perspective illustrates the way in which people and groups at diverse levels of the social context are connected in dynamic, interdependent and interacting relationships. This perspective has developed from a combination of ecological and systems theories. The latter theory views diverse levels and groupings of the social context as 'systems'. Both the ecological and systems theories are founded on the interdependence and relationships between various parts. All parts are equally significant and together they contribute to the survival of the whole system. Occurrences in one part will influence all other parts in the system. For example, a school is considered as a system comprising of different parts such as staff members, administration, learners and curriculum. In order to acquire an understanding of the system as a whole, the relationship between its diverse parts needs to be investigated. Within the systems theory, systems are characterized by comprising of subsystems that interact with the whole system. For instance, grandparents, parents and children may be viewed as subsystems within the family system. The system itself also interacts with other parallel or wider systems existing outside to it. An essential principle of systems theory is that due to the inter-relationship between the parts, cause and effect relationships are not viewed as occurring in only one direction, but they are regarded as taking place in circles or cycles. In this theory, actions are considered as causing and influencing each other in cyclical, frequently repeated patterns (Donald et al., 2002).

The ecosystemic model does not mean that contexts stay constant. Interpretation of the model must consider the fluidity of current lifestyles, contexts and the rapid international shifts which are influencing virtually all cultures (Green, 2005). One example of such changes is the provision of inclusive education for learners with Down Syndrome. For this reason the ecosystemic model illustrated by Donald et al. (2002, p. 55), which depicts fundamental ecosystemic interactions within the education process, was applied and adapted to meet the needs of the current research located in the South African context. Within an ecosystemic perspective Donald et al. (2002) outline the interaction of various levels of systems which have importance in the education process. These levels include the local community

comprised of the individual learner, the family, the peer group and the school which includes the class; the wider community and the whole social system. In this model a bi-directional interaction occurs between the internal factors related to the individual learner and the external factors covering the local community, wider community and whole social system (Donald et al., 2002).

Further reasons for adopting the ecosystemic perspective for the present study are found in its application and importance to a number of factors. Firstly, child development is understood in a more holistic (Tyler, 1992) and contextually interactive (Bronfenbrenner, 1979) framework. An understanding of the experiences and functioning of the learner with Down Syndrome in an inclusive educational setting must be understood within this framework. Secondly, classrooms and schools are considered as systems and viewed with regard to their interaction with the whole social context (Plas, 1986 in Donald et al., 2002; Van der Hoorn, 1994 in Donald et al., 2002). Thirdly, the ecosystemic perspective shows how social issues and the learning barriers which are caused by them cannot be viewed in isolation to the whole social context and the systems found within it (Apter, 1982 in Donald et al., 2002; Hobbs, 1978 in Donald et al., 2002). The last two factors have particular relevance to the inclusive education of learners with Down Syndrome. A discussion regarding the ecosystemic model adapted from Donald et al. (2002) for the present study follows.

3.3) Ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002)

Figures 1 and 2 illustrate the ecosystemic model adapted from Donald et al. (2002) for the current research situated within the South African context. Figure 1 shows the systems operating at the level of the local community, which include the individual who is the learner with Down Syndrome, his/her family, school and peer group, early intervention services and therapy. External to the local community is the level of the wider community, which consists of the following systems in hierarchical order from top to bottom: the South African National Department of Education, the Gauteng Department of Education (GDE) and the GDE at district level. Within the wider community parallel to this hierarchical presentation of the Department of Education, the system of the association Down Syndrome South Africa is found. Exterior to the wider community the level of the whole social system is located which encompasses the socio-economic political climate in South Africa.

The model in Figure 1 indicates that attitudes/values/culture regarding inclusive education of learners with Down Syndrome occur at all levels and systems. These attitudes/values/culture have a critical importance and influential role with regard to inclusion of children with Down Syndrome into ordinary schools. Furthermore, the bi-directional interaction and relationship between the internal factors related to the learner with Down Syndrome and the external factors occurring at the levels of the local community, wider community and whole social system is illustrated in Figure 1. Arrows in the figure represent the interdependent and interacting relationships which take place between: the systems within the local community level; the local community and wider community; the wider community and the whole social system.

Figure 2 locates the learner with Down Syndrome within the South African education system in a hierarchical representation indicating the systems operating at the levels of the wider and local community and the subsystems found within the school system. These subsystems of the school include staff members comprising of the school principal and educators, support structures and resources of the school which relate to and influence the learner's classroom and educators (teacher and teaching assistant), the learner's peer group within the school and his/her classroom and finally the subsystem of the learner's classroom itself which includes his/her educators and peer group. The crucial influential factor of attitudes/values/culture regarding inclusive education of learners with Down Syndrome occurs across all the systems of the National Department of Education, Gauteng Department of Education (GDE), GDE district level and the school including the school's subsystems of staff members (principal and educators), peer group and the learner's educators (teacher and teaching assistant).

In summary, the current research has endeavoured to investigate the area of inclusive education of primary school aged children with Down Syndrome in Gauteng province, South Africa within this ecosystemic model adapted from Donald et al. (2002). It was envisaged that every element within each level, system and subsystem of the model would have to operate successfully within interdependent and interacting relationships in order to facilitate the process of inclusive education for the learners. By employing this model, barriers, challenges and factors contributing to successful inclusive education of the learners with Down Syndrome would be readily identified at the different levels, systems and subsystems. These barriers and challenges would generate vital implications with the objective of improving

inclusive education of learners with Down Syndrome in Gauteng, South Africa. The next chapter covers a discussion of the ecosystemic model adapted from Donald et al. (2002).

CHAPTER 4

THE ECOSYSTEMIC MODEL ADAPTED FROM DONALD, LAZARUS, AND LOLWANA (2002)

The following chapter discusses the ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002) which was used for the current research. The levels include the local community, wider community and whole social system in South Africa. Graphic representations of the model are found in Figures 1 and 2 in Chapter 3.

4.1) Local community

4.1.1) Individual – child/learner with Down Syndrome

1) Down Syndrome: Definition, aetiology, incidence and features

Down Syndrome is one of the most prevalent congenital chromosomal syndromes, which is due to abnormal development of the foetus and the most frequently recognized cause of intellectual and learning disability (Carr, 1995; Selikowitz, 1997). It is a genetically based syndrome which affects a person's overall development, as well as speech and language development and function (Kumin, 2004). The syndrome occurs in all ethnic groups (Selikowitz, 1997) and in South Africa it affects approximately one in every 800 children born each year (Down Syndrome South Africa, 2004). Although Down Syndrome was first described by Dr. John Langdon Down in 1866, it was not until 1959 that Dr. Jerome Lejeune identified the underlying chromosomal abnormality, an additional 21st chromosome. While the aetiology of Down Syndrome is known, the cause of the extra chromosome is not (Kumin, 2004).

Selikowitz (1997) states that people with Down Syndrome vary enormously in terms of appearance, temperament and ability. Each person with Down Syndrome is a unique individual. Superimposed upon his/her personal characteristics, each individual with Down Syndrome has features that he/she shares with others who have the syndrome. These common features are the hallmark of a syndrome. A wide range of physical and mental characteristics may occur in individuals with Down Syndrome, including associated medical conditions, health concerns, behavioural and learning characteristics (Kumin, 2004).

2) Intellectual disability and learning styles

The intellectual disabilities, cognitive, information-processing and learning difficulties found in children with Down Syndrome impact on their learning abilities at school. Thus, it is essential to consider these factors when including such learners into ordinary educational settings.

Anneren and Pueschel (1996) explain that apart from the chromosomal abnormality, intellectual disability is the only feature that is present in most people with Down Syndrome. Although a wide range of mental abilities exists, the IQs usually vary between 20 and 80. Rogers, Roizen, and Capone (1996) report that IQs typically range from 40 to 55, though occasionally children score at lower or higher levels. Furthermore, several studies have reported that the child with Down Syndrome will go through a general decline in IQ from infancy to late childhood, a finding which further distinguishes this group (Lipkin & Schertz, 1996).

The most frequently cited cognitive problems of individuals with Down Syndrome include limited efficiency in information processing, limited attentional capacity, slower reaction time, deficit of auditory-vocal processing, limitation of short-term memory, slower retrieval of learned information from long-term memory, reduced perceptual discrimination and generalization capability, deficit of symbolization capacity (particularly with reference to non-concrete, abstract, entities) and inability with respect to abstract attitude (Owens, 1989). In addition, they tend to become fixated on a single dimension or event. Consequently, their experience of, and interaction with the world is limited (Cicchetti & Ganiban, 1990). According to Nadel (1995) individuals with Down Syndrome seem to have a particular problem with the stability of learning. There are numerous indications showing that learning in individuals with Down Syndrome has a particularly unstable character of unknown origin that hinders the accumulation of knowledge and skills. A possible reason for this instability is that information rapidly ‘decays’, or is forgotten (Nadel, 1995). This instability of learning in children with Down Syndrome has a profound impact on their ability to retain information taught at school in terms of carry over and retention, which are important skills for academic success.

Learning styles which are characteristic to individuals with Down Syndrome are important to consider with regard to their educational schooling experiences and it is vital for their

educators to be aware of them. Kumin (2004) explains that in most instances, children with Down Syndrome learn better through the visual channel (reading and visual models) than they do through the auditory channel (verbal instruction). According to Miller, Leddy, and Leavitt (1999a) children with Down Syndrome are known to demonstrate lack of consistency in their responses during learning, which is associated with their rapid shift in attention and motivation.

3) Communication impairments

The cognitive, information processing and learning difficulties found in children with Down Syndrome influence their speech, language, auditory development and functioning. Communication skills including memory, speech, language, auditory processing and hearing have a crucial impact on a learner's ability to function in an ordinary school context, for example, with regard to academic achievements and socialization. Since memory, speech, language, hearing and communication impairments are main features of Down Syndrome (Gerber, 1990; Laws, Byrne & Buckley, 2000), it is vital to consider them when including a learner with Down Syndrome in an ordinary school. Kumin (2004) explains that in most cases speech is the most difficult channel of communication for children with Down Syndrome, much more difficult than sign language or picture communication systems. Speech and language development of children with Down Syndrome is usually more delayed than would be expected from their cognitive level (Kumin, 2004).

In almost all children with Down Syndrome speech is affected and intelligibility of speech is a major problem for them. Phonological and articulatory development are problematic areas (Kumin, 2004). Children with Down Syndrome demonstrate a unique profile of language development (Miller, Leddy, Miolo & Sedey, 1995). Disorders of language development and behaviour will be related to the intellectual disability of the individual, to the extent that some people with Down Syndrome are nonverbal (Gerber, 1990). Their receptive skills are usually more advanced than their expressive language output, which is usually affected and results in shorter phrases and sentences (Kumin, 2004). Although Cicchetti and Ganiban (1990) report significant delays in semantic development, studies comparing semantic and syntactic development in children with Down Syndrome demonstrate that syntax is a far more difficult area for them than semantics (Fowler, 1990, 1995). The abstract nature of grammar and the sequencing skills required seem to be related to this difficulty (Fowler, 1990; Kumin, 2004). Additionally, children with Down Syndrome are usually more advanced in vocabulary skills

than they are in morphosyntactic abilities. However, a vocabulary delay which has been identified may be affected by the specific difficulties in learning vocabulary words with grammatical meanings. Furthermore, pragmatics and social interactive language are areas of strength for most children with Down Syndrome (Kumin, 2004).

Studies and documentations have shown that groups of individuals with Down Syndrome demonstrate poorer verbal short-term memory than appropriately matched controls (Chapman, 1997; Jarrold, Baddeley & Hewes, 2000; Marcell & Weeks, 1988; Seung & Chapman, 2000). In addition, the findings from a study conducted by Jarrold, Baddeley, and Phillips (2002) suggest that the deficit observed among individuals with Down Syndrome is *specific* to *verbal* short-term memory and is not simply a consequence of problems of audition or speech. Furthermore, auditory processing problems may occur in this population (Welsh & Elliot, 2001).

Hearing loss (conductive and sensorineural) and problems (such as excess fluid), which affect speech and language development, are common in individuals with Down Syndrome (Kumin, 2004; Marcell & Cohen, 1992). Fowler (1995) documents that 40% of the Down Syndrome population have mild hearing loss; while 10-15% have a more severe hearing loss. The anomalies of the upper respiratory system and the external (and most likely middle) ear lead to recurrent otitis media, which is prevalent in individuals with Down Syndrome (Gerber, 1990).

The current research hypothesizes that the intellectual disability, cognitive, information-processing, learning difficulties and communicative impairments associated with Down Syndrome would act as internal challenges within the child in terms of his/her functioning in the inclusive school context. However, in terms of the philosophy of inclusive education these challenges should not be regarded as barriers to the process, as accommodations and adaptations in the learning context need to occur in order to meet the child's needs. Thus, this research has aimed to describe the functioning of the children with Down Syndrome within the inclusive school context with regard to communication, academic skills and socialization.

4.1.2) Family

Lorenz (1999) explains that family support and education level are contributing factors to the success of a child with Down Syndrome attending an ordinary school, particularly in

situations where parents are required to fight to obtain an inclusive educational placement for their child. According to Lorenz (1999) research has demonstrated that children from supportive and better educated families would probably perform at a higher level than other children.

1) Parental role in inclusive education

Engelbrecht, Oswald, Swart, Kitching, and Eloff (2005) explain that a driving and decisive aspect in the development of inclusive education internationally was the involvement of parents. Similarly, in South Africa in the 1990s parents advocated for the move towards inclusive education (Engelbrecht, Oswald et al., 2005), which had a profound impact on promoting inclusive educational placements for their children with special educational needs (Engelbrecht, Swart, Oswald & Eloff, 2005). An increasing recognition and acknowledgement among parents of the benefits of inclusive education brought about the first educational placements of learners with disabilities in ordinary South African schools in 1994. An example of such benefits is that children with Down Syndrome are able to progress to a greater extent when raised in ordinary family, school and community surroundings than in more isolated environments such as special educational settings (Belknap, Roberts & Nyewe, 2004; Schoeman, 1997; Schoeman, 2000). Consequently, in South Africa the role of advocacy that parents of children with disabilities undertook in the direction towards inclusive education was a pioneering landmark in its history (Engelbrecht, Swart et al., 2005). This parental drive and involvement created opportunities for parental involvement in the decision making process of educational placements for their child with special educational needs (Engelbrecht, Oswald et al., 2005). Thus, this research has hypothesized that findings of the current study situated in Gauteng, South Africa would reveal parental drive and involvement as influential factors in the children's inclusive education process.

Villa and Thousand (2002) emphasize effective parental involvement as one of the factors which contribute to the success of inclusive education. Successful inclusive schools describe the crucial significance of parents' participation in the process of their child's inclusive education. Similarly, Scala (2001) explains that parental involvement and participation is necessary for any school programme to be successful, whether it is special or inclusive education, since "parents are a child's first and constant teacher" (Scala, 2001, p. 145). Successful inclusive schools promote parental involvement by offering family support

services and effective opportunities of collaboration and communication (Villa & Thousand, 2002).

Engelbrecht, Oswald et al. (2005) documented the experiences of parents with regard to their rights in terms of inclusive education in South Africa. Their findings show that the inclusion of a learner into an ordinary school is a challenging and dynamic process which begins with the decision of the parents to place their child in an inclusive educational setting. Despite legislation and parents' wishes, the development of the implementation of inclusive education in South Africa is not always indicative of the values associated with equity and individual rights (Engelbrecht, Oswald et al., 2005). Therefore, it is anticipated that participating parents in the current research would have had to fight for their children with Down Syndrome to be included into ordinary schools. Engelbrecht, Oswald et al. (2005) report that a main challenge to inclusive education in the South African context, which can have a profound effect on its outcomes, is the failure to create relationships between teachers, parents and professionals which are collaborative and trusting (Engelbrecht, Oswald et al., 2005). These relationships were envisaged as potential barriers to the inclusive education process of the learners with Down Syndrome in the current study.

2) Parents' hesitations and concerns

According to Scala (2001) many parents of children with special educational needs are hesitant about change. Previously, they were required to acknowledge their child's disabilities and follow special education and presently they are being asked to view the learning context in a different way – being inclusive education. When considering inclusive education, the parents are often concerned that their child will not receive the amount of support that he/she needs. Depperman (2004, p. 135) recounted her experience of sending her child with Down Syndrome to school as "a particularly daunting one since I was not too familiar with the system, the laws of the people. As any parent can understand, I worried that he would be teased or just plain excluded". Wolpert (1996) found that many parents of children with Down Syndrome had concerns regarding the educational adjustments that were required for their children placed in the ordinary education classes, yet they sustained their enthusiasm and optimism. They suggest that parents new to the inclusion process balance persistence in the pursuit for the best educational programme for their children with patience and support in times of difficulty (Wolpert, 1996). Therefore, these parental hesitations and concerns are expected to be found in the current research.

3) Parents' attitudes

By expressing a preference for inclusive education, a number of parents have contributed significantly to developments in the field. Systematic studies regarding parents' attitudes towards inclusive education frequently present a more balanced view of parental desires to extend their children's educational opportunities while safeguarding their need for certain types of services or support (Sebba & Sachdev, 1997). A study conducted in Scotland showed that parents were satisfied with the opportunities the learners had in the local ordinary school and with the learners' responses to the placement, however they expressed concern regarding the sufficiency of support available to teachers and questioned the learners' academic progress (Allan, Brown & Riddell, 1995 in Sebba & Sachdev, 1997). In a different study parents were pleased with their children's inclusive education and relieved that none of their fears, for example, disapproval from other parents and teasing by other children, had occurred. They stated that their children had established friendships that extended beyond the school. Additionally, they believed that their children's academic and social improvements would not have been achievable in special education settings (Kaskinen-Chapman, 1992 in Sebba & Sachdev, 1997).

Due to the critical importance of parents' role and attitudes in the inclusive education process, the current research includes as one of its aims the identification and examination of perceptions, attitudes and experiences of parents of the children with Down Syndrome regarding the inclusion of their child into ordinary schools.

4.1.3) School and peer group

The third system at the level of the local community within the ecosystemic model adapted from Donald et al. (2002) which is influential in inclusive education of learners with Down Syndrome is the system of the school, where the actual process of inclusive education takes place for the learner, and the peer group. "School involves language for learning, for following instructions, and for interacting with other children and teachers and school staff. Thus, having difficulty with language presents many problems for children with Down syndrome during the school years" (Kumin, 2004, p. 157).

1) Framework for inclusive school practice

Giorcelli (2002) describes a framework for inclusive education which may assist schools in moving towards an inclusive school practice. Important elements of the framework include firstly, that knowledge of human rights, which is related to the philosophy behind inclusive education, must be fostered by school staff members. Secondly, the framework focuses on the inclusive culture of the school, which is assessed by the language employed, actions taken and attitudes shown by adults towards learners with special educational needs. Flexibility of management practices is the third aspect of the framework. Flexible management practices should be adopted in inclusive schools in order to manage the diverse needs that staff members encounter when proactively trying to enhance the education of learners with Down Syndrome. Staff needs include consultation, development and problem-solving. Lastly, the framework for inclusive schooling practices is dependent to a large extent on the differentiation which takes place in the delivery of the curriculum and the reasonable accommodations offered to learners with special educational needs, including learners with Down Syndrome. This last factor is regarded as essential to promoting inclusive school practices (Giorcelli, 2002). Due to the current early stages of implementation of inclusive education in South Africa, this research hypothesizes that these elements described in this framework by Giorcelli (2002) within ordinary public schools in Gauteng might be absent or if present, would not be consolidated fully in ways which would entirely promote the successful inclusive education of the participating learners with Down Syndrome.

2) Attitudes of schools

Engelbrecht, Swart, Oswald, and Eloff (2005), in reporting on the experiences of parents who have children with disabilities attending ordinary schools in the provinces of Gauteng and the Western Cape in South Africa, explain that parents recognize the attitudes of schools towards inclusive education and learners with special educational needs as an important factor in including learners in ordinary classrooms successfully. Therefore, it is anticipated that in the current research the attitudes of the schools, principals and educators would have an essential role in the participating children's inclusive education process. These vital attitudes would either act as potential barriers and challenges or potential factors contributing to the participating learners' successful inclusive education.

3) School system: Influential structures

Staff members: Principal and educators

Attitudes

The principal's attitude as a leader and vision builder is of vital importance in the inclusive education process. A positive attitude is shown in the principal's willingness to be involved in the process of inclusive education by providing time for the parents, acknowledging their right to be involved and demonstrating an interest in their child's progress. Additionally, a positive principal encourages teachers to accept the challenges of inclusive education and to be willing to address the particular needs of the learners with special educational needs in the ordinary classroom (Swart, Engelbrecht, Eloff, Pettipher & Oswald, 2004).

Teachers' attitudes towards inclusive education have a great impact on the successful implementation of the policy of inclusive education within the classroom. Additionally, their attitudes appear to have significant correlates with classroom practice, however the direction of causality is unclear (Campbell, Gilmore & Cuskelly, 2003). Therefore, one of the aims of the current study is to identify and investigate the attitudes of the educators teaching the children with Down Syndrome regarding inclusion of the child into the ordinary school. Buell, Hallam, Gamel-McCormick, and Scheer (1999) describe a positive relationship between the attitudes of teachers to inclusive education and their belief that they could affect the educational outcomes of children with special needs. Teachers who demonstrated more positive opinions about inclusive education displayed greater confidence in their ability to support children in inclusive educational settings and to adapt learning materials, classroom resources and procedures to accommodate their needs (Buell et al., 1999).

Teachers' experiences

From the study conducted by Wolpert (1996), in terms of teachers' responses, almost all of the teachers conveyed that they enjoyed the experience of teaching learners with Down Syndrome in ordinary educational settings. Teachers found the learners to be responsive and eager when they were provided with any type of encouragement. One of the teachers from Wolpert's (1996) study summarized her experience of inclusion in the following words, "I found inclusion to be the single most interesting and rewarding experience of my teaching career. I would advise new inclusion teachers to make friends with the students and go with the flow" (Woplert, 1996, p. 16). Wolpert (1996, p. 16) reports that the general consensus among educators was that "inclusion is a lot of work, but definitely worth it". However,

experiences of teachers in Gauteng, South Africa involved in inclusive education would appear to be different from teachers' experiences in the USA where Woplert's (1996) study was conducted due to situational and contextual differences. Therefore, an aim of the study is to identify and investigate the experiences of educators who would be teaching the child with Down Syndrome regarding inclusion of the child into ordinary public schools. Thus, locating the current study within an ecosystemic framework which considers the social context is crucial.

Role of teaching assistant

Fox, Farrell, and Davis (2004) report that the degree to which a child with Down Syndrome is successfully included in an ordinary classroom is influenced by the way in which a teaching assistant works with the class teacher. Inclusive education is more likely to be effective when the class teacher adopts a central role regarding the management of support and the organization of the learner's daily educational experiences. Fox et al. (2004) found that the support for the child with Down Syndrome was more successful in cases where the teaching assistant worked as part of a team.

Support structures and resources

In terms of support structures and resources, according to the European Agency for Development in Special Needs Education (2003) the following conditions have a crucial role in the development of inclusive classroom practices: firstly, in order for teachers to address diversity successfully in their classrooms they require a range of skills, expertise, knowledge, teaching approaches, sufficient teaching methods, materials and time. Secondly, teachers require support from within the school and from sources external to the school. A critical factor is leadership on the level of the head-teacher, school districts, communities and government. Lastly, governments should convey a comprehensible standpoint regarding inclusive education and offer sufficient conditions that enable flexible utilization of resources. For purposes of the current research, it is felt that this type of provision of support structures and resources for including learners with Down Syndrome into ordinary public schools may be limited in Gauteng due to the following reasons: the diverse barriers faced by the South African Education system, such as overcrowding and shortages of classrooms; the barriers found within the South African socio-economic political climate, such as poverty; lastly, the current early stages of implementation of inclusive education in South Africa. These factors

will be discussed in further detail under the level of the wider community and whole social system.

Peer group/socialization: Outcomes of inclusive education

According to Lorenz (1999) research has not reliably indicated whether levels of adjustment and self-esteem of learners with Down Syndrome are as positive in ordinary schools as they are in special school placements. In terms of social outcomes of inclusive education for learners with Down Syndrome, during the primary school years, socialization for children with Down Syndrome in ordinary schools does not appear to be problematic. However, frequently during the adolescent years typically developing learners tend to grow away from learners with special educational needs, which often results in the child with Down Syndrome being socially isolated from his/her peer group (Lorenz, 1999). The importance of the effects of inclusive education on socialization is illustrated in the words of an individual with Down Syndrome, "I think that students with disabilities should be able to be included in regular education with other students so that they can make friends and have the same opportunity as all other students" (Levitz, 1995, p. 247). A number of parents have sacrificed their children's academic achievement in order to maximize socialization (Salisbury, Gallucci, Polombaro & Peck, 1995; Stainback & Stainback, 1992). Due to the importance placed on the outcomes of inclusive education in terms of socialization, one of the aims of the study is to describe the functioning of the children with Down Syndrome in the inclusive school context with regard to socialization.

Classroom: Curriculum and teaching methods adaptations

Including learners with Down Syndrome in ordinary classrooms involves adaptations with regard to the curriculum and teaching methods. According to Wolpert (1996) the learning characteristics of individuals with Down Syndrome are more similar to their regular education peers than they are different. However, language and motivational deficiencies, which characterize Down Syndrome, may require more highly structured, sequenced activities with less information presented at a time, and much reward and praise structured into the design of the lessons. Meaningful, familiar materials should be used, and adequate time should be given for such learners to respond. In addition, teachers reported differences in learning styles of children with Down Syndrome which required various modifications, for instance fewer questions, different expectations and simplified curriculum (Wolpert, 1996). It is envisaged that the current research, based on the three case studies, would identify these important

considerations that require further investigation in order to maximize service provision for learners with Down Syndrome attending ordinary schools.

4.1.4) Early intervention services and therapy

The fourth system within the local community which has an influence on inclusive education of learners with Down Syndrome is early intervention services and therapy. Mepsted (1998) emphasizes that the stimulation that a child is given from an early age sets the crucial basis on which to develop future progress and success. The early years and experiences in a child's life are particularly crucial "and how much more so for a child starting out with a disability" (Mepsted, 1998, p. 29). Early intervention services endeavour to maximize the developmental potential of children with Down Syndrome (Rogers, Roizen & Capone, 1996). The importance of speech, occupational and physical therapies in the treatment of children with Down Syndrome is reported by Leshin (2002). Emphasis on the type of therapy may vary at different stages of the child's life (Leshin, 2002). A therapist's approach to management of a child with Down Syndrome must consider the child as part of a family and broader community. The family's aspirations and goals, for example, choice of educational placement – special or inclusive would have to be taken into account. Ethical dilemmas and issues may arise in terms of conflicting views regarding intervention and intervention goals held by parent/s and therapists.

In summary, the systems of the individual/learner with Down Syndrome, family, school and peer group, early intervention services and therapy, which operate at the level of the local community have an interconnected and interdependent relationship with each other within the process of inclusive education of learners with Down Syndrome. Within the South African context it is believed that at this stage at the level of the local community the system of the school including its structures involved in inclusive education, specifically staff members (principals and educators), support structures and resources, peer group and classroom might inhibit successful inclusive education of learners with Down Syndrome. This belief is rooted in the barriers associated with the South African education system found at the level of the wider community which is situated within the whole South African social system. A discussion involving the systems operating at level of the South African wider community in relation to inclusive education of learners with Down Syndrome within the ecosystemic model adapted from Donald et al. (2002) follows.

4.2) Wider community

Elements found within the South African wider community level of the ecosystemic model adapted from Donald et al. (2002) which are influential for the purpose of the current research include the South African Education system and Down Syndrome South Africa.

4.2.1) South African education system

"All children and young people of the world, with their individual strengths and weaknesses, with their hopes and expectations, have the right to education. It is not our education systems that have a right to certain types of children. Therefore, it is the school system of a country that must be adjusted to meet the needs of all children" (B. Lindqvist, UN-Rapporteur, 1994 in UNESCO, 2005, p. 13).

1) Transformation in South African education

South Africa is confronted with numerous challenges in its development as a democratic society. One of the most urgent challenges is the reconstruction of the former system of education to one that provides equity to the education of all children (Donald et al., 2002). This factor emphasizes the need to conduct South African research regarding the transformed education system, namely inclusive education, in order to generate vital implications to improve its service provision, which this research intends to accomplish specifically with regard to learners with Down Syndrome. Naicker (2000) explains that in South Africa, separate education systems, special and ordinary, were in existence for over a century. Apartheid education created a dual system of education that included a mainstream and special education component. In addition, these components were characterized by racial inequality. The dual system and racial inequality resulted in vast numbers of learners being excluded from the mainstream of education (Naicker, 2000). It is anticipated that the inclusive education experiences of the participating children with Down Syndrome could be directly affected by these challenges associated with the transformation of the South African education system.

Outcomes Based Education (OBE)

The Ministry of Education, with the purpose of addressing the inequalities and difficulties associated with apartheid education, decided to adopt Outcomes Based Education (OBE) as a new curriculum approach. Since 1996 OBE has become a significant component of education policy in South Africa (Naicker, 2000). The former Minister of Education defines OBE as a

"learner centred, result oriented approach to education and training that builds on the notion that all learners need to and can achieve their full potential, but that this may not happen in the same way or within the same period…*each learner is provided the time and assistance to realise his or her potential*" (Department of National Education, 1998, p. 9). Therefore, OBE is believed to be a suitable curriculum approach to meet the needs of learners with Down Syndrome. According to Naicker (2000) the urgency of the implementation of the OBE curriculum in South Africa gave rise to a major challenge. That challenge entails transforming the dual system of education (special and ordinary education) to a single, inclusive OBE system (Naicker, 2000). Therefore, the current research anticipates that the new education system for learners with Down Syndrome would have challenges and potential barriers which need to be overcome.

Naicker (2000) states that the shift from a contents based apartheid and special education system to an inclusive outcomes based system must centre around redress and equity. For OBE to be implemented effectively major changes in terms of philosophy, structures and practices need to take place. This shift is paradigmatic in nature from functionalism to radical structuralism. The shift involves moving from racist, disablist, sexist and classist assumptions to non-racist, non-disablist, anti-sexist and anti-class assumptions. Subsequently, there would be a move away from the pathological medical model, Special Education Act, labelling, segregation from mainstream and standardized testing to a system oriented approach, amendment to South African Schools Act, including all learners and criterion referenced tests (Naicker, 2000). Since it is believed that in South Africa this shift with regard to philosophy, structures, practices and attitudes in education is a process which requires time, conducting the current research is essential in order to raise awareness and provide important implications to existing structures and practices with regard to inclusive education of learners with Down Syndrome.

2) <u>South African National Department of Education</u>

<u>Shift to inclusive education in South Africa</u>

With the declaration of democracy in South Africa in 1994, the education system embarked on a new era. Related to this socio-political change a major importance has been placed on values such as liberty, respect, social justice, non-discrimination and equity. The newly formed South African Constitution was formulated on such values (Swart & Pettipher, 2005). The Constitution of the Republic of South Africa Act 108 of 1996 consists of a Bill of Rights

that entrenches the rights of all learners irrespective of disability, race, colour, gender, sex, sexual orientation, conscience, religion, belief, culture or language to basic education and access to educational settings (Republic of South Africa, 1996a). The South African Schools Act 84 of 1996 (Republic of South Africa, 1996b) recognizes the Bill of Rights by acknowledging diversity amongst learners and quality education for all learners within a single system of education. Both these documents provide the basis and drive for the implementation of inclusive education in South Africa (Engelbrecht, Swart, et al., 2005). Thus, the current research proposes that the ideology behind inclusive education in South Africa is a factor which could potentially contribute to the successful inclusion of learners with Down Syndrome into ordinary schools. This research has endeavoured to elicit data which would provide evidence for whether or not this ideology of inclusive education is translated into practice in Gauteng, South Africa for the learners with Down Syndrome who would be participating in the research.

Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System

The Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System (Department of Education, 2001) is a policy document which provides a framework for establishing an inclusive education and training system for South Africa. Its main aim is “to extend the policy foundations, frameworks and programmes of existing policy for all bands of education and training so that our education and training system will recognize and accommodate the diverse range of learning needs” (Department of Education, 2001, p. 24). This White Paper documents the commitment of the Ministry of Education to the provision of educational opportunities specifically for those learners who experience or have experienced barriers to learning and development or who have dropped out of learning due to the lack of ability of the education and training system to accommodate their learning needs (Department of Education, 2001). The National Commission on Special Needs in Education and Training (NCSNET) and National Committee on Education Support Services (NCESS) conceptualized barriers to learning and development as “those factors which lead to the inability of the system to accommodate diversity, which lead to breakdown or which prevent learners from accessing educational provision” (Department of Education, 1997, p. 12). The Education White Paper 6 (Department of Education, 2001) acknowledges that in South Africa learners who have in the past been labelled ‘learners with special education needs’, meaning learners with disabilities and impairments, are most susceptible to barriers to

learning and exclusion. Their increased susceptibility has surfaced mainly due to the historical nature and degree of the educational support offered.

A realistic time frame of twenty years has been suggested for the implementation of the inclusive education and training strategy in South Africa. The period has been subdivided into: immediate to short-term steps – 2001-2003, medium-term steps – 2004-2008, and long-term steps – 2009-2021. Therefore, the vision and goals of the White Paper 6 indicate a twenty-year developmental outlook. The short to medium-term goals involve laying the foundations for the establishment of the inclusive education and training system. These goals will centre around addressing the weaknesses and deficits of the existing system and extending access and provision to children of compulsory school-going age who are not accommodated within the education and training system. The long-term goal is the development of an inclusive education and training system which will expose and address barriers to learning, and acknowledge and accommodate various and different learning needs. (Department of Education, 2001). Since the implementation of inclusive education in South Africa is currently in its infancy stages, the present research is of great importance.

Realistic situation of implementation of inclusive education in South Africa

The initial part of the implementation of the Inclusive Education Programme (IEP) was intended to commence in January 2005 but the plan appears to have been delayed. By the middle of October 2004, provinces had not reached the cut-off dates of accomplishing particular milestones scheduled for 2003 (Makgalemele, 2004). Mzi Khala, manager of the Gauteng Education Department, in Makgalemele (2004, p. 5) commented that, " 'We should have begun informing parents. A lot of them still do not know about the programme and are of the opinion that learners with special needs will not be able to learn with those in mainstream' ". Makgalemele (2004) described that the Department had not provided the budget for the IEP. According to Makgalemele (2004), Jean Baxen, a senior lecturer at the Education School at the University of Cape Town, commended the ideology of inclusion, but did not believe that it would materialize in the near future. In light of the problems that have been encountered, the current research study aims to determine the realistic situation of implementation of inclusive education of learners with Down Syndrome in Gauteng province.

Inclusive education: Discrepancy between philosophy, policies and realities of implementation

According to Engelbrecht, Swart, et al. (2005) despite the radical changes at policy level over the past decade in South Africa with regard to the recognition of human rights, difficulty in achieving the rights of parents and their children with disabilities is still extremely apparent. Placement options in ordinary schools for children with disabilities are restricted as at present not all schools are prepared to accept learners with all disabilities. Hence, a gap is apparent between firstly, the philosophy of inclusive education and the reality of having a learner included and secondly, between the content of the policies and the recognition of the rights of parents and children (Engelbrecht, Swart, et al., 2005). "Acceptance of the basic rights of children with disabilities is at the heart of placement issues and the formation of inclusive school communities" (Engelbrecht, Swart, et al., 2005, p. 6). Consequently, it is anticipated that the current research would generate critical implications to bridge this gap and would hopefully foster positive accepting attitudes towards inclusive education in general and specifically for learners with Down Syndrome.

3) Gauteng Department of Education (GDE): Objectives and challenges

As the present study is situated in the province of Gauteng, the goals of the Gauteng Department of Education (GDE) in relation to inclusive education require consideration. The 2003/4 Strategic Plan which was set out for the Gauteng Provincial Government Department of Education was in line with the government policy goals. Therefore, one of the main strategic objectives which was outlined to be accomplished during the 2003/4 financial year and the 2003 academic year was the GDE's commitment to increasing educational opportunities for learners with special needs. This objective was set out to be accomplished through the implementation of the Inclusion Policy in chosen schools and increasing access to special schools. The GDE is obligated to execute the key provisions of Education White Paper 6 on Special Needs Education: Building an Inclusive Education and Training System (Department of Education, 2001). The GDE has developed a dynamic initiative to redress the imbalances associated with the past and to ensure equity in education provision in the province (Gauteng Provincial Government Department of Education, March 2002).

The Gauteng Provincial Government Department of Education (March, 2002) listed various challenges associated with its service delivery and organization. Some of these challenges included the following: at the time Gauteng was experiencing immense pressure to ensure

access to education throughout the province due to increased number of learners in the public school system, which in turn resulted in a lack of classroom space in numerous districts. Related to this factor was the Department's difficulty in providing teachers, due to budget constraints, to the schools which were characterized by an increased number of learners. This shortage of teachers resulted in increased class sizes, which was at risk of increasing beyond a 1:40 ratio. A further challenge involved the level of competence of the Department's personnel which was in need of vast development (Gauteng Provincial Government Department of Education, March 2002).

Due to these challenges faced by the GDE, this research proposes that inclusive education of learners with Down Syndrome in Gauteng could add to these challenges, which in turn would negatively impact effective service delivery for such learners in ordinary public schools. Additionally, many of these challenges are rooted in South Africa's political history of apartheid which filtered through to the education sector. This factor emphasizes the importance of researching the area of inclusive education using an ecosystemic model, which takes into account the wider community and whole social system of the context.

4) Support at district level

In order to deliver cost-effective and equitable services to all learners within the inclusive education system it is essential to modify and enhance the current support systems and institutions in South Africa (Department of Education, 2005). The Education White Paper 6 of 2001 stipulates that this improved education support service will involve new district-based support teams which consist of staff from provincial district, regional and head offices and from special schools. The main role of these district support teams would entail evaluation of programmes, diagnosis of their effectiveness and recommendations of changes. By supporting teaching, learning and management the district support teams would develop the ability of schools to identify and deal with severe learning difficulties and to accommodate a variety of learning needs (Department of Education, 2001). According to the Department of Education (2005) a lack of meaningful support existed in numerous districts in South Africa as of 2005, which was especially the case in rural and historically disadvantaged regions. In areas where support was available, this support was not comprehensive and therefore the functions of the district-based support teams needed to be expanded, reorganized and improved (Department of Education, 2005). Thus, it is believed that this lack of meaningful support from district

level could be regarded as a potential challenge and barrier to the successful inclusive education of the children with Down Syndrome participating in this study.

4.2.2) Down Syndrome South Africa

According to Cuckle (1999) support and parents' groups can be extremely empowering. A local group may have insight and offer moral support, encouragement and assistance to parents who are faced with difficulties in terms of their children's inclusive education. The group may have information regarding ordinary schools which are willing to accept children with Down Syndrome (Cuckle, 1999). Therefore, the second system at the level of the wider community of the ecosystemic model adapted from Donald et al. (2002) for the current research is Down Syndrome South Africa. Within the South African context, Down Syndrome South Africa (DSSA) is an advocacy organization which strives for the rights of individuals with Down Syndrome and intellectual disabilities (Down Syndrome South Africa, 2004). DSSA is committed to discovering ways to enhance the quality of life of all individuals with Down Syndrome and other intellectual disabilities by "promoting the idea that they have the right to live with independence, dignity, respect and security as valued adults and full citizens in our society" (Down Syndrome South Africa, 2004, p. 7).

Similar to Cuckle's (1999) descriptions regarding support groups, Down Syndrome South Africa (2004) outlines that the DSSA strives to empower families of individuals with intellectual disabilities and their communities by providing information. In this way the DSSA promotes and encourages access to services such as parent support, early intervention, inclusive education and supported employment with the aim of developing a more inclusive society. A further aim of the DSSA is to raise awareness of the potential of individuals with Down Syndrome and intellectual disabilities, therefore providing them with the opportunity to enter ordinary schools and the open labour market. An additional objective of the DSSA is to empower, mobilize and enable individuals with intellectual disabilities to attain a greater level of ability and independence. "Their individual social, economical and personal growth must enable them to be active and productive members of society" (Down Syndrome South Africa, 2004, p. 8).

One of the main focus areas of the DSSA involves the formation of a powerful parent lobby and advocacy group that has been able to and is still striving to create changes in national and provincial policy in support of individuals with intellectual disabilities. Additionally, the

DSSA promotes research in the areas of early intervention, education, medical issues, employment and civil rights. Its continuous mission is to bring South Africa in line with international developments and to become leaders in several aspects in the area of Down Syndrome and to make sure that United Nations conventions on the rights of adults and children with disabilities are acknowledged and respected in all facets of life (Down Syndrome South Africa, 2004).

Thus, Down Syndrome South Africa has an influential role at all levels and systems of the ecosystemic model used for the current research. It is envisaged that educators and especially parents participating in the current research could find support regarding the inclusive educational process from DSSA. This research hypothesizes that DSSA could be considered to be a factor contributing to the successful inclusion of the participating children with Down Syndrome into ordinary public schools in Gauteng.

It is hoped that findings of this research could demonstrate whether the challenges faced by the South African education system from national to district level would have an impact on effective inclusion of the participating children with Down Syndrome into ordinary public schools. Furthermore, it is believed that findings of this research may reveal the discrepancy between the ideology and policy of inclusive education and the realities of the situation in Gauteng, South Africa. This discrepancy in itself would act as a barrier to the successful inclusive education of the learners with Down Syndrome. However, the role and actions of Down Syndrome South Africa would facilitate the inclusive education of the learners with Down Syndrome in Gauteng.

The next section covers the level of the whole social system of the ecosystemic model adapted from Donald et al. (2002) for the current research. This level includes the socio-economic political climate in South Africa which has an interdependent and interacting relationship with the rest of the levels and systems of the model in influencing inclusive education of learners with Down Syndrome.

4.3) Whole social system

4.3.1) Socio-economic political climate in South Africa

The relevancy and applicability of examining inclusive education of learners with Down Syndrome in South Africa within an ecosystemic framework which considers the whole social

system is reflected in the following words: “A central feature of the transformation process from an apartheid society to a democratic society has been the emergence and development of a new education policy that corresponds with political and social practices within a democratic milieu” (Naicker, 2000, p. 2). These words highlight the importance of researching the current field of inclusive education in South Africa.

In South Africa children live in a society characterized by severe disparities due to its history of apartheid. The situations in which the majority of families have lived have negatively influenced their ability to meet the most basic needs of children. Extreme inequalities amongst children in diverse racial groups, geographical regions and between genders were shaped by factors such as deprivation, violence, malnutrition, poor health, inferior education and discrimination with regard to social security systems (Biersteker & Robinson, 2000). Therefore, a broader challenge to education facing South Africa in its post apartheid era includes social reconstruction, which involves confronting issues related to poverty, housing and health. This challenge of social reconstruction has a profound influence on education (Donald et al., 2002).

In the joint report of the National Commission on Special Needs in Education and Training and the National Committee on Education Support Services in South Africa several barriers to learning and development, which commonly existed in the South African society, were identified (Department of Education, 1997). Some of these barriers include: general socio-economic factors, for example, poverty and lack of access to basic services; other factors which place learners at risk, such as violence; negative and harmful attitudes of society towards differences; lack of flexibility in the curriculum and in the training of educators; language and communication barriers in the curriculum, medium of instruction and teaching process; inaccessible and unsafe environments in schools; lack of acknowledgment of the vital role parents can undertake in facilitating the teaching/learning process; insufficient and inappropriate provision of support services to schools (Department of Education, 1997).

Therefore, it is believed that in the South African context the inclusion of learners with Down Syndrome into ordinary public schools is one of many other challenges found within the whole social system influencing education. Thus, this research hypothesizes that these existing barriers and challenges may affect the perceptions, attitudes and experiences of

educators participating in this research regarding the inclusive education of the learners with Down Syndrome.

Situating the current study in the socio-economic political climate of South Africa, a developing country, the words of McConkey (2002, p. 208) illustrate hope for inclusive education of learners with Down Syndrome despite the existing challenges and barriers: "Down syndrome is not a disaster for either the person or the family but rather a road less travelled. It is a journey that increasingly is becoming better signposted with improved facilities en route and one that brings rich rewards to those who venture forth in hope and with determination. As is often the case in the developing world, the roads are ill-defined and filled with potholes but through the efforts of dedicated parents and professionals, there too a highway for people with Down syndrome is also starting to take shape".

4.4) Summary and conclusion

Overall, from the discussion in Chapters 2, 3 and 4 concerning the literature review, the following conclusions have surfaced. In situating the current study within the ecosystemic model adapted from Donald et al. (2002), for inclusive education of learners with Down Syndrome to be successful, all levels, including the local community, wider community and whole social system of the model need to exist and function in dynamic, interdependent and interacting relationships. Furthermore, the critical importance of positive attitudes/values/culture regarding inclusive education of learners with Down Syndrome should occur at all levels of the model to facilitate their successful inclusion into ordinary schools. However, in South Africa, specifically in Gauteng, this research hypothesizes that systemic factors, barriers and challenges found at the levels of the whole social system, wider community and to some extent the local community such as staff members, support structures and resources and classroom factors found within the school system may inhibit the success of inclusive education for the participating learners with Down Syndrome. On the contrary, this research proposes that individual factors, such as those found at the level of the local community, mainly the family system and parent subsystem may be the driving force behind the successful inclusion of their children with Down Syndrome into ordinary public schools.

CHAPTER 5

METHODOLOGY

5.1) Aims of the study

5.1.1) Main aim

To document case studies of three primary school aged children with Down Syndrome attending ordinary public schools in Gauteng province, South Africa.

5.1.2) Sub-aims

In order to accomplish the above aim the following sub-aims were devised:

1. To describe the overall functioning of the participating children with Down Syndrome in the inclusive school context, particularly within the following domains:
   - Communication
   - Academic skills
   - Socialization
2. To identify and examine the perceptions, attitudes and experiences of parents of the participating children regarding inclusion of their child into ordinary public schools.
3. To identify and investigate the perceptions, attitudes and experiences of educators[1], who were teaching the participating children at the time of the study, regarding inclusion of these children into ordinary public schools.
4. To explore barriers and challenges to successful inclusion of the participating children into ordinary public schools.
5. To identify factors which contribute to successful inclusion of the participating children into ordinary public schools.

5.2) Research design

5.2.1) Qualitative research framework

The aims of the study were achieved primarily by employing a qualitative research framework, which was supplemented with quantitative measures with the exclusion of statistical procedures. Despite the limitations of qualitative research, which is criticized for lacking a scientific basis (Berg, 1995), it was believed that a qualitative research approach

[1] Educators – refers to school teachers and teaching assistants.

was most appropriate for the purpose of this study. A preliminary analysis of the situation of inclusive education of learners with Down Syndrome in Gauteng conducted by the researcher revealed that at the time of the study only a small number of these learners were being included into ordinary public schools. Thus, a large sample of children could not be obtained for this study lending itself to a qualitative approach. This approach enabled the researcher to document detailed case studies by identifying and examining as many relevant factors as possible. Furthermore, the heterogeneity found in individuals with Down Syndrome (Kumin, 2004; Marshall, 2004; Selikowitz, 1997) allows for a qualitative investigation of such children. In addition, Durrheim (2004) explains that qualitative research is commonly utilized in order to investigate phenomena in an inductive manner, and to present rich and in-depth descriptions of them. Qualitative methods also enable the researcher to investigate chosen issues in openness by identifying and attempting to understand the meanings, patterns and categories which emerge from the data (Babbie, 1995; Durrheim, 1999).

5.2.2) Multiple research designs

In line with a qualitative research method (Llewellyn, 1996), the present research employed a variety of research designs. A **survey research design** was selected since Schiavetti and Metz (2002) specify that this form of research strategy is utilized to furnish an in-depth examination of the prevalence of conditions, practices, or attitudes in a certain environment by asking individuals about them as opposed to observing them directly. Questionnaires, interviews, and, in some instances, a mixture of the two are employed in survey research (Schiavetti & Metz, 2002). Babbie (2001) explains that scales are most widespread in survey research methods. Consequently, a survey research design was applied to this study by using a combination of these research methods. Additionally, the researcher of the present study employed a **qualitative field research method** by conducting observations of the participating children during school time, as Babbie (2001) mentions that qualitative field research entails the direct observation of social experiences and events in natural situations. A discussion pertaining to the rationale and critical evaluation for the choice of these research methods, their advantages and limitations are found later in the chapter.

Since the inclusion of children with Down Syndrome into ordinary public primary schools in South Africa is currently in its infancy stages an **exploratory research design** was selected. The main limitation of exploratory studies is that they rarely furnish satisfactory answers to research questions, however they can allude to the answers and can propose which research

methods could offer conclusive answers. In addition, this type of research design is frequently associated with problems regarding representativeness in which instances the study's sample may not be typical of the larger population (Babbie, 2001), which is a limitation of the current study. The main aim of the present research situates the study within a **descriptive research design**. According to Drummond (1996) the overall purpose of a descriptive study is to describe a situation or practice with the intention of acquiring further information. By utilizing this design, information is gathered regarding naturally occurring events in the 'real life' situation (Drummond, 1996). The current study's main aim and sub-aims were designed to obtain data in an in-depth manner, during a specified time period. Therefore, a **cross-sectional design** was employed (Babbie, Mouton, Vorster & Prozesky, 2001; Van der Merwe, 1996). Although results of studies involving cross-sectional designs are attained quickly, problems may exist in the interpretation of the results or with regard to the generalization of the study's findings to a broader population than the one representative in a specific research study (Drummond, 1996), which is regarded as a limitation of this study.

The **case study design** that was utilized for the study is validated by Schiavetti and Metz (2002), who explain that infrequent occurrences, which can furnish valuable information, may be investigated by means of case studies. In line with this choice of research design Lindegger (2004) emphasizes that case studies are in-depth investigations of specific individuals, which examine individuals as individuals rather than as members of a population. This type of research design employs numerous sources of data (Babbie, Mouton, et al., 2001; Robson, 1995), which were applied in the present research. Multiple case studies were employed in the current research. Yin (2003) explains that when researchers make use of multiple case designs the likelihood of eliciting robust results are enhanced as compared to using a single case design. Although a case study design was chosen for the current study, Stein and Cutler (1996) explain that a predominant criticism of the case study approach involves the subjectivity of the investigator. Furthermore, Lindegger (2004) identifies several limitations to this type of research design. Problems may surface with regard to the validity of information. Additionally, complexity and difficulty exist in terms of testing causal links. These factors are considered to be limitations of the current study. However, they were minimized as far as possible by utilizing an independent impartial rater.

5.3) Participants

5.3.1) Participant sampling

The sample of the research study consisted of three children with Down Syndrome, their parents and educators which included school teachers and teaching assistants where relevant. The use of a small number of participants was primarily due to the fact that at the time of the study, inclusion of children with Down Syndrome into ordinary public primary schools was found to be uncommon in Gauteng Province, South Africa. Thus, an exceptionally small number of suitable participants were available in Gauteng. Stein and Cutler (1996) emphasize that the extensive investigation of a person is the central aim of a case study. Lyons (2003) explains that since qualitative research involves detailed and thorough examinations of specific phenomena and social processes rooted in particular contexts, qualitative samples have a tendency to consist of a small number of cases selected on a theoretical foundation. However, Sarantakos (1998) reports that qualitative sampling does not claim representativeness to the broader population. The researcher views this factor and the subsequent lessening of the generalizability of the findings as limitations of the study.

Non-probability convenience sample

A non-probability sample, which may be selected in line with the principle of convenience or accessibility (Van Vuuren & Maree, 2004), was employed for the current research. Researchers frequently employ non-probability samples, for example, when they embark on an in-depth qualitative study (Sarantakos, 1998; Van Vuuren & Maree, 2004), and for exploration purposes (Bernard, 2000; Sarantakos, 1998). Consequently, given the nature of the current research design, a non-probability convenience sampling strategy was chosen. Two negative inferences surface from non-probability convenience sampling (Hall and Hall, 1996; Robson, 1995; Van Vuuren & Maree, 2004). Firstly, non-random samples are not concerned with statistical theories of probability. Therefore, the level of accuracy to which properties of the sample can be utilized to depict properties of the population is unknown, which precludes representative conclusions and generalizations of findings. Secondly, bias may easily occur, as the investigator is actively involved in choosing the sample composition. Although these factors are limitations to the study, Drummond (1996) stipulates that this form of sampling does have a place, for example, in situations involving constrained research resources, and particularly in preliminary investigations or pilot studies. Given the small number of children with Down Syndrome being included into ordinary public primary schools

in Gauteng at the time of the study, selecting a sample based on statistical randomness was not possible.

According to Bernard (2000) the credibility of research findings originates from the strength of the methods utilized in measurement and sampling. The source of internal validity is high-quality measurement, and the basis to external validity is representative sampling. Non-probability sampling, which is carried out effectively is in fact part of good quality measurement. It adds to the credibility of a study by enhancing the internal validity of the research study. In view of expanding the credibility of a study's conclusions beyond the group of individuals investigated, researchers ought to either replicate the study one or more times employing non-probability samples, or utilize a probability sample (Bernard, 2000). These recommendations apply to the current study and may be regarded as implications for further research.

5.3.2) Participant selection criteria

Participants were selected in accordance with the following criteria:

1) Children with Down Syndrome

In keeping with the main aim of the study which was to document case studies of primary school aged children with Down Syndrome attending ordinary public schools in Gauteng Province, South Africa the following criteria for the children were devised:

- Diagnosis of Down Syndrome: Participants must have been diagnosed with Down Syndrome by medical professionals.
- School placement: Participants must have been attending an ordinary public primary school education setting at the time the study was carried out.
- Chronological age: The participants' chronological age range was required to cover primary school going age, being 7 – 13 years old, as the focus of the study was primary school years.
- Home language and school's medium of instruction: The children were required to be monolingual speakers of Afrikaans or English and the medium of instruction at their schools was required to correspond to their home language. This criterion was chosen in order to eliminate second language acquisition or bilingualism as a variable to the study, which might have an impact on the children's functioning in the inclusive school context with regard to communication, academic skills and socialization.

- Additional factors: The following factors were considered and documented, but did not serve as exclusionary criteria, as these factors are characteristic of Down Syndrome. These factors were considered during testing, data collection and analysis.

  Hearing status – According to Newton (2004) significant hearing problems occur in at least half of children with Down Syndrome. The incidence of sensorineural hearing loss in people with Down Syndrome is 20% of cases, which increases with age, whereas conductive hearing loss occurs in up to 50% of the cases. Individuals with Down Syndrome are prone to developing otitis media with effusion ('glue ear'), which often causes the conductive hearing loss (Newton, 2004). Children who were known to have a hearing loss and/or using hearing aids or other audiological assistive devices were not excluded from participation in the study. The occurrence of hearing problems, hearing loss and otitis media might impact on learners' academic functioning in the classroom context if these problems are not treated or accommodated for. For example, the learners would be at risk of missing important information explained verbally by the teacher.

  Visual status – Eye and visual problems are common in children with Down Syndrome. These problems include hypermetropia[2], myopia[3], cross-eyes[4], astigmatism[5], nystagmus[6], cataracts[7] and keratoconus[8] (Newton, 2004; Selikowitz, 1997). The current study did not exclude children who were known to have visual problems and/or were wearing spectacles or other assistive devices. In instances whereby learners present with eye and visual problems, which are not treated and accommodations are not made such as the provision of enlarged print, their academic functioning might be compromised, for example, they might not be able to view print on the blackboard in the classroom.

  Motor abilities – Newton (2004) reports that one of the main characteristics of Down Syndrome is hypotonia (poor muscle tone). Miller, Leddy, and Leavitt (1999a) explain that motor impairments of children with Down Syndrome vary; a number of children

[2] Hypermetropia – long-sightedness.
[3] Myopia – short-sightedness.
[4] Cross-eyes – squint.
[5] Astigmatism – irregular lens, causing focusing problems in different planes.
[6] Nystagmus – the eyes jerk to and fro at a quick rate when looking at an object.
[7] Cataracts – clouding of the lens.
[8] Keratoconus – cornea assumes a conical shape.

function at age level, while others demonstrate significant motor limitations which delay the onset of motor milestones such as walking. With regard to academic functioning, learners with hypotonia might have difficulty sitting still by their desk for the duration of an entire lesson at school. Furthermore, according to Turner and Alborz (2003) it is possible that writing skills would be affected in individuals with Down Syndrome due to the fine motor control movements necessary for writing. The researcher took into account the motor demands of the speech-language assessment and the audiological screening relative to the child's motor abilities. The assessment tasks requiring motor responses were modified in order to meet the child's motor capabilities.

Neurological conditions – Seizures occur in 5–10% of individuals with Down Syndrome; furthermore, estimations exist that 7–10% of children with Down Syndrome may also match the diagnosis of one of the autism spectrum disorders (Leshin, 2002), which could impact on their learning abilities and academic functioning. The presence of these types of neurological impairments and/or other disabilities did not act as exclusionary criteria for the children with Down Syndrome.

Consistency of responding – Children with Down Syndrome are known to demonstrate lack of consistency in responding during assessment tasks. This variability is associated with rapid shift in attention and motivation (Miller, Leddy & Leavitt, 1999a). The assessment tasks were modified in order to account for this variability by varying the tasks, providing the children with frequent breaks, and various reinforcements strategies were used.

Memory – Chapman (1997) and Marcell and Weeks (1988) document verbal short-term memory impairments in individuals with Down Syndrome. These impairments have significant implications for assessment of language comprehension and production, especially when standardized procedures are utilized that require children to process specific stimuli and remember it long enough to provide appropriate responses (Miller, Leddy & Leavitt, 1999a). The influence of memory was considered and documented when interpreting the children's performance.

The last two factors have an influence on the learning abilities of children with Down Syndrome and consequently might affect their academic functioning at school if the necessary adaptations in teaching methods are not made.

2) Parents

- The participants were required to be the primary caregiver[9] of the participating child with Down Syndrome, as the researcher believed that they would be able to provide the most appropriate and adequate information for the purposes of the study.
- Participating parents were required to be proficient in either Afrikaans or English in order to reduce the misinterpretation of the questions on the parent questionnaire and parent interview, which were carried out in either Afrikaans or English, depending on the participants' preference.

3) Educators

- School teachers and teaching assistants were required to have been teaching the child with Down Syndrome in an ordinary public school at the time of data collection and have known the child for at least 3 to 6 months. This stipulated time frame was selected as the researcher felt that it was adequate time for the educators to gain knowledge regarding the inclusion of the participating child with Down Syndrome into the ordinary public school.
- Participating school teachers and teaching assistants were required to be competent in either Afrikaans or English in order to prevent misunderstanding of the questions on the teacher interview, teaching assistant interview and educator rating scale, which were administered in either Afrikaans or English, depending on the participants' preference.

5.3.3) Participant selection procedure

1) Prior to recruiting participants for the study, approvals to conduct the research were granted from the following sources:

- University of the Witwatersrand, Johannesburg Human Research Ethics Committee (Non-Medical): An application was submitted for ethical clearance of research involving human

[9] Primary caregiver – refers to the person who was most involved with the participating child's inclusive education, involved in raising the child and with whom the child spent most of his/her time.

participants. This application was approved unconditionally and Clearance Certificate Protocol Number H040710 was issued (Appendix 1).

- Gauteng Department of Education: An application was presented to the Office of the Senior Manager – Strategic Policy Research and Development in order to conduct the research at public schools in Gauteng. This application was approved (Appendix 2). In addition, the relevant Gauteng Department of Education District Offices were given information sheets (Appendix 4) and approvals from them were granted.

2) Once the above approvals were obtained, participants were recruited through the Down Syndrome Association Gauteng. The researcher provided the Association with an information sheet (Appendix 4), outlining the request to recruit participants. Parents of children with Down Syndrome in ordinary public schools were approached by the Association and names of those parents who consented to being contacted by the researcher, were given to her. A letter of approval from the Down Syndrome Association Gauteng to recruit participants is found in Appendix 3.

3) Parents identified in this manner, were contacted telephonically by the researcher. At this time the researcher explained the purpose and procedures of the study and obtained preliminary consent from the parents. During this telephonic contact a preliminary questionnaire was conducted with the parents in order to confirm and verify the selection criteria for them and for their children with Down Syndrome who would participate in the research. Prior to the start of the study, parents were given a written information sheet (Appendix 4), a written consent form for their and their child's participation in the study (Appendix 4) and a written consent form for audio recording purposes of the parent interview and their child's speech-language assessment (Appendix 4).

4) With the parents' consent, principals of the relevant schools, where the participating children with Down Syndrome were attending, were contacted and given information letters (Appendix 4). In addition, the school governing bodies of these schools were provided with an information letter (Appendix 4). The school principals were also asked to provide written informed consent for the study to be conducted at their school (Appendix 4) and written consent to audio record the teachers and teaching assistants' interviews (Appendix 4).

5) School teachers of the participating children with Down Syndrome and the teaching assistant of one of these participating children were approached and their selection criteria for participation in the study were confirmed. They were also given information letters (Appendix 4) and were asked to provide written informed consent prior to the data collection phase regarding their participation in the study (Appendix 4) and written consent to audio record their interviews (Appendix 4).

6) Participating children with Down Syndrome were asked to provide written assent on each day of observation or testing for participation purposes in the study (Appendix 4). The relevant section of the assent form was read and explained to the child for either the day of observation or testing in order to prevent confusion. The participating children were also asked to provide written assent for audio recording purposes of the speech-language assessment (Appendix 4).

Ethical considerations

The purpose, aims, procedures and significance of the research study were described in the information sheets. In addition, the voluntary nature of participation and confidentiality were included. These ethical principles, which underlie the informed consent of participants, are in line with those described by Rossman and Rallis (2003) who emphasize the importance of promising and delivering confidentiality to participants when performing qualitative research. A critical aspect to the ethical conduct of research is obtaining the informed consent of potential participants (Rossman & Rallis, 2003). In accordance with this fact, the potential participants were required to sign consent/assent forms for confirmation of their understanding of the issues outlined in the information sheets and for participation in the study. As recommended by Rossman and Rallis (2003), the child assent forms were translated into Afrikaans for those participants whose first language was Afrikaans. All other information sheets and consent forms for participating adults were in English, as those participants whose first language was Afrikaans had sufficient comprehension of the English language to understand and complete these forms and opportunities for queries were provided.

Furthermore, participating parents were given written reports and feedback regarding their participating child's speech-language assessment and audiological screening results and appropriate recommendations and referrals were made. On completion of the data collection

procedures, the participating parents, school teachers, teaching assistant and school principals were provided with a literature handout (Alton, 1998) regarding general strategies which might be used to enhance the overall functioning and inclusive education of a child with Down Syndrome.

5.3.4) Description of participants

1) Children with Down Syndrome

A total of three children with Down Syndrome who were attending ordinary public primary schools at the time of the study in Gauteng Province, South Africa participated in the research. Demographic information regarding these participants is found in Table 1. As outlined in Table 1, the participants' age range covered 8 to 12 years of age. The participating children were in Grades 1, 3 and 4. With regard to gender, two males and one female participated in this research study. Two of the participating children's home language was Afrikaans, which was also the medium of instruction at the ordinary public schools which they attended (P1 and P2). English was the home language and medium of instruction of one child (P3) in the study. Further descriptions and case history factors regarding the participating children with Down Syndrome are set out and discussed in Chapter 6.

Table 1: Demographic information: Participating children with Down Syndrome

Demographic Factor	Participant 1 (P1)	Participant 2 (P2)	Participant 3 (P3)
Age	12 years	10 years	8 years
Gender	Male	Male	Female
Grade	4	3	1
Home Language and Medium of Instruction of School	Afrikaans	Afrikaans	English

2) Parents of participating children with Down Syndrome

Table 2 illustrates the pertinent demographic details of the parents of the participating children with Down Syndrome. The mothers of each of the participating children constituted the sample of parents in the research in accordance with the selection criterion requiring the participants to be primary caregivers of the child. A further reason for excluding the children's fathers was due to time feasibility and practicality issues. The lack of paternal input in the current research, which also precluded comparisons with the mothers' responses, is one of its limitations and subsequent recommendations for future research in the area of inclusive education of children with Down Syndrome.

As shown in Table 2 the maternal age of conception ranged between 28 and 32 years of age. This factor is reflected by Selikowitz (1997) who reports that two-thirds of all children with Down Syndrome are born to women under 35 years of age. In the current study the age range of the fathers of the participating children with Down Syndrome at the time of conception was 28 to 32 years old. However, Marshall (2004) documents that older men (men in midlife or older) may have an increased possibility of having a child with Down Syndrome.

Table 2: Demographic information: Parents of participating children with Down Syndrome

Demographic Factor	Participant 1 (P1)		Participant 2 (P2)		Participant 3 (P3)	
	Mother	**Father**	**Mother**	**Father**	**Mother**	**Father**
Age	40 years	40 years	42 years	38 years	41 years	41 years
Age at Conception	28 years	28 years	31 years	28 years	32 years	32 years
Home Language	Afrikaans	Afrikaans	Afrikaans	Afrikaans	English	English
Highest Educational Level	Tertiary: Bachelor of Sciences, Diploma in Higher Education, Further Diploma in Education in Maths and Literacy	Tertiary: Diploma in Higher Education, Further Diploma in Education and Management	Tertiary: Nursing Degree	Matric (Secondary)	Matric (Secondary)	Tertiary: Bachelor of Sciences Physiotherapy
Occupation	Teacher	Teacher	Business owner	Financial consultant	Home executive	Physiotherapist
Marital Status	Married		Married		Married	

Demographic information pertaining to the parents of the participating children with Down Syndrome which are important variables to the study include: firstly, both parents of P1 were teachers at his school; secondly, the involvement and work experience of P1 and P2's mothers with the Down Syndrome Association Gauteng and Down Syndrome South Africa; thirdly, all parents of the participating children were well educated, as their highest educational level ranged from matric (secondary) to tertiary level, and that they had white-collar occupations, with P3's father being a physiotherapist; lastly, in terms of family structure all parents of the

participating children were married and the participating children lived with both parents and their siblings. These factors suggest that the participating children were from stable family units and socio-economic backgrounds. Implications of these factors will be discussed in Chapter 6.

3) Educators of participating children with Down Syndrome

School teachers of participating children with Down Syndrome

Demographic information concerning the participating school teachers is set out in Table 3. As is shown in Table 3, the participating school teacher of P1 taught him maths, whereas the participating teachers of P2 and P3 taught them all the academic subjects. P1's school teacher was also the Grade 4 co-ordinator.

Table 3: Demographic information: School teachers of participating children with Down Syndrome

Demographic Factor	School Teacher of Participant 1 (P1)	School Teacher of Participant 2 (P2)	School Teacher of Participant 3 (P3)
Age	38 years	33 years	28 years
Gender	Female	Female	Female
Home Language	Afrikaans	Afrikaans	English
Grade Teaching	4	3	1
Subject/s Taught to the Child with Down Syndrome	Maths	All academic subjects	All academic subjects

Table 4 illustrates information regarding the teaching background of the participating school teachers. The participating school teacher of P3 was familiar with the process and procedures of placing a learner with special educational needs in an ordinary school and had previous knowledge regarding Down Syndrome and inclusive education. This familiarity was due to the fact that a child with Down Syndrome was meant to be placed in her class prior to P3, although this placement did not occur. None of the participating school teachers had previous experience in teaching other learners with Down Syndrome.

Table 4: Teaching background of school teachers of participating children with Down Syndrome

Teaching Background	School Teacher of Participant 1 (P1)	School Teacher of Participant 2 (P2)	School Teacher of Participant 3 (P3)
Highest educational qualification	Diploma in Higher Education Primary, Senior Primary	Diploma in Higher Education	Bachelor of Primary Education, Junior Primary
Length of teaching experience	16 years	11 years	6 years
Length of teaching experience with current grade	Approximately 10 years with Grade 4	8 years with Grade 3	4 years with Grade 1
Length of time teaching the participating child with Down Syndrome	Approximately 4 months	Approximately 4 months	Approximately 5 months
Courses dealing with learners with special educational needs/disabilities as part of basic teaching training	Guidance course, covered some disabilities but not in detail.	Life skills as a subject at college.	None, however completed child development course which briefly covered different disabilities.
Additional training/courses for teaching children with special educational needs after graduating	Attended a two-day course, provided by the Down Syndrome Association, regarding children with Down Syndrome prior to P1's placement in her class.	None	Prior to P3's placement in her class: attended a seminar presented by an international speaker and a one day workshop offered by the Department of Education and the University of Pretoria regarding inclusive education.
Experience in teaching at a school for learners with special educational needs	None	None	As a student for teaching practice worked at a school for the Blind to complete a project.
Experience in teaching other learners with special educational needs in an ordinary school	Learners with hearing problems, visual (eye) problems, general learning difficulties, language barriers.	Learners with learning difficulties who were in the same class as P2.	None

Teaching assistants of participating children with Down Syndrome

Both P2 and P3 had teaching assistants.

- Teaching assistant of P2

P2's teaching assistant was 56 years old and her home languages were both English and Afrikaans. She had a Standard 8 education and was also a trained nursing sister. She had no

formal teaching assistant qualifications and training and had no previous experience of working as a teaching assistant in an ordinary school setting. She was employed by P2's mother and had been his teaching assistant for approximately four months. She had worked at a school for learners with cerebral palsy for eight years, where she received training in her field of work. The teaching assistant had not attended any formal courses and training regarding learners with special educational needs/learners with Down Syndrome. Apart from working as a teaching assistant with P2, she had not had any previous contact or experience with children with Down Syndrome and/or their families in general.

- Teaching assistant of P3

P3's mother was her teaching assistant on a daily part time basis. She had no teaching assistant qualification or background. The dual role of P3's mother as a participant – that of primary caregiver and teaching assistant, was seen as a factor which could limit her objectivity in the teaching assistants' responses. Thus, she was not given the teaching assistant interview and educator rating scale.

5.3.5) Description of participating schools

All three ordinary public primary schools were situated in well resourced, middle to upper class suburbs within urban areas in Gauteng. They were all well furnished and equipped in terms of resources, facilities and extra-mural activities. The average ratio of learners to staff members was approximately 1:25 across all three schools. All three participating children were the only learners with Down Syndrome attending their primary schools respectively. Other learners with special educational needs/disabilities, including hearing problems, partial deafness, visual impairments and physical disability attended the primary schools of P1 and P2, which might be indicative of the participating schools' underlying philosophy, attitude, willingness and acceptance of inclusive education. Appendix 5 provides a more detailed description of the participating primary schools. A description of the classrooms of the participating children with Down Syndrome is found in Appendix 6.

5.3.6) Sampling bias

Various descriptive factors pertaining to the participants and the participating schools contribute to sampling bias, which is considered a limitation of the study. Babbie (2004) explains that sampling bias implies that those participants who are chosen are not typical or representative of the larger population from which they have been selected. This factor

reduces the external validity of the study, which according to Stein and Cutler (1996) is determined by the ability to generalize the results of a study. Accordingly, the nature of this study's sample is not representative of children with Down Syndrome, their parents, educators and ordinary public primary schools in general in Gauteng and in South Africa, which precludes the generalization of the study's findings.

Descriptive factors, mentioned previously, that created sampling bias are summarized as follows: Firstly, the fact that the participating children with Down Syndrome were recruited through the Down Syndrome Association Gauteng, specifically the Tshwane (Pretoria) branch. Secondly, both parents of P1 were teachers at his school. A third factor was the involvement and work experience of P1 and P2's mothers with the Down Syndrome Association Gauteng and Down Syndrome South Africa. In addition, parents of the participating children with Down Syndrome were well educated and held white-collar jobs, particularly P3's father who was a physiotherapist. Furthermore, the implication that all participating children were from stable homes, as they lived with both parents who were married, and were advantaged from a socio-economic aspect. Additionally, P1's school teacher who participated in the study was his maths teacher and the Grade 4 co-ordinator. She was selected for participation in the study on the basis of the choice of P1's mother. This factor created sampling bias, as the participating maths teacher was selected according to preference. A further factor was that P3's mother was her teaching assistant at school. Lastly, all participating ordinary public primary schools were well equipped and furnished and located in well resourced, middle to upper class suburbs within urban areas in Gauteng.

5.4) Research protocol and instrumentations

5.4.1) Research procedures and data collection

The research method of triangulation was used. Triangulation refers to the application of several means for collecting data (Babbie, Mouton, et al., 2001; Sarantakos, 1998; Stein & Cutler, 1996) and evaluating variables (Sarantakos, 1998; Stein & Cutler, 1996). In accordance with this explanation of triangulation, data collection of the current research was achieved by the employment of diverse methods and sources, namely, a parent questionnaire; parent, teacher and teaching assistant interviews; documented reports of the participating children with Down Syndrome; school observations; educator rating scale; a speech-language assessment and audiological screening. Furthermore, Babbie, Mouton, et al. (2001) mention that triangulation also involves presenting diverse questions, which were provided in the

current study's instruments. Within qualitative research, triangulation is commonly believed to be one of the best techniques to improve the validity and reliability of the study (Babbie, Mouton, et al., 2001) and it also strengthens the credibility and rigorousness of the study (Rossman & Rallis, 2003).

In view of the fact that the research employed a case study design, a range of perspectives arising from various data collection methods and accounts (Lewis, 2003) – namely the participating children with Down Syndrome, participating parents, professionals, participating schools, participating school teachers and teaching assistant – formed part of the data collection process, which according to Lewis (2003) is the main distinguishing characteristic of a case study. This combination of diverse perspectives was employed for the current research as Lewis (2003) explains that this approach is used when interpretation of the field of research has to be holistic, detailed and in context. This interpretation contributes to the comprehensive in-depth knowledge of the research area being investigated (Lewis, 2003), which in this research is inclusive education of primary school aged children with Down Syndrome in Gauteng.

1) <u>Pilot study</u>

According to Sarantakos (1998) a pilot study enables the researcher to examine the effectiveness of the research design and other factors regarding data collection. Consequently, for the current research, prior to carrying out the data collection with the three participating case studies of the main research, a pilot study was performed. The objective of the pilot study was to determine the suitability of the research instrumentations and procedures for the main study. Based on the pilot study's outcomes and recommendations the necessary revisions and adjustments were completed.

Due to the unavailability of suitable participants for the pilot study – child with Down Syndrome, his/her parent/s and school teacher/s in Gauteng, the participant selection criteria of the main study could not be met for the pilot study and its procedures were split up and were not carried out as a single case study. These factors did not impact on the aims of the pilot study, although they are limitations of the current research. It was believed that one child was sufficient for the pilot because the sample size of the main study was small. Participant selection procedure for the pilot was similar to the main study. A pilot checklist (Appendix 14) was devised in order to determine the appropriateness of the research tools. A description

of the outcomes of the pilot study including the necessary corrections and modifications of the research instrumentations and procedures follows.

The child with Down Syndrome who participated in the pilot study was 10 years old and in Grade 4. For purposes of the pilot study his mother completed the parent questionnaire and parent interview. In addition, the child's previous reports were reviewed and analysed. These procedures and tools were found to be suitable for the main study, thus no corrections were made. Furthermore, areas covered in the speech-language assessment and audiological screening were found to be appropriate for the main study. The teacher interview schedule was adapted by adding further questions to the 'Teacher Preparation' section of the interview. These questions were related to the challenges, if any, faced by the educators in terms of teaching the learner with Down Syndrome in the ordinary classroom and how the educators manage to overcome them. A description and responses of the pilot teacher are found in Appendix 15 as valuable insights were obtained from her. The teaching assistant interview was not piloted, as its content and structure of questions are similar to the teacher interview. The educator rating scale completed by the pilot teacher was found to be suitable for the research and consequently it required no adjustments.

In order to pilot the observation checklist observations were carried out at an ordinary public primary school in Gauteng, where the medium of instruction was English. The classroom observations were conducted in a Grade 3 classroom of approximately 30 learners. Based on the pilot observations the following adjustments were made to the checklist. Firstly, in order to place the observations in context, the researcher felt that a detailed description of the observed activity was necessary, therefore this item was added to the section regarding the nature of the activity for each observation per context. Secondly, the format of the checklist in terms of the order of the questions was reorganized into initial questions to be answered, thereafter optional questions to be completed depending on the appropriateness of the classroom activity/task and context.

2) <u>Procedures of data collection and research instrumentations</u>

Due to practicality issues, the order of presentation of the research procedures could not be standardized across all three case studies. Data was collected between March and July 2005. The research instruments were designed to yield data in order to cover the main aim and sub-aims of the study. Since a comprehensive literature examination revealed a lack of appropriate

existing instruments, which would fulfil the particular needs and aims of the study, original parent, teacher and teaching assistant interview schedules, observation checklist and educator rating scale were designed by the researcher.

- Types of questions

While the parent questionnaire, parent interview schedule and observation checklist comprised of a combination of closed and open-ended questions, with most of the questions being open-ended, both the teacher and teaching assistant interview schedules consisted only of open-ended questions. The choice of using more open-ended questions for the research instruments is in line with the explanation given by Sarantakos (1998), that open-ended questions enable respondents to convey feelings and thoughts freely, specifically when complex areas are being examined. On the other hand, closed-ended response formats provide clarity for the respondents in terms of response options and they lower the amount of ambiguous responses (Fife-Schaw, 2003). All interview schedules included follow-up questions for clarification purposes. The observation checklist incorporated optional questions which were completed depending on the context and/or appropriateness of the classroom activity/task.

Content areas included in each instrument are summarized in Table 5 on page 69, which also highlights how triangulation of data occurred. Rationale for including these areas follows Table 5. The outline and timeframe of procedures and instruments employed for data collection was as follows:

1) Parent questionnaire

Each participating parent completed a questionnaire, individually and independently in the absence of the researcher, regarding his/her participating child's case history and background information (Appendix 7). The parent questionnaire took approximately an hour to complete. A questionnaire was used as according to Sarantakos (1998) it may be filled out at the participant's convenience. Furthermore, it minimizes bias or errors which may occur in the interview situation due to the presence or attitudes of the interviewer. Despite these advantages, Sarantakos (1998) mentions that when a questionnaire is used the researcher is unable to explore, encourage and simplify questions and participants may not complete all of the questions and/or may provide partial answers. These limitations were taken into account and minimized for the current study, as the researcher provided follow-up opportunities for

providing explanations of any unclear questions and for probing participants' responses prior to conducting the parent interviews.

The researcher used the *Paediatric Case History Form* from the University of the Witwatersrand, Department of Speech Pathology and Audiology, Speech and Hearing Clinic as a guideline in constructing the parent questionnaire. The parent questionnaire of the current research consisted of a number of items and questions which were adapted and modified from this *Paediatric Case History Form* and of other items and questions which the researcher constructed in order to meet the specific requirements of the study. The questionnaire included an introductory cover sheet addressed to the participating parents, which included information regarding the purpose and usage of the questionnaire, the aim of the research, assurance of confidentiality, the researcher's contact details for possible queries which might arise and a proposed date of collection of the questionnaire. Sections found in the questionnaire not covered in Table 5, which illustrates content areas covered in the research instrumentations, include: child's previous assessments and types of therapies received, early history details, child's medical history, family structure, schooling and child's personality. These areas were included in the questionnaire, since it was constructed for the purpose of acquiring background and descriptive information regarding each of the participating children for documenting the case studies.

2) <u>Parent interview</u>

Personal face-to-face structured interviews were conducted with each participating parent separately with regard to their participating child's communication abilities and functioning in the inclusive school context and their attitudes, perceptions and experiences concerning inclusive education (Appendix 8). Interviews took place at participating parents' homes and lasted approximately 2 hours.

Face-to-face interviews are considered as an advantageous means of data collection since the interviewer may establish rapport with the respondent (Berg, 1995) and the interviewer is able to probe, explore and ask respondents for additional explanations if necessary (Berg, 1995; Bernard, 2000). Nevertheless, weaknesses exist with face-to-face interviews, including the interviewer's perceived characteristics by the respondents, for example, age, gender, ethnicity and social class. As a result of these perceptions, response bias may occur (Hall & Hall, 1996), which is viewed as a limitation of the current study, since issues relating to the validity

and reliability of the data obtained from the interviews may be raised. However, the reliability and validity of the data obtained from the interviews conducted with all three participating parents, P1 and P3's teachers and the teaching assistant was enhanced with regard to controlling researcher effects (such as gender, age and ethnic group) by following Breakwell's (2003) guidelines that the same interviewer carry out all these interviews. A further concern is that personal interviews are time consuming (Bernard, 2000; Hall & Hall, 1996) and involve the complete attention of the interviewer (Hall & Hall, 1996). Despite these facts, the researcher utilized face-to-face interviews, as it was believed that they would provide the detailed descriptive qualitative data required for the purposes of documenting the case studies of the current research.

3) Review and analysis of previous reports

Participating children's previous assessment and progress reports of other professionals and school reports were reviewed and analysed in order to acquire a richer understanding of the case studies and to gain insight into the participating children's academic functioning in the ordinary public school. Although this form of data collection is time-consuming and necessary information from records may be absent (Drummond, 1996), it was still used for the current study due to the following factors: data in records may exist over a number of years and therefore a general and holistic perspective may be attained on each participant. Furthermore, information may be obtainable from various sources, thus a multidisciplinary perspective regarding the participants can be attained (Drummond, 1996).

4) School observations

Separate direct observations of each of the participating children were conducted using a checklist (Appendix 9) and field notes covering the participating child's experiences of inclusive education and functioning in the ordinary school context. The observations were performed in three different contexts during school time: structured classroom activity, unstructured classroom activity and on the playground during break time. Each observation per context lasted approximately 30 minutes to an hour. Although Payne and Payne (2004) explain that the behaviour of individuals is too intricate to record through observations, the researcher chose this form of data collection, as Thomas (2003) mentions that direct observations have the advantage of furnishing data from situations which are spontaneous, unplanned and unpredictable. Furthermore, during observations the researcher is able to view and record participants' behaviour such as body language and emotions. Additionally, by

being present in the situation, the researcher is better able to understand the complexities of the social settings (Rossman & Rallis, 2003).

As recommended by Rossman and Rallis (2003) the data obtained from the observations of the current research were recorded by means of a checklist and field notes. Sarantakos (1998) explains that writing down information as a method of recording data during observations may distract the observer from the situation being observed. This form of distraction is a limitation of the current study, which was minimized by having an additional observer present during the observations of P1 and P2. The advantage of using the checklist during the observations is that as Rossman and Rallis (2003) explain, it provides details, structure and guidance. Written field notes enable the researcher to systematically record his/her impressions, understandings, perceptions and emanating hypotheses. The researcher used guidelines offered by Rossman and Rallis (2003) with regard to writing field notes. They suggest that the procedure of field notes comprises of firstly, the running record, which is the descriptive data of the observation and secondly, the observer comments, which include comments and analytic interpretations of the data (Rossman & Rallis, 2003).

The front page of the observation checklist included demographic information of the participating children. On the checklist each of the three observation contexts consisted of an introductory section locating the observation in terms of date and time, venue, subject/class – for the classroom observations, nature and description of the activity. These details were included as they were viewed as paramount factors affecting the data obtained from the observations and in terms of understanding the context and setting of the observations. The checklist consisted of a final section labelled 'Questions for the Teacher' regarding the representivity and typicality of the participating child's functioning and behaviour during the observations. In addition, in this section, the checklist for the two classroom observations included a question pertaining to the content and structure of the lessons. This concluding section was incorporated in the checklist in order to strengthen the reliability and validity of the data obtained during the once off observations.

5) <u>Teacher and teaching assistant interviews</u>

Personal face-to-face structured individual interviews were carried out with each participating child's school teacher (Appendix 10) and P2's teaching assistant (Appendix 10) regarding their perceptions, attitudes and experiences of inclusive education and the participating child's

functioning in the inclusive school context. The interviews were carried out at the respective schools where the educators taught without disrupting the school day and teaching responsibilities and extended over approximately 2 hours.

6) Educator rating scale

Rating scales were completed by the participating children's school teachers and P2's teaching assistant (Appendix 11). The purpose of the rating scale was to provide information concerning the participating child's communication abilities and classroom functioning in the inclusive school context. The rating scales took approximately 30 minutes to an hour to fill out. The teachers and teaching assistant completed the scale individually and in their own time without disturbing the school day and their teaching responsibilities. Since P1 had seven different teachers, his maths school teacher who participated in the study filled out the rating scale by consulting with his other school teachers. While rating scales are time-consuming and difficult to formulate (Sarantakos, 1998) this form of data collection was chosen as one of the instruments of the current research since they are powerful means of collecting data (Bernard, 2000) that enable researchers to evaluate complex matters and compare between sets of data (Sarantakos, 1998). They also assist in making data collection and analysis easier (Sarantakos, 1998).

The types of rating scales included were selected according to the descriptions offered by Stein and Cutler (1996). Section A of the educator rating scale constituted a numerical scale in which according to Stein and Cutler (1996) ratings are displayed along a continuum. Section A of the rating scale included the following ratings: 1 = excellent, 2 = good, 3 = adequate, 4 = fair and 5 = poor. Section B consisted of a descriptive scale with the option of selecting the ratings of YES or NO. Stein and Cutler (1996) explain that within a descriptive scale a phrase from a given list is selected. In both sections A and B of the educator rating scale, participants were given the option to add comments in an open-ended fashion in spaces provided after each item and at the end of each section. In addition, section C of the rating scale included open-ended questions. The open-ended questions and comments were included due to their inherent advantage over closed-ended questions (Sarantakos, 1998). Similar to the parent questionnaire, the educator rating scale included an introductory cover sheet addressed to the participating educators, which included information regarding the purpose and usage of the rating scale, the aim of the research, assurance of confidentiality, the researcher's contact

details for possible queries which might arise and a proposed date of collection of the rating scale.

Table 5: Content areas covered in research instrumentations showing triangulation

AREA	**Parents**		**Educators**			**Observation Checklist**		
	PQ	**PI**	**TI**	**TAI**	**ERS**	**I**	**II**	**III**
Demographic information	+		+	+		+		+
School description			+					+
Classroom description			+			+	+	
Teaching/teaching assistant background			+	+				
Teacher/teaching assistant preparation			+	+				
Child's communication abilities:	+	+	+	+	+	+	+	+
• Speech	+	+	+	+	+	+	+	+
• Language	+	+	+	+	+	+	+	+
• Hearing and listening	+	+			+			
• Additional comments		+			+			
Child's functioning in the inclusive school context:	+	+	+	+	+	+	+	+
• Communication abilities including speech and language	+	+	+	+	+	+	+	+
• Curriculum and learning styles			+	+	+	+	+	
• Teacher information including teacher-child interaction and adapted techniques/strategies						+	+	
• Academic abilities		+	+	+	+	+	+	
• Socialization	+	+	+	+		+	+	+
Attitudes, perceptions and experiences regarding inclusive education		+	+	+		+	+	
Additional information/comments	+	+	+	+	+	+	+	+

+ Indicates the area measured by the research instrumentation.

Abbreviations found in Table 5

PQ = Parent Questionnaire
PI = Parent Interview
TI = Teacher Interview
TAI = Teaching Assistant Interview
ERS = Educator Rating Scale
Observation Checklist: I = Classroom Observation: Structured Classroom Activity
II = Classroom Observation: Unstructured Classroom Activity
III = Playground/Break Time Observation

- Rationale for including the areas from Table 5 in the research instrumentations

Demographic information and teaching/teaching assistant background

Questions covering descriptive information regarding the participating children, parents, teachers and teaching assistant such as age, gender, home language, children's grade, parents' occupation and educational level were included in this section. Furthermore, with regard to participating educators, factors pertaining to educational qualification, training, general and specific teaching experience with the participating child with Down Syndrome and previous exposure to children with Down Syndrome and/or their families were ascertained. This information was viewed as important in terms of describing the participants in the research within a case study manner and analysing the data.

School and classroom description

For purposes of understanding and describing the context of the situation of the case studies of the participating children with Down Syndrome attending ordinary public schools in Gauteng, descriptive information regarding the participating schools and the classrooms where the participating children were attending was incorporated in the study. This data was also essential during data analysis of the research. In order to describe the schools and classrooms aspects such as medium of instruction, number of learners and staff members, resources and facilities, presence of other learners with special educational needs and teaching assistants were elicited.

Teacher/teaching assistant preparation

Teachers' preparations to offer quality inclusive education to learners with disabilities affect inclusion into ordinary schools (Engelbrecht, Forlin, Eloff & Swart, 2001). Therefore, in the current study, the participating teachers and teaching assistant were asked questions related to their preparation of teaching/working with the participating child. Such questions included their feelings and challenges, if any, of teaching the participating child and their knowledge of Down Syndrome.

Child's communication abilities

As discussed in Chapter 4 communication impairments, including speech, language, auditory memory/verbal short-term memory, hearing and listening difficulties, associated with individuals with Down Syndrome have been widely documented in the literature (Fowler, 1990; Fowler, 1995; Gerber, 1990; Jarrold, Baddeley & Phillips, 2002; Kumin, 2003; Kumin,

2004; Laws, Byrne & Buckley, 2000; Miller, Leddy & Leavitt, 1999a, 1999b; Rondal, 1995). According to Kumin (2004) communication has a central role within the school context and influences learners' classroom, academic and social functioning, thus it was viewed as paramount to include these communication areas for the purpose of this study. Further reasons for including these factors are due to the heterogeneity of children with Down Syndrome and the individuality of each child in terms of his/her own abilities (Kumin, 2004; Selikowitz, 1997).

Child's functioning in the inclusive school context

Buckley and Bird (2002) state that inclusive education for children with Down Syndrome is important in order for them to achieve best progress, particularly within speech, language and literacy development and also within the domains of social development and confidence. In addition, Lorenz (1999) points out the academic benefits for children with Down Syndrome from attending inclusive education settings. Consequently, these areas of functioning were included in the instrumentations of the current research. As Giorcelli (2002) emphasizes the critical importance of differentiating the delivery of the curriculum and providing reasonable accommodations to individuals with Down Syndrome in inclusive school contexts, the instruments of the current study included items related to curriculum issues and teaching factors such as teacher-child interaction and adapted techniques/strategies. Linked to these issues are the learning styles of individuals with Down Syndrome, which were also incorporated in the research instruments.

Attitudes, perceptions and experiences regarding inclusive education

"Since teachers are the people who make learning possible, their own attitudes, beliefs and feelings with regard to what is happening in the school and in the classroom are of crucial importance" (Lomofsky, Roberts & Mvambi, 2004, p. 70). Therefore, participating educators – teachers and the teaching assistant – were asked questions regarding their attitudes, perceptions and experiences concerning inclusive education and inclusion of the participating children with Down Syndrome into the ordinary schools. Similarly, participating parents were asked questions regarding their attitudes, perceptions and experiences regarding inclusive education and inclusion of their child into the ordinary school. Parents' views and opinions are central and imperative to the field of inclusive education of children with Down Syndrome since "parents *live the experience* of their child's disability in ways that many professionals cannot know despite all good intentions otherwise" (Ware, 1999, p. 64).

Additional information/comments

Each of the research instruments used in the current research incorporated a section for additional information/comments in order to ascertain any extra details, beliefs and viewpoints which were not covered in the questions and items presented. This section was included in accordance with the justification provided by Singleton, Straits, and Straits (1993), who state that it is essential and valuable to offer participants the option to convey feelings or views which might not have been included.

7) Speech-language assessment and audiological screening

Individual speech-language assessments including audiological screenings were completed for each participating child. The assessments and screenings were completed in order to provide rich descriptive information regarding the participating children within a case study design manner and for triangulation purposes of the data. The assessments and screenings were covered within one session of approximately 3 hours duration per participating child. The venue of the assessment and screening was dependent on the preference of the participating child's parent. P1's assessment and screening took place at his school after school hours, whereas the assessments and screenings of P2 and P3 were carried out at their homes. The speech-language assessment domains used were in accordance with the language components described by Bloom and Lahey (1978) in Owens (2001) which include form, content and use. Owens (2001) explains that form encompasses syntax, morphology and phonology; content includes meaning or semantics; and use is known as pragmatics. Each of the areas within the domains of form and content were assessed both receptively and expressively. A further area included in the assessment was auditory memory.

The speech-language assessment was carried out on the basis of a test battery approach in order to include standardized tests as well as qualitative measures and to ensure reliability of measurements across all participants. In order to enhance the reliability of the assessment procedures, the order of administration of the areas assessed was identical for all the participants and the standardized tests were administered in accordance with the test manuals. Two separate but equivalent assessment batteries were devised, one for the English speaking participant (Table 6) and the other for the Afrikaans speaking participants (Table 7). The speech-language assessment batteries were selected according to the following factors:

- The participating children's home language, communicative abilities and academic skills. This information was gained from the data collection procedures prior to conducting the assessments.
- Characteristics associated with Down Syndrome, such as hearing and visual status, motor abilities, neurological conditions, consistency of responding, attention, motivation and memory (Chapman, 1997; Leshin, 2002; Marcell & Weeks, 1988; Miller, Leddy & Leavitt, 1999a; Newton, 2004; Selikowitz, 1997). These characteristics were taken into account since Miller, Leddy, and Leavitt (1999a) emphasize that formulating a testing protocol entails consideration of the levels of skills and abilities which the individual is expected to bring to the task.

The assessment battery included an oral sensory motor evaluation for all participating children:

- Oral Sensory Motor Evaluation (OSME)

The following checklists were used to conduct the Oral Sensory Motor Evaluation:

- Oral Sensory Motor Evaluation (OSME) Checklist (Bowker, 2003). Examples of areas covered in this checklist include the structure, function and speech function of the lips, mandible, maxilla, teeth, tongue, palate – velopharynx, respiration, coordinated speech movements, prosody and voice.

- The researcher designed an Oral Sensory Motor Evaluation (OSME) Checklist (Appendix 13), which covers items that are specifically characteristic to Down Syndrome in accordance with the literature (Kumin, 2003; Kumin, 2004; Marshall, 2004; Newton, 2004; Selikowitz, 1997; Shprintzen, 2000). Such items are related to features of the individual's head, face, eyes, nose and ears.

Diadochokinetic syllable rates were assessed for P3 using the Diadochokinetic Syllable Rates Worksheet (Shipley & McAfee, 1992) which is based on norms from Fletcher (1972, 1978) in Shipley and McAfee (1992).

Table 6: English speech-language assessment battery

Areas	Assessment Tools
1. FORM	
Morphology: R	• Grammatical Morphemes subtest: TACL-3. • Verbal Comprehension Scale A: Reynell.
Morphology: E	• Word Structure subtest: CELF-R. • Expressive Language Scale: Structure section: Reynell.
Phonology: R: Phonological Awareness	• Auditory Word Discrimination subtest: TAPS. • Auditory Analysis, Auditory Synthesis and Auditory Closure subtests: Pendulum.
Phonology: E: Articulation and Phonological Processes	• Articulation Assessment (English Phonetic Inventory). • Assessing Intelligibility Worksheet (Shipley & McAfee, 1992) – spontaneous speech-language sample and narrative discourse.
Syntax: R	• Elaborated Phrases and Sentences subtest: TACL-3. • Verbal Comprehension Scale A: Reynell.
Syntax: E	• Formulated Sentences subset: CELF-R. • Expressive Language Scale: Structure and Content sections: Reynell. • Length of utterances (average number of words per utterance): Assessing Intelligibility Worksheet (Shipley & McAfee, 1992) – spontaneous speech-language sample and narrative discourse.
2. CONTENT	
Semantics: R: Vocabulary	• BPVS-II. • Vocabulary subtest: TACL-3. • Verbal Comprehension Scale A: Reynell.
Semantics: E: Vocabulary	• EOWPVT. • Expressive Language Scale: Structure and Vocabulary sections: Reynell.
Semantics: R: Concepts	• Linguistic Concepts subtest: CELF-R. • Verbal Comprehension Scale A: Reynell.
Semantics: E: Concepts	• Word Associations subtest: CELF-R.
3. USE	
Pragmatics	• Pragmatic Protocol (Prutting & Kirchner, 1987).
Narrative Discourse	• Story: picture sequence cards and single picture. Narrative was analysed according to methods suggested by Owens (2004).
4. AUDITORY PROCESSING	
Auditory Memory	• Auditory Number Memory: Digits Forward, Auditory Word Memory, Auditory Sentence Memory subtests: TAPS. • Auditory Story Memory subtest: Pendulum.

Abbreviations from Table 6

- R = Receptive; E = Expressive
- TACL-3 = Test for Auditory Comprehension of Language, Third Edition (Carrow-Woolfolk, 1999).
- Reynell = Reynell Developmental Language Scales, Second Revision (Reynell & Huntley, 1987).
- CELF-R = Clinical Evaluation of Language Fundamentals-Revised (Semel, Wiig & Secord, 1987).
- TAPS = Test of Auditory-Perceptual Skills (Gardner, 1985).
- Pendulum = Pendulum Test For Auditory Perception.
- BPVS-II = The British Picture Vocabulary Scale Second Edition (Dunn & Dunn, 1997).
- EOWPVT = Expressive One-Word Picture Vocabulary Test (Gardner, 1979).

Table 7: Afrikaans speech-language assessment battery

1. FORM	
Areas	**Assessment Tools**
Morphology: R	• Verbal Comprehension Scale A: Reynell: translation into Afrikaans.
Phonology: R: Phonological Awareness	• Ouditiewe Diskriminasie (Auditory Discrimination); Ouditiewe Analise (Auditory Analysis); Ouditiewe Sintese (Auditory Synthesis); Ouditiewe Sluiting (Auditory Closure) subtests: Pendulum.
Phonology: E: Articulation and Phonological Processes	• Articulation Assessment: Afrikaanse Artikulasie-Ondersoek (Afrikaans Phonetic Inventory). • Assessing Intelligibility Worksheet (Shipley & McAfee, 1992) – spontaneous speech-language sample and narrative discourse to assess intelligibility.
Syntax: R	• Verbal Comprehension Scale A: Reynell: translation into Afrikaans.
Syntax: E	• Length of utterances (average number of words per utterance): Assessing Intelligibility Worksheet (Shipley & McAfee, 1992) – spontaneous speech-language sample and narrative discourse.
2. CONTENT	
Areas	**Assessment Tools**
Semantics: R	• Insluiting en uitsluiting (Inclusion and exclusion); Temporaal opeenvolgende relasies (Temporal sequential relations); Passiewe relasies (Passive relations); Idiome, metafore en spreekwoorde (Idioms); Humor (Humour); Verbale absurditeite (Verbal absurdities); Vergelykende relasies (Comparative relations); Reseptiewe woordeskat (Receptive vocabulary); Gesins- en familierelasies (Familial relationships); Meerduidige woordbetekenisse (Homonyms); Voornaamwoorde (Pronouns) subtests: AST. • Verbal Comprehension Scale A: Reynell: translation into Afrikaans.
Semantics: E	• Woorddefinisies (Word Definitions); Vergelykings (Comparisons); Sinoniemrelasies (Synonyms); Digotomierelasies (Opposites); Konsepvorming (Concepts); Ruimtelike relasies en voorsetselgroepe (Spatial relationships and prepositional groups) subtests: AST. • Ouditiewe Assosiasie (Auditory Association) subtest: Pendulum.
3. USE	
Areas	**Assessment Tools**
Pragmatics	• Pragmatic Protocol (Prutting & Kirchner, 1987).
Narrative Discourse	• Story: picture sequence cards and single picture. Narrative was analysed according to methods suggested by Owens (2004).
4. AUDITORY PROCESSING	
Areas	**Assessment Tools**
Auditory Memory	• Ouditiewe Geheue (Auditory Story Memory); Ouditiewe Opeenvolging (Auditory Sequencing: Letters & Digits) subtests: Pendulum.

Abbreviations from Table 7

- R = Receptive
- E = Expressive
- AST = Die Afrikaanse Semantiese Taalevalueringsmedium (Pretorius, 1989).
- Reynell = Reynell Developmental Language Scales, Second Revision (Reynell & Huntley, 1987).
- Pendulum = Pendulum Ouditiewe Waarnemingsprofiel.

A brief description of the assessment tools from Tables 6 and 7 including their measures of reliability and validity is found in Appendix 12.

In addition, the assessment battery carried out for all participating children included:

- Audiological screening: Hearing and tympanometry screening

Results of the audiological screening of each participant were recorded using the Screening Audiometry Record Sheet – Discipline of Speech and Hearing Therapy, University of the Witwatersrand, Johannesburg. These screenings included bilateral otoscopic examinations, tympanometry testing and pure tone air conduction testing at 20dB and 25dB at the following frequencies: 500Hz, 1000Hz, 2000Hz and 4000Hz. Analyses of tympanometry testing were based on interpretations and norms found in Northern and Downs (1991) and pure tone testing (air conduction) analyses were based on the guidelines for pure tone hearing screening recommended by ASHA (American Speech-Language-Hearing Association) (1985) in Northern and Downs (1991).

- Special equipment used

The following equipment was utilized for data collection purposes:

- Compact Cassette Recorder – Sanyo M-1270C and Sony Cassettes for audio recording the interviews conducted with the participating parents, school teachers and teaching assistant and the speech-language assessments.
- HEINE mini 2000 otoscope to conduct the otoscopic examinations as part of the audiological screenings of the participating children.
- Portable screening tympanometer: GSI 28A AUTO TYMP, Model 1728 in order to screen the participating children's middle ear functioning and the possible presence of middle ear infections and a portable Screening Audiometer: MAICO Diagnostics, Model MA25 in order to screen their hearing. Both these instruments were calibrated for the period of data collection.

- Language factors and special personnel

Since P1 and P2, their participating parents and school teachers spoke Afrikaans as their first language and the medium of instruction at their ordinary schools was Afrikaans the following steps took place:

- *Back translation of research instruments*

Prior to commencement of data collection, the parent questionnaire, parent interview, teacher interview, teaching assistant interview and educator rating scale were back translated as

suggested by Bernard (2000). These instrumentations were translated from their original format in English into Afrikaans by a bilingual Afrikaans and English speaking speech and hearing therapist who is a native speaker of Afrikaans. An additional bilingual English and Afrikaans speaking speech and hearing therapist, who is a native speaker of English, translated these instrumentations from Afrikaans back into English. This back translation of the instrumentations was cross-checked with the original ones and they were identical to each other. This procedure enhanced the validity, accuracy and trustworthiness of these instruments.

- *Language effect during data collection*

The school observations of P1 and P2 were completed by the researcher, who is an English speaking speech and hearing therapist, and a bilingual English and Afrikaans speaking speech and hearing therapist. Wilkinson (2003) explains that observer effect or reactivity, which refers to the fact participants' behaviour might be affected or modified because of them knowing that they are being observed, may threaten the validity of the data. As suggested by Wilkinson (2003) in order to lower reactivity, the researcher of this study and the additional therapist remained as unobtrusive as possible during the observations, for example, by attempting to draw as little attention as possible to themselves and trying to fit in with the surroundings. In addition, reactivity may also create observer bias, whereby the observer's perceptions and interpretations of the situations being observed might be affected, which reduces the reliability of the data (Wilkinson, 2003). Observer bias was minimized by having the additional speech and hearing therapist, who was unaware of all the particulars and aims of the study, present as a second rater during these observations, as recommended by Wilkinson (2003). The researcher explained the content of the observation checklist to the additional therapist prior to the observation. Inter-observer agreement (Wilkinson, 2003) was carried out by conducting reviews, discussions and comparisons of the data obtained with the additional therapist after the observations were completed, which enhanced the reliability and trustworthiness of the observation checklist as a research instrument and of the results.

Based on the preference of P2's school teacher, her interview was administered in Afrikaans by a bilingual English and Afrikaans speaking final year speech and hearing therapy student who was familiar with the process of research. The interview was conducted in the presence of the researcher, under her supervision and guidance, which enhanced the reliability of the study. The final year speech and hearing therapy student provided on line translations of the

responses from Afrikaans to English during the audio-tape recorded interview. This procedure enabled the researcher to ensure that appropriate responses were being provided. Prior to this interview, the researcher explained the content of the interview schedule and the manner of asking the questions to the final year speech and hearing therapy student, which strengthened the study's reliability. P1 and P2's school teachers completed the educator rating scales in Afrikaans. Their responses were translated into English by a bilingual English and Afrikaans speaking speech and hearing therapist.

The speech-language assessments of P1 and P2 were administered and scored by a bilingual English and Afrikaans speaking speech and hearing therapist in the presence of the researcher to increase the reliability of the study. The audiological screenings of P1 and P2 were performed by the researcher with assistance from the bilingual speech and hearing therapist in terms of instructing and conditioning P1 and P2 for the screening purposes. Both the bilingual speech and hearing therapist and the researcher were experienced in conducting child speech-language assessments and audiological screenings. In order to further enhance the reliability of the study, prior to the administration of these Afrikaans assessments and audiological screenings, the assessment battery and order of administration of testing material to be completed was explained to the bilingual therapist. Furthermore, after these assessments and screenings were completed, the test scores and results obtained were also discussed by the researcher and the bilingual therapist. Researcher bias was minimized and the reliability of the speech-language assessment and audiological screening procedure was enhanced by the assistance provided by the additional therapist.

5.5) Data analysis

The data was analysed qualitatively in terms of describing and documenting the results within a case study manner. The recorded parent, teacher and teaching assistant interviews were transcribed. As suggested by Terre Blanche and Kelly (2004) the reliability of the transcriptions was checked by the researcher listening to the audio recordings a second time while reading the transcribed material. Additionally, a second independent rater, who was a speech and hearing therapist, was used for inter-rater reliability purposes of the transcriptions in order to ascertain their accuracy. The second rater transcribed a portion of the recordings independently and these transcriptions were identical to the original ones performed by the researcher.

Once the reliability of the interview transcriptions was established, content analysis was used to analyse the data obtained from these interview transcriptions; parent questionnaires; school observations and educator rating scales. Content analysis was selected as Wilson and Hammond (2003) suggest that the initial phase in managing qualitative data is to devise a classification scheme. Although this process is time-consuming (Wilson & Hammond, 2003), content analysis provides detailed descriptions and enables the researcher to classify data into categories and themes (Dey, 1993) by objectively viewing the contents of responses and describing them in a systematic way (Baker, 1994). In accordance with Berg's (1995) recommendations, an inductive approach, which involves researchers immersing themselves in the data for the purpose of extracting themes or dimensions that appear meaningful to the respondents (Berg, 1995), was utilized during data analysis. Items and questions found in the research tools were structured in a manner which directed the participants' responses. By means of content analysis a classification scheme, categories and themes were extracted from these responses.

As recommended by Wilson and Hammond (2003) in order to determine the reliability of the classification scheme, a second independent rater also classified the data after the researcher set up the classification scheme. The inter-rater reliability was calculated by measuring a percentage of the number of times the raters agreed (Wilson & Hammond, 2003). The following formula was used:

$$\frac{\text{agreements}}{\text{agreements + disagreements}} \times 100$$

The inter-rater reliability of the coding scheme was 90%, which was high. In cases of disagreement between raters, those specific classifications were discussed and determined through consensus.

Information obtained from the participating children's previous assessment and progress reports of other professionals, school reports and outcomes of the speech-language assessments and audiological screenings was used to evaluate patterns and themes among and across the results obtained from all the research instrumentations employed. In this manner the data was triangulated for analysis purposes in order to document the case studies of the research.

Participating children's responses from the recorded speech-language assessments were transcribed orthographically and their errors were transcribed phonetically, where possible, in order to analyse speech intelligibility across their spontaneous speech-language samples and narrative discourse. The children's narrative discourse was also analysed once they were transcribed. In terms of reliability and inter-rater reliability, identical procedures to the interview transcriptions were applied to the speech-language transcriptions. The speech-language transcriptions of the second independent rater, a speech and hearing therapist, were identical to those performed by the researcher. The standardized tests used for the speech-language assessments were analysed and scored in accordance with their test manuals, providing raw, standardized, standard, quotient, scaled, standard deviation and age equivalent scores. In the current study, these measures with exception to the raw and age equivalent scores were employed where possible for purposes of additional analysis. These scores were chosen for analysis as they are more reliable and more sensitive to individual differences than age equivalent measures (Lahey, 1990).

The quantitative results from the speech-language assessments were not used for statistical procedures but rather for presenting results numerically in order to complement the qualitative information obtained. Furthermore, ratings from the numerical scale found in the educator rating scale were analysed qualitatively according to their equivalent descriptions, in the absence of statistical calculations due to the small sample size used and the qualitative nature of the study.

CHAPTER 6

RESULTS AND DISCUSSION

The main aim of the research was to document case studies of three primary school aged children with Down Syndrome attending ordinary public schools in Gauteng province, South Africa. A holistic approach was applied, which enabled the researcher to gain rich and valuable insights of the three case studies. The multiple angles of this approach, which enhanced the internal reliability of the results by means of triangulating the data, included: firstly, the child in terms of his/her overall functioning in the ordinary school within the domains of communication, academic skills and socialization; secondly, the child's parents and educators. Learners with Down Syndrome attending ordinary schools do not exist in isolation, but rather their functioning and inclusive educational experiences are intricately connected with and influenced by the perceptions, attitudes and experiences of their parents and educators. The barriers, challenges and success factors surrounding the children's inclusive educational experiences are discussed to emphasize the valuable and paramount implications for improving services to children with Down Syndrome attending ordinary public schools.

Results are discussed in line with the sub-aims of the study and are structured in accordance with the ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002) for the current study. The themes and sub-themes extrapolated from the data are presented critically in terms of previous studies conducted within the field of inclusive education of children with Down Syndrome and existing theories in the area. Factors contributing to sampling bias mentioned in Chapter 5 were considered during the analysis and interpretation of the results of this research. A description of the participating children with Down Syndrome will follow.

6.1) Description of participating children with Down Syndrome

The fact that the sample of participating children consisted of two Afrikaans speaking children (P1 and P2) and one English speaking child (P3), as mentioned in Chapter 5, might be due to the following reasons. Firstly, the Down Syndrome Association Gauteng supplied the researcher with names of potential participants from the Down Syndrome Association Tshwane (Pretoria) branch, and Tshwane (Pretoria) is known to be a region inhabited by many Afrikaans speaking people. Secondly, through informal conversations carried out by the

researcher with individuals involved with inclusive education of children with Down Syndrome, such as parents, teachers and members of the Down Syndrome Association, Tshwane (Pretoria) appears to be the driving force behind inclusive education of individuals with Down Syndrome. This aspect was confirmed by the fact that of the two school districts, where the participating children with Down Syndrome were attending, namely Tshwane South and Ekurhuleni West only the former district had learning support educators who provided support services to facilitate inclusive education of learners with special education needs.

Pertinent descriptive and case history factors of the participating children with Down Syndrome for the purpose of the current study in terms of the children's inclusive education are found in Table 8. These factors were ascertained by means of the parent questionnaire and the children's previous assessment and progress reports by other professionals and school reports.

The findings from Table 8 are consistent with the literature regarding Down Syndrome. Ear infections, visual problems and hypotonia are common characteristics associated with Down Syndrome (Gerber, 1990; Kumin, 2004; Newton, 2004; Selikowitz, 1997). In addition, Spiker and Hopmann (1997) specify that due to the intellectual and physical disabilities of children with Down Syndrome it is essential that they receive early intervention. The importance of early intervention and therapy is also emphasized by Buckley and Bird (1995) who report that children with Down Syndrome benefit from all the same early experiences as other children, and are similar to other children in that their progress will be affected by the quality of their early environment and the learning opportunities provided to them. However, they also require additional help to overcome their specific developmental difficulties, particularly with learning to speak. Similarly, as mentioned previously, Leshin (2002) highlights the significance of including speech, occupational and physical therapies in the management of children with Down Syndrome.

Table 8: Description of participating children with Down Syndrome

Descriptive Factor	Participant 1	Participant 2	Participant 3
Hearing and Ear Infections	• Reportedly, hearing within normal limits at the time of the study. • Bilateral ear infections from a young age – treated with antibiotics (P1 & P2) and grommets (PETs = Pressure Equalizing Tubes).		
Vision	• Since 3.0 years: vision corrected with glasses and regular eye tests.	• Farsighted – has been wearing glasses.	• Possible visual difficulties – under investigation.
Hypotonia (low muscle tone)	• Present.		
Family Structure	• Lived with family: parents and sister – 9 years old in Grade 4. • Sister protective, assisted and motivated him. • Daily interactions: school time, remedial work in afternoons and at home with family.	• Lived with family: parents and brother – 8 years old in Grade 3. • Spent most of day at school and with mother.	• Lived with family: parents, younger sister – 4 years old in pre-school and older brother – 14 years old in Grade 8. • Spent most of day with mother.
	• Reportedly, interactions with siblings good with typical sibling rivalries.		
Early Intervention (Stimulation) Programmes, History of Assessments and Therapies	• Early intervention programme • 3 to 6 years old: intervention programme. • Both programmes: team of professionals. • Birth to 2.6 years old: physiotherapy. • 3 to 11 years old: occupational therapy. • 5.6 years old: hearing test: pure tone average of hearing thresholds within normal levels bilaterally. • Approximately 9 years old: hearing test: loss in some frequencies. • Birth to 12 years old: regular speech-language assessments and therapy.	• A few months old to 2 years old: physiotherapy. • 3 to 8 years old: occupational therapy. • Approximately 2 to 10 years old: numerous speech-language and hearing assessments and subsequent speech-language therapy.	• After birth: physiotherapy. • 3 months to 2 years old: two early intervention programmes: speech-language and hearing assessments and communication-based intervention. • 13 months old: hearing evaluation: normal hearing thresholds and normal bilateral middle ear functioning. • 3 to 4 years old and 5 to 8 years old: speech-language assessments and therapy. • 7 years old: action ball for gross and fine motor skills, ball and social skills.

Therapies Received at the Time of Data Collection	• Speech-language therapy twice a week at school during school hours. • Remedial teaching/assistance twice a week: not by a registered remedial teacher but with guidance from P1's mother. • Therapy funded by P1's parents.	• No therapy due to practical reasons.	• Speech-language therapy at school by speech therapy university students • 8.0 years old: occupational therapy assessment: most visual and auditory perceptual skills below age expectations. Reading and writing skills would be attainable with curriculum adaptations. Subsequent occupational therapy paid for by P3's parents. • Remedial teaching at school provided by school staff.
Schooling History	• Since 6 years old, Grade 0: ordinary educational settings. • Repeated Grades 0 and 1 twice respectively.	• Since nursery school: ordinary educational settings. • 8 years old: started Grade 1. • Has not repeated any grades at primary school.	• 3 years old: educational setting for typically developing children and children with special educational needs for a short period. • Since 4 years old, pre-nursery school: ordinary educational settings. • Has not repeated a grade.
Personality as Described by Mother	• Friendly, sensitive, curious, obedient and very tidy child who required motivation. • Good sense of humour and enjoyed showing off. • Slow to warm up in unfamiliar settings. • Easy to please and was eager to please others.	• Friendly, sociable and very sensitive child who loved people. • Could be stubborn.	• Very warm, friendly and loving child. • Very stubborn.

Further in-depth descriptions of the participating children with Down Syndrome are found in Appendix 16. An overview of the literature indicates that these factors, such as feeding difficulties, drooling, delayed developmental milestones (speech-language and motor), cardiac problems, upper respiratory-tract infections, sleeping difficulties, sleep apnoea,

dentition problems, low immune system, slow metabolism, hypothyroidism, dry skin and flat feet are characteristic and common to the syndrome (Kumin, 2003; Kumin, 2004; Kumin & Bahr, 1999; Newton, 2004; Rogers, Roizen & Capone, 1996).

As discussed above, these case history factors and descriptive variables of P1, P2 and P3 are fairly typical to Down Syndrome due to the manifestation of the syndrome and are typical risk factors associated with the syndrome. Therefore, none of them reflect as barriers for the purposes of this study. The inclusive education philosophy according to the Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System (Department of Education, 2001) focuses on overcoming barriers in the system that prevent it from meeting the complete range of learning needs, rather than focusing on changes which need to occur in the learner. However, awareness of these factors is useful for educators in order to provide effective education for these children in ordinary schools.

The following section covers a discussion regarding the study's findings pertaining to the overall functioning of the participating children with Down Syndrome in the inclusive school context.

6.2) Overall functioning of participating children with Down Syndrome in the inclusive school context

- **Local community: Individual – child with Down Syndrome**

The first sub-aim was to describe the overall functioning of the participating children with Down Syndrome in the inclusive school context, particularly within the domains of communication, academic skills and socialization.

Within the ecosystemic model adapted from Donald et al. (2002) for the current study, this research sub-aim covers the system of the individual who is the child/learner with Down Syndrome at the level of the local community.

Analysis of the participating children's functioning in the ordinary schools was conducted by triangulating the data obtained from various sources. These sources included the parent questionnaire and interview, assessment and progress reports of other professionals and school reports, observation checklist completed by the researcher, teacher and teaching assistant interviews, educator rating scale, speech-language assessment and audiological

screening. By means of employing content analysis, themes and patterns were identified and evaluated among and across the data. Generally the results were in agreement, which increased the reliability and validity of the findings. Although minor disagreements were found, for example, longer expressive sentence length was reported by participating parents as compared to educators' responses and data gained from the school observations, these discrepancies did not have a considerable impact on obtaining a functioning level for the participating children. Furthermore, these differences are in line with the notion and expectation that diverse communicative contexts carry different linguistic demands which in turn generate different responses. In order to understand the participating children's functioning in the ordinary schools, it is beneficial to gain insight into their context of learning. Therefore, a description of their classrooms is found in Appendix 6.

The important findings that will be discussed in the subsequent section include the following: Firstly, participating children's communicative impairments, which are typical communicative profiles of children with Down Syndrome, had an impact on their functioning in the inclusive school context within the domains of communication, academic skills and socialization. Secondly, in terms of the participating children's academic functioning, although their reading, writing and numeracy skills were below the requirements set out for their grades, they were coping in accordance with their own abilities due to the necessary adaptations, which is in line with the philosophy of inclusive education. Thirdly, with regard to socialization, even though the participating children were accepted socially by their peers at school, these relationships were not reciprocal friendships and the participating children tended to be 'followers' during their social interactions. Additionally, concerns regarding possible future social isolation for P1 and P2 were conveyed by their mothers if friendships with other people with Down Syndrome would not be established.

6.2.1) <u>Communication</u>

Table 9 below demonstrates a summary of the participating children's communicative functioning. The abbreviation C.A. refers to chronological age.

Table 9: Participating children's communicative functioning

Area	Participant 1 (C.A. = 12.4 years, Grade 4)	Participant 2 (C.A. = 10.6 years, Grade 3)	Participant 3 (C.A. = 8.5 years, Grade 1)
Speech	• Numerous articulation errors • Fluctuating speech intelligibility – often unintelligible; Nasal	• Numerous articulation errors; Delayed phonological skills • Fluctuating speech intelligibility – frequently unintelligible; Nasal	• Numerous articulation errors • Fluctuating speech intelligibility – at times unintelligible; Slightly nasal
Syntax	• Severely impaired: approximately 3 to 4 year old level • Receptive > expressive	• Severely impaired: approximately 3 year old level • Receptive > expressive	• Severely impaired: approximately 3-3.6 year old level • Receptive > expressive
Semantics	• Poor, especially with abstract terms: approximately ranges from 3 to 7 year old level • Receptive > expressive • Semantics > syntax	• Poor, especially with abstract terms: approximately 3 to 4 year old level • Receptive > expressive • Semantics > syntax	• Poor, especially with abstract terms: approximately 3 to 4 year old level • Receptive > expressive • Semantics > syntax
Pragmatics	• Poor conversational management		
Narrative Discourse	• Poor, sequencing difficulties		
Auditory Memory	• Poor short-term memory • Sequenced letters and digits: below 5 year old level • Poor semantic memory • Difficulty following sequenced instructions • Story: 5.9-5.11 year old level	• Memory difficulties • Sequenced letters and digits: below 5 year old level • Difficulty with semantic memory and following instructions • Story: below 5 year old level	• Limited short-term memory • Sequenced digits forward; Semantic (word) memory; Sequenced sentences: below 4 year old level • Difficulty following sequenced instructions • Story: poor, below 6 year old level
Phonological Awareness (auditory modality)	• Rhyming difficulties • Alliteration, grapheme-phoneme correspondence, syllabification: below average • Discrimination (sounds & words): 6.0-6.4 year old level • Synthesis: 6.9-6.11 year old level • Analysis: below 5.0 year old level • Closure: 8.5-8.8 year old level	• Rhyming, syllabification: below average • Alliteration, grapheme-phoneme correspondence: average to below average • Discrimination (sounds & words): below 5.0 year old level • Synthesis: 5.0-5.4 year old level • Analysis: below 5.0 year old level • Closure: below 5.0 year old level	• Rhyming: poor • Alliteration: average • Grapheme-phoneme correspondence: above average • Analysis: able to analyse consonant-vowel-consonant words, approximately 5 year old level • Synthesis: below 6.0 year old level

Detailed results of participating children's audiological screening and speech-language assessments are found in Appendix 17. As Table 9 and Appendix 17 show the communicative functioning of the participating children is typical of the speech and language profile of a child with Down Syndrome (Cicchetti & Ganiban, 1990; Fowler, 1990, 1995; Jarrold, Baddeley & Phillips, 2002; Kumin, 2004; Kumin, Councill & Goodman, 1998; Miller, Leddy, Miolo & Sedey, 1995; Seung & Chapman, 2000; Welsh & Elliot, 2001), which provides evidence for and confirms the validity and reliability of the study and its findings. As will be discussed below, the communicative deficits of the participating children illustrated in Table 9 had an impact on their functioning in the inclusive school context. "If you call her and you want to give her an instruction she doesn't respond to you. And that makes it difficult because you've got to go up to her and you've got to get her attention…I mean you can't get irritated or cross or think she's being naughty, it's just the way she is, so I would say that is another thing that makes it difficult because she can be difficult" (P3's teacher). This finding is similar to the viewpoint expressed by Rissman, Curtiss, and Tallal (1990) who state that social interaction and school learning may be modified and constrained for children who present with language disorders and impaired communication skills.

- <u>General communication: Verbal and nonverbal</u>

All participating children communicated their needs and wishes by using a combination of verbal and nonverbal communication, such as gestures. Their limited verbal communication skills in classroom situations was facilitated by their teachers providing tactile and verbal prompts, such as forced alternatives, which is in line with Alton's (1998) recommendations. However, this facilitation was much less evident with their peers, which consequently contributed to miscommunications which negatively influenced social interactions. This finding is consistent with the view of Murray-Branch and Gamradt (1999) who explain that social relationships may be difficult to establish in situations where a child's speech is unintelligible and/or his/her vocabulary and sentence abilities are restricted. The participating children's limited verbal communication abilities were facilitated at school by their teachers' and peers' awareness of the context of communication, such as the specific classroom discussion/activity, and P2 and P3's nonverbal communicative skills. Similarly, Wolpert (1996) recommends that contextual cues can aid teachers in understanding their learners with Down Syndrome. However, P1's inappropriate nonverbal communication and body language

contributed to communication breakdowns with his class peers and teachers, which affected his academic functioning and social interactions at school.

- Speech: Articulation, phonology and intelligibility

The participating children's speech impairments, characterized by articulation errors, delayed phonological skills and frequent unintelligible speech contributed to communication breakdowns with their teachers and peers in the classroom situation and on the playground. This finding was not unexpected as Kliewer (1998, p. 68) reports that "Speech is central to communicating competence in schools". Kliewer (1998) found that for typically developing children, speech was their main form of communication. "In fact, if a child's speech did not conform to that of her or his nondisabled peers, it was defined as a difference that mattered, and the child was automatically labeled disabled" (Kliewer, 1998, p. 68). The above-mentioned speech impairments, which are typical to Down Syndrome, have been extensively documented in the literature, for example, by Kumin (2004); Leddy (1999); Miller, Leddy, Miolo, and Sedey (1995). Miller et al. (1995) explain that articulation patterns of individuals with Down Syndrome can be attributed to a variety of influencing factors, including cognitive impairments, muscle hypotonia, cerebellar abnormalities, fine motor coordination impairments, and oral anatomical structural abnormalities. Leddy (1999) believes that regardless of whether the cause of these impairments is neurological in nature or is due to a combination of anatomical and physiological differences, biological influences probably restrict speech production, causing articulation errors and ultimately reducing effective communication.

P1 and P2's articulation errors and phonological difficulties were reflected in difficulties with regard to their written language in terms of spelling. This finding is supported by Stackhouse (1996, p. 23) who states, "There is no doubt that normal spelling development is mapped in some way onto a speech foundation". A direct relationship may exist between what the child says and how he/she spells (Stackhouse, 1996). This factor was also confirmed by Owens (2004) who indicates that generally problems with spelling correspond to poor phonological processing abilities and limited knowledge and use of phoneme-grapheme information. The participating children's speech intelligibility and articulation abilities improved due to reading and acquiring an awareness of sounds/phonics. P1 and P2's levels of intelligibility increased when they read due to the visual reinforcement of the letters. Consistent with these findings, Buckley and Bird (1993) describe that reading improves phonology and articulation abilities

in children with Down Syndrome. Information obtained from the school observations, school teacher and teaching assistant interviews and the speech-language assessments indicated that the participating children's speech difficulties masked their language abilities and restricted their language output, which contributed to minimal conversational skills with their teachers and class peers. These difficulties also limited their participation in classroom discussions and affected their performance on certain classroom tasks such as oral presentations. These results provide support for the views of Alton (1998) who maintains that the expressive skills of a child with Down Syndrome are frequently below his/her comprehension abilities. This mismatch is likely to mask other abilities. In addition, often due to the speech and language difficulties of a child with Down Syndrome he/she generally has less opportunities to use language than his/her peers, which results in fewer opportunities to acquire new vocabulary and sentence structures, and fewer times to practice in order to enhance their speech clarity (Alton, 1998).

- Language: Syntax, semantics, pragmatics, conversational and narrative discourse and auditory memory

All participating children presented with severely impaired expressive syntactical skills, which limited their verbal interactions during classroom discussions, group activities and verbal communication with their teachers and peers during break time. Although their receptive syntactical and semantic skills were also delayed which limited their understanding of many classroom discussions and activities aimed at the class as a whole, these skills were better than their expressive abilities. These findings correspond with the research literature concerning Down Syndrome (Alton, 1998; Cicchetti & Ganiban, 1990; Fowler, 1990, 1995; Kumin, 2004). During classroom activities language complexity used by the teachers and within activities had to be adapted to meet the participating children's individual levels of understanding and in most situations individual explanations were required, which was difficult in P1's case where a teaching assistant was not available. Previous research conducted by Fox, Farrell, and Davis (2004) appears to support this finding concerning the vital role a teaching assistant has in terms of facilitating the inclusive education of learners with Down Syndrome. Furthermore, in a study conducted by Wolpert (2001) individual learning arrangements were also found to be most effective with regard to teaching learners with Down Syndrome in ordinary classrooms.

The participating children's semantic abilities, although better than their syntactical abilities, were poor and characterized by difficulties with abstract terms, which limited their understanding of many academic related terminology in the different subjects, such as concepts related to numeracy. This difficulty was specifically evident with P1 in Grade 4, who was required to cope with six to seven different academic subjects. This semantic difficulty, particularly with abstract terminology and concepts is confirmed by Cicchetti and Ganiban (1990) and Kumin (2004). The semantic knowledge required for the academic demands at school was adapted by all participating teachers and P2 and P3's teaching assistants, by providing the participating children with concrete, tactile and visual explanations.

Participating children's poor syntactical and semantic skills limited their conversational skills and management at a discourse level while interacting with their teachers and peers. For example, they all showed minimal verbal conversational initiation and maintenance skills, which resulted in extremely limited reciprocal conversations, especially with their peers during break time. Similarly, the participating children's narrative discourse skills were poor and characterized by sequencing difficulties, which manifested in their limited oral skills during classroom discussions and activities, and in P1's case in his written language abilities. These results are consistent with the views of Kumin (1994, p. 230) who explains, "Conversational skills are…complex and thus are more challenging for children with Down syndrome. These are the skills that children need and use regularly in daily life".

Participating children's deficits with regard to auditory memory specifically in the areas of short-term memory, sequenced digit and letter memory, semantic memory, following sequenced verbal instructions and story memory had an impact on their academic learning abilities, for example, in terms of remembering spelling rules and following the teachers' instructions to complete a task. These auditory memory limitations are supported by Chapman (1997); Jarrold, Baddeley, and Hewes (2000); Jarrold, Baddeley, and Phillips (2002); Marcell and Weeks (1988); Seung and Chapman (2000), who report that these deficits are characteristic to Down Syndrome. All participating children's educators were aware of these auditory memory difficulties and consequently provided adaptations for the children, for example, by providing memory cards, visual cues, verbal repetitions and conveying one level command instructions separately. These forms of adaptations, including concrete, tactile and

visual cues and the adaptations in terms of language complexity, have also been documented by Lorenz (1999) and Wolpert (1996).

- Phonological awareness

Even though all participating children's phonological awareness skills, such as analysis and synthesis, were delayed these skills were generally better than their language skills. They required visual cues during phonological awareness tasks, which is in line with Kumin's (2004) reports that children with Down Syndrome learn better through the visual modality than the auditory channel. The fact that the participating children were learning to read and write in the ordinary schools, provides evidence for the reciprocal relationship between reading, writing and phonological awareness skills, as it appeared that learning to read and write improved their phonological awareness skills. Their delays in phonological awareness skills appear to be linked to their delayed reading and writing skills as compared to their class peers. These findings are similar to the views of Goswami and Bryant (1990) and Wagner, Torgesen, and Rashotte (1994) that a reciprocal relationship exists between reading/literacy acquisition and phonological awareness skills (known as metalinguistic abilities). Goswami and Bryant (1990) add that increased abilities in the one area facilitates the development in the other area.

"Communication can either be your child's door to opportunity and experiences or it can be a barrier" (Kumin, 1994, p. 230). Therefore, the above communication challenges have vital implications in terms of adaptations, which need to occur in ordinary schools in order to facilitate and contribute to the successful inclusive educational placement of a child with Down Syndrome.

6.2.2) Academic skills

- Reading

All participating children's reading abilities, in terms of decoding/accuracy, comprehension and fluency, were not on level with their grade peers. P1 who was in Grade 4 was reading on a Grade 3 level and P2 who was in Grade 3 was reading on a Grade 1 to 2 level. P3 who was in Grade 1 was able to read single three letter words and had started to read simple sentences associated with pictures, whereas her grade peers had moved onto readers. The participating children's teachers adapted their reading requirements to meet their individual abilities. In this respect Sloper, Cunningham, Turner, and Knussen (1990) report that since the 1980s

substantial interest has grown with regard to the attainments of children with Down Syndrome in the traditional academic skills, specifically in reading (Buckley, 1985; Casey, Jones, Kugler & Watkins, 1988; Lorenz, Sloper & Cunningham, 1985). Despite this fact, representative data on levels of attainment of children with Down Syndrome are scarce. Shepperdson (1994) suggests that a number of children in her study could only read a little due to the fact that they had not been taught. Buckley, Bird, and Byrne (1996), in a review of studies of reading attainment among children with Down Syndrome, warn that data from such less recent studies are complex and problematic to interpret as many of the children will not have been taught to read, and that it would be precarious to assume that reported attainment levels reflected the upper limits of abilities. Rynders, Abery, Spiker, Olive, Sheran, and Zajac (1997) conducted a study including individuals with Down Syndrome covering the age range 5-18+ years, with mean IQ ranging from 45 to 55 depending on age group. They concluded that reading comprehension scores reflect relatively good academic achievements in school years, and that progress carried on into young adulthood.

- Writing

Writing skills, including spelling, of all participating children were found to be below average and below the requirements set out for their grades. P3 was able to write her name incompletely and was introduced to the letters of the alphabet. Both P1 and P2 were able to write simple sentences. Their written language skills decreased as the sentence length increased. P2 and P3's writing difficulties were associated with visual-spatial and perceptual problems. P3 presented with difficulties in the formation of letters and numbers. Writing is known to lag behind reading with regard to skills acquisition, and this gap may be worsened in individuals with Down Syndrome due to associated poor physical development and low muscle tone (Turner & Alborz, 2003). It is possible that writing would be affected in individuals with Down Syndrome due to the fine motor control movements necessary for writing (Turner & Alborz, 2003). Furthermore, writing ability has been relatively under-researched, and a small number of studies have employed measures of academic abilities relevant to the varied range of abilities found among children with Down Syndrome, or reported attainment levels for children in different age groups. As a result, much imprecision exists regarding the level and range of competence which can be expected at different ages in children with Down Syndrome. This vagueness may be part of the reason for the persistence of misconceptions regarding the educability of children with Down Syndrome (Turner & Alborz, 2003).

- General academic skills

Difficulties in the area of numeracy, due to its abstract concepts, were evident in all participating children. This finding has also been documented by Carr (1995) and Rynders (1999) who report limitations in the area of numeracy for children with Down Syndrome. Laws, Byrne, and Buckley (2000) report higher achievements in numeracy among children with Down Syndrome in ordinary schools compared to children placed in special schools matched for age and receptive vocabulary in the United Kingdom. The participating children's poor auditory and listening skills impacted on their academic functioning. They also presented with difficulties understanding academic terminology, which in many cases was abstract. Difficulties with regard to maintaining attention and concentration for a full duration of a lesson were found for all participating children. Similarly, Cicchetti and Ganiban (1990) explain that the higher-level information-processing skills that motivate and direct attention in typically developing children are impaired in children with Down Syndrome. Despite the fact that they have the ability to perceive information accurately they are delayed in their ability to use and interpret this information. Participating children's limited attention and concentration was controlled by their educators providing verbal and tactile prompts. Specific areas of difficulty for P1 included memory, which was facilitated by the provision of visual memory cards; complex vocabulary, which was adapted by using simpler terms; listening and reading in English, which was his second language and taught as a subject at his school where the medium of instruction was Afrikaans.

- Academic demands in terms of adaptations and expectations

Even though participating children's communicative functioning, in terms of receptive and expressive language skills was poor and generally at a preschool level, they were coping academically according to their abilities due to the necessary adaptations which occurred in order to accommodate their learning. Maths was the only subject that was fully adapted for P1, which he was completing on a Grade 3 level, whereas all work set out for P2 and P3 was in an adapted form. Examples of work adaptations, which the participating children received, included simplifications in terms of content; a smaller quantity of work was required; provision of visual, tactile, concrete and verbal prompts; drill work; individual assistance; extra repetition and time allocated. This finding provides support for inclusive education of learners with Down Syndrome, which is also in accordance with the views of Sloper et al. (1990) who maintain that with regard to type of schooling, children with Down Syndrome in

ordinary schools were likely to have higher academic attainments than those in special schools, even after taking into consideration the difference in the mental ages of the children in different schools. Casey et al. (1988) reported similar findings in their study of children with Down Syndrome.

The teachers' academic expectations of all participating children were different to those set out for the rest of the learners in their classrooms, due to the participating children's work adaptations. The participating children were measured and assessed in accordance with their own abilities. They received identical report cards to the rest of the learners. However, the way in which they were assessed and evaluated in terms of the demands set out for them was different in the areas which were adapted. In addition, P3 received an extra report card which was based on goals specifically set out for her, as she was unable to cope with the Outcomes Based Education (OBE) curriculum set out for a Grade 1 level. Her individual goals were largely based on her occupational therapy aims that are important for learning, which do not fall under the OBE school curriculum. In light of these findings Sloper et al. (1990) found that the relationship of chronological age to academic attainments even after controlling for mental age suggests that children with Down Syndrome gained in ability over time, most probably through greater quantity of instruction. This factor may also be related to the age at which schools introduced the children to reading, writing and number work. Therefore, noticeable delays may stem from curriculum issues in the schools rather than child or family factors.

6.2.3) Socialization

All participating children were accepted by their peers at school. They had a few friends with whom they spent break time. "The children will play and they totally accept her…it's amazing and that's totally out of their own initiative" (P3's teacher). Lorenz (1999) explains that socialization for children with Down Syndrome who attend ordinary primary schools appears to be unproblematic. P1's close school-friends had also experienced barriers to learning and were chronologically younger than him. According to P1's mother, his chronologically aged peers at the ordinary school had outgrown him emotionally and intellectually. In view of this factor and considering P1's chronological age of 12 years, Buckley (2000) reports similar findings. According to Buckley (2000) teenagers with Down Syndrome who attend special schools are in a context which facilitates real reciprocal and mutually supportive friendships with peers who have similar interests and abilities, which is

not the case in ordinary schools. The participating children's limited communicative abilities and fluctuating speech intelligibility affected their social interactions with their peers negatively and communication breakdowns occurred. However, it was evident during break time that their peers tried to simplify their own language in order to facilitate the communicative process, which often failed. This finding is consistent with the views of Newton (2004) who describes that many teenagers with Down Syndrome experience social isolation due to their poor communication abilities.

The social benefits of inclusive education were particularly evident with P3, whereby she tried hard to imitate the other children's 'normal' and appropriate behaviour. "She tries very hard to keep in and to be like the other children" (P3's mother). For P1 and P2 this behaviour of social modelling was not overt and as striking as it was with P3.

During the participating children's social interactions at school they were 'followers' and had difficulty initiating and maintaining verbal communication and interaction. "He doesn't initiate play, he follows" (P1's mother). These relationships did not appear to be reciprocal in nature, but rather their friends were protective of them, made sure to include them and appeared to take upon an 'adult-like' role. "His close friend looks after him in class and during break time" (P1's school teacher). Fox et al. (2004) found that a number of teachers in their study were concerned about the degree of 'mothering' which surfaced in the interactions between class peers and children with Down Syndrome in the ordinary school. "Many recognized that this was not evidence of a genuine friendship" (Fox et al., 2004, p. 188).

Both P2 and P3 had experienced social interactions with their school-friends outside of school activities. However, P1's parents facilitated his socialization, which is confirmed by Newton (2004) who reports that many teenagers with Down Syndrome depend on their families for social activity. Additionally, P1's mother viewed it as the parents' role to initiate and maintain genuine friendships for the child with other children who have Down Syndrome. She believed that in future other individuals with Down Syndrome would be the child's "real" friends to prevent future social isolation. "We make an effort…because other people with Down Syndrome would ultimately be his friends" (P1's mother). P2's mother had similar views for her son's future. Likewise, Buckley (2000) identifies the lack of opportunity in ordinary schools for children with Down Syndrome to acquire close and meaningful reciprocal friendships with other children of similar language abilities and learning difficulties that are

formulated on mutual understanding and support as a probable disadvantage of inclusive education for these children.

In conclusion, since language is the basis for learning, interacting with educators and socializing within the school context (Kumin, 2004) the communicative impairments of the participating children with Down Syndrome had the greatest impact on their inclusion into the ordinary schools. Therefore, locating these findings within the ecosystemic model adapted from Donald et al. (2002) for the present study, the system of the individual, meaning the child/learner with Down Syndrome at the level of the local community has an influential role in the inclusive education process for such a learner. A further powerful aspect which has a profound effect on inclusive education, at the level of the local community, includes the perceptions, attitudes and experiences of parents and educators involved in the process as will be discussed below.

6.3) Perceptions, attitudes and experiences of participating parents and educators

The second and third sub-aims of the study were to identify, examine and investigate the perceptions, attitudes and experiences of parents and educators (school teachers and teaching assistants) of the participating children regarding inclusion of these children into ordinary public schools.

Within the ecosystemic model adapted from Donald et al. (2002) for the current study, these research sub-aims cover the systems of the family and school with their respective subsystems of parents and educators within the level of the local community.

The following discussion includes the main themes and sub-themes which emerged from the content analysis of responses obtained from the parent, teacher and teaching assistant interviews. In addition, various themes and sub-themes are triangulated with findings from the school observations. The discussion is divided into three sections: firstly, themes common to participating parents and educators; secondly, themes which are specific to the educators; lastly, those themes which are specific to the parents. In each part, the themes are presented in order of significance starting from the most significant. Even though the themes and sub-themes apply to the different levels, systems and subsystems of the ecosystemic model adapted from Donald et al. (2002), in the following three sections they are organized under the level of the local community. The researcher followed this framework since the data was

obtained from this level of the model. However, many of these themes and sub-themes are structured according to the different levels, systems and subsystems of the ecosystemic model adapted from Donald et al. (2002) in ascertaining the barriers, challenges and contributing factors surrounding the participating children's successful inclusive educational experiences.

6.3.1) Themes common to participating parents and educators

- **Local community: Parents, educators and schools**

A brief overview of the main themes, which were common to participating parents and educators who are found at the level of the local community of the ecosystemic model adapted from Donald et al. (2002) follows.

Firstly, the participating mothers and educators' **understanding of the term 'inclusion'/'inclusive education'** demonstrates that they had awareness and insight in the field. Secondly, in terms of the **effectiveness of inclusive education**, although all participating mothers believed in the benefits and effectiveness of inclusive education, concerns were expressed by P2's teacher regarding its efficacy. Thirdly, the theme of **support** for the inclusive education process emerged, which includes findings pertaining to a lack of appropriate support and resources in general and specifically for educators. However, much support was found to be available from the participating parents who had a vital role in the inclusive education process. Of crucial importance is that the participating parents were found to be the driving force behind this process. Further sources of support were evident from the ordinary school, school principal, other educators, outside therapists and the South African Down Syndrome Association. Additionally, a certain degree of support was found from learning support educators at district level of the Gauteng Department of Education. Fourthly, with regard to **attitudes** towards inclusive education of the participating children, even though negative attitudes emerged from other ordinary schools and staff members at the participating schools, positive attitude were found from the participating educators and parents of the 'normal' children at the participating schools. The participating schools, the community and general public were found to have mixed attitudes. **Awareness, exposure and education** regarding inclusive education and Down Syndrome arose as an additional theme. Findings show a lack of public awareness in South Africa, a certain amount of awareness at the participating schools and that the inclusive education of the participating children could create this type of exposure and awareness. Finally, the data revealed various **advantages and disadvantages of inclusive education** of learners with Down Syndrome for

the child with Down Syndrome and for the participating ordinary school as a whole. The subsequent section covers an in-depth discussion of these themes.

- ***UNDERSTANDING OF THE TERM 'INCLUSION'/'INCLUSIVE EDUCATION'***

Verbatim quotes of participating mothers and educators' understanding of the term 'inclusion'/'inclusive education' are found in Table 10.

Table 10: Verbatim quotes of participants' understanding of the term 'inclusion'/'inclusive education'

Participating Mothers	**Participating Educators**
Participant 1	
"Inclusion is where somebody experiencing a barrier to learning or something like that…would be included in the mainstream of life in all aspects. Inclusion for me is not only in school, for me it's being part of a community, community activities, church, street activities and being included in family life. Inclusion is a way of living and covers all aspects of the person's life, work as well and living with people and friends" (P1's mother).	"We must make room for every child, it doesn't matter what their disabilities are or their mental level is…include all the children, it doesn't matter what" (P1's teacher).
Participant 2	
"Basically that my child with Down Syndrome is allowed into the normal mainstream school, by having his work adapted so that he is able to do it according to his ability…Inclusion overall is just the acceptance of the child who is different into normal life and to have the opportunity, the same opportunity that any other person has, even if they have other needs, but for them to have the opportunity, to have a little piece of life" (P2's mother).	• "The idea is that kids who have special educational needs who would have previously been in schools for those sorts of children are now given the opportunity to go to a school with normal children" (P2's teacher) [10]. • "Inclusion is communication, playing together, doing things together in group work, things like that. All together, inclusion is that you accept him as he is" (P2's teaching assistant).
Participant 3	
"Inclusion for me is that you would be regarded as any normal person, given the same opportunities, although the child might not progress as the other kids would but that you are just afforded the opportunity, so for me inclusion is give my child the opportunity" (P3's mother).	"You will take any disabled child because I mean it can be that they are hard of hearing, sight impaired, physically disabled, Down Syndrome and they are accepted into normal mainstream education…we've always included children with the basic remediation or therapies, I think that is also inclusion and that has always been, but now you are looking at in the past where you had schools specifically where perhaps paraplegics would go, or specifically a school for the blind, it's now taking those children and they are coming into mainstream" (P3's teacher).

[10] Since P2's teacher's interview was conducted in Afrikaans, her direct quotations have been translated into English.

A discussion of the sub-themes which emerged from these responses follows:

Inclusion within the mainstream of life including education

According to P1's mother 'inclusion' is a way of living, which involves including individuals who experience barriers to learning into the mainstream of all aspects of life including schooling as specified by P2's mother. This finding is in line with part of the definition of inclusive education and training set out in the Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System (Department of Education, 2001), which stipulates that inclusive education and training extends beyond formal schooling and recognizes that learning also takes place in the home and community, and within formal and informal environments.

Inclusion regardless of the disabilities/limitations

P1 and P3's teachers mentioned that 'inclusion' refers to including children regardless of their disabilities/limitations. This sub-theme corresponds to the South African definition of inclusive education stated in the joint report of the National Commission on Special Needs in Education and Training (NCSNET) and the National Committee on Education Support Services (NCESS) (Department of Education, 1997). It specifies that inclusive education involves a learning environment that promotes the full personal, academic and professional development of all learners irrespective of race, class, gender, disability, religion, culture, sexual preference, learning styles and language.

Child's abilities

Both the explanations provided by P2 and P3's mothers illustrate the sub-theme of the child's abilities. P2's mother mentioned that 'inclusive education' involves the adaptation of her child's work to enable him to complete the work in accordance with his ability. Similarly, the Education White Paper 6 (Department of Education, 2001) indicates that inclusive education and training recognizes that all children are able to learn and that they require support. Furthermore, inclusive education and training involves facilitating structures and systems of education and learning techniques to meet the needs of all learners; transforming and modifying attitudes, behaviour, teaching strategies, curricula and the environment in order to meet the requirements of all learners (Department of Education, 2001).

‘Normal’/‘Normality’

The concept of ‘normal’/‘normality’ was discussed by both P2 and P3’s mothers within their definitions of ‘inclusion’/‘inclusive education’. According to P2’s mother ‘inclusive education’ enables her child with Down Syndrome to be in a ‘normal’ school and ‘inclusion’ overall involves acceptance of a child who is different into ‘normal’ life. P3’s mother explained that ‘inclusion’ involves being viewed as any other ‘normal’ person. This sub-theme of ‘normal’/‘normality’ has been mentioned in other definitions regarding inclusive education (Banerji & Dailey, 1995; Burden, 1995) for example, in terms of being included in an education setting with ‘normal’ children.

Acceptance

The sub-theme of acceptance of the child in relation to ‘inclusion’ emerged from the responses provided by P2’s mother and teaching assistant, P3’s mother and teacher. P3’s mother explained that an individual being included involves not viewing him/her as being different, but rather enabling the individual to fit in and subsequently to be accepted. According to P2’s teaching assistant, acceptance refers to accepting the child for who he/she is and P3’s teacher referred to acceptance in terms of learners with disabilities being accepted into ordinary education. This sub-theme of acceptance relates to the definition provided in the Education White Paper 6 (Department of Education, 2001), as the document states that inclusive education and training acknowledges that all learners are different and have diverse learning needs, whether as a result of disability, language, age, gender, class, ethnicity, HIV status or other infectious diseases and that these differences are valued equally.

Provision of opportunities

The provision of equal opportunities and benefits for the child who is included was emphasized by P2’s mother, teacher and P3’s mother as an outcome of ‘inclusion’/‘inclusive education’. Accordingly, the development of learner empowerment by enhancing learners’ strengths was described in the Education White Paper 6 (Department of Education, 2001) as forming part of inclusive education and training.

Communication and togetherness

According to P2’s teaching assistant ‘inclusion’ is communication and involves performing activities together, for instance, group work. This sub-theme of working together relates to the views expressed by Ashman and Elkins (1996). They explain that full inclusion in ordinary

schools involves participation in all the tasks and activities carried out by the children in the class.

Previously attended a school for learners with special educational needs

Both P2 and P3's teachers explained that 'inclusion' refers to learners who in the past attended schools for learners with special educational needs are now able to attend ordinary 'normal' schools, which corresponds to Burden's (1995) definition as mentioned previously.

From the above discussion it is evident that the participating mothers and educators' definitions of 'inclusion'/'inclusive education' are in keeping with the literature. Interestingly, only P2's mother mentioned explicitly the necessary adaptations of the school-work which would need to occur in order to meet the needs of the learner who would be included. The participating mothers and educators' understanding of the meaning of 'inclusion'/'inclusive education' is viewed as significant as it directs their perceptions, attitudes and own experiences of including the participating child in the ordinary schools.

Table 11: Sub-themes from participants' understanding of the term 'inclusion'/'inclusive education'

Sub-Themes	Mother of P1	Teacher of P1	Mother of P2	Teacher of P2	Teaching Assistant of P2	Mother of P3	Teacher of P3
Inclusion within the mainstream of life including education	+		+				
Inclusion regardless of the disability/limitations		+					+
Child's abilities			+			+	
'Normal' / 'Normality'			+			+	
Acceptance			+		+	+	+
Provision of opportunities			+	+		+	
Communication and togetherness					+		
Previously attended a school for learners with special educational needs				+			+

+ Indicates the presence of the sub-theme in the participating mothers and educators' responses.

Table 11 shows a summary of the sub-themes found from the participating mothers and educators' understanding of the term 'inclusion'/'inclusive education'. The Table demonstrates sub-themes which are similar and different across the participating mothers and educators' responses.

- ***EFFECTIVENESS OF INCLUSIVE EDUCATION***

Concerns regarding efficacy of inclusive education

The analysis of the results indicated that P2's teacher expressed concern regarding the efficacy of inclusive education for all children with special educational needs and whether or not it would be effective in the higher grades. She felt that as the child would reach the higher grades he/she might not be able to cope in the ordinary school situation since he/she would find it difficult to adapt to the schooling system. This finding lends support for the view of Lorenz (1999) who maintains that teachers in ordinary schools might demonstrate concerns that learners with Down Syndrome will not manage in the ordinary school. Furthermore, P2's teacher explained, "With inclusion we want all children to come to one school, but I think the Department of Education must come to the school and ask, **"DOES IT WORK?"** Because sometimes it doesn't work…it can't work for everyone".

Factors influencing belief in efficacy of inclusive education

Factors influencing belief in the benefits and effectiveness of inclusive education emerged as a sub-theme from all three mothers. P1 and P2's mothers obtained this belief by attending national and international conferences and being involved with the Down Syndrome Association in South Africa. The association exposed them to national and international literature regarding inclusive education and enabled them to have contact with people internationally and locally involved in the field of inclusive education. P1's mother viewed the contacts she had as being influential in her decision to place her son in an ordinary school, "I think that positive direction in which she pointed us was just for me". According to P2's mother, "We've realized there's actually just one way (inclusive education) to go if you want the best for your child".

P3's mother was positively influenced towards the benefits and effectiveness of inclusive education when she undertook an audit at a school for learners with special educational needs. As she reported, "Seeing children that were in a special school, with the same daily routine and the environment just wasn't stimulating enough, and that actually convinced me, no that

my daughter would be better off in a mainstream school". In addition, she witnessed the benefits of inclusive education for her daughter, including improvements in P3's overall development and motivation. These benefits of inclusive education were also documented by Scala (2001) as discussed previously in Chapter 2. Scala (2001) reported improvements in learners with special educational needs in the areas of motivation, self-esteem, academics and socialization from being included in ordinary schools. Similarly, Buckley (2000) found that in the United Kingdom teenagers with Down Syndrome who attended ordinary schools presented with fewer behavioural problems and had advanced general knowledge, expressive language, reading, writing and arithmetic skills compared to their peers in special schools.

- ***SUPPORT***

Lack of support

➢ General lack of appropriate support

Both P1 and P2's mothers felt that inclusion of children with special educational needs into ordinary schools was possible, however, it required the appropriate support which was lacking. P1's mother explained the meaning of appropriate support by mentioning, "All children can be included with the right support…for a child with Down Syndrome he might need support in adapting the curriculum, for a child in a wheel chair or with a physical disability he might need another type of support". The sub-theme of general lack of appropriate support for inclusive education of children with special educational needs is consistent with the findings set out in the joint report of the National Commission on Special Needs in Education and Training and the National Committee on Education Support Services in South Africa (Department of Education, 1997).

➢ Lack of appropriate resources and support for educators

❖ Department of Education (national and provincial – Gauteng)

All participating educators described the lack of adequate assistance, guidance, information and support services from the South African National Department of Education and Gauteng Department of Education (GDE), which were necessary to teach and include learners with Down Syndrome. P3's teacher explained that a discrepancy between the policy of inclusive education and the realities within ordinary public schools in South Africa existed during 2005 in terms of a lack of necessary resources from the Department of Education at national and provincial (Gauteng – GDE) level. Similarly, P2's teacher commented, "There's this policy of inclusion but there's no information and no support" as support services from the National

and Gauteng Departments of Education were lacking at her school, for example, in terms of provision of therapists. Although at the time of data collection P2's teacher felt extremely positive about including P2 into her classroom, she emphasized the need for support and assistance especially from the Department of Education. As stated by her, "You cannot do it on your own".

According to P3's teacher although the Department of Education was attempting to equip teachers in ordinary schools to include learners with Down Syndrome, the resources and support services were not sufficient. P3's teacher felt strongly that the support and resources she received involved "more advice concerning the child than the ability to educate the child". Likewise, P1's teacher felt that the resources and support services should be improved and that further support from the National and Gauteng Departments of Education was necessary to fully equip and prepare teachers to teach a learner with Down Syndrome. These findings have been documented by Engelbrecht, Forlin, Eloff, and Swart (2001, p. 81) who maintain, "An analysis of relevant policy and other documents in South Africa regarding support services reveals that although a systemic approach is emphasized, there is currently a conspicuous absence of specific support strategies that will address the needs of teachers in order to ensure the successful implementation of inclusive education".

- <u>Lack of adequate training from tertiary level</u>

Lack of adequate training from tertiary level to deal with the inclusion of learners with Down Syndrome/special educational needs into ordinary schools was mentioned by all participating educators. "From a more formal academic perspective…I have been trained to deal with 'normal' children, I haven't been trained to deal with children with disabilities of any sorts" (P3's teacher). P2's teaching assistant explained specifically the lack of training and guidelines available to teaching assistants. The lack of adequate educators' training, which is necessary to deal with learners with Down Syndrome, was also mentioned by P2's mother. This sub-theme of lack of adequate educators' training to manage inclusive education confirms the findings of Eloff, Engelbrecht, and Swart (2000). In an examination of factors which contribute to the ability of teachers to meet the educational needs of learners with special educational needs in ordinary schools, Eloff et al. (2000) investigated teachers' stress and coping skills in Gauteng and the Western Cape in South Africa. The teachers in their study reported that pre-service or in-service training was insufficient in terms of preparing

them for inclusive education. They felt that this lack of adequate training impacted on their professional self-competence, which stressed the teachers.

- Lack of information and curriculum adaptations

P1's teacher emphasized that teachers "must be informed before such a child comes into your class" and that they should be given practical and concrete suggestions with regard to including the child in the ordinary class, for example, in terms of curriculum adaptations (adapted learning material) "so that we can know how to do it". This factor was validated by P3's teacher who reported the lack of available curriculum for learners with Down Syndrome in ordinary schools. Eloff et al. (2000) also found that teachers in Gauteng and the Western Cape, who were teaching learners with special educational needs in their ordinary classrooms, indicated that performing curriculum adaptations to meet the learners' needs was stressful for them.

- Educators feel unprepared – subsequent initial negative feelings

Due to the lack of appropriate resources and support for educators the imperative sub-theme of all participating educators feeling unprepared to deal with inclusion of learners with Down Syndrome into ordinary public schools emerged from the study. All participating educators initially experienced negative feelings of fear and concern regarding including the child with Down Syndrome into their ordinary classrooms as they felt unprepared and hesitant as to whether or not they could cope with the situation. These initial negative feelings were reflected in the words of P2's teaching assistant who recounted her experience, "I felt very unsure of myself, I felt was I capable of doing this? Would I be able to be an advantage to him? Would I be able to do this thing? I mean it was a bad feeling". According to all participating educators, these negative feelings were related to the fact that including a child with Down Syndrome in the ordinary classroom was initially a new and unknown situation. Similar results have been documented in other studies concerning learners with special educational needs, for example, Buell, Hallam, Gamel-McCormick, and Scheer (1999); Forlin, Douglas, and Hattie (1996); Hall and Engelbrecht (1999); Swart, Engelbrecht, Eloff, and Pettipher (2000).

Available sources of support

Although a lack of adequate resources and support services were highlighted by both parents and educators, a certain amount of support was found to be available to the participating

children, mothers and educators. The following sources of support were provided for the inclusive education process:

- Parents
  - Parental perseverance

The sub-theme of lack of appropriate support is interconnected with the sub-theme of parental perseverance with regard to inclusive education. P1 and P2's mothers described their extensive involvement and hard work involved in placing their child in an ordinary school. P2's mother explained that every year she has had to work hard in terms of going through the process of including P2 in the ordinary school. The sub-theme of parental perseverance was depicted by P1's mother who mentioned, "I feel that inclusive education is possible but it's not for the faint hearted". The lack of appropriate support for the inclusive education of learners with Down Syndrome was overcome by all the participating children in this study as their parents created and provided the necessary support for their children's inclusion into the ordinary schools. This finding of parental perseverance is similar to previous studies conducted internationally (Fox et al., 2004) and locally (Engelbrecht, Swart, Oswald & Eloff, 2005). Fox et al. (2004) found that the majority of parents in their study described the difficulty they experienced in finding suitable educational placements in ordinary primary schools for their child with Down Syndrome. Similarly, Engelbrecht, Swart et al. (2005) in documenting the experiences of parents who have children with special educational needs in ordinary schools in Gauteng and the Western Cape reported that parents experienced refusal from ordinary schools regarding placement of their child with special educational needs. In some cases, parents who had knowledge of their rights were adamant and persevered for the acceptance of their child into the ordinary school (Engelbrecht, Swart et al., 2005).

  - Parental Role

All three mothers discussed the critical importance of the parents' role within the inclusive education process for their children, which is supported by Villa and Thousand (2002) and Scala (2001) as mentioned in Chapter 4. Further sub-themes emerging from the participating mothers' responses that constitute the parents' role include the following:

1) Driving force – push and fight for inclusive education

The need to fight for inclusive education for their children was encountered by all the participating mothers. P1's mother stated that inclusive education for her son "wouldn't have worked…if I didn't push for it". Therefore, at the time of the study the parent of the child was

the driving force behind inclusive education, “At this point where their system is not yet in place you are the one driving, you are the driving force behind it. If you are not behind it then nobody is going to drive it” (P1’s mother). This sub-theme confirms the finding and view of Engelbrecht, Swart et al. (2005) as mentioned above.

2) Parental empowerment, education and awareness

According to both P1 and P2’s mothers in order for parents to be the driving force behind inclusive education, they need to empower themselves and be certain of the decision to follow the route of inclusive education. P1’s mother had empowered and educated herself by: learning about other children’s experiences of inclusive education, obtaining updated information and literature regarding the facts, policies, rights of parents and children pertaining to inclusive education. “I knew what Down Syndrome was, I had contact with people with Down Syndrome…I read a lot about it and about what’s going on all over the world and then after he was born…I got involved with the Down Syndrome Association…and it just confirmed everything” (P2’s mother).

3) Active support and involvement

The findings indicated that all three mothers mentioned the significant role parents have of communicating and having ongoing contact with the school staff, which was validated as a source of support for all participating educators. P1’s mother related the communicative role the parent has with the teachers to the importance of fostering a positive self-esteem within the child, as she explained, “You need to make sure that people understand that he needs to feel that he is the best that there is”. This sub-theme of active support and involvement from the parents lends support for the view of Vincent (2000, p. 129) who explains that the role parents should undertake once their child is in school includes “acting as a *‘partner’* with education professionals”.

According to P3’s mother parental involvement within the inclusive education process provides the parent with self-assurance and “peace of mind” that they are active and helping. This parental involvement includes having knowledge of the inclusion process at school, “You have to know what’s happening at school and if you don’t know you are going to make it very difficult for the whole inclusion situation” (P2’s mother). The value of parents visiting schools and analysing the situation for themselves before deciding where to place their child was mentioned by P3’s mother, which she believed alleviates the fear of the unknown for the

parent. This factor was also reported in the findings of Woplert's (1996) study, which revealed that parents of children with Down Syndrome who had greater involvement and better communication with their child's teachers felt much better regarding their child's inclusive education experience. P3's teacher emphasized the importance and responsibility of parental involvement and assistance in the inclusive education process, "at this stage it rests on the parents".

- The ordinary school and staff members: School principal, other educators and outside therapists

P1's mother described the support the school itself offered by staff members being in contact with the Gauteng Department of Education who offered advice to the school. P3's teacher described that the school provided her with support by informing her of seminars and workshops. Furthermore, the school library was willing to invest in books and resources aimed at helping P3 and the teacher. Therefore, she described the school itself as a source of support and assistance. P2's school principal who was a member of the Down Syndrome Association was a source of support for P2's mother and teacher. Furthermore, P2's teacher highlighted the importance of teachers having assistance and support from colleagues, "If you have enough support from your colleagues, you can achieve anything". P1's mother emphasized the importance of empowering the school principal in the process of inclusive education, "The key is actually to get the principal to be on your side but also for him to come up with plans". School teachers, teaching assistants, therapists and remedial teachers were described as sources of support for all participating educators. Related to the sub-theme of the availability of support from the ordinary school, Sader (1997) who conducted a study in KwaZulu-Natal, South Africa, found that the ordinary schools, which included learners with Down Syndrome, supported inclusive education. Additionally, the school principals demonstrated strong leadership qualities and promoted teamwork amongst the teachers at the schools (Sader, 1997).

- The Down Syndrome Association in South Africa

All three mothers and teachers of the participating children mentioned the Down Syndrome Association as a source of support. This sub-theme is confirmed by Buckley and Bird (1995) who explain that the majority of parents of children with Down Syndrome find that it is beneficial to meet other parents and to join a local parent group.

A summary of the sub-themes regarding lack of support versus available sources of support for the inclusive education of the participating children with Down Syndrome is found in Table 12.

Table 12: Sub-themes regarding lack of support versus available sources of support

SUPPORT		
Lack of support	**Available sources of support**	**Mixed support: Lack of support and available support**
General lack of appropriate support (P1 & P2's mothers): "I think because of the reality of the situation it's sometimes difficult to include children with disabilities" (P2's mother).	Parents (all participating mothers & educators) ❖ *Parental perseverance* (P1 & P2's mothers) ❖ *Parental Role* (all participating mothers): a. Driving force – push and fight for inclusive education (all participating mothers): "I had to fight quite a lot, I had to do a lot to be able to get my child where he is today…really from my side it hasn't always been easy" (P2's mother). b. Parental empowerment, education and awareness (P1 & P2's mothers) c. Active support and involvement (all participating mothers and educators): "I definitely have a big role to play, I think for any parent to say no I can't be involved I think would be detrimental to the child, because you would have no idea of how to help the child, you would have no idea of how to contribute to the teacher" (P3's mother).	Learning support educators – Gauteng Department of Education at district level (P1 & P3's teachers & mothers & P2's teacher): "One of the district workers now who actually is fully involved with going to schools and seeing how the children are coping with inclusion is there to help me as well as the teachers, so that support structure is there" (P3's mother).
Lack of appropriate resources and support for educators (all participating educators & P2's mother) ❖ *Department of Education (national and provincial – Gauteng* (all participating educators): "Where they said that this year they would start with certain schools aiming at inclusion, when this year started they said they were not going to be able to provide the resources and the needs for it, so at this stage it's all very much in its early, early stages" (P3's teacher). ❖ *Lack of adequate training from tertiary level* (all participating educators & P2's mother) ❖ *Lack of information and curriculum adaptations* (P1 & P3's teachers) ❖ *Educators feel unprepared – subsequent initial negative feelings* (all participating educators)	The ordinary school, staff members: School principal and other educators, and outside therapists (all participating educators, P1 & P2's mothers): "Through the years the principal has gained a lot of knowledge and insight about inclusion and has been helpful…he has really done his part" (P2's mother).	
	The Down Syndrome Association in South Africa = Down Syndrome South Africa (all participating mothers & teachers): "I think if it wasn't for the Down Syndrome Association I wouldn't have any support" (P2's mother).	

Mixed support: Lack of support and available support

➢ Learning support educators – Gauteng Department of Education (GDE) at district level

Lack of support from the Gauteng Department of Education at district level was reported by P2's teacher, "I don't think they are clued up, not in our district". However, both P1 and P3's teachers and mothers mentioned the availability of support services from the learning support educators, who were from the Department of Education from their school districts. P3's mother felt that "the government is doing a very good job, I think they really do try and help". In line with this finding, as mentioned in Chapter 4, according to the Department of Education (2005) as of 2005 limited support existed in several districts in South Africa. The formation of district-based support teams to offer a co-ordinated professional support service is a strategy stipulated in the Education White Paper 6. These support teams are intended for special schools, specialized settings, appointed full service schools[11] and other primary schools, starting with the 30 districts which are part of the national district development programme (Department of Education, 2001).

- ***ATTITUDES***

Negative attitudes

All three mothers had experienced negative attitudes and discrimination from others regarding the process of placing their child with Down Syndrome in an ordinary school. This factor made the experience of placing their child in an ordinary school difficult for them.

➢ Other ordinary nursery and primary schools

Both P2 and P3's mothers encountered discrimination from other ordinary nursery and primary schools regarding their child's placement. P2's mother explained, "It hasn't always been easy…he was in the one nursery school and then I had to take him out because they expected more money because he was Down Syndrome, quite a lot more…so then it was difficult to find another nursery school". According to Engelbrecht, Swart et al. (2005) in South Africa, educational placement options are restricted as not all ordinary schools are prepared to include learners with all disabilities.

[11] Full service school = A full service school is a school which will be equipped and supported to cater for the full variety of learning needs amongst all learners (Department of Education, 2001).

- Other teachers/staff members at the participating schools

P3's teacher reported that she had experienced a majority of negative reactions by the other staff members at the school to the fact that she was teaching P3. She explained that generally teachers at her school "like to push down your throat that why doesn't she go to a special school, why is she here?…a lot of them have even turned around and said, 'If I wanted to teach children like that, that's what I would have studied' ". Therefore, the sub-theme of teachers being resentful towards inclusive education of children with Down Syndrome emerged from the responses conveyed by P3's teacher. However, P3's teacher also felt that the teachers chose to teach 'normal' children and in doing so "they have every right". She believed that the majority of staff members at her school had an entrenched mindset that learners with Down Syndrome should attend a school for learners with special educational needs. She explained that they had not made the mind shift towards inclusive education for learners with special educational needs/Down Syndrome. These reactions are confirmed by Marais (2000) who describes the findings of a study which was carried out in South Africa in 1998 regarding teachers' attitudes towards including learners with special educational needs in ordinary schools. The results of this study indicated that most (more than 80%) of the teachers reported that the education of children with special educational needs is not the primary responsibility of the teacher teaching the ordinary classroom (Marais, 2000).

Similarly, according to P2's teacher, initially the teachers at her school were somewhat hesitant, resistant, uncertain and unforthcoming to teach P2 in their ordinary classes, as including a child with Down Syndrome was uncommon and the teachers had no knowledge of how to include such a child into the ordinary school. "Initially they were quite hesitant and unforthcoming because it was something unknown" (P2's teacher). This factor was also documented in a study undertaken by Pivik, Mccomas, and Laflamme (2002) in Ontario, Canada, who found that a lack of understanding by teachers and support staff regarding inclusive education constituted unintentional attitudinal barriers on the part of educators to the process. The responses of P2's teacher are in line with the experiences encountered by P2's mother. P2's mother experienced difficulties with a number of teachers in terms of their attitudes and willingness to teach her son, which reached a climax before P2 started Grade 3 as "the teachers were very negative in the beginning" (P2's mother). Subsequently, the Down Syndrome Association was required to intervene. Consistent with these findings, Alghazo and Gaad (2004) maintain that most of the studies which have been carried out regarding attitudes towards the inclusive education of learners with special educational needs have found that

educators have a tendency to hold negative attitudes (for example, Bacon & Schultz, 1991; D'Alonzo & Ledon, 1992; Gaad, 2001).

Positive attitudes

- Participating educators

The sub-theme of the participating educators having a positive attitude to teach the child with Down Syndrome was viewed as significant by all three participating mothers. They explained that they had all received positive feedback from participating educators regarding their experiences of teaching the child with Down Syndrome. Similarly, all participating educators expressed positive feelings and attitudes regarding including and working with the child with Down Syndrome. Contrary to the findings of educators holding negative attitudes towards inclusive education as mentioned in the literature above, positive attitudes of educators were reported in the findings of Kristensen, Omagor-Loican, and Onen's (2003) study conducted in Uganda. It revealed that teachers demonstrate a relatively positive attitude to the inclusion of learners with special educational needs into ordinary school settings. This finding may be as a result of the availability of comprehensive information regarding inclusive education (Kristensen et al., 2003).

- Parents of 'normal' children

P2's teacher reported that parents of the 'normal' learners at the school accepted P2 and did not display resistance to the fact that he was in the school with their children, as she reported, "There are no parents that will say no, my child is not allowed to be in his class". This sub-theme confirms the finding of Fox et al. (2004, p. 188) who report, "On the whole, parents of non-disabled pupils saw the inclusion of the pupil with Down's syndrome as a 'very good thing', particularly in terms of developing positive attitudes towards people with disabilities". However, P2's teacher mentioned that the parents required reassurance from the teacher and/or school principal that their children would receive equal attention and time from the teacher and that assistance or a teaching assistant would be available.

Mixed attitudes: Negative and positive

- Participating schools

The initial negative attitudes of P3's ordinary public school towards inclusive education were expressed by P3's teacher. According to P3's teacher inclusive education was new to the school, and initially the school was against the idea of including learners with special

educational needs, “The school is still very new to it in that sense, they were not very open to inclusion”, which is in line with P3’s mother’s responses. P3’s teacher attributed this response of the school partly due to the National and Gauteng Departments of Education, which she believed had not finalized their stand with regard to inclusive education. Thus, this stance had filtered down to the schools. P3’s teacher felt that the underlying attitude of her school towards inclusion of children with Down Syndrome was that in situations where they could avoid it, they would.

Although P3’s teacher and mother described initial negative attitudes at P3’s school regarding inclusive education, P2’s teacher reported, “At this school, children with special educational needs have never been turned away”, which demonstrated the school’s positive underlying attitude, philosophy and ethos of accepting and including learners with Down Syndrome. This fact was validated by P2’s teaching assistant. According to P2’s teacher even though initially the school and teachers had concerns regarding including P2, the school was positive about his inclusion. She and P2’s teaching assistant explained that P2 was acknowledged at the school and “accepted by everybody”. Similarly, P1’s teacher believed that her school’s attitude towards inclusion of children with Down Syndrome was positive. Other studies have also found this result, for example, Fox et al. (2004).

- <u>Community and general public</u>

P2’s teaching assistant reported that the community had mixed reactions both positive and negative towards inclusive education of children with Down Syndrome. She explained that some of their negative reactions stemmed from their uncertainty or unawareness as to whether or not inclusive education of learners with Down Syndrome would work. P2’s teacher commented that community members displayed much sympathy towards P2 and to the fact that there was a child with Down Syndrome in the ordinary school. P1 and P3’s mothers and teachers explained that they generally received positive reactions from the community. P1’s mother recounted that people had reacted by saying, “That’s fabulous, that’s marvellous” that her son was included in an ordinary school. However, P1’s mother explained that she also experienced the fact that people held negative attitudes and were discouraging towards her son attending an ordinary school, as she recounted, “Going through difficult phases when people keep on telling you this child doesn’t belong here, are you sure? Aren’t you being unrealistic?…so you find it even in your best friends today still they ask me that”. In this respect, Donald et al. (2002) maintain that in any community, particular values, attitudes, and

ways of perceiving practices and ideas will be acknowledged as 'normal', or assigned greater significance and acceptance than other practices and ideas. Consequently, different communities have diverse values and attitudes, which in turn impact on education and school practices (Donald et al., 2002).

Table 13 shows a summary of the sub-themes regarding negative attitudes versus positive attitudes of inclusive education of the participating children with Down Syndrome.

Table 13: Sub-themes regarding negative attitudes versus positive attitudes of inclusive education of participating children

Attitudes		
Negative attitudes	**Positive attitudes**	**Mixed attitudes: Negative and positive**
➢ Other ordinary nursery and primary schools (P2 & P3's mothers): "There was one school that I approached and the teacher said she had place, and then but the minute I said my child is a child with Down Syndrome, she said oh no there's no place" (P3's mother).	➢ Participating educators (all participating mothers & educators): "We've been very fortunate that he's had wonderful teachers who have been positive and their attitudes were positive about his inclusion" (P1's mother).	➢ Participating ordinary public primary schools: • *Initial negative attitudes* (P3's teacher & mother): "The initial response was very anti, very anti moving to the idea of inclusion" (P3's teacher). • *Positive attitudes* (P2's teacher & teaching assistant, P1's teacher)
➢ Other teachers/staff members at the participating ordinary public primary schools (P2's mother & teacher, P3's teacher): "The mindset is still very much that you should send your child according to the child's needs to the most suitable school" (P3's teacher).	➢ Acceptance by parents of 'normal' children at the participating ordinary school but require reassurance (P2's teacher): "The other parents accept him like everybody else" (P2's teacher).	➢ Community and general public: • *Negative attitudes* (P2's teaching assistant, P1's mother) • *Positive attitudes* (P2's teaching assistant & teacher, P1 & P3's mothers): "The community, who ever my daughter has been exposed to has always been positive and they think and view it as very good that she's going to a normal school, they think that it's a good thing" (P3's mother).

- ***AWARENESS, EXPOSURE AND EDUCATION***

Lack of public awareness in South Africa

All participating mothers, P1 and P3's teachers and P2's teaching assistant felt that at the time of the study the general public and society in South Africa lacked knowledge, information,

education and awareness regarding inclusive education and individuals with Down Syndrome. The participants believed that people with Down Syndrome should be more included in society in South Africa, which constitutes inclusion at large in general life. Due to this lack of public awareness, all participating mothers felt that their experience of placing their child in an ordinary school had been difficult. This sub-theme has been documented in the joint report of the National Commission on Special Needs in Education and Training and the National Committee on Education Support Services in South Africa and identified as a barrier to learning and development in the South African society (Department of Education, 1997).

Mixed awareness at the participating schools: Lack of awareness and existing awareness

- Previous lack of awareness – participating parent created awareness

The previous lack of awareness regarding inclusive education of learners with Down Syndrome at P1's school surfaced from his mother's responses. She mentioned that both she and her husband were involved in running awareness campaigns at the ordinary school and voicing their opinions at the school regarding inclusive education prior to formally meeting with the school principal regarding her son's placement. "So you prepare the ground where you are going to plant the seed" (P1's mother). She viewed this awareness raising as part of the parents' role. The fact that P1's mother and father created this awareness at his school demonstrates that prior to P1's arrival at the school such awareness might not have existed, as there was a need for it. This notion of creating awareness is supported by Campbell, Gilmore, and Cuskelly (2003) who found that raising awareness of Down Syndrome might bring about positive changes in attitudes and knowledge regarding Down Syndrome and disability in general.

- School principal's knowledge, awareness and insight – viewed positively by parent

P2's mother explained that over the years the school principal had gained knowledge, awareness and insight regarding inclusive education and Down Syndrome. She reflected positive feelings regarding the principal's role and contributions, "Through the years he's got a lot of insight and he's really done his part. He has really given, he's there if we need him and I think because he's got insight in the whole situation he's really been very, very good to us". In line with this finding, the importance of the school principal's role and positive contributions towards inclusive education has also been documented by Swart, Engelbrecht, Eloff, Pettipher, and Oswald (2004) as discussed in Chapter 4.

Creating exposure and awareness

- For the other 'non-disabled' learners at the participating schools

Analysis of the data revealed that all participating mothers and educators reported that including the participating children with Down Syndrome into the ordinary schools was advantageous for the other children in the schools, in that it exposed them to inclusion of people with disabilities. This view is emphasized by the following: "On her level they get to see that in many ways she's also a normal child, she can also play, she can also sing, she can also be naughty, so they are exposed to break that ice of the unknown" (P3's teacher). The ability to work together with people who are different was mentioned by P1's teacher, which she believed to be the underlying aim of inclusive education. "Although we can differ from each other, we can work together. I think that to work together is the whole point of this, although there are differences we can work together and well he doesn't look like us, but he tries, but he is in school, he's in a school like we are, so it doesn't matter after all that he has Down Syndrome" (P1's teacher). This exposure and creation of awareness of people with disabilities and inclusion provides support for the findings of Tancig, Kavkler, and Pulec (2005) who investigated inclusive schooling of learners with Down Syndrome in Slovenia. They found that generally staff members of the ordinary primary school and parents of the 'non-disabled' learners viewed the inclusion of the learners with Down Syndrome into the school as a positive factor for creating positive attitudes towards individuals with special needs.

P1's mother related this important sub-theme to the broader South African context by mentioning that inclusive education of learners with Down Syndrome demonstrates, "There is diversity and differences between people and to have empathy with that. I think in the country that we are living in, that is a very big skill, I think that's the biggest skill that you could give your child, that many of us and of the older people in South Africa, the White people, don't have".

- For the community

P1's mother explained that by including her son in all spheres of life, the community would benefit as the process of inclusion would prepare the community for his general inclusion and would raise awareness of people with disabilities.

This sub-theme that inclusive education creates exposure to and awareness of disabilities and inclusion in the school context and at large is consistent with the findings documented by Fox et al. (2004). As mentioned previously, they report that inclusive education of learners with Down Syndrome generates awareness and positive attitudes towards individuals with disabilities.

- ***ADVANTAGES AND DISADVANTAGES OF INCLUSIVE EDUCATION FOR PARTICIPATING CHILDREN AND ORDINARY SCHOOLS***

Advantages for the participating children with Down Syndrome

"The advantages are numerous, they are almost unlimited for the child himself" (P2's teacher).

➢ Influence of the environment: Ability to model viewed as a positive factor

All three mothers, P2's teacher, teaching assistant and P3's teacher pointed out the major influence the environment has on children with Down Syndrome. They attributed this influence on the participating children's ability to model, which they viewed as a substantial area of strength for them and which was also evident during the school observations. They explained that this ability could be a positive factor with positive outcomes. Accordingly, Marshall (2004, p. 94) states, "Children with Down's syndrome are primarily visual learners – they learn best by seeing and doing". Linked to the participating children's strong ability to model, all three mothers, P2's teacher and teaching assistant and P3's teacher discussed the provision and exposure of an appropriate role model in the ordinary school as an advantage for the participating children with Down Syndrome. According to P2's teacher, teaching assistant and P3's teacher the participating children with Down Syndrome learn continuously from being placed in the ordinary schools, as they have exposure to 'normal' children.

All participating mothers and educators emphasized that the participating children's communication abilities had improved from attending an ordinary school. According to P3's teacher, from a social and academic perspective, including P3 in the ordinary school had provided her with the opportunity to socialize with and learn from the 'normal' children. Exposure to 'normal' speech, reading and writing in an ordinary school for all participating children and other children with Down Syndrome was mentioned by all participating mothers. "If he didn't have the opportunity to be in an ordinary school, he wouldn't have been able to read, because they don't teach them to read in most of the special schools and that opens up

your world" (P1's mother). Improvements in the domains of communication, socialization and academic skills for learners with special educational needs from attending inclusive education settings have been widely documented in the literature (for example, Lorenz, 1999; McGregor & Vogelsberg, 1998; Muthukrishna, 2002; Scala, 2001; Tancig et al., 2005; Wolpert, 1996). The advantage of having a model of 'normal', appropriate and acceptable social behaviour and interaction was extremely important for all the mothers to enable their children to fit into society. This view was also documented in Woplert's (1996) study, as mentioned in Chapter 2. "It's definitely better for a child with Down Syndrome to be in a mainstream school, even if they are low functioning then the work must just be adjusted more for them as long as their behaviour is acceptable" (P2's mother).

- ❖ <u>'Normality': Lead a 'normal' life and function as a 'normal' person</u>

P3's mother reported that although P3 was aware that she was different, she tried very hard to be like the other 'normal' children at the ordinary school, which her mother viewed as a positive outcome of inclusive education. "You could see that she tries very hard to be like the other kids, which is good, sometimes she might not be able to do exactly what they are doing, but she tries" (P3's mother). P2's teaching assistant, P3's mother and teacher explained that including P2 and P3 respectively into the ordinary schools provided them with the opportunity to lead a 'normal' life by viewing school as a 'normal' part of growing up and with the opportunity to function as a 'normal' person.

- ➢ <u>Enhance child's development, full potential, self-esteem and opportunities</u>

All participating mothers emphasized their beliefs and expectations that inclusive education for their children would develop their full potential and enhance their development and self-esteem. According to P1's mother, "My expectations for him or for the process is that it would draw him or pull him up to a certain standard which he might not have had if he didn't have a 'normal' example around him". Participating mothers and educators' responses revealed that by attending an ordinary school opportunities are created and improved for the child with Down Syndrome in the areas of socialization, independence, education and employment. Similarly, Wolpert (1996) found that parents of children with Down Syndrome attending ordinary schools described benefits in the areas of independence and self-esteem for their children from attending inclusive educational settings.

Disadvantages for the participating children with Down Syndrome

- Child's development, full potential and opportunities are not fully being met

Even though participating mothers and educators expressed that by including the participating children with Down Syndrome into the ordinary schools enhances their development, full potential and opportunities generally, P1's mother and teacher, P2's mother and P3's teacher also felt that the children's development, full potential and opportunities were not fully being met in the ordinary schools with regard to the following areas:

- Socially: Lack of reciprocal friendships and fear of future social isolation

As discussed previously in the results regarding the functioning of the participating children, P1's mother had expressed the fact that her child's chronologically aged peers at the ordinary school had outgrown him emotionally and intellectually with regard to interests, hobbies, maturity level and age appropriate behaviour. At the time of the study her son had a few friends from his grade at school, who themselves had experienced barriers to learning and these friendships were more of a protective nature. Therefore, she expressed concern of genuine and reciprocal friendships for her son. This concern was also mentioned by P2's mother. Consequently, both P1 and P2's mothers mentioned the need for the parents to initiate friendships for the child with other children with Down Syndrome, "otherwise he is going to be very lonely…I think like for a girlfriend and a real friend in time to come it might have to be somebody with Down Syndrome" (P1's mother), which P1's mother viewed as a negative implication of inclusive education. Similarly, P1's teacher mentioned the advancement of P1's chronologically aged peers with regard to having friends of the opposite sex as a disadvantage for him as he might realize that "they've got girlfriends and the girls don't want to be friends with me". The sub-theme of social difficulties and isolation is not unexpected as Pivik et al. (2002) report this factor as a primary concern for parents of elementary school-aged children with special educational needs (mobility limitations) attending ordinary schools in Ontario, Canada.

- Child's educational needs are not being catered for

P3's teacher felt that P3's specialized and general educational needs were not being catered for in the ordinary school due to the lack of available support structures and resources at the school, which she believed was a major disadvantage for P3. Ghesquiere, Moors, Maes, and Vandenberghe (2002) also found that general education teachers highlighted the positive characteristics of special education, such as small classes, individual attention, sufficient

support to the learner, when the teachers felt that they could no longer teach effectively when a learner with special educational needs was present in their classroom.

- ❖ Exclusion from sports and competitive activities

As P1 and P2 were physically slower than their chronologically aged peer group with regard to their motor and co-ordination skills, they did not participate in competitive extra-mural sport activities at school, which both P1's mother and P2's teacher identified as a disadvantage of inclusive education for P1 and P2. "For instance with rugby, going from the Grade 1 and 2 set up to the league set up; the way it works is that you enter the league to win, so you put your best and strongest team forward and he can't participate in that whereas he would have done it in Grade 1 and 2" (P2's teacher).

- ➢ Possible negative influence on self-esteem and self-awareness that child with Down Syndrome is different

Although all participating mothers felt that inclusive education was advantageous in terms of enhancing their children's self-esteem, P1's mother reported that depending on how inclusive education is performed, it might influence the child's self-esteem negatively due to too much pressure placed on the child. "He might feel he can't do things, he's not good enough or whatever, and that's why you need to make him feel king of the jungle all the time" (P1's mother). This finding is confirmed by Pivik et al. (2002) who found that parents of learners with special educational needs attending ordinary elementary schools conveyed concerns regarding their child's self-esteem. Related to this possible negative influence on the child's self-esteem, P1 and P2's teachers and P2's teaching assistant felt that the child with Down Syndrome might become aware that they are different to the other learners in the ordinary class and school. Additionally, P2's teacher stated, "Children with Down Syndrome do realize they are different even if they are treated the same way as everybody else, it's perhaps one of the disadvantages that he's not in a school with people who are similar to himself" (P2's teacher).

A summary of the advantages and disadvantages of inclusive education of learners with Down Syndrome for the participating children is found in Table 14.

Table 14: <u>Advantages and disadvantages of inclusive education for the participating children with Down Syndrome</u>

Advantages	Disadvantages
➢ <u>Influence of the environment: Ability to model viewed as a positive factor</u> (all participating mothers, P2's teacher & teaching assistant & P3's teacher): "It's day in and day out that she's faced with normal children and I think one would be amazed incidentally what she's learning from normal children" (P3's teacher). • *'Normality': Lead a 'normal' life and function as a 'normal' person* (P3's mother & teacher & P2's teaching assistant): "He gets to lead a normal life in the first place, and being around normal children, because he is a follower he does things that normal children do, so he's learning **EVERY DAY** to be a normal person and to work like a normal person" (P2's teaching assistant).	➢ <u>Child's development, full potential and opportunities are not fully being met</u> • *Socially: Lack of reciprocal friendships and fear of future social isolation* (P1 & P2's mothers & P1's teacher): "My son has got a very, very outgoing personality. He likes children and they like him and so we will see when he gets bigger what's going to happen if he will have a special friend that's really a friend or just somebody that plays with him because he's different. But I think that can be a disadvantage that…he is a little bit different to the others" (P2's mother). • *Child's educational needs are not being catered for* (P3's teacher): "From the perspective that she's not getting the individual attention that I would feel is necessary" (P3's teacher). • *Exclusion from sports and competitive activities* (P1's mother & P2's teacher): "He is excluded from sport and competitive activities at the school because he is not as strong as the other children" (P1's mother).
➢ <u>Enhance child's development, full potential, self-esteem and opportunities</u> (all participating mothers & educators): "Even though there are areas where he will not progress as fast as the others, inclusion doesn't put a ceiling on his general development" (P1's mother).	➢ <u>Possible negative influence on self-esteem and self-awareness that child with Down Syndrome is different</u> (P1's mother, P1 & P2's teachers & P2's teaching assistant): "Depending on how inclusion is done, it could put so much pressure on the child that his self-esteem gets damaged" (P1's mother).

<u>Advantages for the participating ordinary school as a whole</u>

➢ <u>Positive reflection on the ordinary school: Community school and competent teaching staff</u>

P1 and P2's mothers and P1's teacher described that by including the participating children with Down Syndrome, the school enriches itself and portrays a positive image to the community that it is a community school with competent teachers, willing to accept and include all learners. By teaching the child with Down Syndrome, teachers at the school would improve their teaching skills. Similarly, Tancig et al. (2005) found that teachers explained that they have developed and improved their methods of teaching and working as a result of the inclusion of learners with Down Syndrome into the ordinary school.

The next section covers the main themes and sub-themes which are specific to the educators of the participating children with Down Syndrome regarding their perceptions, attitudes and experiences of inclusion of these children into ordinary public schools.

6.3.2) Themes specific to participating educators

- **Local community: Educators and schools**

The themes which emanated from participating educators who are found at the level of the local community of the ecosystemic model adapted from Donald et al. (2002) are outlined as follows:

The first theme, namely, the **discrepancy between the South African inclusive education policy in theory and the reality of its implementation** revealed a lack of communication between the Department of Education and ordinary schools with the result that ordinary schools were misinformed. This discrepancy was also found to be interconnected with false hopes being conveyed to parents and the difficulties and frustrations experienced by participating educators. These difficulties and frustrations included feelings of disempowerment, isolation and abandonment by the Gauteng Department of Education, participating schools and staff members. Further difficulties and sources of frustration encountered by the participating educators were the pressures placed on them due to their lack of familiarity and knowledge of inclusive education and Down Syndrome. Pressures were also due to the unrealistic expectations demanded of them by the Gauteng Department of Education and the limited contact time they had with the learners. The second theme that emerged was the **negative outcomes of the inclusive education system**. Inclusive education was not believed to be the most appropriate option for learners with Down Syndrome academically. It was also viewed as a burden and predicament placed on the school. **Fears and concerns experienced by participating educators** was the third theme, which included a lack of awareness of the participating children's abilities and levels of functioning, difficulties with curriculum adaptations, an increased workload in terms of quantity and content, educators' perceptions regarding the child's ability to cope in the higher grades and cultural and ethnic differences. The remaining themes that surfaced were **equality of treatment** with regard to the participating children being part of the class and receiving equal versus unequal treatment, which resulted in the 'non-disabled' learners feeling excluded, **teamwork** regarding the participating children's inclusive education process, and lastly, the

advantages and disadvantages of inclusive education of learners with Down Syndrome for the participating educators and the 'non-disabled' learners in the participating children's classes. A detailed discussion of these themes follows.

- ***DISCREPANCY BETWEEN SOUTH AFRICAN INCLUSIVE EDUCATION POLICY IN THEORY AND REALITY OF IMPLEMENTATION***

The belief that the South African inclusive education policy and theory at the time of the study was not applied in practice fully into the ordinary public schools was conveyed by P3's teacher and validated by the data obtained from the participating children's school observations. This belief corresponds with the views of Engelbrecht, Swart et al. (2005) and Makgalemele (2004) as discussed in Chapter 4. Makgalemele (2004) reports that the National Department of Education stated that government's plans to include learners with disabilities and special education needs into ordinary schools would not proceed in January 2005. The discrepancy between the ideology and policy of inclusive education and the realities within the South African context was reflected by P3's teacher who reported, "Well there's supposed to be a policy…there is no policy at this stage, a black and white final policy document". She explained that the theoretical side of the policy regarding inclusive education was in its draft form and early stages and had not yet been fully thought through. The realities, which existed at the time of the study in ordinary public schools, included the difficulties, barriers and frustrations encountered by the participating educators, which were also confirmed by the participating children's school observations, as will be discussed below.

Lack of communication between the Department of Education and ordinary public schools

A lack of communication appeared to exist between the Department of Education at national and provincial (Gauteng) levels and ordinary schools. An example of this fact was illustrated by P3's teacher in terms of schools being unaware of decisions made for them by the Department. P3's teacher mentioned that as a result of the lack of communication many teachers in ordinary schools were not sufficiently informed of the Department's policy regarding inclusive education and the spectrum of educational needs provided for.

A further critical issue arising at the time of the study was the Department of Education's policy and decisions regarding the function of schools for learners with special educational needs within the context of their policy of inclusive education. According to P3's teacher

misinformation existed with regard to schools for learners with special educational needs becoming redundant which was not the case. The function of these schools would change in terms of sharing and distributing their resources, such as therapists, to assist and offer services to ordinary schools involved in including learners with special educational needs. Accordingly, in order to establish the inclusive education and training system the Education White Paper 6 (Department of Education, 2001) stipulates the improvements of special schools for the learners that they accommodate as one of the fundamental strategies. Additionally, there would be a phased transformation of these schools into resource centres which would offer professional support to surrounding schools and they would be incorporated into district-based support teams. However, at the time of the study no evidence of this policy had emerged as P3's teacher reported, "That's the idea but it's not happening, as these resources are limited and are in need at the schools where they originate from". These views illustrate the discrepancy between the policy of inclusive education and the reality within the South African context.

False hopes of parents

The discrepancy between the South African policy and the reality of the situation of inclusive education in the South African context is related to the sub-theme of false hopes, which might be conveyed to parents who are considering inclusive education. P3's teacher explained that parents might be misled and misinformed by other parents who have succeeded in following the route of inclusive education with their children. They are often unaware of the realities of the situation in ordinary public schools such as the lack of necessary resources, for example, therapists to assist their children in the inclusive education context. This lack of necessary resources was also evident during the school observations.

P3's teacher also felt that including learners with Down Syndrome into ordinary schools might create an illusion and raise false hopes for parents and the general public. "I think they get the idea that if I send my child to a normal school my child is going to turn out normal…and must be able to cope". She stressed the importance of parents having realistic expectations of their child's progress and level of functioning within the ordinary school. Furthermore, parents might often be unaware of the adaptations that would need to take place in terms of their child's learning. For example, he/she would be completing different work to the other 'non-disabled' learners in the ordinary classroom. In addition, parents might also be unaware of the realistic situation in ordinary public schools and the barriers faced by the

teachers, such as overcrowding of learners and the teachers' difficulties of having to provide adequate attention and time to all the learners in the classroom. She emphasized the discrepancy which was portrayed between the perceptions of inclusive education and the realities of its concept and process. This discrepancy placed the ordinary school at a disadvantage as the school had to correct these illusions and perceptions that the parents had and provide them with the correct information. Consequently, the underlying sub-theme, which surfaced from the responses of P3's teacher, is that the ordinary school might be made the scapegoat and viewed negatively.

In line with these findings, international literature demonstrates that a wide difference exists between parents' expectations of inclusive education and the realities of including the child in an ordinary educational setting (Duhaney & Spencer, 2000; Fisher, Pumpian & Sax, 1998; Grove & Fisher, 1999).

Participating educators' difficulties and frustrations

The following difficulties and frustrations were encountered by the participating educators:

- Disempowerment, isolation and abandonment

The sub-theme of the Grade 3 teachers at P2's school having no choice regarding including him in their classrooms emerged, which carries a negative connotation and implies the teachers' disempowerment and abandonment. "We haven't had a choice, somebody would have been chosen, somebody had to do it. So it was better to choose yourself if you wanted him or not, rather than to be picked" (P2's teacher). Initial feelings of abandonment and isolation were also reported by P2's teaching assistant, who experienced negative feelings of being unprepared and uncertain about her ability to cope. In addition, the sub-theme of disappointment in the available sources of assistance emerged, as she explained that her own empowerment was the only source of support she had. Although P3's teacher stated that she had been made aware of sources of contacts, these feelings of isolation and abandonment were apparent in her responses, as she reported, "The contact I find has to come from my side". These feelings of disempowerment, isolation and abandonment experienced by the participating educators lend support for the view of Engelbrecht, Forlin et al. (2001) who maintain that the growing demand placed on educators in South Africa to teach learners with special educational needs in ordinary schools has not received much consideration. "The demands that teachers face in the performance of their professional roles and responsibilities

and the variables that teachers report as stressful in inclusive education are not addressed" (Engelbrecht, Forlin et al., 2001, p. 82).

- Isolation and abandonment by the Gauteng Department of Education

According to P3's teacher the Gauteng Department of Education had promoted the concept of providing a team of professionals to assist inclusive education. However, this team approach had not been put into practice. Consequently, P3's teacher had to work without the assistance from the Department.

- Isolation and abandonment by the participating school including staff members

P3's teacher specified an example of the discrepancy between the South African policy of inclusive education and the reality of the situation in ordinary public schools. She explained that part of the policy involved smaller classes if a learner with Down Syndrome were to be included in the ordinary class. However, this policy was not carried out by her school. Consequently, she experienced feelings of isolation, frustration and abandonment by her school. As is reflected in her words, "You must make it work for yourself". Furthermore, minimal support, encouragement and interest were provided by other staff members who did not wish to become involved. This fact emerged from the responses given by both P1 and P3's teachers.

- Pressures placed on teachers – lack of familiarity, knowledge and unrealistic expectations

P1 and P2's teachers discussed the pressures placed on teachers in ordinary public schools arising from the teachers' lack of familiarity and knowledge of inclusive education of learners with Down Syndrome, "Initially there's a little bit of, well there's quite a lot of pressure on the teachers because it's an unknown, it's something strange that they never encountered before" (P2's teacher). Likewise, Fox et al. (2004) found that teachers who had little or no experience of working with learners with special educational needs felt anxious about including a learner with Down Syndrome, especially at the beginning of the school year.

The sub-theme of the unrealistic expectations of the Gauteng Department of Education placed on teachers at ordinary public schools to cope with inclusive education emerged as a result of the gap between the policy and the reality of the situation in the South African context. This factor is related to the pressures placed on teachers. "I sometimes feel from the Department's

side, my dealings I've had there is that it's fine, you can do it, you'll be fine, and you must achieve things but the realities are overlooked" (P3's teacher).

➢ Limited contact time available

The sub-theme of the participating teachers' difficulty and frustration of having to devote the necessary time, extra individual attention and focus on the learner with Down Syndrome in an ordinary class was mentioned by all teachers and validated by the data obtained from the school observations. Therefore, P2's teacher was willing to accept P2 in her classroom on condition that he would have an assistant. "I feel the problem is that I've got so many others I need to teach too…And she's just got to fit in…personally I find it hard because I see the need and I can only divide myself among so many children…it wouldn't be fair if I worked with her half an hour and what does the rest of the class do, that is the reality of it, I mean if I was a parent then of the other children I would be very annoyed" (P3's teacher). P3's teacher highlighted this difficulty with younger learners who all require attention, which was particularly evident during P3's classroom observations. This sub-theme of the teachers having limited contact time with the learner with Down Syndrome relates to the findings of Wolpert (1996). In Wolpert's (1996) study teachers who were involved in teaching children with Down Syndrome in ordinary schools explained that they required more one-on-one individual instructional time with the learners with Down Syndrome.

The above findings related to the sub-theme of the difficulties faced by teachers underline the situation in Gauteng, South Africa at the time of the study, where inclusive education in general and specifically of learners with Down Syndrome was in its infancy stages. Consequently, in South Africa, the role of supporting the teachers largely appeared to be with the parents of children with special educational needs attending ordinary public schools. This factor brings to the fore crucial implications of the study that will be discussed in Chapter 7.

- ***NEGATIVE OUTCOMES OF THE INCLUSIVE EDUCATION SYSTEM***

Inclusive education not viewed as the most appropriate option for learners with Down Syndrome

➢ Academic perspective

The view that inclusion of children with Down Syndrome into ordinary schools was not the most appropriate option for these learners from an academic perspective and in terms of the child reaching his/her full potential was expressed by P3's teacher. This factor has been

discussed previously as a disadvantage of inclusive education for the child with Down Syndrome.

P3's teacher believed that an educational setting which focuses particularly on learners with Down Syndrome might be a better option for these learners especially during their foundation years. As stated by her, "I'm not saying that they can never fit into a normal school but I think especially a young child where you are wanting her to learn as much as possible, she's not fully learning at her best in this classroom. I personally feel she would be learning a lot more, a lot more focused on her and her needs within a Down Syndrome school. That would be my personal answer, to me it's not the best solution". She felt that the ordinary school accommodates the learner with Down Syndrome rather than focusing on their education, "you are accommodating them in your class but you are not focused on their education". These findings are similar to those of Sakari and Hannu (2003) who found that Zambian teachers and parents, compared to Finnish teachers, favoured a more segregated educational setting for learners with diverse disabilities. These reactions of P3's teacher are also consistent with results of the study conducted by Ghesquiere et al. (2002) concerning the implementation of inclusive education in Flemish primary schools.

Predicament placed on the school and viewed as a burden

P3's teacher explained that a disadvantage of including children with Down Syndrome was the predicament it placed on the school, as the school had to start making plans and finding solutions to including and teaching learners with Down Syndrome without the support from the Department of Education. She stated that this predicament arose "because at the end of the day as a teacher you want to see results…You want to see learning taking place, so now you are looking for a problem and now you are going to have to find the solution to it, and I think that's why schools can be very closed to it, because there are enough problems in a normal school". The sub-theme emerging from her response is the view that including learners with Down Syndrome was seen as an added "problem" for the ordinary school, "now it's just seen as another burden…and maybe one too many". P3's teacher added that for this reason ordinary schools might be against the idea of inclusive education in general and including learners with Down Syndrome. "For a lot of teachers it's not that they don't want to do it but it's also because of all the other things they are dealing with". These findings were not unexpected as Engelbrecht, Forlin et al. (2001) explain that in the South African context the limited available support structures for educators in ordinary schools affect inclusive

education. Due to this limited support, teachers in ordinary schools view inclusive education as being imposed on them and they have expressed much concern about its implementation (Buell et al., 1999; Forlin et al., 1996; Hall & Engelbrecht, 1999; Swart, Engelbrecht, Eloff & Pettipher, 2000).

Further critical reasons for the possible resistance of ordinary schools and educators towards inclusion of learners with Down Syndrome were highlighted by P3's teacher. These factors were unique to the South African context and included educators' frustrations, increased number of learners in classes, discipline and social problems, language barriers, multiculturalism within classes and that many learners experienced areas of difficulty and barriers to learning. Consequently, such learners required therapy and intervention. These important barriers were also evident during the participating children's school observations conducted by the present researcher. Educators' difficulties and frustrations of having to devote individual attention to the learner with Down Syndrome were particularly evident during P1 and P3's classroom observations where teaching assistants were absent and the number of learners in the classes was large (P1's class had 35 learners and P3's class had 29 learners). P3's teacher felt that including a learner with Down Syndrome would add to these difficulties faced by educators. These barriers and difficulties encountered by teachers in the South African context have been documented by the Gauteng Provincial Government Department of Education (March, 2002) and in the joint report of the National Commission on Special Needs in Education and Training and the National Committee on Education Support Services in South Africa (Department of Education, 1997) as discussed in Chapter 4.

- ***FEARS AND CONCERNS EXPERIENCED BY PARTICIPATING EDUCATORS***

Participating educators described the following fears and concerns which they experienced in teaching the participating children with Down Syndrome in the ordinary public schools:

Unaware of the participating child's abilities and levels of functioning

Difficulties and frustrations were experienced by teachers of P1 and P3 in terms of not knowing how to adapt and prepare the learning material for P1 and P3 respectively. These difficulties arose as a result of their lack of awareness of P1 and P3's abilities and levels of functioning prior to them being placed in the classrooms. Similarly, Feuer and Fulton (1993) in Wolpert (2001) explain that the adaptations of, or use of, different resources, materials and teaching methods for learners with Down Syndrome in ordinary classrooms might be a source

of frustration for the teacher. Wolpert (2001) found that teachers involved in teaching learners with Down Syndrome in ordinary schools required further information and knowledge regarding the learning styles and profiles of children with Down Syndrome. According to P1's teacher, difficulties experienced by her were more intense during the first school-term as a result of her fears of the unknown, "after a time it wasn't so bad after all…**I TRY** my best…I'm not so afraid anymore. I'm the first one to say how afraid I was, I was very, very afraid". During the first term her fears were associated with concerns as to how she would teach P1, keep him occupied, maintain his attention and teach and assist the rest of the learners in her classroom. These factors relate to the previously reported sub-theme of limited available contact time and were confirmed during P1's classroom observations carried out by the present researcher. Previous research has also demonstrated that teachers in ordinary schools have mixed feelings about the feasibility of balancing the demands of teaching the learners who are being included with their other duties in the classroom (Gersten, Vaughn, Deshler & Schiller, 1997).

Difficulty with curriculum adaptations

As no specific learning programme or curriculum for learners with Down Syndrome existed, P1 and P3's teachers voiced the difficulty and frustration of being unable to prepare or plan adapted work specifically for P1 and P3 respectively. However, P3's teacher explained the difficulty of setting a specific curriculum for learners with Down Syndrome attending ordinary classes since these learners are heterogeneous, have diverse levels of functioning and are at different stages of learning. Furthermore, she believed that such a curriculum would also have to be continuously adapted for each learner's needs and the teacher would have to display flexibility in her approaches. She mentioned that in this context learning has to be "accessible and unique to the individual". Due to the above factors, P3's teacher expressed concern that the child with Down Syndrome might often be left behind. This difficulty of not being able to prepare and plan ahead was also found in Wolpert's (2001) study. The teachers felt that they required more planning time with regard to teaching the learners with Down Syndrome in the ordinary classrooms (Wolpert, 2001).

Since the learning gap between P3 and her peers would increase, P3's teacher described the difficulty of adapting the existing material to meet her needs. She felt strongly that, "It's important where she **CAN** fit in and do what the class is doing she must because that's why she's at school…But when it comes to the actual activity, she's probably not going to be able

to do it, so then she needs to have her work to do…in an adapted form and possibly related to what we are doing". Due to the gap widening in learning ability and work between P3 and the rest of the learners in the class, the teacher would be required to re-evaluate P3's level and create specific and appropriate learning material to meet P3's needs. The realities of the situation of time restrictions and the lack of specialized training made this task difficult for P3's teacher. The lack of specialized training was also documented in a study undertaken by Keith and Ross (1998) who investigated the attitudes of primary school teachers towards inclusive education of hearing-impaired learners in Gauteng, South Africa. The majority of teachers in their study reported that they had limited knowledge regarding specialized teaching methods (Keith & Ross, 1998). Additionally, P3's teacher explained that the class-work which was structured specifically for P3 was completed by her quickly. This factor was an added stress for the teacher, as P3 needed to be kept occupied for the full duration of the lesson. Furthermore, most of the work which was designed for P3 required individual assistance, which was difficult for the teacher when the teaching assistant was absent. These factors were evident during P3's classroom observations.

Increase in participating teachers' workload: Quantity and content

Further difficulties, concerns and frustrations, which both P2 and P3's teachers had experienced, included the added teaching workload in terms of quantity and content. P2's teacher viewed this factor as a disadvantage to teachers. As P2 and P3 were not on par with the other learners in the class with regard to the level of learning, the workload for their teachers was increased. "You've got two different scenarios in your class, and it's vast, especially I would say I'm starting to see it even more now because of the children moving on with their ability but her pace of learning is much slower and she hasn't moved on in that sense" (P3's teacher). In line with this concern, both P1 and P3's teachers also expressed the difficulties and frustrations of keeping P1 and P3 and the other learners in the class occupied at the same time, which relates to the sub-theme mentioned previously of limited available contact time. "Often you just take the worksheet and simplify it for her…Sometimes I feel she just needs to do something so I just give her a puzzle…and the rest of the class's work needs to go on" (P3's teacher). The latter part of this quote is of crucial importance, as it sheds light on whether or not inclusive education has really been effective for P3 from an academic learning perspective. As discussed previously, her teacher believed that inclusive education was not the most appropriate option for learners with Down Syndrome academically. The added teaching workload is confirmed by Feuer and Fulton (1993) in Wolpert (2001) who

report that teachers might find that including learners with Down Syndrome in their ordinary classrooms would be time-consuming in terms of the adaptations of learning materials and teaching methods, which would need to take place. Conversely, according to Wood (1992) teachers involved in inclusive education did not find the process to be cumbersome or entail additional work.

Higher grades: Ability to cope in terms of increased academic demands – educators' perceptions

Concerns were expressed by all participating educators regarding the participating children's abilities to function and cope in the higher grades, where demands would be greater. For example, the interchanging of classes and teachers, the increase in academic requirements in terms of quantity and complexity and the widening of the learning gap between the participating children and the other learners. Furthermore, P2's teaching assistant was ambivalent as to whether or not work adaptations would be possible to meet his specific needs, as she felt, "He is not going to be able to grasp all those subjects in the first place, there I've got a bit of concern as to what is going to happen in those classes, will they be giving him work which he can perhaps do?" (P2's teaching assistant). Similarly, due to the fact that P1 had repeated two grades and subsequently he was chronologically older than his class peers, his teacher felt that she was required to advance his academic abilities for him to proceed to the higher grade with his chronologically aged peer group. Such concerns placed added pressure on the participating educators and children. This finding is supported by Fox et al. (2004) who report that a number of ordinary class teachers, head-teachers and special needs co-ordinators expressed concerns towards inclusive education of learners with Down Syndrome, "particularly in an educational climate of accountability with an emphasis on academic performance" (Fox et al., 2004, p. 188). This concern was more common with regard to older learners. An underlying tension existed between wanting to include the learner with Down Syndrome with the other learners in the class while at the same time increasing the academic attainments of the other learners in line with the expectations for the school (Fox et al., 2004).

However, these concerns relate to the participating educators' perceptions and understanding of inclusive education, their role in this process and expected outcomes for the child who is being included. These perceptions contradict the philosophy behind inclusive education, which involves educators adapting the learning material and demands to meet the child's

needs. In terms of this philosophy, the child is not expected to meet the demands of increased content and quantity if he/she is unable to meet the requirements set out for his/her grade (Lazarus, Daniels & Engelbrecht, 2004; Salisbury, Gallucci, Polombaro & Peck, 1995). As Green, Forrester, Mvambi, van Vuuren, and du Toit (2004, p. 142) emphasize, "where barriers to learning are experienced, revision of learning goals in the light of experience is an important dimension…*all learners need not achieve the same goals*…Inclusion is about recognising and celebrating diversity, not about trying to make everyone the same". Therefore, one of the vital implications of the study, as will be reviewed in Chapter 7, involves educating teachers and teaching assistants regarding the meaning and philosophy behind inclusive education, their significant role in the process and the expected outcomes for the child being included.

Cultural and ethnic differences

Unique to the South African context is the cultural and ethnic diversity teachers in ordinary schools encounter with their learners. P3's teacher who is White experienced this factor with P3 and her parents who are Indian. This cultural and ethnic difference was initially an area of concern for P3's teacher. She felt that as a teacher she had to learn about Down Syndrome in addition to dealing with the fact that P3's culture and ethnicity are different to her own. This issue is important since different cultural and ethnic backgrounds have different perceptions regarding disability and Down Syndrome. These findings are in line with the words of Seligman (1999, p. 113), "Cultural beliefs can affect the way in which families adapt to disability and can influence the use of and trust in caregivers and care-giving institutions".

- ***EQUALITY OF TREATMENT***

The process of inclusive education of the participating children with Down Syndrome demonstrated the importance of equality of treatment for all learners.

Equal treatment versus unequal treatment – 'non-disabled' learners feel excluded

Both P2 and P3's teachers explained that P2 and P3 were not treated differently to the other learners and were accepted as 'equals' in the class, for example, in terms of discipline, which was evident during their classroom observations. However, P3's teacher mentioned that to a certain degree the other 'non-disabled' learners in her class felt that P3 was being treated differently, for example, by receiving different work and extra attention. As a result the other learners would feel excluded, which could be a negative implication of P3's inclusion into the

ordinary class. Therefore, P3's teacher felt it was her responsibility as a teacher, to try and prevent these negative feelings from emerging. In this respect and in relation to inclusive education Ferguson and Jeanchild (1992, p. 171) specify the importance of "understanding the purpose of schooling as being identical for all students".

- ***TEAMWORK***

P2's teacher explained that the staff at her school functioned as a team and shared learning material, ideas and knowledge. "We work as a team here…everybody shares material, if you have a good idea, you share it amongst your colleagues. So it's because everybody is committed and works as a team that inclusion works at this school" (P2's teacher). A team effort and open communication amongst team members with regard to P3's inclusive education was also conveyed as being important by P3's teacher. She pointed out that P3's occupational therapist had contributed to the content of P3's learning material and furthermore, P3's mother was the child's assistant. The remedial teacher at the school was also part of the team. P3's teacher viewed her own role as creating and providing the environment for P3, monitoring the situation, providing input, help and suggestions rather than teaching her directly. "I feel in many ways that's actually what I'm creating, I'm creating the normal school environment for her. That's where I would say I've contributed…mostly". She described the challenge of the teacher having to combine different roles in including P3 in the ordinary class. The theme of teamwork was also documented in a study reported by Fox et al. (2004), which investigated factors associated with effective inclusive education of primary school aged children with Down Syndrome in England. The findings revealed that the manner in which support was handled in the whole school, especially with regard to roles and accountability of staff members, brought about effective teamwork, improved collaboration between staff, more effective communication and sharing of ideas (Fox et al., 2004). They stated that a learner with Down Syndrome " 'belonged' to the school in such a way that the responsibility of meeting his individual needs was shared by all the staff in some way" (Fox et al., 2004, p. 186).

- ***ADVANTAGES AND DISADVANTAGES OF INCLUSIVE EDUCATION FOR PARTICIPATING EDUCATORS AND 'NON-DISABLED' LEARNERS***

Table 15 shows a summary of the advantages and disadvantages of inclusive education of learners with Down Syndrome for the participating educators and the 'non-disabled' learners in the participating children's classes. The finding that teaching children with Down

Syndrome creates a broader perspective and outlook with regard to teaching and was seen as an uplifting learning experience for teachers was also documented in Wolpert's (1996) study. The development of more patience, compassion, acceptance, tolerance, awareness of differences and disability and a positive teaching attitude amongst educators as a result of including learners with Down Syndrome relates to the reports of Balboni and Pedrabissi (2000) and Forlin and Engelbrecht (1998). They explain that teachers in ordinary schools and other professionals who are directly involved with inclusive education and disabilities are more positive towards children with special educational needs than those without this exposure (Balboni & Pedrabissi, 2000; Forlin & Engelbrecht, 1998).

The factor that including learners with Down Syndrome increases the 'non-disabled' children's self-esteem, provides them with a sense of satisfaction and the ability to assist and accept others is consistent with the findings of Fox et al. (2004). "Many headteachers remarked on the way in which including a child with Down's syndrome in their school had made the other pupils more caring. This was frequently cited as a benefit of inclusion" (Fox et al., 2004, p. 188). In addition, the finding that including learners with Down Syndrome results in the other 'non-disabled' children learning to be grateful and appreciative of what they have corresponds with the views of McGregor and Vogelsberg (1998), who indicate that 'typically developing' learners gain from their interactions with learners with special educational needs. All participating teachers felt that by including the learners with Down Syndrome the other 'non-disabled' learners in the classroom would be deprived of quality teaching time in situations where a teaching assistant would not be present. However, McGregor and Vogelsberg (1998) specify that achievements of 'typically developing' learners are not negatively affected by the presence of learners with special educational needs in their classrooms.

Table 15: Advantages and disadvantages of inclusive education for participating educators and 'non-disabled' learners

Advantages	Disadvantages
For the participating educators	
➢ Creates broader perspective and outlook with regard to teaching (P1 & P3's teachers): "You think you more in the child's world" (P1's teacher).	➢ Other teachers shift responsibility to the child's class-teacher (P3's teacher): "The other teacher brought her to me and I had to handle the situation" (P3's teacher).
➢ Develops more patience, compassion, acceptance, tolerance, awareness of differences and disability and a positive teaching attitude (P1's teacher, P2's teaching assistant & P3's teacher): "I think each of us has got something to learn from him…and not only from him but from any disabled person you learn a lot, you learn compassion and acceptance which is so important" (P2's teaching assistant).	
➢ Teaching the participating children with Down Syndrome was viewed as an uplifting learning experience (P2 & P3's teachers): "It's very uplifting to have a child like him in the class because when he achieves something you get a much greater sense of satisfaction than when a normal child does it…the sense of having accomplished something is so much greater...even if you just taught him one thing, you've achieved something" (P2's teacher).	
➢ Learn to function as part of a team (P3's teacher).	
For the 'non-disabled' learners in the participating children's classes	
➢ Increases the children's self-esteem, provides them with a sense of satisfaction and the ability to assist and accept others (all participating educators): "They accept her as part of the class and help her a lot" (P3's teacher).	➢ Deprived of quality teaching time if teaching assistant is not present due to teachers having to devote extra time and attention to the child with Down Syndrome (P1, P2 & P3's teachers): "If there isn't an assistant there's just not enough time to focus on the other children and on him…because you have to spend a lot of time with him, you must help him a lot so obviously the other children are going to suffer a little bit if you haven't got an assistant" (P2's teacher).
➢ Learn to be grateful and appreciative of what they have (P2's teacher & teaching assistant): "It teaches them to be grateful for what they have" (P2's teacher).	

The following section covers the main themes which are specific to the participating mothers regarding their overall experiences of inclusion of their children into ordinary public schools.

6.3.3) Overall experiences of participating parents

- **Local community: Parents**

The important themes emerging from participating parents who are found at the level of the local community of the ecosystemic model adapted from Donald et al. (2002) are the **positive experiences for participating children and mothers** and the **initial negative experience** for P3's mother.

- ***POSITIVE EXPERIENCES FOR PARTICIPATING CHILDREN AND MOTHERS***

All three participating mothers felt that their children's experiences of inclusive education had been positive. Similarly, according to P1 and P3's mothers their own experiences of placing their children in an ordinary school were positive. All participating mothers did not regret placing their children in ordinary schools, as P1's mother explained that she felt "positive at this point, I feel that it was the right thing to do, I would do it again in a blink of an eye…I'm glad that we took that route with him". Even though P3's mother was aware of the difficulties, frustrations and hard work associated with inclusive education, she believed that her daughter would benefit from the process, "I don't have any regrets. I know it's not easy, it's not going to be easy and I think if we go to the higher grades, I think it's going to get more difficult. I'm sure there are going to be times when I'm going to say why did I do this, but I think no, I think we've made a positive move and I think we are going to reap the benefits. I just think that she's really going to benefit totally from this". These results are similar to those documented by Fox et al. (2004) who found that in general parents of learners with Down Syndrome were positive regarding their child's inclusive education placement.

- ***PARTICIPATING MOTHER: INITIAL NEGATIVE EXPERIENCE***

Although P3's mother explained that generally her experience of placing her child in an ordinary school was positive, as mentioned above, she also described that initially her experience was negative as it was overwhelming and daunting, which was not the case for P3. "When I started with her to go to school, those first three weeks were very overwhelming for me as a mom…it was very frightening for me but not for her…so the whole process for her wasn't daunting at all as to how it was for me". She explained that initially she had concerns, fears and doubts regarding her child's ability to cope in the ordinary school. Consequently, P3's mother felt depressed during that period. Even though her feelings of fear and concern were alleviated when P3 proved to her that she was able to cope with the situation in the ordinary school, P3's mother reported, "I do have my moments when if I'm like five minutes

late to pick her up, I have all these weird ideas going through my head, oh this child has walked out through the gate and she's alone". This theme is consistent with the research literature regarding parents' hesitations and concerns surrounding the issue of placing their child with special educational needs in an ordinary school as discussed in Chapter 4 (Depperman, 2004; Scala, 2001; Wolpert, 1996).

In summary to the perceptions, attitudes and experiences of parents and educators of the participating children with Down Syndrome, the emanating overriding theme appears to be the discrepancy between the ideology of the South African inclusive education policy in theory and the reality of its implementation for the participating children. This factor filters through to all the other themes and sub-themes which emerged from the participating mothers and educators' responses. Furthermore, this discrepancy has a profound effect on all the levels, systems and subsystems of the ecosystemic model adapted from Donald et al. (2002) for the current study. It was found that the crucial role undertaken by the participating parents, who are placed at the level of the local community of the model, within the inclusive education process for their child with Down Syndrome appeared to minimize the associated negative outcomes of this discrepancy. A discussion of the findings related to the barriers, challenges and factors contributing to the successful inclusion of the participating children into ordinary public schools is found below.

6.4) Barriers, challenges and factors contributing to successful inclusive education of participating children

The fourth and fifth sub-aims of the research were to explore and identify the barriers, challenges and factors contributing to successful inclusion of the participating children with Down Syndrome into ordinary public schools.

The findings of these sub-aims were obtained by means of an overview of the results of the previous three sub-aims regarding firstly, the overall functioning of the participating children in the inclusive school context within the domains of communication, academic skills and socialization and secondly, the perceptions, attitudes and experiences of parents and educators of the participating children regarding their inclusion into ordinary public schools. Furthermore, data elicited specifically from the viewpoints of the participating parents and educators regarding the barriers, challenges and factors contributing to the successful inclusion of the participating children into the ordinary schools was analysed. Therefore, the

analysis of the challenges, barriers and success factors was carried out by means of triangulating the data gathered from the parent questionnaire and interview, assessment and progress reports of other professionals and school reports, observation checklist completed by the researcher, teacher and teaching assistant interviews, educator rating scale, speech-language assessment and audiological screening.

In order to accomplish the fourth and fifth sub-aims it is imperative to discuss the meaning of 'successful inclusion' into ordinary schools and the criteria on which inclusive education for learners with Down Syndrome is regarded as being successful or unsuccessful. This notion is related to various aspects surrounding inclusive education such as its effectiveness, which in turn leads to the benefits and outcomes of inclusive education. As stated in Chapter 2, when considering the effectiveness of inclusive education, the meaning of effectiveness is multifaceted and complicated due to its reliance on subjective views or beliefs being taken into account (Sebba & Sachdev, 1997). Therefore, in order to enhance the reliability of the current study's findings, various sources named above, which characterizes the study's method of triangulation, were analysed with regard to exploring and identifying the barriers, challenges and factors contributing to the participating children's successful inclusion into the ordinary public schools. The views, beliefs and perceptions of the researcher, participating children's parents and educators were considered in the interpretation of the data for the fourth and fifth sub-aims of this study. A discussion regarding alternative ways of measuring successful inclusive education for learners with Down Syndrome is found in Chapter 7.

Interpretation of the barriers, challenges and factors which contributed to participating children's successful inclusion into the ordinary public schools will be presented in tabular form in accordance with the ecosystemic model adapted from Donald et al. (2002) for the current study – refer to Figures 1 and 2. An overview of this model is found in Chapter 3. The barriers, challenges and factors contributing to the participating children's successful inclusive education are found at all levels of the model. Salient features emerging from these results will be discussed.

The section is divided into two main parts: firstly, the barriers and challenges to successful inclusion of the participating children into ordinary public schools and secondly, the factors which contributed to successful inclusion of the participating children into ordinary public schools. Each of these parts comprises of factors which stem from within the participating

children, referred to as the intrinsic challenges and factors contributing to their successful inclusion into the ordinary schools; and those factors which occur externally to the child at all levels of the ecosystemic model adapted from Donald et al. (2002), which are named the extrinsic barriers, challenges and factors contributing to the successful inclusive education of the participating children.

6.4.1) Barriers and challenges to successful inclusion of participating children into ordinary public schools

Intrinsic challenges

- **Local community: Individual – participating child with Down Syndrome**

Table 16 below illustrates a summary of the intrinsic challenges and their consequences to successful inclusive education of the participating children.

Table 16: Intrinsic challenges and their consequences to successful inclusive education of participating children

Intrinsic Challenge	Consequence	Examples of Verbatim Responses
• Impaired communicative (speech and language) functioning, auditory memory and auditory processing skills (P1, P2 & P3)	• Negative effect on participating children's: o Functioning within the classroom group context o Interaction with educators and peers at school – socialization	• "Sometimes the other children will laugh at her, or they ignore her if they cannot understand her" (P3's teacher).
• Intellectual and learning disability – learning styles: inconsistent learning and concentration (P1, P2 & P3)	• Classroom and academic functioning • Increased workload for teachers	• "Every day is a challenge, because he changes from day to day, today he's tired, tomorrow he's not tired, the day after that he just wants to sit colouring in pictures the whole day" (P2's teacher).
• Ability to cope in higher grades in terms of increased academic demands – participating educators' perceptions (P1, P2 & P3)	• Pressure placed on educator and child	• "As school progresses he's going to get other subjects and with his little grasp of reading and things like that…he's not going to be able to comprehend that work…maybe at a later stage but not at this stage" (P2's teaching assistant).

• External appearance and self-awareness that he is different (P1 & P2)	• Self-esteem and socialization in future	• "He doesn't look like the other children and they notice it" (P1's teacher).
• Physically slow – motor and co-ordination skills (P1 & P2)	• No participation in competitive extra-mural sport activities at school	• "He is excluded from sport and competition activities at school…He can't compete against ordinary children in his same age group, for instance, with running…He can't take it, he can't do it, he's not good enough to outrun them" (P1's mother).
• Academic and social demands (P3)	• No participation in extra-mural activities at school	• "She doesn't participate in any extra-murals. Her mom and I felt that it's just too much with all the therapy and the extra homework that she does to still stay after school and participate. It makes the day for her very long in the structured situation" (P3's teacher). • "We don't want to over expose her to all the other things because it might just become too much stimuli then she is going to probably just withdraw" (P3's mother).
• Initial discipline problems (P2) • Difficult, inappropriate and unacceptable behaviour in Grade 1 (P2)	• Negative impact on child's classroom functioning, socialization and inclusive education	• "Initially in Grade 1 there were obstacles with his discipline…when the teacher or the assistant wasn't looking he would run out of the classroom and on one occasion he even ran out of the school…but now he is fine" (P2's teacher).

Such intrinsic challenges and consequences found in Table 16 have been documented in the joint report of the National Commission on Special Needs in Education and Training (NCSNET) and the National Committee on Education Support Services (NCESS) in South Africa. It identifies several barriers to learning and development that commonly existed in the South African society (Department of Education, 1997). According to the report some of these barriers may be located within the learner. "Particular impairments may prevent the learner from engaging continuously in structured learning and development. Such impairments may render the learner unable to participate in an ideal process of learning" (Department of Education, 1997, p. 18). For instance, some learners experience learning

breakdown as a result of intrinsic cognitive or learning difficulties with regard to acquiring literacy or numeracy skills or in terms organizing and managing their own learning (Department of Education, 1997).

- Intellectual and learning disability, learning styles: Inconsistent learning and cocentration

A typical consequence of Down Syndrome, which was common to all participating children, was their intellectual and learning disability. The intellectual and learning disability associated with Down Syndrome has been widely documented in the literature as discussed in Chapter 4 (Anneren & Pueschel, 1996; Cicchetti & Ganiban, 1990; Lipkin & Schertz, 1996; Miller, Leddy & Leavitt, 1999a; Nadel, 1995; Owens, 1989; Rogers, Roizen & Capone, 1996). This factor was viewed by their educators as a challenge to their inclusive educational experience. “The challenge is to get him to open up more, to concentrate more, and to just be of assistance to him, to help him take in as much as what he is capable of taking in, that’s the biggest challenge to teach him as much as he can take” (P2’s teaching assistant).

Associated with participating children’s intellectual disability were their learning styles of inconsistent responses, learning and fluctuating concentration skills. These learning profiles are typical of Down Syndrome as outlined in Chapter 4 (Cicchetti & Ganiban, 1990; Miller, Leddy & Leavitt, 1999a; Nadel, 1995; Owens, 1989). These learning profiles were viewed by participating educators as challenges to the participating children’s inclusive education experiences, as the profiles affected the children’s academic functioning in the classroom situation. According to all participating educators and as noted during classroom observations, these learning profiles increased their workload by having to provide extra adaptations in the form of explanations, revisions and prompts to ensure that learning occurred.

- External appearance and self-awareness that child with Down Syndrome is different

Due to the typical physical manifestations of Down Syndrome, P1’s teacher viewed his external appearance as a possible challenge or disadvantage to his inclusive education experience, “now he stands out because of the way he looks”. She explained that this factor might cause social difficulties and negatively affect his self-esteem in future. In this respect Kumin (2004) lists a number of common physical signs associated with Down Syndrome, which include: underdevelopment of the midface (midface hypoplasia), flattening of the back of the head, slanting of the eyelids (palpebral fissures), skin folds at the inner corner of the

eyes (epicanthal folds), small upper jaw (maxilla) relevant to the lower jaw (mandible), depressed bridge of the nose, small outer ears (tops may fold over), short arms and legs.

- Initial discipline problems: Difficult and inappropriate behaviour

The negative impact of P2's initial discipline problems on his classroom functioning and social skills were expressed by his mother and teacher. "If he doesn't fit in with the expectations of the school then inclusion can be very difficult and difficult to such an extent that the school doesn't want to carry on with it, I think that's the one big thing… if he does things that are not acceptable, that makes it difficult for the teacher to teach" (P2's mother). This finding is similar to the viewpoint expressed by Prinsloo (2005) who states that challenging and disruptive behaviour of learners in the classroom, which are not controlled, may lead to established patterns of behaviour that inhibit the educator from teaching properly and effectively. In turn the educators often feel discouraged and unmotivated and the complete learning process is held back (Prinsloo, 2005).

The above mentioned intrinsic challenges found within the system of the individual at the level of the local community of the adapted ecosystemic model (Donald et al., 2002) generate vital implications. As will be discussed in Chapter 7, these implications include adapting and accommodating extrinsic factors for the child in order to ensure successful inclusive education of learners with Down Syndrome.

Extrinsic barriers and challenges

- **Local community: School and peer group**

1) Other ordinary schools, participating schools and staff members: School principal and other educators

The extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the school and its subsystem of staff members including school principal and other educators is found in Table 17.

Table 17: <u>The school system and its subsystem of staff members (school principal and other educators)</u>

Extrinsic Barrier and Challenge	Consequence	Examples of Quotes
• Negative attitudes of other ordinary schools (P2 & P3)	• Discrimination from other ordinary schools regarding child's placement	"I had to go to quite a few nursery schools until he was accepted" (P2's mother).
• Predicament placed on participating school (P3)	• Viewed as a burden	"The predicament you are also putting on the school, in the sense that now the school has to start making a plan, especially if the Department's not" (P3's teacher).
• Lack of support, knowledge and awareness of other educators at participating schools (P1, P2 & P3) • Initially school principals lack knowledge and awareness at participating schools (P1 & P3)	• Participating educators' isolation and abandonment by participating schools (P1 & P3) • Fear – negative attitudes of other educators at the participating schools (P2 & P3) and initial negative attitudes of participating school (P3) – initial reluctance and resistance to include child (P2 & P3) • Other educators resentful towards inclusive education of children with Down Syndrome (P3)	"If they are not directly affected by it, they haven't got a problem with it and don't show any extra concern" (P1's teacher).

- <u>Lack of support, knowledge and awareness of staff members at participating schools</u>

All participating educators felt that a common initial barrier to the participating children's inclusive education process was the lack of support, knowledge and awareness amongst other educators at the participating ordinary schools regarding inclusive education and Down Syndrome, which was particularly evident in P3's situation. This lack of knowledge and awareness was found to a lesser degree amongst school principals. Furthermore, in P1's case these negative attitudes of staff members and the participating ordinary school were found to a lesser degree, as his parents worked at the school and his mother was involved in raising awareness at the school prior to his arrival. Wamae and Kang'ethe-Kamau (2004) conclude that teachers in ordinary schools are more likely to hold positive attitudes towards a child with special educational needs, if they think they can contribute to the child's educational development. "In order for this to occur, it would seem that both knowledge of the disability and familiarity with the disabled child are critical factors" (Wamae & Kang'ethe-Kamau,

2004, p. 35). Further consequences of the lack of support, knowledge and awareness of staff members at participating schools are shown in Table 17.

2) Support structures and resources

Table 18 presents the extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the school and its subsystem of support structures and resources.

Table 18: The school system and its subsystem of support structures and resources

Extrinsic Barrier and Challenge	Consequence	Examples of Verbatim Comments
• Lack of support structures and resources: o Professionals, therapists and necessary intervention – multidisciplinary team (P1, P2 & P3) o Absence of teaching assistant (P1) o Absence of full time teaching assistant (P3)	• Parents required to provide teaching assistant and therapists (P1, P2 & P3) • Specialized needs not provided by school (P1, P2 & P3) • General educational needs not catered for by the school (P3) • Affects child's optimal learning ability (P1, P2 & P3) • Added pressure placed on teacher (P1, P2 & P3) • Inclusive education not viewed as the most appropriate option for learners with Down Syndrome academically (P3)	• "The specialized attention is limited. Because she's not perhaps getting it as much and regularly, it's actually coming out of the parents' pockets to pay for an occupational therapist, the school's not providing that in that sense" (P3's teacher). • "The fact that we haven't got an assistant, so I must give a lot of my time to him, and I lose the other children. There are children in the class who also need help but I can't get to them all the time because I must be with him the whole time, I must sit with him at his table and work with him, so I lose the other children" (P1's teacher).
• Presence of teaching assistant (P2 & P3)	• Difficulty establishing balance of dependence and independence (P2 & P3) • Prevents child's full participation in classroom group context (P2)	"I think perhaps I'm a bit protective towards him, which could be a disadvantage …because he's often unsure and needs my confirmation before he answers a question. Perhaps that could be a disadvantage because he takes everything as I say is right" (P2's teaching assistant).

- Lack of support structures and resources

Lack of support structures and resources at the participating schools in terms of professionals, such as an inclusive educational co-ordinator, therapists, necessary intervention and a multidisciplinary team approach was identified by all participating teachers as barriers to the participating children's successful inclusive education experience. These barriers resulted in the fact that all participating children's parents were required to provide and fund therapists and teaching assistants for their children, as the children's specialized educational needs were not provided by the school. "You need a team, if you are going to put the child in a normal school, you are not going to get much success if it's the teacher and the child, you need co-operation from the parents, you need co-operation from a therapy perspective because there's no child with Down Syndrome that doesn't need therapy" (P3's teacher).

- Barriers and challenges of the teaching assistant

A major barrier to P1's successful inclusion into the ordinary school, identified by his teacher and revealed by his classroom observations, was the lack of provision of a teaching assistant. This factor affected his optimal learning ability and placed added pressure on his teacher. Similarly, this barrier was also evident in P3's situation when her teaching assistant was not present. Fox et al. (2004) have highlighted the crucial role of a teaching assistant for the success of inclusive education of learners with Down Syndrome as follows: "In relation to their child's education, most parents were of the opinion that the teaching assistant was crucial to the effective inclusion of the child and that the teacher would not be able to cope without her" (Fox et al., 2004, p. 188).

In contrast to the barrier associated with the absence of a teaching assistant for P1 and a full time teaching assistant for P3, the presence of P2 and P3's teaching assistants may also be associated with challenges. The physical presence of P2's full time teaching assistant prevented his full participation and inclusion within the classroom group context. This factor has been discussed in the literature. Balshaw and Farrell (2002) emphasize the importance of ensuring that the manner in which a teaching assistant works does not create a barrier to the learner's participation, experiences and learning with his/her peer group. They identify this factor as a potential barrier to the practice of inclusive education (Balshaw & Farrell, 2002). Furthermore, the challenge identified by P2's teaching assistant, P3's teacher and which was noted during classroom observations was the difficulty in establishing a balance of dependence and independence required by the child. These factors highlight the necessity of

adequate training for teaching assistants. Despite these challenges, the presence of teaching assistants for P2 and P3 was still viewed by their teachers and mothers as a factor which contributed to their successful inclusive education.

3) Peer group

The extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the school and its subsystem of the peer group are displayed in Table 19.

Table 19: The school system and its subsystem of the peer group

Extrinsic Barrier and Challenge	Consequence	Examples of Quotes
• Lack of reciprocal friendships at participating schools (P1, P2 & P3)	• Parents' role to initiate and maintain friendships for the child with other individuals with Down Syndrome (P1 & P2) • Fear of future social isolation (P1)	"Friendship is definitely a negative impact, implication or disadvantage of inclusion…they don't have real friends…you as a parent have to initiate friendships and keep it going" (P1's mother).
• Unequal treatment (P3)	• 'Non-disabled' learners feel excluded	"They feel left out, she is getting special work and getting more attention" (P3's teacher).

4) Participating children's classrooms

Table 20 illustrates the extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the school and its subsystem of the classroom.

Table 20: The school system and its subsystem of the classroom

Extrinsic Barrier and Challenge	Consequence	Examples of Verbatim Responses
• Pressures placed on participating teachers: o Other learners with special educational needs (P1, P2 & P3) o Different teaching situations: Child with Down Syndrome and rest of learners (P1, P2 & P3) o Large classes (P1 & P3)	• Limited individual contact time with participating children (P1, P2 & P3)	"My contact time with her is limited because I am divided amongst 29 children so it's very slow…I also find what's very difficult is you've got to pick up where this child is at and you need to prepare her work accordingly plus you are preparing for the class" (P3's teacher).

- <u>Pressures placed on participating teachers</u>

The following characteristic factors of the participating children's classrooms were identified by all participating educators and recorded during the classroom observations as factors which added to the demands placed on the participating teachers. Consequently, these factors are regarded as barriers and challenges to the participating children's successful inclusion into the ordinary schools.

- *The presence of other learners with special educational needs* such as language barriers, where the medium of instruction (English/Afrikaans) was the second language of many learners, multiculturalism within the classes, learners from poor socio-economic backgrounds, learners presenting with social and behavioural problems and general learning difficulties. These factors are typical to many South African ordinary public schools and have been reported as main barriers to learning and development in South Africa by the National Commission on Special Needs in Education and Training (NCSNET) and the National Committee on Education Support Services (NCESS) (Department of Education, 1997).

- All participating teachers were faced with *different teaching situations* in their classrooms in terms of teaching the participating child with Down Syndrome at his/her level with the necessary adaptations and teaching the rest of the learners. "It's a challenge, how to keep him busy and all the other children together? How to cope with him and with all the other children? How to keep track with all of them and with him together in the class? That's the most important and one of the biggest challenges" (P1's teacher). This barrier was particularly marked with P1 and P3 during the classroom observations when a teaching assistant was not present.

- The *large number of learners* in P1 and P3's classrooms (35 learners in P1's class and 29 learners in P3's class) was identified as a barrier to the success of P1 and P3's inclusive education experience by their teachers. Accordingly, as mentioned in Chapter 4, increased number of learners and class size in the public school system in Gauteng has been documented by the Gauteng Provincial Government Department of Education (March, 2002) as a challenge associated with its service delivery.

As a result of the above mentioned barriers and challenges within the participating children's classroom situation, all participating teachers expressed the fact that they had limited individual contact time with the child with Down Syndrome. This fact was also evident during the classroom observations. This limited contact time was found to be a barrier in itself to participating children's successful inclusive education, as they all required individual attention for learning to take place. "The test situation is also a problem. He can't do it on his own, he needs help constantly, the whole time" (P1's teacher).

5) Participating educators

Table 21 reflects the extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the school and its subsystem of the educators (participating teachers and teaching assistant).

Table 21: The school system and its subsystem of educators (participating teachers and teaching assistant)

Extrinsic Barrier and Challenge	Consequence	Examples of Verbatim Comments
Lack of appropriate support, resources, training, guidance, assistance, information and knowledge experienced by all participating educators (P1, P2 & P3)	• Frustration, disempowerment, isolation and abandonment from participating schools, staff members and Gauteng Department of Education (P1, P2 & P3) • Unrealistic expectations from Gauteng Department of Education placed on educators to cope with inclusive education (P1, P2 & P3) • Unprepared and hesitant if could cope (P1, P2 & P3) • Initial negative feelings: Fear and concern (P1, P2 & P3) • Increased workload: Quantity and content – time constraints due to barriers and challenges within the classroom context (P1, P2 & P3) • Pressure placed on teachers (P1, P2 & P3) • Unaware of child's abilities and functioning level (P1 & P3) • Initial difficulties with curriculum adaptations – limited existing adapted learning materials (P1 & P3) • Difficulties with adaptations of teaching methods and styles (P1 & P3) • Unable to prepare and plan ahead (P1 & P3)	"I sometimes find it hard to find learning material that she needs. I can create something but it takes time if I'm going to draw up an activity or a worksheet. And it's only going to keep her busy for so long. She needs to be kept busy for a whole morning" (P3's teacher).

- **Wider community and whole social system**

Department of Education (National – South Africa, Provincial – Gauteng and district levels)

The extrinsic barriers and challenges and their consequences to successful inclusive education of participating children at the system of the Department of Education and its subsystems: National (South African National Department of Education), Provincial (Gauteng Department of Education – GDE) and district level (GDE) are presented in Table 22.

Table 22: The Department of Education system and its subsystems: National, Provincial and district level

Extrinsic Barrier and Challenge	Consequence	Examples of Quotes
• Limited budget and funding (P1, P2 & P3) • Need to educate 'previously disadvantaged children' (P1, P2 & P3)	• Lack of necessary support, resources, training, teachers, teaching assistants, therapists and smaller classes • Need to address barriers and inequalities of the past	"In South Africa there is a limited budget and the masses of people outside of the schooling system have to be sorted out first, and schools built for everybody who is out of school" (P1's mother).
• Lack of communication and information provision from the Department of Education to ordinary public schools (P1, P2 & P3)	• Schools misinformed – teachers and principals lack knowledge and awareness regarding decision making processes and policy issues	"Decisions get made in the Department and they are not brought through to the schools…a lot of teachers believe that inclusion does not involve children who are catered for in disabled schools, that they are going to come here, for example, kids in a wheel chair" (P3's teacher).
• Discrepancy between South African inclusive education policy in theory and reality of implementation (P1, P2 & P3)	• Difficulties, barriers and frustrations of educators	"From the Department's side the policy isn't set in concrete yet, so then the school feels well why must we go for this?" (P3's teacher).
• Lack of adequate involvement from the Department of Education at school level (P1, P2 & P3)	• Difficulties in inclusive education process • Isolation and abandonment experienced by educators	"I haven't got any support from the Department of Education" (P2's teacher).
• Lack of learning support educators at district level (P2)	• Difficulties in inclusive education process • Isolation and abandonment experienced by educators	"We don't have learning support educators in our district, not that I know of" (P2's teacher).

- Limited budget and funding

A main barrier to successful inclusive education of learners with Down Syndrome, reported by P1's mother, which was relevant to all the participating children, was her belief that the Department of Education had limited budget facilities and funding. This barrier prevented the Department from providing the necessary support and resources, mentioned by all participating educators, P1 and P2's mothers, to facilitate the success of the inclusive education process for the participating children. This lack of appropriate support and resources extends from national to provincial (GDE) to district level (GDE). This finding related to the Department's budget constraints and subsequent difficulties in creating additional teaching posts is confirmed by the Gauteng Provincial Government Department of Education (March, 2002) as discussed in Chapter 4.

- Need to educate 'previously disadvantaged children'

A further major barrier of inclusive education of learners with special educational needs, unique to the South African context, mentioned by P1's mother, was the challenge faced by the Department of Education of educating large numbers of 'previously disadvantaged children'. Due to South Africa's history of apartheid and its associated previous racially segregated education systems, these children are considered 'previously disadvantaged' as they were not afforded equal educational opportunities. Consequently, the Department of Education was required to address these barriers and inequalities of the past, which appeared to affect their service provision with regard to inclusive education of learners with special educational needs. This barrier in turn indirectly affected the inclusion process of all participating children, as P1's mother explained that the Department has had to deal with these issues prior to the barriers faced with the inclusion of learners with special educational needs. This barrier extends to the level of the whole social system of the ecosystemic model adapted from Donald et al. (2002) for the current study, which comprises of the socio-economic political climate in South Africa.

➢ **Local community, wider community and whole social system**

Community and society at large

- Lack of awareness and education

A common barrier to all participating children's successful inclusive education identified by their mothers, P1 and P3's teachers and P2's teaching assistant was the lack of awareness and education amongst community members and society at large regarding inclusive education

and Down Syndrome, as discussed previously. This barrier resulted in negative attitudes and lack of support from community members. “The community still lacks information, knowledge and awareness” (P2’s mother). As is mentioned by the South African Department of Education (1997) in a joint report of the National Commission on Special Needs in Education and Training and the National Committee on Education Support Services in South Africa: “Negative and harmful attitudes towards difference in our society remain a critical barrier to learning and development” (Department of Education, 1997, p. 15).

In terms of the ecosystemic model adapted from Donald et al. (2002), the above discussion of the extrinsic barriers and challenges to the successful inclusive education of the participating children demonstrate the critical finding that the whole inclusive education system was not yet fully in place. It was also found to be inadequate for the successful inclusive education process of the learners with Down Syndrome in this study. P1 and P2’s mothers and all participating educators described the general lack of appropriate support as a major barrier and challenge to the successful inclusion of the participating children into ordinary public schools. Paramount implications to these extrinsic barriers are discussed in Chapter 7. Although barriers and challenges to successful inclusion of these children into the ordinary public schools are evident, factors were found which contributed to their successful inclusion into the schools as will be discussed below.

6.4.2) Factors which contributed to successful inclusion of participating children into ordinary public schools

Intrinsic contributing factors

➢ **Local community: Individual – participating child with Down Syndrome**

The following intrinsic factors, which are common to all three of the participating children, have contributed to their successful inclusion into the ordinary public schools:

- Educable and relatively high functioning

All participating learners were educable and relatively high functioning children with Down Syndrome. Their ability to acquire basic literacy skills and to learn and progress within an ordinary school environment provides proof for their relatively high functioning level, which was also confirmed by their educators. “Even though he does have an assistant and has Down Syndrome he’s not the weakest child in the class, there are some things that he gets before the other children” (P2’s teacher).

- Ability to model – was found in all participating children (data obtained from all participating mothers, P2's teacher and teaching assistant, P3's teacher and school observations).

- Positive personality traits

P2's mother explained that P2 had a positive attitude to be included in the school, which facilitated his process of inclusive education. Similarly, P3's eagerness, determination, strong will and positive attitude towards school and learning was expressed by her teacher, "The **MAIN GOAL** of Grade 1 is to create a love for learning, because if after this year your child hates school then you failed…and I mean with her if anything, that is very obvious she **LOVES** coming to school…and she hates going home…I mean she totally lives the whole school thing".

Extrinsic contributing factors

The following extrinsic factors have contributed to the successful inclusion of the participating children into the ordinary public schools:

➢ **Local community**

Table 23 indicates a summary of the extrinsic factors which contributed to the successful inclusive education of participating children at the systems of the family, early intervention services and therapy.

1) Families of participating children

Parents of participating children

- Parental role

Since all participating mothers explained that at the time of the study the system of inclusive education was not yet fully in place, they identified their role as a major contributing factor to their children's successful inclusion into the ordinary schools. These findings are in line with the words of Cole (2003, p. 3) who says, "The abiding memory will always be the spirit, and determination of parents to overcome all obstacles for their children with Downs syndrome. In this they are at one with the parents we have met everywhere from Britain to India, Australia and South Africa. The first and main problem being their struggle for the social acceptance of their children". According to Cole (2003) people with Down Syndrome and

their parents are the best promoters for the value of their own lives. Additionally, participating educators highlighted the important role that the parents of the participating children had in facilitating the process of inclusive education. "Parents' support and involvement is very important" (P2's teacher). As discussed previously, this finding is consistent with the research literature (for example, Belknap, Roberts & Nyewe, 2004; Engelbrecht, Oswald, Swart, Kitching & Eloff, 2005; Engelbrecht, Swart et al., 2005; Fox et al., 2004; Scala, 2001; Schoeman, 1997; Schoeman, 2000; Villa & Thousand, 2002; Vincent, 2000).

Table 23: Factors contributing to successful inclusive education of participating children – systems of the family, early intervention services and therapy

Factor Contributing to Success	Examples of Verbatim Comments
A) FAMILIES OF PARTICIPATING CHILDREN	
1. Parents of participating children	
• Parental role (P1, P2 & P3): ❖ **DRIVING FORCE – PUSH AND FIGHT FOR INCLUSIVE EDUCATION** ❖ Self-empowerment – education and awareness ❖ Create and raise awareness at the school ❖ Active support and involvement ❖ Perseverance, motivation and positive attitude ❖ Personality characteristics – challenge, probe, question and confront ❖ Provide teaching assistant	"I'm a person that wants to challenge things…and if I wasn't like that then I'm sure I wouldn't have probed and asked questions and read up on it so my personality was one of the factors in influencing this process" (P1's mother).
• Financial means and well-educated (P1, P2 & P3)	
• Family structure (P1, P2 & P3)	
• Occupation: ❖ Mother and father: Teachers at the ordinary school (P1) ❖ Father: Physiotherapist (P3)	"Up until this point his inclusion in the school has only been positive. We've been very fortunate that he has had wonderful teachers that have been positive and the attitudes were positive about his inclusion. I think it also has to do with the fact that we are there as teachers at the school" (P1's mother).
• Mothers' involvement and work with the Down Syndrome Association (P1 & P2)	"The fact that his mom was involved with the Down Syndrome Association contributed to the success" (P2's teacher).
2. Supportive families (P1, P2 & P3)	"The support from my family helped a lot" (P3's mother).
B) EARLY INTERVENTION SERVICES AND THERAPY	
• Extensive early intervention, stimulation and history of therapy (P1, P2 & P3) • Therapy received at the time of the study (P1 & P3)	"I think the early intervention is very important" (P2's mother)

- Financial means and education

As discussed in Chapter 5, the implication that all participating children were raised in stable family units and socio-economic environments is viewed as a factor which gave their parents the opportunity to be involved in their children's inclusive education process. They were also able to afford resources such as therapists and teaching assistants. Furthermore, the fact that all parents of the participating children were well-educated enabled the parents to have a greater understanding of their children's inclusive education experiences and thereby facilitate the inclusive education process. Similarly, as noted in Chapter 4, Lorenz (1999) maintains that the educational level of the family is a factor which contributes to successful inclusive education of the child with Down Syndrome.

- Family structure

With regard to family structure, as Table 8 shows, all participating children were raised in families comprised of both parents and siblings. This type of family background may be viewed as a positive prognostic factor for the participating children's inclusive education. Family support as a contributing factor to the successful inclusion of a child with Down Syndrome into an ordinary school confirms the views of Lorenz (1999) as discussed in Chapter 4.

- Occupation: Teachers at the school and physiotherapy

Since both P1's mother and father were teachers at his ordinary school, they might have had greater awareness than other parents of their rights, the existing process and channels required for placing a learner with Down Syndrome in an ordinary public school. Additionally, their knowledge of the educational expectations, levels and outcomes required from children in an ordinary school could have assisted the educators in terms of curriculum adaptations for the child. This factor was evident with P1's mother who assisted his teachers in adapting the class material for him. Furthermore, the school's willingness to accept P1, the perceptions of the school principal and school teachers might have been influenced by their knowledge that P1's parents were teachers at the school. P1's mother and teacher explained that this factor facilitated the school's positive attitude to his inclusive education. "His parents are teachers here and I really think it has an influence on the school's attitude towards the child…We know his parents, so we've had contact with them since his birth…so we were all aware of him which helps" (P1's teacher).

Although P3's father was a physiotherapist, her mother reported that it had not provided P3 with an advantage over other children, since he viewed his role as a father rather than as a therapist. However, it is felt that his knowledge as a physiotherapist might have contributed to P3's overall progress and experiences.

- Participating mothers' involvement and work experience with the Down Syndrome Association

The fact that both P1 and P2's mothers were extremely involved and worked with the Down Syndrome Association Gauteng and Down Syndrome South Africa, and had vast knowledge of inclusive education of learners with Down Syndrome was viewed by their educators as a contributing factor to P1 and P2's successful inclusion into the ordinary schools. According to P1 and P2's mothers, their involvement and work with the Association empowered them and enabled them to network with others, gain information and literature regarding inclusive education and Down Syndrome. This finding is similar to the views of Buckley and Bird (1995) as discussed previously. Furthermore, it is believed that the attitudes of P1 and P2's schools, principals and educators towards including and accepting P1 and P2 were influenced positively by being aware of the mothers' involvement and work with the Association.

Supportive families

Support from the participating children's immediate and extended families regarding the children's inclusion into the ordinary school was described by all participating mothers. Although all participating children had supportive families and their parents were extremely involved with their child's inclusive education and played a vital role in the process as described above, Newmark (2002) reports that a learner with Down Syndrome creates a unique stress on the family system. Having a family member with Down Syndrome impacts both on the family and the contexts in which the family interacts (Newmark, 2002).

2) Early intervention services and therapy

- Extensive early intervention, stimulation and history of therapy

As reported previously, all participating children had received extensive early intervention, stimulation and history of therapy (refer to Table 8), which was identified by all participating mothers as a contributing factor to their children's successful inclusive education. In this respect, Spiker and Hopmann (1997) mention that it is generally believed that early intervention is beneficial for infants with Down Syndrome and their families – both in terms

of the ways that it serves to enhance the child's rate of early development and in the opportunities it provides for parents. Furthermore, they explain that a different way of conceptualizing the unique role of early experiences for infants with Down Syndrome stresses the significance of initiating the child into a set of experiences and expectations which will optimize the child's opportunities for inclusion and participation in community activities and relationships. "This view can be seen in the commitment some families have shown to create as normal a life situation as possible for their child with Down syndrome, consistent with a view of infancy as a "sensitive period" for determining the general type of life the child will lead" (Spiker & Hopmann, 1997, p. 274). According to Rogers et al. (1996) most research demonstrates that children with Down Syndrome who participate in infant intervention programmes for children from birth to 3 years display higher intellectual and social quotients than children who are not enlisted in such programmes.

- Therapy received at the time of the study

P1 and P3's mothers and teachers identified the fact that P1 and P3 were receiving therapy at the time of the study (refer to Table 8) as a factor which contributed to their successful inclusive education. P1's teacher specified that his speech and language therapist had assisted her in the process of teaching P1 by providing her with therapy feedback and assistance with regard to communicating with P1. "I don't think I could manage without such support" (P1's teacher). Similarly, P3's teacher explained the extent to which P3's occupational therapist had assisted her in terms of determining P3's functioning level and adapting the curriculum accordingly, as many of P3's learning goals at school were adapted and based on her occupational therapy aims. In contrast, P2's teacher felt that the fact that P2 was not receiving speech-language therapy in particular or any other form of therapy, at the time of the study, was a barrier and disadvantage to his progress in the inclusive educational setting.

3) School and peer group

A summary of the extrinsic factors which contributed to the successful inclusive education of participating children at the system of the school and peer group is found in Table 24.

Table 24: Factors contributing to successful inclusive education of participating children – system of the school and peer group

SCHOOL AND PEER GROUP	
Factor Contributing to Success	**Examples of Verbatim Responses**
1. Schooling history	
• Ordinary educational setting since preschool years (P1, P2 & P3) • Attended same ordinary primary school since Grade 1 (P1 & P2)	"The other children know him since Grade 1 and that helps, they accept him" (P1's teacher).
2. Participating schools	
a. Participating schools, general staff members: School principals and other educators	
• Positive attitude and commitment (P1 & P2)	"The success was due to the commitment of the staff at the level of the individual school, because the Department of Education is there and it's got to work with so many schools and they very rarely come and visit us here at the school. So it's really at the level of the school and the principal, the teachers, everybody else involved, it's their commitment to actually try and work with Down Syndrome children and only think about other options once you know this one clearly hadn't worked" (P2's teacher).
• Teamwork (P2 & P3)	"It's not my work alone…it has to be teamwork…the occupational therapist has contributed to what she's actually doing, and mommy's actually doing it with her and I'm creating the environment" (P3's teacher).
b. Support structures and resources (P1, P2 & P3)	"The school itself has got a structure inside the school with people who know how things are working and those people are in contact with people from the Department and they get advice" (P1's mother).
c. Peer group	
• Acceptance by peer group (P1, P2 & P3)	"The children love and accept him, everyone wants to do something for him" (P1's teacher).
• Equal treatment to participating children and rest of learners in class (P2 & P3)	
d. Participating children's classrooms	
• Relatively small class (P2) • Classes streamed (P2)	"I think because they stream the classes, it works out a lot better" (P2's teacher).
e. Participating educators (teachers and teaching assistant)	
• Positive attitudes, dedication and commitment, competent educators (P1, P2 & P3)	"Teachers should make time to read up for yourself, to improve yourself, to try to improve what you are offering the child. Those are all necessities to make it successful, you can't just carry on like normal, you've got to make an effort" (P3's teacher).
• Role of teaching assistant – P2: Full time teaching assistant provided by parent; P3: Mother was part time teaching assistant	"A teaching assistant helps the school and helps the child. It also helps the teacher, I think on the whole it makes it easier, it makes inclusion easier" (P2's mother).

- Participating schools, general staff members: School principals and other educators

Positive attitude and commitment

Positive attitudes of P1 and P2's schools and principals were specified by P1 and P2's mothers and educators as factors which contributed to P1 and P2's successful inclusive education. "He was welcomed with open arms and accepted" (P2's teacher). P1's mother explained the process that she and P1's father had undergone in order to empower his school-principal by including him and valuing his opinion in the decision making process of her son's inclusive education. In line with this finding, Keith and Ross (1998, p. 40) maintain, "The success of inclusion…appears to be closely related to the attitudes of regular school teachers".

- Support structures and resources

All participating schools were identified by participating mothers and educators as a source of support for the inclusive education process, which in turn facilitated and contributed to its success. The issue of support in relation to inclusive education has been discussed in the literature. Raver (2001) specifies that ordinary public schools and their teachers require much support in terms of making the necessary accommodations and teaching learners with special educational needs. Additionally, all participating schools and classrooms were well resourced for example, in terms of facilities (refer to Appendices 5 & 6).

- Peer group

Acceptance

As mentioned previously, even though all participating children lacked reciprocal friendships at school, they were accepted by their peer group, which was recognized by their educators as a contributing factor to their successful inclusion into the schools. "Everybody has accepted him the way he is and they don't exclude him in anything they do. There's always somebody waiting for him to take him. If they are going to the library there will be somebody waiting to take him out and there will always be somebody ready to help him" (P2's teaching assistant). This finding is consistent with the views of Lorenz (1999) as discussed in previous sections.

Equal treatment

Although at times unequal treatment was found to be a barrier in P3's case, according to P2 and P3's teachers, the fact that P2 and P3 were treated equally to the rest of the learners in their classrooms most of the time, assisted their successful inclusive education. "He is treated

in exactly the same way as the other children as far as discipline and routine goes…that has contributed to the success of the inclusion process" (P2's teacher).

- Participating children's classrooms

Relatively small class

According to P2's teacher the small number of learners in her classroom (18 learners) was a factor that contributed to his successful inclusive education process. Willms (2000) asserts that the size of classes needs to be small in order to ensure quality schooling and effective inclusive practices.

Classes streamed[12]

A further factor identified by P2's teacher which facilitated his successful inclusive education process was the fact that the classes in his grade were streamed. His class consisted of other learners with special educational needs and therefore was the weaker functioning class in his standard. She explained that this factor aided her in teaching P2 in the class and was also an advantage for him and the other learners in the class. In contrast, Willms (2000) maintains that inclusive education practice should not follow this method of grouping children in accordance with their abilities. Placing children with different abilities in the same class tends to result in higher levels of achievement for learners as a whole (Willms, 2000).

- Participating educators

Positive attitudes, dedication and commitment, competent educators

Participating educators explained the importance of improving their knowledge, skills and quality of teaching in order to teach the participating children. According to all participating mothers, this factor demonstrated the competency of the educators. For example, in terms of being flexible with the learners, adopting a broader perspective and outlook with regard to teaching, learning to function as part of a team and developing patience, compassion, acceptance, tolerance and awareness of differences and disability. All participating mothers and educators indicated these factors as contributing to the successful inclusion of the participating children into the ordinary schools. In line with this finding, Chow and Winzer (1992) in Alghazo and Gaad (2004) argue that in order for inclusive education to be

[12] Classes streamed = children in the grade are categorized into different classes in accordance with their abilities.

successful, teachers in ordinary schools have to acquire positive attitudes towards learners with special educational needs.

Role of teaching assistant

The importance of a teaching assistant has been highlighted by Fox et al. (2004) who found that support for the learner with Down Syndrome in an ordinary school was more effective in situations where the team of professionals consisted of a teaching assistant.

- **Wider community**

Table 25 presents a summary of the extrinsic factors which contributed to the successful inclusive education of participating children at the systems of the Gauteng Department of Education (its subsystem of the district level) and Down Syndrome South Africa.

Table 25: Factors contributing to successful inclusive education of participating children – systems of the Gauteng Department of Education (subsystem of the district level) and Down Syndrome South Africa

Factor Contributing to Success	Examples of Verbatim Responses
A) DISTRICT LEVEL – GAUTENG DEPARTMENT OF EDUCATION	
• Learning support educators at district level (P1 & P3)	"Recently the learning support educator, as part of the district team, started providing support" (P1's mother).
B) DOWN SYNDROME SOUTH AFRICA	
• Source of support and information provision for all participating mothers and educators (P1, P2 & P3)	"The fact that the Down Syndrome Association provided information about how to work with Down Syndrome children was very, very useful and contributed to the success" (P2's teacher).

District level – Gauteng Department of Education

Learning support educators

In contrast to P2's case, where learning support educators from district level – Gauteng Department of Education (GDE) were lacking, learning support educators were available from the district level (GDE) at P1 and P3's schools. However, this support was present for P1 and P3 to a limited degree, as according to P3's teacher this source of support required improvements. She reported that the learning support educators need to be more involved in the process. "I've got two ladies from the Department who will support me, so I can phone them at anytime with any questions and they do visit the school. But I must be **HONEST** they've been in my class once this year, and not to come and help me, just to come and see

the child. So their support is not adequate…it's got to come from me…from their side there's been no follow-up" (P3's teacher). Similarly, Muthukrishna (2002) found that in the province of KwaZulu-Natal, South Africa, educators at an ordinary primary school, which included learners with special educational needs, were in need of assistance in terms of knowing how to respond to these learners' needs.

- **Local community, wider community and whole social system**

Community and society at large

Positive reactions

Although, as mentioned previously, negative attitudes amongst community members and the general public were found to be barriers to participating children's inclusive education, responses from P1 and P3's mothers and teachers, P2's teaching assistant and teacher indicated that people in the community generally responded positively. "You get people who are positive towards it" (P2's teaching assistant). These positive reactions and attitudes of community members are viewed as important contributing factors to the success of inclusive education. Swart and Pettipher (2005, p. 20) explain, "The inclusion of all learners becomes an issue related to everyone's beliefs, values and attitudes about diversity, change, collaboration and learning…Attitudes about diversity and change can be both a barrier to as well as a strong positive force in implementing inclusive education".

Consequently, overall, it is believed that the above intrinsic and extrinsic factors at all levels, systems and subsystems of the ecosystemic model adapted from Donald et al. (2002) for the current study, have contributed to the successful inclusion of the participating children into the ordinary schools. Due to these contributing factors obtained from the qualitative nature of this study and the researcher's immersion with the data and participants, the inclusive education of the three case studies is considered to be successful.

The most salient findings of the current study, in the form of a general discussion, its limitations, vital implications and conclusions are presented in the concluding chapter.

CHAPTER 7

GENERAL DISCUSSION, IMPLICATIONS AND CONCLUSIONS

This study has documented three case studies of primary school aged children with Down Syndrome attending ordinary public schools in Gauteng province, South Africa by employing an ecosystemic model adapted from Donald, Lazarus, and Lolwana (2002). Necessary and valuable information regarding the early stages of implementation of inclusive education for these learners has emerged. The study has shown that inclusive education had been successful for the participating children. The overall functioning of the participating children with Down Syndrome in the inclusive school context, particularly within the domains of communication, academic skills and socialization has been investigated. It was found that the participating children's communicative impairments, which affected their communication, academic performance, interactions and socialization at school, had a great impact on their inclusion into the ordinary schools. In accordance with the adapted ecosystemic model (Donald et al., 2002), the study also identified and examined the unique perceptions, attitudes and experiences of the participating children's parents and educators regarding the children's inclusive education. The findings of the current study revealed that these perceptions, attitudes and experiences had a profound impact on the inclusive education process. As was hypothesized they were influenced by the barriers and challenges that existed within the whole social system in the South African context, which have a direct impact on education.

Of crucial importance to the inclusive education process, barriers, challenges and factors contributing to the successful inclusion of the participating children into the ordinary public schools were identified and explored. In line with the study's hypothesis, the study found that systemic factors influencing inclusive education within the South African context acted as barriers and challenges to the successful inclusive education of the participating children and that their parents were the most influential and contributing force to the success of the process. The following general discussion will focus on numerous issues which emanated from this study: the nature of the sample, the most salient findings, limitations associated with the study, paramount implications for the systems and subsystems involved in the inclusive education process, theoretical implications, implications for the clinical practice of Speech-Language Pathology and for the advancement of theory and research.

7.1) General discussion and conclusions

7.1.1) The nature of the sample

The three participating children with Down Syndrome in this research appeared to be optimal examples of successful cases of inclusive education of learners with Down Syndrome within the South African context, where inclusive education is in its early stages of implementation. This conclusion stems from the belief that the characteristic factors associated with the sample would differ from other cases of learners with Down Syndrome being included into ordinary public schools in South Africa.

The descriptive factors relating to the sample, which contributed to the sampling bias as discussed in Chapter 5, involved the resources that were available to the participating children such as participating mothers' involvement with the Down Syndrome Association. This fact is an important variable in the study, as it enabled these mothers to have extensive background, knowledge and access to information, which might have influenced their responses. Further factors contributing to the sampling bias included the participating mothers' abilities to support and provide information to their children's school teachers, the fact that the parents of the participating children were well educated and had white-collar jobs, in particular P3's father who was a physiotherapist and P1's parents who were teachers at his school. In addition, the participating children appeared to come from stable family structures, as they lived with their parents and siblings and appeared to be advantaged from a socio-economic perspective. Due to the fact that P3's mother was her daughter's teaching assistant on a daily part time basis, this dual role might have influenced her responses. Furthermore, as P3's mother was present during the classroom observations, the data obtained from these observations were analysed accordingly. The dynamics of having P3's mother present during the observations might have influenced both the participating school teacher and P3's behaviour.

These factors suggest that the participating parents were empowered with regard to their children's inclusive education. Additionally, as mentioned in Chapter 5, the participating ordinary public schools were well equipped and located in well resourced, middle to upper class urban suburbs in Gauteng. These factors constitute critical variables to the study as they are viewed as factors contributing to the successful inclusion of P1, P2 and P3 into the ordinary public schools, despite the current barriers and challenges in the South African context discussed in Chapters 2, 4 and 6.

7.1.2) Success of inclusive education for the participating children

The rich qualitative findings of the study presented in Chapter 6 revealed that inclusive education had been successful for the participating children. Academically, the participating children were coping due to the necessary adaptations which took place. From a social perspective, they were all accepted at their ordinary schools. Participating educators and mothers reported that P1, P2 and P3 had improved and progressed from being in an ordinary school. In terms of the ecosystemic model adapted from Donald et al. (2002), reviewed in Chapter 3, at the level of the local community specifically, the system of the school and its subsystem of educators, the positive attitudes, dedication and commitment of all participating educators towards including and working with the participating children was an important contributing factor to the success of this process. Similarly, as discussed in Chapters 4 and 6 and as Semmel, Abernathy, Butera, and Lesar (1991) explain, the attitudes of general education teachers are one of the most critical predictors of successfully including children with special educational needs into the ordinary classroom. Participating educators were committed towards overcoming the barriers and challenges presented in Table 26, for example, P2's teacher felt that "the challenges are being overcome".

Interconnected with the success of inclusive education, the effectiveness thereof emerged as an important theme. Parental concerns were voiced regarding the efficacy of inclusive education for learners with diverse special educational needs generally and also in terms of the child's ability to cope in the higher grades. Furthermore, an educational setting that would focus specifically on learners with Down Syndrome was thought to be a more suitable alternative for these learners particularly during the foundation years. On the other hand, as expected, all participating mothers strongly believed in the benefits and effectiveness of inclusive education. Due to the current barriers and challenges found in the South African education system, which are discussed below, it is the opinion of the researcher that inclusive education of learners with special educational needs is effective only if the child's personal circumstances, such as familial factors including support, involvement and financial means lend itself to the process.

7.1.3) Barriers, challenges and factors contributing to successful inclusive education

As was anticipated, the newly formed inclusive education system in South Africa for the participating children with Down Syndrome was characterized by challenges and barriers.

The main barriers, challenges and factors contributing to the successful inclusion of the participating children into the ordinary public schools are set out in Table 26 in accordance with the levels, systems and subsystems of the ecosystemic model adapted from Donald et al. (2002).

Table 26: Barriers, challenges and factors contributing to successful inclusion of participating children into ordinary public schools

Barriers and Challenges	**Factors Contributing to Success**
LOCAL COMMUNITY	
I. Intrinsic	
Individual – Participating Child with Down Syndrome *	
• Impaired communicative functioning, auditory memory and processing skills; intellectual and learning disability; particiapting educators' query child's ability to cope in higher grades (P1, P2 & P3) • External appearnace, self-awareness that they are different, physically slow – motor and co-ordination skills (P1 & P2) • Initial discipline & behaviour problems (P2)	• Educable and relatively high functioning, ability to model and positive personality traits (P1, P2 & P3)
II. Extrinsic	
Families of Participating Children	
	a. Parents of participating children: • Parental role (P1, P2 & P3): **DRIVING FORCE – PUSH AND FIGHT FOR INCLUSIVE EDUCATION** • Stable, financial means, well-educated and supportive family structure (P1, P2 & P3) • Mother and father: Teachers at the ordinary school (P1); father physiotherapist (P3) • Mothers' involvement and work with the Down Syndrome Association (P1 & P2) b. Supportive families (P1, P2 & P3)
Early Intervention and Therapy	
• No therapy received at the time of the study (P2)	• Extensive early intervention, stimulation and history of therapy (P1, P2 & P3) • Therapy received at the time of the study (P1 & P3)
School and Peer Group	
➢ **Other ordinary schools**	➢ **Schooling History**
• Negative attitudes (P2 & P3)	• Inclusive education since preschool (P1, P2 & P3) • Same ordinary primary school since Grade 1 (P1 & P2)
➢ **Participating schools and general staff members: School principals and other educators**	

• Predicament placed on participating school and viewed as a burden – initial negative attitude (P3) • Lack of support, knowledge, involvement and awareness of other educators – negative attitudes (P1, P2 & P3) • Initially school principals lacked knowledge and awareness (P1 & P3)	• Positive attitude and commitment of schools and principals (P1 & P2) • Teamwork (P2 & P3)
➢ **Support structures and resources at participating schools**	
• Lack of professionals, inclusive educational co-ordinators, therapists and necessary intervention – multidisciplinary team (P1, P2 & P3) • Absence of teaching assistant/full time teaching assistant (P1 & P3) • Lack of resources – adapted learning material (P1, P2 & P3)	• Presence of teaching assistant but provided by parents (P2 & P3) • Participating schools as a source of support and well-resourced (P1, P2 & P3)
➢ **Peer group at participating schools**	
• Lack of reciprocal friendships (P1, P2 & P3) • Unequal treatment (P3)	• Acceptance by peer group (P1, P2 & P3) • Equal treatment most of the time (P2 & P3)
➢ **Participating children's classrooms**	
• <u>Pressures placed on participating teachers</u>: o Other learners with special educational needs (P1, P2 & P3) o Different teaching situations: Participating child with Down Syndrome and rest of learners (P1, P2 & P3) o Large classes (P1 & P3)	• Well-resourced (P1, P2 & P3) • Relatively small class (18 learners) (P2) • Classes streamed (P2)
➢ **Participating educators (teachers and teaching assistant)**	
• Lack of appropriate support, resources, training (from tertiary level) and knowledge for educators: Initial negative feelings – fear and concern (P1, P2 & P3)	• Positive attitudes, dedication and commitment, competent educators (P1, P2 & P3) • Role of teaching assistant: P2 – full time funded by parent, P3 – mother was part time teaching assistant (P2 & P3)
<u>Community Members</u>	
• Lack of awareness and education: Negative attitudes and unsupportive (P1, P2 & P3)	• Positive attitudes and reactions (P1, P2 & P3)
<u>WIDER COMMUNITY</u>	
<u>Department of Education (National – South Africa, Provincial – Gauteng and district levels)</u>	
• Discrepancy between South African inclusive education policy in theory and reality of implementation (P1, P2 & P3) • Limited budget and funding (P1, P2 & P3) • Lack of necessary support and resources (P1, P2 & P3) including learning support educators at district level (P2) – unequal distribution of resources across districts • Lack of communication, information provision and adequate involvement at school level (P1, P2 & P3)	• Available learning support educators at district level – but limited (P1 & P3)
<u>Down Syndrome South Africa</u>	

	• Source of support and information provision (P1, P2 & P3)
Community Members	
• Lack of awareness and education: Negative attitudes and unsupportive (P1, P2 & P3)	• Positive attitudes and reactions (P1, P2 & P3)
WHOLE SOCIAL SYSTEM	
Socio-Economic Political Climate in South Africa	
• Need to educate 'previously disadvantaged children' – need to address barriers and inequalities of the past (P1, P2 & P3)	
Society at Large	
• Lack of awareness and education: Negative attitudes and unsupportive (P1, P2 & P3)	• Positive attitudes and reactions (P1, P2 & P3)

* Individual – Participating Child with Down Syndrome = In accordance with the philosophy of inclusive education, factors which stem from within the participating children are referred to as the intrinsic challenges rather than barriers to their successful inclusion into the ordinary schools. With regard to the philosophy of inclusive education accommodations and adaptations in the learning context need to occur in order to meet the child's needs.

In line with the study's hypothesis mentioned in Chapter 1, the findings showed beyond a doubt that systemic factors found at the levels of the whole social system, wider community and to some degree the local community mainly at the system of the school were barriers and challenges to the successful inclusive education of the participating children. Within the ecosystemic model adapted from Donald et al. (2002), prominent overriding interconnected barriers and challenges to the successful inclusion of the participating children into the ordinary public schools are discussed below in terms of hierarchy of importance starting from the most important.

The discrepancy between the ideology of the South African inclusive education policy in theory and the reality of its implementation was a predominant finding of the research, which confirms the study's hypothesis reported in Chapter 4. This discrepancy filtered through to the majority of the themes and sub-themes of the study. Although this factor originates at the system of the South African National Department of Education and its subsystems of the Gauteng Department of Education and districts at the level of the wider community, the researcher believes emphatically that it permeates to all other levels, systems and subsystems of the model. While one of the main goals and functions of the South African Department of Education is to make sure that the entire system is organized in a way that enables "effective delivery of education and support services to all learners who experience barriers to learning and development in both public ordinary as well as public special schools" (Department of Education, 2005, p. 5), the study found that it is not being implemented in practice. Views

expressed indicated that the theoretical aspect of the policy regarding inclusive education was in its draft form and infancy stages and had not yet been fully thought through in terms of the realities within the South African context. As documented in Chapters 4 and 6, this discrepancy is confirmed by Engelbrecht, Swart, Oswald, and Eloff (2005) and Makgalemele (2004). The following difficulties, barriers and frustrations experienced by the participating educators constituted the realities that were present at the time of the study.

A lack of communication was apparent between the Department of Education at national and provincial (Gauteng) levels and ordinary public schools. This factor resulted in the schools and educators being misinformed and unaware of the Department's decisions and policy of inclusive education and the subsequent function of schools for learners with special educational needs, which would directly affect the schools. The sharing and distribution of resources between schools for learners with special educational needs and ordinary schools was not carried out into practice, which clearly provides evidence for the discrepancy between the policy of inclusive education and the reality within the South African context.

The findings revealed that parents and the general public were frequently unaware of the realities of the situation in schools, the barriers faced by educators and the necessary school-work adaptations which would need to take place within the inclusive educational setting. These realities and barriers included the lack of necessary resources, such as therapists, overcrowding of learners in classes and lack of individual attention. Consequently, the ordinary school was often viewed negatively and was required to rectify these perceptions by providing the correct information.

Further difficulties and frustrations experienced by the participating educators consisted of feelings of disempowerment, isolation and abandonment by the Gauteng Department of Education, the participating schools and their staff members. These negative feelings emerged as a result of the following factors. Firstly, teachers felt they were being forced into the situation of including the learners. Similar findings have been documented in the literature, as discussed in Chapter 6, where teachers in ordinary schools felt that inclusive education had been forced upon them (Buell, Hallam, Gamel-McCormick & Scheer, 1999; Forlin, Douglas & Hattie, 1996; Hall & Engelbrecht, 1999; Swart, Engelbrecht, Eloff & Pettipher, 2000). Secondly, the educators' lack of preparation and hesitations regarding their abilities to cope. Lastly, the limited available resources, sources of assistance and support, for example, the

provision of a team of professionals to assist the inclusive education process. There is little doubt that these resources and support services are essential to fully equip and prepare educators in ordinary schools to teach and include learners with Down Syndrome. The researcher supports these views which further highlight the discrepancy that existed between the policy and the reality within ordinary public schools. The lack of appropriate support is confirmed by Engelbrecht, Forlin, Eloff, and Swart (2001), as reported in Chapter 6, and validates the study's hypothesis that South Africa is characterized by inadequate support structures for educators in ordinary schools to educate learners with special educational needs, which undoubtedly has a negative influence on inclusive education.

From a tertiary level, there was a lack of adequate and essential training and guidelines for teachers and teaching assistants to deal with the inclusion of learners with Down Syndrome into ordinary schools. Consequently, participating educators felt unprepared to cope with including the learner with Down Syndrome and expressed fears and concerns with regard to teaching the participating children. Their initial lack of awareness of the abilities and levels of functioning of the children specifically during the first school-term was a main source of concern. This fact in turn led to difficulties and frustrations with regard to curriculum adaptations and the preparation of learning material for these learners. Further concerns, difficulties and frustrations experienced by teachers were related to the need of a teaching assistant to work with the child, which is considered to be vital by the researcher. The realities of time restrictions and lack of specialized training added to these difficulties.

Increased teachers' workload in terms of quantity and content was found to be a further area of difficulty and frustration as a result of including the learner with Down Syndrome. A common concern for the participating educators involved the participating children's abilities to function and cope in the higher grades in terms of increased academic and schooling demands. It was believed that the learning gap between the learner with Down Syndrome and the rest of the learners would increase and concerns were voiced as to whether curriculum adaptations could meet their needs. This belief resulted in the participating educators feeling pressurized to advance the participating children's academic abilities in order to decrease the academic gap so that the children would advance with their chronologically aged peers. Of critical importance, as discussed in Chapter 6, is that this concern and added feeling of pressure highlight the participating educators' perceptions and misunderstanding of the

concept of inclusive education, their role and expected outcomes for the child in this process, which is in direct contrast to the philosophy of inclusive education.

A further barrier and challenge to the successful inclusion of the participating children into the ordinary schools was the view that inclusive education of the child with Down Syndrome placed a predicament and burden on the participating school, which was rooted in the school system located at the local community level. Thus, the inclusion of these learners into ordinary public schools was seen as a burden or added "problem". The researcher strongly negates this view and it emphasizes the need for change at this level which may be accomplished by raising awareness in the field and providing much needed support to educators and ordinary schools involved in inclusive education. As reported in Chapter 6, these negative attitudes have also been documented in the literature (Alghazo & Gaad, 2004; Bacon & Schultz, 1991; D'Alonzo & Ledon, 1992; Engelbrecht, Swart, Oswald & Eloff, 2005; Gaad, 2001; Marais, 2000; Pivik, Mccomas & Laflamme, 2002). In light of this factor, Ghesquiere, Moors, Maes, and Vandenberghe (2002, p. 47) found that in Flemish ordinary primary schools, "The fact that teachers still consider children with special educational needs to be a special ('defective') group hinders the development of a truly inclusive vision and practice". The view that inclusive education placed a predicament and burden on the school arose due to the lack of support from the Department of Education, the barriers, frustrations and difficulties faced by educators in ordinary public schools as mentioned previously. Further difficulties within schools included: discipline and social problems, language barriers, multiculturalism within classes and general barriers to learning experienced by many learners. Therefore, it is believed that the system of the school in itself was found to be a barrier to the inclusive education process for the learner with Down Syndrome, which supports the study's hypothesis.

Negative attitudes towards the inclusive education of the participating children also surfaced from other educators at the participating schools, other ordinary schools, community members and society at large across all three levels of the model. Participating parents and educators believed that these attitudes emerged as a result of the lack of public awareness, knowledge and information in South Africa regarding inclusive education and people with Down Syndrome. "I think the community is still very uninformed…still there is a lot of ignorance out there" (P3's teacher). However, it is important to note that positive attitudes towards the inclusive education of the participating children were also found amongst the participating

ordinary schools, the community and general public. Even though initially schools and teachers demonstrated concerns about inclusive education, they showed a positive underlying attitude, philosophy and ethos of accepting learners with Down Syndrome. This finding represents hope for the future of inclusive education in the South African context and demonstrates that ordinary schools and community members are moving in the correct direction towards adopting an inclusive culture.

An additional barrier and challenge to the participating children's successful inclusive education, unique to the socio-economic political climate in South Africa found at the level of the whole social system, was the need to educate the large numbers of 'previously disadvantaged children'. Therefore, the Department of Education was required to address these barriers and inequalities of the past, which appeared to affect its quality of service provision with regard to inclusive education of learners with special educational needs. It is believed that this barrier in turn indirectly affected the inclusion process of all participating children into the ordinary public schools. Views expressed indicated that the Department has had to handle these barriers and challenges related to South Africa's history prior to the barriers and challenges associated with the inclusive education of learners with special educational needs.

The barriers and challenges discussed above and documented in Table 26 confirm the study's hypothesis that certain elements in the inclusive school practice framework described by Giorcelli (2002) in Chapter 4 were not fully consolidated in ways to entirely promote inclusive education of the participating children in this study. These elements included: knowledge of human rights, the inclusive culture of the school, flexibility of management practices, curriculum differentiation and accommodations. For further review of these elements refer to Chapter 4.

Since the system of inclusive education in South Africa was not yet fully in place and in itself may be considered a barrier to the success of inclusive education of learners with Down Syndrome, the overriding central contributing factor to the participating children's successful inclusive education emerged from the subsystem of parents. This subsystem is found within the family system located at the level of the local community of the adapted ecosystemic model from Donald et al. (2002). As was hypothesized in Chapters 1 and 4, the crucial element to the participating children's successful inclusive education was the parental role,

whereby parents were the driving force behind the children's inclusive education. They were required to push and fight for inclusive education to become a successful reality. This role entailed the need for self-empowerment, creating and raising awareness at the school, active support and involvement, for example, providing teaching assistants and therapists. "The parents must be willing to walk the whole way with their child, the parent must be supportive otherwise it gets difficult for the teachers" (P2's mother). There is no doubt that parents should be involved in their children's inclusive education in order to contribute to the success of the process. However, the sole responsibility of driving the entire system of inclusive education for their child should by no means rest with the parents alone.

The parental perseverance, hard work and extensive involvement with regard to the participating children's inclusive education was prominent to such an extent that it counteracted the external lack of appropriate support to a certain degree. All participating mothers demonstrated awareness and insight of the difficulties, frustrations and hard work involved with inclusive education. As reflected in the words of P2's mother who stated emphatically, "If there is no support from the parents then inclusion doesn't really have a chance".

- <u>Agents involved in the inclusive education process</u>

Figure 3 illustrates a model of agents involved in the inclusive education process of the participating children which emerged from the study's findings. The elements in the process are shown in hierarchical order and range from the most influential agent in the process, the parent, secondly, the school teacher and lastly, the child with Down Syndrome. These three agents were found to support and contribute to the participating children's successful inclusion into the ordinary public schools. The parent was found to be the foundation holding together the whole system of inclusive education for their child with Down Syndrome. Therefore, the parent had a direct influence on the participating child's school teacher and on the child. The crucial role of the parent brings to the fore concerns as to whether or not inclusive education for the participating children would be sustainable for a lengthy period of time due to the pressures, sacrifice and toll it could place on the family system.

Due to the barriers and challenges within the inclusive education system, the participating school teachers had a major role in making the process of inclusive education work. The last agent in the process as shown in Figure 3 was the child with Down Syndrome, who is referred

to as the system of the individual at the level of the local community of the ecosystemic model adapted from Donald et al. (2002). The differentiating characteristics of the participating children fostered their success within the inclusive education process. These intrinsic factors included their educability, relatively high functioning level and the limited number of concomitant characteristics of the syndrome which would affect inclusion into an ordinary school. In the current study the children's functioning was found to affect the inclusive education process in various ways, as is discussed below.

The participating children presented with the following communicative deficits: limited verbal communication, speech impairments characterized by articulation errors, delayed phonological skills and frequent unintelligible speech, severely impaired expressive syntactical skills and poor semantic abilities. Although their receptive syntactical and semantic skills were delayed, specifically with abstract terminology, these skills were better than their expressive abilities. Their semantic abilities were found to be better than their syntactical abilities. With regard to pragmatics, the participating children presented with limited conversational skills and management at discourse level and poor narrative discourse skills. In addition, auditory memory deficits were found in all participating children. Even though their phonological awareness skills, for example, analysis and synthesis, were delayed these skills were generally better than their language abilities.

These communicative impairments, which are indicative of typical communicative profiles of children with Down Syndrome as documented in Chapters 4 and 6, influenced the participating children's functioning in the inclusive school context. This influence was evident within the domains of communication, for example, in terms of their interaction with their educators at school, academic skills including participation in classroom discussions, group activities, classroom performance on certain academic tasks, such as oral presentations, reading, writing, numeracy and socialization in terms of peer interaction. This finding is encapsulated in the view expressed by Miller, Leddy, and Leavitt (1999b, p. 1) who report, "Language and communication are key areas that constrain social and personal development of children with Down syndrome".

With regard to academic skills, participating children's reading abilities were not on level with their grade peers, for example, in terms of decoding/accuracy, comprehension and fluency. Similarly, their writing skills, in terms of written language, spelling, letter and

number formation and numeracy skills were found to be below average and below the requirements set out for their grades. The participating children's poor auditory and listening skills, concentration and attention difficulties negatively impacted on their academic functioning. These negative influences, including those constraints arising as a result of their poor communicative skills, which were generally at a preschool level as reported in Chapter 6 and Appendix 17, were minimized for them. This finding was especially noticeable in terms of the participating children's academic functioning whereby they were coping in accordance with their own abilities, due to their educators providing the necessary adaptations, which reflects the underlying philosophy of inclusive education.

Although the participating children were accepted socially by their peers at school, these relationships were not reciprocal friendships and the participating children tended to be 'followers' during their social interactions. Parents expressed concerns regarding possible future social isolation for their children if friendships with other individuals with Down Syndrome would not be established and viewed it as the parents' role to initiate and maintain these friendships.

In line with the study's hypothesis, due to the children's communicative and cognitive deficits/intellectual disabilities they were not independent communicators and learners in the inclusive school situation. This finding emphasizes the importance of providing the necessary adaptations in order to contribute to the successful inclusion of such learners into ordinary schools.

Evidently, by locating the agents in Figure 3 within the adapted ecosystemic model from Donald et al. (2002) the system of the individual – child with Down Syndrome, subsystems of parents and teachers at the level of the local community were operating to contribute to the success of inclusive education. The other systems, subsystems and levels of the adapted ecosystemic model from Donald et al. (2002) had a minimal influence in terms of ensuring successful inclusive education of the participating children. Consequently, in practice the whole adapted ecosystemic model broke down. Therefore, these findings fell short of the hypothesized theoretical ecosystemic model adapted from Donald et al. (2002) discussed in Chapter 3. In this theoretical model every element within each level, system and subsystem would have to operate successfully within dynamic, bi-directional, interdependent and interacting relationships in order to contribute to the success of the inclusive education

process for learners with Down Syndrome. However, as was hypothesized the study found firstly, that systemic factors within the whole South African social system, wider community and local community appeared to hinder the successful inclusion of the participating children into ordinary public schools. Secondly, individual factors, predominantly the parents of the participating learners were the most influential force in contributing to the success of inclusive education of their children.

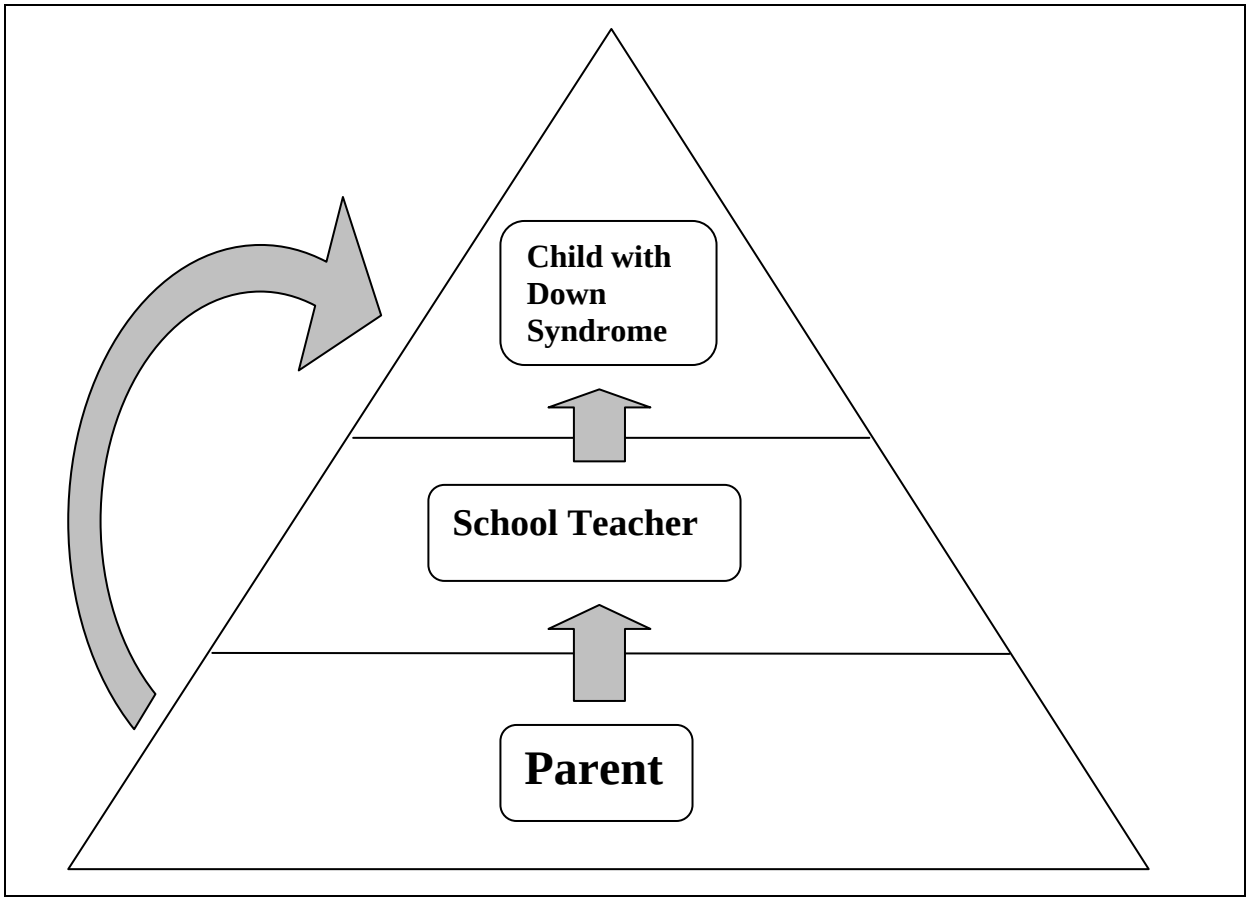

Figure 3: Hierarchical Model of Agents Contributing to Success of Inclusive Education of Participating Children

7.1.4) Advantages and disadvantages of inclusive education of learners with Down Syndrome

Table 27 highlights the advantages and disadvantages of inclusive education of learners with Down Syndrome which transpired from the study.

Table 27: Advantages and disadvantages of inclusive education of learners with Down Syndrome

Advantages	Disadvantages
For the participating child with Down Syndrome	
➢ Influence of the environment, provision and exposure of appropriate, 'normal' role model socially, academically, with regard to behaviour, interaction and communication: Child's ability to model viewed as a positive factor (P1, P2, P3). • 'Normality' – Lead a 'normal' life and function as a 'normal' person (P2 & P3). ➢ Enhance child's development, full potential, self-esteem and opportunities in the areas of socialization, independence, education and employment (P1, P2 & P3). ➢ Equality of treatment – accepted as 'equals' (P2 & P3). ➢ Overall positive experience (P1, P2 & P3).	➢ Child's development, full potential and opportunities were not fully being met in the following areas: • Socially – friendships: Social difficulties, lack of reciprocal friendships and fear of future social isolation, parents need to initiate friendships for the child with other children with Down Syndrome (P1 & P2). • Child's specialized and general educational needs were not being catered for in the ordinary school due to lack of available support structures and resources at the school (P3). • Exclusion from sports and competitive extra-mural activities in the ordinary school due to poor motor and co-ordination skills (P1 & P2). ➢ Possible negative influence on self-esteem due to too much pressure and self-awareness that child with Down Syndrome is different to the other learners (P1 & P2).
For the participating mothers	
➢ Overall positive experience of placing their child in an ordinary school (P1 & P3).	➢ Initial negative experience: Overwhelming, daunting – concerns, fears and depression (P3).
For the participating ordinary school as a whole	
➢ Positive reflection on the ordinary school: Community school and competent teaching staff (P1 & P2).	
For the participating educators	
➢ Creates broader perspective and outlook with regard to teaching (P1 & P3). ➢ Develops more patience, compassion, acceptance, tolerance, awareness of differences and disability and a positive teaching attitude (P1, P2 & P3). ➢ Teaching the participating children with Down Syndrome was viewed as an uplifting learning experience (P2 & P3). ➢ Learn to function as part of a team (P2 & P3).	➢ Other teachers shift responsibility to the child's class teacher (P3).
For the 'non-disabled' learners in the participating children's classes	
➢ Increases the children's self-esteem, provides them with a sense of satisfaction and the ability to assist and accept others (P1, P2 & P3). ➢ Learn to be grateful and appreciative of what they have (P2).	➢ Deprived of quality teaching time if teaching assistant is not present due to teachers having to devote extra time and attention to the child with Down Syndrome (P1, P2 & P3). ➢ Feel excluded due to child receiving different treatment (P3).

Most of the above findings have been documented in the literature review of the current study (Chapters 2 and 4). Added findings included: firstly, that other teachers tend to shift responsibility to the child's class teacher adding to the teacher's workload. Secondly, that the 'non-disabled' learners could be deprived of quality teaching time in situations where a teaching assistant would not be present.

7.2) Limitations

It is important to examine and reiterate important limitations inherent in the study's research design, found in Chapter 5, in order to critically evaluate and assess the validity of the results obtained from the study. Firstly, due to the qualitative case study design and the non-probability convenience small sample, specifically three case studies, used in this research, generalizations of the findings of the current study to the broader population of children with Down Syndrome attending ordinary public schools in Gauteng and South Africa are precluded. Therefore, the results of the study are not representative of other children with Down Syndrome attending public inclusive educational settings. Secondly, the study's sample was atypical of the wider population in Gauteng and South Africa due to its biased nature and selection procedure and also with regard to its limited ethnic and linguistic composition. However, as mentioned in Chapter 5, the small sample size was used as it was found that at the time of the study only a small number of learners with Down Syndrome were being included into ordinary public schools in Gauteng. Furthermore, due to the heterogeneity found in individuals with Down Syndrome (Kumin, 2004; Marshall, 2004; Selikowitz, 1997) the qualitative case study design was employed in this research.

Thirdly, the presence of the researcher during the face-to-face interviews and school observations may have influenced the information elicited from the participants since they may have provided responses that they thought the researcher wished to obtain. Consequently, response bias, observer effect or reactivity and observer bias may have occurred, which may have limited the findings of the study. Nevertheless, these limitations were minimized as far as possible. Researcher effects were controlled by having the same interviewer and observer respectively carry out the procedures, an additional independent speech and hearing therapist was used as a second rater during the observations and the observers remained as unobtrusive as possible during these observations.

In addition, since the research considered feelings and personal experiences of participants a possibility exists that they may have furnished socially desirable responses or denied the existence of negative feelings and accounts in order to prevent their responses from being detrimental to the participating children's inclusive education. Furthermore, the subjectivity of the researcher or researcher bias inherent within the case study approach possibly influenced the interpretation of the results. However, the researcher attempted to lessen this effect as far as possible, for example, by having an independent speech and hearing therapist administering and scoring two of the three speech-language assessments in the presence of the researcher. A final limitation was associated with the subjectivity of the technique used to analyse the data, namely content analysis. Although concerted efforts were made for the researcher to remain as objective as possible and to enhance the 'trustworthiness' and reliability of the classification scheme by checking it with an independent and impartial rater, the researcher's interpretations of the data may have influenced the results.

7.3) Implications

In spite of the above limitations, the findings attained from the current study have numerous valuable and critical implications with a view of improving the inclusion of learners with Down Syndrome into ordinary public schools in South Africa. It is believed that for inclusive education to be accessible and successful for all learners with Down Syndrome in the South African context, it should be practised according to the ecosystemic model adapted from Donald et al. (2002) as discussed in Chapter 3. In this way, inclusive education will not only be available to the minority 'privileged' middle to upper class, educated and resourced families, but rather the true meaning of 'inclusion and education for all' in ordinary schools could take place in South Africa. Therefore, the implications of the study are set out according to this model and in order of significance in terms of the findings of the study.

7.3.1) Wider community

1) The Department of Education and theoretical implications – policy issues

The Department of Education needs to take proactive actions to bridge the discrepancy between the ideology of the South African inclusive education policy in theory and the reality of its implementation. For example, the Department could conduct audits at ordinary public schools and assess the areas of difficulties and make subsequent revisions to the inclusive education policy in order to fit in with the realistic situations occurring at the schools so that the objectives and goals of the inclusive education policy are accessible and realistic.

Additionally, it appears that the Department of Education has a major role in providing further support to ordinary schools, their principals and educators in order to facilitate the inclusive education process of learners with Down Syndrome. This form of support should include: budget facilities, training of educators, provision of information, raising awareness, guidance, offering seminars and workshops to principals and educators from ordinary schools and allocating further learning support educators across all districts. A multidisciplinary team approach should be facilitated by the Department providing teaching assistants, who have an important role in the inclusive education process of learners with Down Syndrome, and creating further posts for educators, inclusive education co-ordinators, speech-language pathologists, occupational therapists, physiotherapists, remedial teachers, educational psychologists and social workers. In order to ensure optimal learning environments for children with Down Syndrome the Department of Education should continue to address the barriers associated with the large number of learners per class. Furthermore, the Department has a vital role of keeping ordinary schools informed and open channels of communication with the ordinary schools regarding its stance on inclusive education. In this respect, the Department also needs to continue educating schools for learners with special education needs regarding their schools' role and contribution in the inclusive education system.

Figure 4 illustrates a proposed inclusive education process for the learner with Down Syndrome in the South African context with the view of enhancing service delivery. Early intervention services for a child diagnosed with Down Syndrome should include information to parents regarding the realities of education in South African schools and the pros and cons of inclusive education versus schools for learners with special educational needs. It would be extremely beneficial for the parent to make contact with other parents who have followed the different educational routes and gain insight from their experiences. An overall analysis needs to take place firstly, of the family's situational means such as socio-economic, psychosocial and family support factors. Secondly, a situational analysis of the available schools in the area needs to take place. Learning support educators from the Department of Education in combination with staff from the Down Syndrome Association and if necessary social workers employed by the Department of Education could fulfil this vital role of information provision and analysis, thereby enabling parents to make an informed decision as to which educational route to follow.

The Department of Education should ensure that the child accepted into the ordinary school is evaluated by a multidisciplinary team of professionals. This evaluation would assist the teacher in adaptations of the curriculum and teaching methods to meet the child's needs. The multidisciplinary team should consist of speech-language pathologists, occupational therapists, physiotherapists, educational psychologists, social workers and remedial teachers. This type of assessment should continue on a regular basis and the child should receive the necessary therapy by the multidisciplinary team. An inclusive education co-ordinator should be assigned to the child, who would lead the team of professionals and liase between the child, teacher, teaching assistant, parents and school principal who would also be considered part of the team. This co-ordinator should work with the child and the team from year to year in order to ensure smooth carryover as the child moves grades and changes classes. In addition, the inclusive education co-ordinator should be involved in raising awareness amongst staff members and learners at the ordinary school regarding Down Syndrome, disabilities and inclusive education.

A paramount implication and recommendation of the study is the necessity for the Department of Education to follow up their theory and policy of inclusive education in practice, which would bridge the discrepancy between the two. The inclusive education co-ordinator could possibly play a role in this regard, by continuously assessing the effectiveness of inclusive education for the learner with Down Syndrome and thereby provide feedback to the Department of Education on ways of improving the process and revising the policy. Staff members/representatives from the Department of Education, for example, learning support educators, should carry out fieldwork by spending time at ordinary schools involved in including learners with Down Syndrome. They could be involved in conducting observations, administering questionnaires and/or conducting interviews with educators and school principals to ascertain valuable information concerning the effectiveness of inclusive education. Thereafter, feedback should be provided to the Department of Education and the necessary revisions to the policy should be made and implementation of the feedback suggestions should take place.

The Department of Education needs to provide educators involved in inclusive education with information regarding curriculum adaptations. The educators could be provided with an information package/programme regarding inclusive education, its philosophy and rationale and the learning styles/profiles of children with Down Syndrome. They should also be given practical examples and teaching strategies as to how to overcome the children's areas of weakness, general barriers and challenges to inclusive education found in the ordinary classroom and how to perform the necessary curriculum and teaching adaptations. This type of information package could be supplemented with practical interactive workshops directed at the educators involving role-play, viewing video taped case scenarios, which could possibly be organized by the Department of Education in combination with the Down Syndrome Association.

The provision of information and raising awareness regarding inclusive education of children with Down Syndrome should not only include ordinary schools and educators but also parents, community members and the general public. The Department of Education could possibly be involved in running awareness campaigns, road shows and projects involving the media. By raising this type of awareness and education amongst ordinary schools, school principals, educators, community members and the general public, it is hoped that attitudes would change to being more positive and accepting of inclusive education of learners with Down Syndrome.

2) Tertiary institutions

Tertiary institutions involved in training educators, therapists, psychologists and social workers should incorporate courses regarding inclusive education into the curriculum. From the three case studies, there appears to be a lack of teachers' training regarding the management and teaching of children with disabilities. Therefore, with the current policy of inclusive education it is hoped that teachers' training would include further courses on various disabilities and the teaching methods involved in educating such learners. There is a strong need for tertiary institutions to offer specific courses for training teaching assistants, who are important members of the team involved in the inclusive education process of a learner with Down Syndrome. Teaching assistants require guidelines regarding methods of teaching and managing the learner with Down Syndrome. A clear definition of their role and as to what is expected of them must be set out, as P2's teaching assistant explained, "You need to know more about it, to be able to help".

3) Down Syndrome South Africa (DSSA)

Down Syndrome South Africa should continue to have an important advocacy role in terms of liasing with the Department of Education regarding the inclusive education policy. The Association should continue to organize workshops and conferences related to inclusive education and provide support, guidance and information to parents, ordinary schools and educators involved in including learners with Down Syndrome. Furthermore, DSSA should continue with their invaluable role of raising awareness amongst ordinary schools, community members and the general public regarding Down Syndrome and inclusive education, which hopefully would in turn foster positive attitudes.

7.3.2) Local community

1) Ordinary schools involved with inclusion of children with Down Syndrome

School principals and other staff members

It is imperative that the ordinary school as a whole adopt an ethos and philosophy of inclusive education, acceptance and positive attitudes towards learners with disabilities, which is reflected in the words of P1's mother, "The system has to be in place where you don't have to fight to get your child in a school but the schools have to accept it, like it is now". The school principal as the leader and visionary of the school should take a proactive role to facilitate this culture and positive attitude amongst staff members, other 'non-disabled' learners and their parents. He/she should have insight, knowledge and awareness and keep updated with the inclusive education policy and trends in the field by continuously liasing with the Department of Education. Further ways he/she could facilitate greater awareness and insight include: organizing workshops and awareness programmes for staff members with the Department of Education and the Down Syndrome Association, whereby examples of successful cases are illustrated highlighting the specific factors which have contributed to their success; incorporating educational activities at the school regarding disabilities and learners with Down Syndrome.

Educators teaching the learner with Down Syndrome

Since the study found that educators directly involved with teaching the learner with Down Syndrome in the ordinary school were important contributing agents and sources of support for the success of the process, they need to continuously empower themselves. It is crucial that they maintain a positive willing attitude towards including the learner with Down

Syndrome and regularly update their knowledge and teaching skills, attend courses, workshops and seminars regarding inclusive education. An important recommended source of information for educators is by means of networking and establishing contacts with other educators and people involved in the field of inclusive education. In this regard the Down Syndrome Association could be a valuable source of input.

Additionally, educators need to demonstrate further flexibility and creativity in adapting the curriculum to be more accessible to learners. Furthermore, they need to ensure that all learners in the classroom are treated equally. Educators could make use of a rotating 'buddy system' in their classrooms and on the playground, whereby the child with Down Syndrome would be teamed up with a higher functioning learner who would assist and help him/her when necessary. This method would alleviate the pressures on the educator, facilitate socialization and encourage positive accepting attitudes amongst learners. A critical role of the teaching assistant includes providing assistance and support to the class teacher. Open and clear communication between the teaching assistant, the class teacher and the child's parents is imperative in order to ensure an optimal learning environment for the learner with Down Syndrome. It is of essence that the educators ascertain the parents' expectations and perspectives regarding the inclusive education process and create awareness amongst parents of the realistic situation in the ordinary public school. Particular to the South Africa context, in situations where cultural and ethnic diversity occurs, educators need to demonstrate cultural sensitivity towards learners and their parents. A further important role of the educators involves being a role model for the other 'non-disabled' learners at the school, with regard to accepting the learner with Down Syndrome and holding a positive attitude towards his/her inclusion into the ordinary school.

2) <u>The clinical practice of Speech-Language Pathology</u>

The study has shown that communication impairments was one of the main intrinsic challenges of the participating children with Down Syndrome, which affected their functioning and subsequent experiences in the ordinary schools. This finding was not unexpected as communication impairments are main features associated with Down Syndrome (Gerber, 1990; Laws, Byrne & Buckley, 2000) and communication is pivotal within the school situation, for example, with regard to learning, socializing, interacting with peers and educators (Kumin, 2004). Therefore, the role of the Speech-Language Pathologist in the inclusive education process of learners with Down Syndrome is crucial. The Speech-

Language Pathologist has a central role in the multidisciplinary management team of the child with Down Syndrome who is being included in the ordinary school. This role needs to include the following: improving communication skills of the learner with Down Syndrome by utilizing the child's areas of strength; acting as a facilitator between educators and parents; being directly involved with curriculum adaptations by consulting closely with the child's educators; providing guidance, support and information to the parents, educators and school principal. In order to facilitate the child's inclusion into the ordinary school Speech-Language Pathologists should focus intervention on enhancing communication between the learner with Down Syndrome, his/her peers and educators and improving the child's pragmatic and social communicative skills. For example, group work, role-play, providing workshops to staff members and educational activities to the child's class peers. It is hoped that a study of this nature would enable Speech-Language Pathologists involved in the management of children with Down Syndrome to gain a deeper and richer understanding of inclusive education from the perspectives of the child, parent and educator and thereby the effectiveness of therapy may be enhanced.

3) Parents of child with Down Syndrome considering inclusive education

The study has highlighted the essential role of parents of a child with Down Syndrome in their child's inclusive education process. This role is of great significance, as the study has indicated that the parent of the child was the foundation and agent holding the whole system together in the current inclusive educational system. The parent was the crucial element which contributed to and supported the participating children's successful inclusion into the ordinary schools. Thus, currently it appears that parents could enhance their involvement in the inclusive education system by the following: empower and update themselves by means of gaining knowledge and information on inclusive education; be familiar with their and their children's rights regarding education; be aware of the inclusive education policy and practice; attend conferences and seminars on the topic; be aware of the Down Syndrome Association as a source of support and knowledge base. In the words of P1's mother, "…you need to be updated on things, you need to know the exact facts…you must know the policies…and you must update and upgrade and up yourself all the time, be on top of things otherwise you won't, it won't succeed". In addition, the parent has to be extremely supportive of the process and have regular contact and open communication with the child's educators and school principal.

In terms of socialization, an important recommendation for parents of children with Down Syndrome who attend inclusive educational settings is the need to establish and maintain friendships for the child with other children with Down Syndrome in order to prevent possible future social isolation. Examples of ways in which the parent could fulfil this role may include: joining activities for individuals with Down Syndrome which are organized by the Down Syndrome Association, arranging meetings and social gatherings for their child with other children with Down Syndrome.

As inclusive education is not the only possible route or most optimal option for all learners with Down Syndrome, parents need to be realistic and consider factors such as their socio-economic situations, family support, psychosocial issues, their child's level of functioning and other intrinsic challenges if present. This point is considered a paramount implication due to the sampling bias present in the study.

7.3.3) Whole social system, wider community and local community

1) Community awareness and education

Findings of the study revealed there is a need for increased community awareness regarding people with Down Syndrome. This need extends to developing positive, accepting attitudes and a culture and ethos of tolerance and sensitivity amongst communities towards individuals with Down Syndrome, their inclusion into ordinary schools specifically and into all sectors of life such as employment, family life, sports, leisure, social and recreational activities. This type of awareness and education would appear to be relevant to educational settings, the workplace and the wider community. By combining efforts of the public and private sectors including non-governmental organizations, DSSA and other support groups, nation wide awareness campaigns and education could be developed.

2) Advancement of theory and research

Since inclusive education in general and specifically of learners with Down Syndrome in South Africa is currently in its infancy stages, it is hoped that this research will be a stepping landmark in building a sound knowledge base in the field. It is envisaged that the teaching and Speech-Language Pathology professions' knowledge and understanding of inclusive education of learners with Down Syndrome will be expanded by the three case studies employed in the current research.

The following areas for future research in the field of Down Syndrome and inclusive education have emerged from the study. A replication of this type of study could be undertaken with a larger sample size and a more proportionate representation of the varied ordinary public schools in terms of resources; participants from different geographical, ethnic and linguistic groups; socio-economic classes; diverse family structures and parental educational backgrounds found in the South African context in both urban and rural areas. Such a study would potentially expand the credibility of the current study's findings beyond the sample used and add to the pool of knowledge in the field. In order to minimize socially desirable responses from educators, it would be beneficial to obtain their responses regarding inclusive education of learners with Down Syndrome at a time when they would no longer be directly involved in teaching the child. Future research may also focus on obtaining the views, perceptions, attitudes and experiences of staff members from the Department of Education involved in formulating the inclusive education policy and of the learning support educators from the district levels including their role in the process. It would be beneficial to ascertain the general views and experiences of the South African National Department of Education, provincial Departments of Education and district officials regarding inclusive education in general and specifically of learners with Down Syndrome.

A fruitful area for future research may also be to investigate the reactions and attitudes of community members, 'non-disabled' learners at ordinary schools and family members such as siblings towards inclusive education of children with Down Syndrome. A study which would document the voices and personal experiences of learners with Down Syndrome in ordinary schools versus learners with Down Syndrome attending schools for learners with special educational needs would provide first hand insight in the field. A further interesting area for research would be to conduct a comparative study of views of school principals and educators regarding teaching children with Down Syndrome at ordinary schools versus schools for learners with special education needs. A study investigating the place and role of schools for learners with special education needs within the inclusive education process would add valuable information in the field. An important area of future research would be to document the role of teaching assistants in teaching a learner with Down Syndrome in an ordinary school. Curriculum issues and adaptations and modification of teaching methods for learners with Down Syndrome attending ordinary schools in combination with the learners' specific learning styles and profiles require an in-depth examination. Such data could potentially yield valuable knowledge in the field of inclusive education of learners with Down Syndrome.

Future research should also concentrate on eliciting data regarding the academic attainments, such as in the areas of reading, writing and numeracy, communication profiles including speech and language of learners with Down Syndrome at different age levels who have been attending ordinary educational settings. A study focusing on the speech and language development and academic attainments of learners with Down Syndrome who are bilingual and attend schools where the medium of instruction is different to their home language would be valuable in the South African multilingual context.

There is a need to develop South African speech and language assessment tools specifically designed for individuals with Down Syndrome based on their own particular norms of development due to the following reasons: Firstly, individuals with Down Syndrome demonstrate a unique profile of speech and language development as discussed in Chapters 4 and 6 (Cicchetti & Ganiban, 1990; Fowler, 1990, 1995; Jarrold, Baddeley & Phillips, 2002; Kumin, 2004; Kumin, Councill & Goodman, 1998; Miller, Leddy, Miolo & Sedey, 1995; Seung & Chapman, 2000; Welsh & Elliot, 2001). Secondly, it is believed that subsequent intervention for such individuals should focus on enhancing quality of life and communication and reaching the individual's maximum potential based on his/her abilities and areas of strength. Thirdly, assessment tools devised abroad are inappropriate in terms of their linguistic, dialectal and semantic applicability to the South African context. Inclusive education of children with Down Syndrome at a pre-school level could also be investigated. An additional valuable area of research would be to ascertain the role of Down Syndrome South Africa (the South African Down Syndrome Association) within the field of inclusive education.

The measure of the success or effectiveness of inclusive education for learners with Down Syndrome might also be accomplished by means of a comparative study, whereby outcomes for learners placed in ordinary schools are compared with the performance of children in schools for learners with special educational needs. However, as mentioned in Chapter 2, the nature of such a study would be extremely difficult in terms of matching both groups on all variables except for educational placement. Furthermore, the efficacy of inclusive education could be investigated by a follow-up longitudinal study of the participating children from the current research at high school and post school levels.

To sum up, the powerful words of Professor Kader Asmal, former South African Minister of Education, are viewed as a source of guidance and inspiration for all individuals involved in inclusive education within the South African context, "Let us work together to nurture our people with disabilities so that they also experience the full excitement and joy of learning, and to provide them, and our nation, with a solid foundation for lifelong learning and development. I acknowledge that building an inclusive education and training system will not be easy. What will be required of us all is persistence, commitment, co-ordination, support, monitoring, evaluation, follow-up and leadership" (Department of Education, 2001, p. 6).

7.4) Conclusion

This study has documented case studies of three primary school aged children with Down Syndrome attending ordinary public schools in Gauteng province, South Africa within an adapted ecosystemic model (Donald et al., 2002). It is believed that the findings of this research have enhanced existing research and knowledge regarding Down Syndrome and inclusive education within the South African context. The study found that the system of the individual at the level of the local community had an influence on the inclusive education process in the following ways:

Firstly, participating children's impaired communicative abilities which were generally at a preschool level and are indicative of typical communicative profiles of children with Down Syndrome, had an impact on their functioning in the inclusive school context. This influence was evident within the domains of communication, interaction with their educators, academic skills including participation in classroom discussions, group activities and socialization with their peer group.

Secondly, although participating children's academic functioning in terms of reading, writing, numeracy and concentration skills was found to be below the requirements set out for their grades, they were coping in accordance with their own abilities, due to their educators providing the necessary curriculum and teaching adaptations. Thirdly, pertaining to the area of socialization even though all participating children were accepted socially by their peers at the ordinary school, these relationships were not reciprocal friendships. Concerns emerged regarding possible future social isolation for two of the three participating children if friendships with other individuals with Down Syndrome would not be established. Consequently, in accordance with the study's hypothesis, due to the children's

communicative and cognitive deficits/intellectual disabilities they were not independent communicators and learners in the inclusive school context. However, they were coping with the necessary adaptations, which is in line with the inclusive education philosophy.

As was hypothesized, the discrepancy between the ideology of the South African inclusive education policy in theory and the reality of its implementation for the participating children was the overriding barrier and challenge to their successful inclusion into the ordinary public schools. This discrepancy had a profound impact on all levels, systems and subsystems of the adapted ecosystemic model (Donald et al., 2002). Therefore, the inclusive education system was considered to be a barrier in itself to the children's successful inclusive education process. Lack of appropriate support for the inclusion of the participating children into the ordinary schools, educators feeling abandoned by the Department of Education and the school, the belief that the inclusion of learners with Down Syndrome placed a predicament and burden on the school, and the negative attitudes of other ordinary schools, the participating ordinary school, other educators at the participating schools and community members and society at large were found to be further major barriers and challenges to the successful inclusion of the participating children into the ordinary schools.

The predominant contributing factor to the successful inclusive education of the participating children was their parents, who in fact were the driving force holding the whole inclusive education system together. "Inclusive education for my son wouldn't have worked if I wasn't that involved…parents need to know that they need to be involved and that they need to work hard and sometimes it feels like giving birth all over again" (P1's mother). Secondly, the positive attitudes, dedication and commitment displayed by the participating children's educators contributed to the success of the process. As P2's teacher recounted, "Because children with Down Syndrome learn with difficulty, because they speak with difficulty and because they read with difficulty, you've got to work a lot harder to get them to learn anything. But the rewards and the sensation and the positivity you feel at the end is also a lot greater with children with Down Syndrome".

Thus, it is believed that despite the barriers and challenges found in the inclusive education system, inclusion of the participating children into ordinary public schools had been successful and positive. This success was dependent on the attitudes and commitment of

participating parents and educators, rather than on the inclusive education system that was in its infancy stages. In conclusion:

“It was once commonly thought that children with Down’s Syndrome couldn’t learn – but they are increasingly showing us that they can and will – given the right opportunities. Once they used to be put away from view but today they are able to fulfil their own role and take their own place within the community. Who knows, with the right opportunities, experiences and attention to their needs, what they may be achieving in the years ahead?” (Mepsted, 1998, p. 60 – 61).

REFERENCES

Afzali-Nomani, E. (1997). Conditions related to successful full inclusion programs involving Deaf/Hard of Hearing children. *American Annals of the Deaf, 139,* 396-401.

Alghazo, E. M., & Gaad, E. E. N. (2004). General education teachers in the United Arab Emirates and their acceptance of the inclusion of students with disabilities. *British Journal of Special Education, 31(2),* 94 – 99.

Alton, S. (1998). Differentiation not discrimination: Delivering the curriculum for children with Down's syndrome in mainstream schools. *Support for Learning, 13*(4), 167-173.

Anneren, G., & Pueschel, S. M. (1996). Preventive medical care. In B. Stratford & P. Gunn (Eds.), *New approaches to Down Syndrome* (pp. 143-153). London: Cassell.

Ashman, A. F., & Elkins, J. (1996). School and integration. In B. Stratford, & P. Gunn (Eds.), *New approaches to Down syndrome* (pp. 341-357). London: Cassell.

Babbie, E. (1995). *The practice of social research* (7th ed.). Belmont, CA: Wadsworth Publishing Company.

Babbie, E. (2001). *The practice of social research* (9th ed.). Belmont, CA: Wadsworth/Thomson Learning.

Babbie, E. (2004). *The practice of social research* (10th ed.). Belmont, CA: Wadsworth/Thomson Learning.

Babbie, E., Mouton, J., Vorster, P., & Prozesky, B. (2001). *The practice of social research* (South African ed.). Cape Town, South Africa: Oxford University Press Southern Africa.

Bacon, E. H., & Schultz, J. B. (1991). A survey of mainstreaming practices. *Teacher Education and Special Education, 14(2),* 144 – 149.

Baker, T. L. (1994). *Doing social research*. New York: McGraw-Hill.

Baker, E. T., Wang, M. C., & Walberg, H. J. (1995). The effects of inclusion on learning. *Educational Leadership, 52*(4), 33-35.

Balboni, G., & Pedrabissi, L. (2000). Attitudes of Italian teachers and parents toward school inclusion of students with mental retardation: The role of experience. *Education and Training in Mental Retardation and Developmental Disabilities, 35(2)*, 148 – 159.

Balshaw, M., & Farrell, P. (2002). *Teaching assistants: Practical strategies for effective classroom support*. London: David Fulton.

Banerji, M., & Dailey, R. A. (1995). A study of the effects of an inclusion model on students with specific learning difficulties. *Journal of Learning Difficulties, 28*(8), 511-522.

Belknap, M., Roberts, R., & Nyewe, K. (2004). Informal sources of learning support. In P. Engelbrecht, L. Green, S. Naicker, & L. Engelbrecht (Eds.), *Inclusive education in action in South Africa* (pp. 168-189). Pretoria, South Africa: Van Schaik.

Berg, B. L. (1995). *Qualitative research methods for the social sciences* (2nd ed.). Boston: Allyn and Bacon.

Bernard, H. R. (2000). *Social research methods: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage Publications.

Biersteker, L., & Robinson, S. (2000). Socio-economic policies. In D. Donald, A. Dawes, & J. Louw (Eds.), *Addressing childhood adversity* (pp. 26-59). Cape Town, South Africa: David Philip.

Bird, G., & Buckley, S. (1994). *Meeting the educational needs of children with Down's syndrome*. University of Portsmouth.

Boemmel, J., & Briscoe, J. (2001). *Web quest project theory fact sheet of Urie Bronfenbrenner*. Retrieved September 1, 2006, from National-Louis University Web Site: http://ptz.nl.edu/boemmelbriscoewebquest.pdf#search=%22bronfenbrenner%22

Bowker, J. (2003). *Speech production in adolescence with a specific language impairment*. Unpublished doctoral proposal, University of the Witwatersrand, Johannesburg, Gauteng, South Africa.

Breakwell, G. M. (2003). Interviewing. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed., pp. 239 – 250). London: SAGE Publications.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, Mass: Harvard University Press.

Buckley, S. (1985). Attaining basic educational skills: reading, writing and number. In D. Lane & B. Stratford (Eds.), *Current approaches to Down's syndrome* (pp. 315-343). London: Holt, Rinehart and Winston.

Buckley, S. (2000). *The education of individuals with Down syndrome: A review of educational provision and outcomes in the United Kingdom*. Portsmouth, United Kingdom: The Down Syndrome Educational Trust.

Buckley, S., & Bird, G. (1993). Teaching children with Down's syndrome to read. *Down Syndrome Research and Practice, 1(1),* 34 – 39.

Buckley, S., & Bird, G. (1995). Early intervention – How to help your child in the preschool years. *Portsmouth Down Syndrome Trust Newsletter, 5*(1), 1-5.

Buckley, S., & Bird, G. (2002). Cognitive development and education: perspectives on Down syndrome from a twenty-year research programme. In M. Cuskelly, A. Jobling, & S. Buckley (Eds.), *Down syndrome across the life span* (pp. 66 – 80). London: Whurr.

Buckley, S., Bird, G., & Byrne, A. (1996). Reading acquisition by young children. In B. Stratford, & P. Gunn (Eds.), *New approaches to Down's syndrome* (pp. 268-279). London: Cassell.

Buell, M. J., Hallam, R., Gamel-McCormick, M., & Scheer, S. (1999). A survey of general and special education teachers' perceptions and in-service needs concerning inclusion. *International Journal of Disability, Development and Education, 46*(2), 143-156.

Burden, A. (1995). Inclusion is an educational approach in assisting people with disabilities. *Educare, 24*(2), 44-46.

Campbell, J., Gilmore, L., & Cuskelly, M. (2003). Changing student teachers' attitudes towards disability and inclusion. *Journal of Intellectual & Developmental Disability, 28*(4), 369-379.

Carr, J. (1988). Six weeks to twenty-one years old: A longitudinal study of children with Down's syndrome and their families. *Journal of Child Psychology and Psychiatry, 29*(4), 407-431.

Carr, J. (1995). *Down's syndrome: Children growing up*. Cambridge, United Kingdom: Cambridge University Press.

Carrow-Woolfolk, E. (1999). *Test for auditory comprehension of language* (3rd ed.). *(TACL-3)*. Austin, TX: PRO-ED.

Casey, W., Jones, D., Kugler, B., & Watkins, B. (1988). Integration of Down's syndrome children in the primary school: A longitudinal study of cognitive development and academic attainments. *British Journal of Educational Psychology, 58,* 279-286.

Chapman, R. (1997). Language development in children and adolescents with Down syndrome. *Mental Retardation and Developmental Disabilities Research Reviews, 3,* 307-312.

Cicchetti, D., & Ganiban, J. (1990). The organization and coherence of developmental processes in infants and children with Down syndrome. In R. M. Hodapp, J. A. Burack, & E. Zigler (Eds.), *Issues in the developmental approach to mental retardation* (pp. 169-225). Cambridge, United Kingdom: Cambridge University Press.

Cole, A. (2003). Children with Down's syndrome: A South African perspective. *Catholic Medical Quarterly, May,* 1 – 3.

Cuckle, P. (1999). Getting in and staying there: Children with Down syndrome in mainstream schools. *Down Syndrome Research and Practice, 6*(2), 95-99.

Cunningham, C. C., Glenn, S., Lorenz, S., Cuckle, P., & Shepperdson, B. (1998). Trends and outcomes in educational placements for children with Down's syndrome. *European Journal of Special Needs Education, 13,* 225-237.

D'Alonzo, B. J., & Ledon, C. (1992). Successful inclusion of children with disabilities with nondisabled peers in early intervention and preschool settings. *The Transdisciplinary Journal, 2,* 277 – 283.

Department of Education. (1997). *Quality education for all: Overcoming barriers to learning and development: Report of the National Commission on Special Needs in Education and Training (NCSNET) National Committee on Education Support Services (NCESS).* Pretoria, South Africa: CTP Printers.

Department of Education. (2001). *Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System.* Pretoria, South Africa: Government Printer.

Department of Education. (2005). *Framework and management plan for the first phase of implementation of inclusive education 2005 – 2009: Managing the transition towards an inclusive education system.* Pretoria, South Africa: Directorate Inclusive Education, Sol Plaatje House.

Department of National Education. (1998). *Government Gazette (No. 19640): Assessment Policy in General Education and Training Band (Grade R to 9 and ABET).* Pretoria, South Africa: Government Printer.

Depperman, L. (2004). Pride, love and a whole lot to be learnt. In C. Dowling, N. Nicoll, & B. Thomas (Eds.), *Lessons from my child: Parents' experiences of life with a disabled child* (pp. 134-136). Sydney, Australia: Finch Publishing.

Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. London: Routledge.

Donald, D., Lazarus, S., & Lolwana, P. (2002). *Educational psychology in social context* (2nd ed.). Cape Town, South Africa: Oxford University Press Southern Africa.

Dorn, S., Fuchs, D., & Fuchs, L. S. (1996). A historical perspective on special education reform. *Theory into Practice, 35*(1), 12-19.

Down Syndrome South Africa (2004, August). Down Syndrome South Africa: National news. *Sibaleni Nathi, 1*, 7-8.

Drummond, A. (1996). *Research methods for therapists*. London: Chapman & Hall.

Duhaney, L. M. G., & Spencer, J. S. (2000). Parental perceptions of inclusive educational placements. *Remedial and Special Education, 21(2)*, 121 – 129.

Dunn, L. M., & Dunn, L. M. (1997). *The British picture vocabulary scale* (2nd ed.) *(BPVS-II)*. Windsor, Berkshire, UK: NFER-NELSON.

Durrheim, K. (1999). Research design. In M. T. Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 29-54). Cape Town, South Africa: University of Cape Town Press.

Durrheim, K. (2004). Research design. In M. T. Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 29-53). South Africa: University of Cape Town Press.

Eloff, I., Engelbrecht, P., & Swart, E. (2000). *Stress areas and coping skills of South African teachers in the implementation of inclusive education*. Paper presented at ISEC Conference, Manchester, England, July 2000.

Engelbrecht, P., Forlin, C., Eloff, I., & Swart, E. (2001). Developing a support programme for teachers involved with inclusion in South Africa. *International Journal of Special Education, 16(1)*, 80-89.

Engelbrecht, P., Oswald, M., Swart, E., Kitching, A., & Eloff, I. (2005). Parents' experiences of their rights in the implementation of inclusive education in South Africa. *School Psychology International, 26*(4), 459-477.

Engelbrecht, P., Swart, E., Oswald, M., & Eloff, I. (2005, August 1-4). *Developing inclusive school communities: Experiences of parents of children with disabilities*. Paper presented at the Inclusive and Supportive Education Congress: International Special Education Conference, Inclusion: Celebrating Diversity? Glasgow, Scotland.

European Agency for Development in Special Needs Education. (2003). *Inclusive education and classroom practices: Summary report*. Retrieved March 15, 2005, from http://www.european-agency.org/publications

Farrell, P. (1997). The integration of children with severe learning difficulties. *Journal of Applied Research in Intellectual Disabilities, 10*, 1-14.

Ferguson, D. L., & Jeanchild, L. A. (1992). It's not a matter of method: Thinking about how to implement curricular decisions. In S. Stainback, & W. Stainback (Eds.), *Curriculum considerations in inclusive classrooms: Facilitating learning for all students* (pp. 159-174). Baltimore: Paul H. Brookes.

Fife-Schaw, C. (2003). Questionnaire design. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed., pp. 158 – 174). London: SAGE Publications.

Fisher, D., Pumpian, I., & Sax, C. (1998). Parent and caregiver impressions of different educational models. *Remedial and Special Education, 19(3),* 173 – 180.

Forlin, C., Douglas, G., & Hattie, J. (1996). Inclusive practices: How accepting are teachers? *International Journal of Disability, Development and Education, 43(2),* 119 – 133.

Forlin, C., & Engelbrecht, P. (1998). Pre-service teacher education for inclusive education in Australia and South Africa. *South African Journal of Higher Education, 12(2),* 215 – 223.

Fowler, A. E. (1990). Language abilities in children with Down syndrome: Evidence for a specific syntactic delay. In D. Cichetti & M. Beeghley (Eds.), *Children with Down syndrome: A developmental perspective* (pp. 302-328). Cambridge, United Kingdom: Cambridge University Press.

Fowler, A. E. (1995). Linguistic variability in persons with Down syndrome: Research and implications. In L. Nadel & D. Rosenthal (Eds.), *Down syndrome: Living and learning in the community* (pp. 121-131). New York: Wiley-Liss.

Fox, S., Farrell, P., & Davis, P. (2004). Factors associated with the effective inclusion of primary-aged pupils with Down's syndrome. *British Journal of Special Education, 31*(4), 184-190.

Gaad, E. (2001). Educating children with Down's syndrome in the United Arab Emirates. *British Journal of Special Education, 28(4),* 195 – 203.

Gardner, M. F. (1979). *Expressive one-word picture vocabulary test*. Novato, CA: Academic Therapy Publications.

Gardner, M. F. (1985). *Test of auditory-perceptual skills (TAPS).* San Francisco: Children's Hospital of San Francisco.

Gauteng Provincial Government Department of Education. (2002, March 31). *Strategic plan for 2003/4 – 2005/6*. Gauteng, South Africa: Government Printer.

Gerber, S. E. (1990). *Prevention: The etiology of communicative disorders in children*. Englewood Cliffs, NJ: Prentice-Hall.

Gersten, R., Vaughn, S., Deshler, D., & Schiller, E. (1997). What we know about using research findings: Implications for improving special education practice. *Journal of Learning Disabilities, 30*, 466 – 476.

Ghesquiere, P., Moors, G., Maes, B., & Vandenberghe, R. (2002). Implementation of inclusive education in Flemish primary schools: A multiple case study. *Educational Review, 54(1)*, 47 – 56.

Gibson, D. (1978). *Down's syndrome: The psychology of Mongolism*. London: Cambridge University Press.

Giorcelli, L. R. (2002). Making inclusion work: Improving educational outcomes for students with Down syndrome in the regular classroom. In M. Cuskelly, A. Jobling, & S. Buckley (Eds.), *Down syndrome across the life span* (pp. 54 – 63). London: Whurr.

Goswami, U., & Bryant, P. (1990). *Phonological skills and learning to read*. Hillsdale, NJ: Erlbaum.

Green, L. (2005). Theoretical and contextual background. In P. Engelbrecht & L. Green (Eds.), *Promoting learner development: Preventing and working with barriers to learning* (pp. 3-16). Pretoria, South Africa: Van Schaik.

Green, L., Forrester, J., Mvambi, N., van Vuuren, E. J., & du Toit, S. (2004). Classroom support for inclusion. In P. Engelbrecht, L. Green, S. Naicker, & L. Engelbrecht (Eds.), *Inclusive education in action in South Africa* (pp. 127 – 156). Pretoria, South Africa: Van Schaik.

Gresham, F. M. (1982). Misguided mainstreaming: The case for social skills training with handicapped children. *Exceptional Children, 48*, 422 – 432.

Grove, K. A., & Fisher, D. (1999). Entrepreneurs of meaning: Parents and the process of inclusive education. *Remedial and Special Education, 20(4)*, 208 – 215, 256.

Guralnick, M. J. (1981). The efficacy of integrating handicapped children in early education settings: Research implications. *Topics in Early Childhood Special Education, 1*(1), 57 – 71.

Hall, R., & Engelbrecht, P. (1999). The possible role of special schools in inclusive education. *South African Journal of Education, 19(3)*, 230 – 234.

Hall, D., & Hall, I. (1996). *Practical social research: Project work in the community*. Basingstoke, Malaysia: Macmillan Press.

Harcombe, E. (1993). *The interaction effects of intrapersonal, interpersonal and socioeconomic variables on stress adjustment of disadvantaged children*. Unpublished master's thesis, University of the Witwatersrand, Johannesburg, South Africa.

Huitt, W. (2003). A systems model of human behaviour. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved September 1, 2006, from http://chiron.valdosta.edu/whuitt/materials/sysmdlo.html.

Jarrold, C., Baddeley, A. D., & Hewes, A. K. (2000). Verbal short-term memory deficits in Down syndrome: A consequence of problems in rehearsal? *Journal of Child Psychology and Psychiatry, 41*, 233-244.

Jarrold, C., Baddeley, A. D., & Phillips, C. E. (2002). Verbal short-term memory in Down syndrome: A problem of memory, audition, or speech? *Journal of Speech, Language, and Hearing Research, 45*, 531-544.

Keith, K., & Ross, E. (1998). Attitudes of a group of primary school teachers towards the educational inclusion of hearing-impaired learners in regular classrooms. *The South African Journal of Communication Disorders, 45*, 39 – 50.

Kliewer, C. (1998). *Schooling children with Down syndrome: Toward an understanding of possibility*. NY: Teachers College Press.

Kristensen, K., Omagor-Loican, M., & Onen, N. (2003). The inclusion of learners with barriers to learning and development into ordinary school settings: A challenge for Uganda. *British Journal of Special Education, 30(4),* 194 – 201.

Kumin, L. (1994). *Communication skills in children with Down syndrome: A guide for parents*. Bethesda, MD: Woodbine House.

Kumin, L. (2003). *Early communication skills for children with Down syndrome: A guide for parents and professionals* (2nd ed.). Bethesda, MD: Woodbine House.

Kumin, L. (2004). Mental retardation. In L. Schoenbrodt (Ed.), *Childhood communication disorders: Organic bases* (pp. 151 – 183). New York: Thomson Delmar Learning.

Kumin, L., & Bahr, D. C. (1999). Patterns of feeding, eating, and drinking in young children with Down syndrome with oral motor concerns. *Down Syndrome Quarterly, 4*, 1-8.

Kumin, L., Councill, C., & Goodman, M. (1998). Expressive vocabulary development in children with Down syndrome. *Down Syndrome Quarterly, 3,* 1-7.

Lahey, M. (1990). Who shall be called language disordered? Some reflections and one perspective. *Journal of Speech and Hearing Disorders, 55,* 612 – 620.

Laws, G., Byrne, A., & Buckley, S. (2000). Language and memory development in children with Down syndrome at mainstream and special schools: A comparison. *Educational Psychology, 20*(4), 447-457.

Lazarus, S., Daniels, B., & Engelbrecht, L. (2004). The inclusive school. In P. Engelbrecht, L. Green, S. Naicker, & L. Engelbrecht (Eds.), *Inclusive education in action in South Africa* (pp. 45-68). Pretoria, South Africa: Van Schaik.

Leddy, M. (1999). The biological bases of speech in people with Down syndrome. In J. F. Miller, M. Leddy, & L. A. Leavitt (Eds.), *Improving the communication of people with Down syndrome* (pp. 61-80). Baltimore: Paul H. Brookes Publishing.

LeRoy, B., & Simpson, C. (1996). Improving student outcomes through inclusive education. *Support for Learning, 11*, 32-36.

Leshin, L. (2002). Pediatric health update on Down Syndrome. In W. I. Cohen, L. Nadel, & M. E. Madnick (Eds.), *Down Syndrome: Visions for the 21st century* (pp. 187-201). New York: Wiley-Liss.

Levitz, M. (1995). Community participation: Perspective. In L. Nadel & D. Rosenthal (Eds.), *Down syndrome: Living and learning in the community* (pp. 247-248). New York: Wiley-Liss.

Lewis, J. (2003). Design issues. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice: A guide for social science students and researchers* (pp. 47 – 76). London: SAGE Publications.

Lindegger, G. (2004). Research methods in clinical research. In M. T. Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 251-268). South Africa: University of Cape Town Press.

Lipkin, P. H., & Schertz, M. (1996). An assessment of the efficacy of early intervention programs. In A. J. Capute & P. J. Accardo (Eds.), *Developmental disabilities in infancy and childhood* (2nd ed.): *Volume I: Neurodevelopmental diagnosis and treatment* (pp. 525-547). Baltimore: Paul H. Brookes.

Lipsky, D., & Gartner, A. (1996). Inclusion, school restructuring and the remaking of American Society. *Harvard Educational Review, 66*(4), 762-796.

Llewellyn, G. (1996). Qualitative research. In F. Stein & S. K. Cutler, *Clinical research in allied health and special education* (3rd ed., pp. 411-423). San Diego, CA: Singular Publishing Group.

Lomofsky, L., Roberts, R., & Mvambi, N. (2004). The inclusive classroom. In P. Engelbrecht, L. Green, S. Naicker, & L. Engelbrecht (Eds.), *Inclusive education in action in South Africa* (pp. 69 – 96). Pretoria, South Africa: Van Schaik.

Lorenz, S. (1999). *Resources materials for teachers: Children with Down's Syndrome: A guide for teachers and learning support assistants in mainstream primary and secondary schools*. London: David Fulton.

Lorenz, S., Sloper, P., & Cunningham, C. (1985). Research supplement: Reading and Down's syndrome. *British Journal of Special Education, 12*(2), 65-67.

Lyons, E. (2003). Qualitative data analysis: Data display model. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed., pp. 269-280). London: SAGE Publications.

Makgalemele, T. (2004, October 16). Backtrack on plan for disabled learners. *Saturday Star*, pp. 5.

Marais, J. L. (2000, July 24 – 28). *The attitudes of South African teachers towards inclusion: Implications for teacher education in the new millennium*. Paper presented at the 2000 International Special Education Congress (ISEC): Including the Excluded, University of Manchester.

Marcell, M. M., & Cohen, S. (1992). Hearing abilities of Down syndrome and other mentally handicapped adolescents. *Research in Developmental Disabilities, 15,* 533-551.

Marcell, M., & Weeks, S. (1988). Short term memory difficulties and Down syndrome. *Journal of Mental Deficiency Research, 32*, 153-162.

Marshall, F. (2004). *Coping with Down's Syndrome*. London: Sheldon Press.

Mason, D. (1994). Inclusive education leaves deaf children outsiders. *WFD (World Federation of the Deaf, Helsinki) News, 4*(Dec.), 22.

McConkey, R. (2002). Creating positive lifestyles for people with Down syndrome in developing countries. In M. Cuskelly, A. Jobling, & S. Buckley (Eds.), *Down syndrome across the life span* (pp. 195-209). London: Whurr.

McGregor, G., & Vogelsberg, R. (1998). *Inclusive schooling practices: Pedagogical and research foundations a synthesis of the literature that informs best practices about inclusive schooling*. Baltimore: Paul H. Brookes.

Mepsted, J. (1998). *Developing the child with Down's Syndrome: A guide for teachers, parents and carers* (2nd ed.). Plymouth, United Kingdom: Northcote House.

Miller, J. F., Leddy, M. & Leavitt, L. A. (1999a). Evaluating communication to improve speech and language skills. In J. F. Miller, M. Leddy, & L. A. Leavitt (Eds.), *Improving the communication of people with Down Syndrome* (pp. 119-132). Baltimore: Paul H. Brookes.

Miller, J. F., Leddy, M., & Leavitt, L. A. (1999b). Introduction: The communication challenges that people with Down syndrome face. In J. F. Miller, M. Leddy, & L. A. Leavitt (Eds.), *Improving the communication of people with Down syndrome* (pp. 1 – 7). Baltimore: Paul H. Brookes.

Miller, J. F., Leddy, M., Miolo, G., & Sedey, A. (1995). The development of early language skills in children with Down Syndrome. In L. Nadel & D. Rosenthal (Eds.), *Down Syndrome: Living and learning in the community* (pp. 115-120). New York: Wiley-Liss.

Murray-Branch, J. E., & Gamradt, J. E. (1999). Assistive technology: Strategies and tools for enhancing the communication skills of children with Down syndrome. In J. F. Miller, M. Leddy, & L. A. Leavitt (Eds.), *Improving the communication of people with Down syndrome* (pp. 161 – 197). Baltimore: Paul H. Brookes Publishing.

Muthukrishna, N. (2002). Inclusive education in a rural context in South Africa: Emerging policy and practices. *International Journal of Special Education, 17(1),* 1 – 10.

Muthukrishna, N., Farman, R., & Sader, S. (1996). *The inclusion of children with Down syndrome: A South African experience*. Springfield, VA: Resources in Education.

Nadel, L. (1995). Neural and cognitive development in Down Syndrome. In L. Nadel & D. Rosenthal (Eds.), *Down Syndrome: Living and learning in the community* (pp. 107-114). New York: Wiley-Liss.

Naicker, S. M. (2000). *From apartheid education to inclusive education: The challenges of transformation*. International Education Summit for a Democratic Society. Cape Town, South Africa: Western Cape Education Department.

Newmark, R. (2002). *Inclusive education for learners with Down syndrome: The role of the educational psychologist*. Unpublished doctoral dissertation, University of Stellenbosch, South Africa.

Newton, R. (2004). *The Down's syndrome handbook: A practical guide for parents and carers* (new ed.). London: Vermilion.

Northern, J. L., & Downs, M. P. (1991). *Hearing in children* (4th ed.). Philadelphia: Lippincott Williams & Wilkins.

Owens, R. (1989). Cognition and language in the mentally retarded population. In M. Beveridge, G. Conti-Ramsden, & I. Leudar (Eds.), *Language and communication in mentally handicapped people* (pp. 112-142). London: Chapman & Hall.

Owens, R. E., Jr. (2001). *Language development: An introduction* (5th ed.). Boston: Allyn and Bacon.

Owens, R. E., Jr. (2004). *Language disorders: A functional approach to assessment and intervention* (4th ed.). Boston: Pearson Education.

Paediatric Case History Form. (n.d.). Department of Speech Pathology and Audiology, Speech and Hearing Clinic, University of the Witwatersrand, Johannesburg, South Africa.

Papalia, D. E., Olds, S. W., & Feldman, R. D. (1998). *Human development* (7th ed.). Boston: McGraw-Hill.

Paquette, D., & Ryan, J. (2001). *Bronfenbrenner's ecological systems theory*. Retrieved September 1, 2006, from National-Louis University Web site: http://ptz.nl.edu/paquetteryanwebquest.pdf#search=%22bronfenbrenner%22

Payne, G., & Payne J. (2004). *Key concepts in social research*. London: SAGE Publications.

Pivik, J., Mccomas, J., & Laflamme, M. (2002). Barriers and facilitators to inclusive education. *Exceptional Children, 69(1)*, 97 – 107.

Pretorius, A. (1989). *Die Afrikaanse Semantiese Taalevalueringsmedium (AST)*. Pretoria, South Africa: A Pretorius.

Prinsloo, E. (2005). Addressing challenging behaviour in the classroom. In E. Landsberg, D. Kruger, & N. Nel (Eds.), *Addressing barriers to learning: A South African perspective* (pp. 449 – 465). Pretoria, South Africa: Van Schaik.

Prutting, C. A., & Kirchner, D. M. (1987). A clinical appraisal of the pragmatic aspects of language. *Journal of Speech and Hearing Disorders, 52*, 105 – 119.

Pueschel, S. M. (1999). The person with Down syndrome. In J. Rondal, J. Perera, & L. Nadel (Eds.), *Down syndrome: A review of current knowledge* (pp. 3-5). London: Whurr.

Raver, S. A. (2001). India: Training teachers for children with mental retardation. *International Journal of Special Education, 16(1)*, 54 – 66.

Republic of South Africa. (1996a). *Constitution of the Republic of South Africa* (Act 108 of 1996). Pretoria, South Africa: Government Printers.

Republic of South Africa (1996b). *South African Schools Act 84 of 1996*. Pretoria, South Africa: Government Printers.

Reynell, J. K., & Huntley, M. (1987). *Reynell developmental language scales* (2nd revision). Windsor, England: NFER-NELSON.

Rissman, M., Curtiss, S., & Tallal, P. (1990). School placement outcomes of young language impaired children. *Journal of Speech Language Pathology and Audiology, 14,* 49-58.

Robson, C. (1995). *Real world research: A resource for social scientists and practitioner-researchers*. Oxford, UK: Blackwell.

Rogers, P. T., Roizen, N. J., & Capone, G. T. (1996). Down syndrome. In A. J. Capute & P. J. Accardo (Eds.), *Developmental disabilities in infancy and childhood* (2nd ed.): *Volume II: The spectrum of developmental disabilities* (pp. 221-243). Baltimore: Paul H. Brookes.

Rondal, J. A. (1995). *Exceptional language development in Down syndrome: Implications for the cognition-language relationship*. New York: Cambridge University Press.

Rossman, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Rynders, J. E. (1999). Promoting the educational competence of students with Down syndrome. In J. Rondal, J. Perera, & L. Nadel (Eds.), *Down syndrome: A review of current knowledge* (pp. 64 – 78). London: Whurr.

Rynders, J., Abery, B. H., Spiker, D., Olive, M. L., Sheran, C. P., & Zajac, R. J. (1997). Improving educational programming for individuals with Down syndrome: Engaging the fuller competence. *Down Syndrome Quarterly, 2,* 1-11.

Sader, S. B. (1997). *Educating children with Down Syndrome in regular schools: The KwaZulu-Natal experience*. Unpublished master's dissertation, University of Natal, South Africa.

Sailor, W. (1991). Special education in the restructured school. *Remedial and Special Education, 11*(2), 115-124.

Sakari, M., & Hannu, S. (2003). Struggling for inclusive education in the North and the South: Educators' perceptions on inclusive education in Finland and Zambia. *International Journal of Rehabilitation Research, 26(1),* 21 – 31.

Salisbury, C. L., Gallucci, C., Polombaro, M. M., & Peck, C. A. (1995). Strategies that promote social relations among elementary students with and without severe disabilities in inclusive schools. *Exceptional Children, 62*(2), 125-137.

Sarantakos, S. (1998). *Social research* (2nd ed.). London: Macmillan Press Ltd.

Scala, M. C. (2001). *Working together: Reading and writing in inclusive classrooms*. Newark, DE: International Reading Association.

Schiavetti, N., & Metz, D. E. (2002). *Evaluating research in communicative disorders* (4th ed.). Boston: Allyn and Bacon.

Schoeman, M. (1997). The role of parents in bringing about educational reform: A South African perspective. *Down Syndrome in South Africa, 4,* 1-4.

Schoeman, M. (2000). *Parents and the community in inclusive education.* Position paper for UNESCO on the role of parents in the transition towards inclusive education, 2000.

Screening Audiometry Record Sheet. (n.d.). Discipline of Speech and Hearing Therapy, University of the Witwatersrand, Johannesburg, South Africa.

Sebba, J., & Sachdev, D. (1997). *What works in inclusive education?* Essex, United Kingdom: Barnardos.

Seligman, M. (1999). Childhood disability and the family. In V. L. Schwean, & D. H. Saklofske (Eds.), *Handbook of psychosocial characteristics of exceptional children* (pp. 111-131). New York: Kluwer Academic/Plenum.

Selikowitz, M. (1997). *Down Syndrome: The facts* (2nd ed.). New York: Oxford University Press.

Semel, E., Wiig, E. H., & Secord, W. (1987). *Clinical evaluation of language fundamentals – revised (CELF-R)*. San Antonio, TX: The Psychological Corporation Harcourt Brace Jovanovich.

Semmel, M. I., Abernathy, T. V., Butera, G., & Lesar, S. (1991). Teachers' perceptions of the Regular Education Initiative. *Exceptional Children, 58*, 9 – 24.

Seung, H. K., & Chapman, R. (2000). Digit span in individuals with Down syndrome and typically developing children: Temporal aspects. *Journal of Speech, Language, and Hearing Research, 43,* 609-620.

Shepperdson, B. (1994). Attainments in reading and number of teenagers and young adults with Down's syndrome. *Down's Syndrome: Research and Practice, 2,* 97-101.

Shipley, K. G., & McAfee, J. G. (1992). *Communicative disorders: An assessment manual*. London: Chapman & Hall.

Shprintzen, R. J. (2000). *Syndrome identification for speech-language pathologists: An illustrated pocket guide*. San Diego, CA: Singular Publishing Group Thomson Learning.

Singleton, R., Straits, B. C., & Straits, M. M. (1993). *Approaches to social research*. New York: Oxford University Press.

Sloper, P., Cunningham, C., Turner, S., & Knussen, C. (1990). Factors related to the academic attainments of children with Down's syndrome. *British Journal of Educational Psychology, 60,* 284-298.

Snell, M. (1988). Curriculum and methodology for individuals with severe disabilities. *Education and Training in Mental Retardation, 23,* 302-314.

Spiker, D., & Hopmann, M. R. (1997). The effectiveness of early intervention for children with Down syndrome. In M. J. Guralnick (Ed.), *The effectiveness of early intervention* (pp. 271 – 305). Baltimore: Paul H. Brookes Publishing.

Stackhouse, J. (1996). Speech, spelling and reading: Who is at risk and why? In M. Snowling, & J. Stackhouse (Eds.), *Dyslexia, speech and language: A practitioner's handbook* (pp. 12 – 30). London: Whurr.

Stainback, S., & Stainback, W. (Eds.). (1992). *Curricular considerations in inclusive classrooms: Facilitating learning for all students*. Baltimore: Paul H. Brookes Publishing.

Stein, F., & Cutler, S. K. (1996). *Clinical research in allied health and special education* (3rd ed.). San Diego, CA: Singular Publishing Group.

Swart, E., Engelbrecht, P., Eloff, I., & Pettipher, R. (2000). *Teachers' attitudes towards and experiences in implementing inclusive education in South Africa*. Paper presented at EASA Conference, Bloemfontein, January 2000.

Swart, E., Engelbrecht, P., Eloff, I., Pettipher, R., & Oswald, M. (2004). Developing inclusive school communities: Voices of parents of children with disabilities. *Education as Change, 8*(1), 80-108.

Swart, E., & Pettipher, R. (2005). Changing roles for principals and educators. In P. Engelbrecht & L. Green (Eds.), *Promoting learner development: Preventing and working with barriers to learning* (pp. 30-44). Pretoria, South Africa: Van Schaik.

Tancig, S., Kavkler, M., & Pulec, S. (2005, August 1 – 4). *Implementing a systemic approach of an inclusive school practice*. Paper presented at the 2005 Inclusive and Supportive Education Congress (ISEC) International Special Education Conference: Inclusion: Celebrating Diversity? Glasgow, Scotland.

Terre Blanche, M., & Kelly, K. (2004). Interpretive methods. In M. Terre Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 123 – 146). Cape Town, South Africa: University of Cape Town Press.

Thomas, R. M. (2003). *Blending qualitative & quantitative research methods in theses and dissertations*. Thousand Oaks, CA: Corwin Press.

Thomas, G., Walker, D., & Webb, J. (2000). *The making of the inclusive school*. London: Routledge.

Turner, S., & Alborz, A. (2003). Academic attainments of children with Down's syndrome: A longitudinal study. *British Journal of Educational Psychology, 73*(4), 563-583.

Tyler, K. (1992). The development of the ecosystemic approach as a humanistic educational psychology. *Educational Psychology, 12*, 15-24.

UNESCO (United Nations Educational, Scientific and Cultural Organization). (1994). *The Salamanca Statement and Framework for Action on Special Needs Education*. Paris: UNESCO.

UNESCO (United Nations Educational, Scientific and Cultural Organization). (2005). *Guidelines for inclusion: Ensuring access to education for all*. Paris: UNESCO.

Van der Merwe, H. (1996). The research process: Problem statement and research design. In J. G. Garbers (Ed.), *Effective research in the human sciences: Research management for researchers, supervisors and master's and doctoral candidates* (pp. 277-291). Pretoria, South Africa: J. L. van Schaik Publishers.

Van Vuuren, D., & Maree, A. (2004). Survey methods in market and media research. In M. T. Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 269-286). South Africa: University of Cape Town Press.

Vaughn, S., Elbaum, B. E., & Schumm, J. S. (1996). The effects of inclusion on the social functioning of students with learning disabilities. *Journal of Learning Disabilities, 29*, 598 – 608.

Villa, R. A., & Thousand, J. (2002). Inclusion: Welcoming, valuing, and supporting the diverse learning needs of all students in shared general education environments. In W. I. Cohen, L. Nadel, & M. E. Madnick (Eds.), *Down syndrome: Visions for the 21st century* (pp. 339-356). New York: Wiley-Liss.

Vincent, C. (2000). *Including parents? Education, citizenship and parental agency*. Buckingham, United Kingdom: Open University Press.

Wagner, R. K., Torgesen, J. K., & Rashotte, C. A. (1994). Development of reading-related phonological processing abilities: Evidence of bi-directional causality from a latent variable longitudinal study. *Developmental Psychology, 30*, 73 – 87.

Wamae, G. M. I., & Kang'ethe-Kamau, R. W. (2004). The concept of inclusive education: Teacher training and acquisition of English language in the hearing impaired. *British Journal of Special Education, 31(1)*, 33 – 40.

Ware, L. (1999). My kid, and kids kinda like him. In R. Slee (Series Ed.) & K. Ballard (Ed.), *Inclusive education: International voices on disability and justice: Studies in inclusive education series* (pp. 43 – 66). London: Falmer Press.

Wehman, P. (1985). Supported competitive employment for persons with severe disabilities. In P. McCarthy, J. Everson, S. Monn, & M. Barcus (Eds.), *School-to-work transition for youth with severe disabilities* (pp. 167-182). Richmond, VA: Virginia Commonwealth University.

Welsh, T. N., & Elliot, D. (2001). The processing speed of visual and verbal movement by adults with and without Down syndrome. *Applied Physical Activity Quarterly, 18*, 156-167.

Wilkinson, J. (2003). Direct observation. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed., pp. 224 – 238). London: SAGE Publications.

Willms, J. D. (2000, April). *Standards of care: Investments to improve children's educational outcomes in Latin America*. Paper presented at the 2000 Year Conference on Early Childhood Development. World Bank, Washington, DC.

Wilson, M., & Hammond, S. (2003). Structuring qualitative data using a scaling procedure. In G. M. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (2nd ed., pp. 281 – 293). London: SAGE Publications.

Wolpert, G. (1996). *The educational challenges: Inclusion study*. New York: National Down Syndrome Society.

Wolpert, G. (2001). What general educators have to say about successfully including students with Down syndrome in their classes. *Journal of Research in Childhood Education, 16(1)*, 28 – 38.

Wood, J. (1992). *Adapting instruction for mainstreamed and at-risk students* (2nd ed.). Toronto, Canada: Maxwell Macmillan Canada.

Yin, R. K. (2003). *Applications of case study research* (2nd ed.)*: Vol. 34. Applied social research methods series*. Thousand Oaks, CA: Sage Publications.

APPENDIX 4: Gauteng Department of Education District Offices Information Sheet

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For Attention: District _____

Re: Permission to Conduct Research at: _____

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

I therefore wish to ask you for permission to conduct the study at the above mentioned school. The procedure for the research project will be as follows. With the child's parents' permission and consent, I wish to look at the child's school reports. I would also like to observe the child during 3 different contexts during school time: structured classroom activity, unstructured classroom activity and on the playground. Each observation per context will last approximately 30 minutes. The purpose of the observations is to gain a better understanding of the child's inclusive education experiences and language functioning within his/her school environment. I will use a checklist to gain this information. My observations will not in any way disrupt any classes or school activities – I will be an unobtrusive observer.

Furthermore, I wish to conduct individual interviews with the school teacher and teaching assistant who are teaching the child with Down Syndrome in her/his classroom. The interviews will include: questions relating to the teacher's/teaching assistant's attitudes regarding their experiences, perceptions and beliefs about inclusive education specifically regarding the child who has Down Syndrome. Specific areas to be covered in the interviews will include: description of the school; teacher's/teaching assistant's demographic information; teaching background; teacher's/teaching assistant's preparation in teaching a child with Down Syndrome; curriculum issues, learning styles and academic abilities of the child; socialization and behavioural factors related to the child and the child's communication abilities – speech, language and literacy. The interviews will be tape-recorded in order to ensure accuracy and will take approximately 1-2 hours of the teacher's time and 1-2 hours of the teaching assistant's time. Furthermore, the teacher and teaching assistant will each be given a rating scale to fill in regarding the child's speech and language abilities and classroom functioning. Areas to be covered in the rating scale include: the child's behaviour, socialization, concentration, academic skills, listening skills, speech and language skills including memory, literacy skills – reading and writing. The rating scale should take approximately 30 minutes to an hour to fill out. The completion of the interview and rating scale will not in any way disrupt any classes or any work that will be taking place and will not take teachers and teaching assistants away from their work responsibilities.

In addition, I plan to assess the child's language and speech abilities and screen his/her hearing. The assessment will be covered in 1 visit of approximately 3 hours. With permission and consent from you and the school principal, I wish to conduct the assessment and screening at the above mentioned school, at a time and venue suitable and convenient for the school and child. Since the assessment and screening will be conducted after school hours, they will not in any way disrupt any classes or any work that will be taking place The venue required for the assessment and hearing screening should be a quiet room with minimal distractions.

I will also be giving the child's parent/s a questionnaire regarding the child's case history information and conducting an interview with the child's parent/s outside of school time. This interview will include questions regarding the child's communication abilities and the parents' experiences, perceptions and beliefs regarding inclusive education of their child and children with Down Syndrome in general.

Please be assured that the teachers, teaching assistants, children and parents' names will not be revealed. Responses and results will be kept strictly confidential. The school's participation in this study is completely voluntary, and refusal to participate will not be held against the school in any way. The school's principal is free to withdraw his/her consent or discontinue participation at any time. The school teachers and teaching assistants may also refuse to participate or to answer any questions in the interview and rating scale.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). Appropriate referrals will be made available, should the child require them.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717-4577/3

APPENDIX 4: Down Syndrome Association Gauteng Information Sheet

___/___/2004

For Attention: Down Syndrome Association Gauteng

Re: Proposed Research Concerning Down Syndrome and Inclusive Education

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

In order to conduct the research study I would appreciate it if you could assist me in obtaining the following information:

- Names and contact details of families who have children with Down Syndrome, who are currently attending ordinary schools and participating in inclusive education.
- Names of ordinary schools that include children with Down Syndrome.
- Names of school teachers who are involved in teaching children with Down Syndrome within inclusive education settings.

Furthermore, I would appreciate it if you could contact the above people and schools first in order to obtain consent and permission for me to contact them.

Please be assured that the children and parents' names will not be revealed. Responses and results will be kept strictly confidential. The children and parents' participation in this study is completely voluntary, and refusal to participate will not be held against them in any way. They are free to withdraw their consent or discontinue participation at any time.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). Should you wish to receive a copy of this study, it will be made available on request. Appropriate referrals will be made available, should the children require them.

Your time and cooperation would be appreciated.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717- 4577/3

APPENDIX 4: Parent Information Sheet

___/___/200__

Dear Parent/s,

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

I therefore wish to invite you and your child to participate in the study. The procedure for the research project will be as follows. I would like to give you a questionnaire regarding your child's case history information. The questionnaire will include questions such as background information; speech, language and hearing status; previous assessments and therapy, current therapies; early history information including pregnancy, labour and birth, neonatal conditions, feeding history, developmental milestones; medical history; family structure and history; socialization, behaviour and personality characteristics. The questionnaire will take approximately 45 minutes to an hour to fill out and I will collect it from you on a specified date agreed upon. After returning the questionnaire I would like to conduct an interview with you at a time and place most convenient for you, which will cover questions relating to (1) Your child's communication skills including: speech, voice, language, hearing and listening abilities and (2) Your attitudes regarding your child's experience of inclusion in an ordinary school, including your experiences, perceptions and attitudes towards inclusive education and your child's academic abilities, socialization, behaviour, and communication abilities in relation to inclusive education. With your permission, the interview will be tape-recorded in order to ensure accuracy and will take approximately 1-2 hours of your time.

In addition, I would like to obtain your permission and consent to have access to your child's school reports and any other relevant assessment and progress reports from other professionals. I would also like to observe your child during school time in 3 different contexts: structured classroom activity, unstructured classroom activity, and on the playground. Each observation per context will last approximately 30 minutes. The purpose of the observations is to gain a better understanding of your child's inclusive education experiences and language functioning within his/her school environment. With your permission I will also be conducting individual interviews with your child's school teacher and teaching assistant, which will be tape-recorded and will be similar to the interview I will be conducting with you. Furthermore, with your permission, your child's teacher and teaching assistant will be given a rating scale to fill out individually with regard to your child's classroom functioning in terms of his/her language abilities. With your permission and consent, I wish to assess your child's language and speech abilities and screen your child's hearing. The assessment will be tape-recorded in order to ensure accuracy of results and will be covered in 1 visit of approximately 3 hours. The assessment and screening will take place at your child's school or at your home, depending on your preference.

Please be assured that your name and your child's name will not be revealed. Responses and results will be kept strictly confidential and only researchers involved in the study will know your identity. Your and your child's participation in this study is completely voluntary, and refusal to participate will not be held against you or your child in any way. You are free to withdraw your consent or discontinue

participation at any time. You may also refuse to answer any questions in the questionnaire and interview.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). You will receive feedback and a copy of your child's assessment results soon after testing. If you want, a copy of the results could be made available to the school. Should you wish to receive a copy of the research report, it will be made available on request. Appropriate referrals will be made available, should you and/or your child require them.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717-4577/3

APPENDIX 4: Parent Consent Form

I hereby consent to my and my child's participation in the research study. Furthermore, I give the researcher, Michelle Klompas, permission to use my and my child's responses and information obtained in the write up of the study, and in any future publications or presentations.

I understand that participation in this study is voluntary. I also understand that I am free to refuse to participate or to withdraw my consent and discontinue participation in this study at any time, without it being held against me and my child in any way. In addition, I realize that I am entitled to refuse to answer any of the questions put to me. I understand that this also applies to my child in other words he/she may refuse to participate at any time.

I understand that my and my child's privacy will be maintained and that any information my child and I choose to divulge will remain strictly confidential. Also, I am aware that if I and my child have any questions at any time, they will be answered and that appropriate referrals and recommendations will be made available to me should I and/or my child require them. It has been explained to me that the research procedures will not in any way interfere or disrupt the school day and teachers' responsibilities.

Please circle your response: I give Michelle Klompas consent to:

Use my responses in the **written questionnaire**.	YES / NO
Use my responses during the **tape-recorded interview**.	YES / NO
Contact my child's school principal and school teachers, in order to carry out the research study.	YES / NO
Contact my child's teaching assistant, in order to carry out the research study (if applicable – if teaching assistant is present).	YES / NO
Gain access to my child's **previous assessment and progress reports** of other professionals and **school reports**.	YES / NO
Conduct **observations** of my child **during school time** using a checklist.	YES / NO
Interview my child's school teacher, which will be tape-recorded.	YES / NO
Interview my child's teaching assistant, which will be tape-recorded (if applicable – if teaching assistant is present).	YES / NO
Give my child's **school teacher a rating scale**, which the teacher will complete and return to Michelle.	YES / NO
Give my child's **teaching assistant a rating scale**, which the teaching assistant will complete and return to Michelle (if applicable – if teaching assistant is present).	YES / NO
Conduct a **speech-language assessment** with my child, with the aid of an interpreter if necessary, which will be tape-recorded, and a **hearing screening**. I am aware that feedback and a written report of the assessment and screening results and appropriate recommendations and referrals will be given to me.	YES / NO

Date: _____

Signature: _____

APPENDIX 4: Parent Consent Form (Audio Recording)

I hereby consent to my interview and child's speech and language assessment with Michelle Klompas for her research study to be tape-recorded. I understand that:

- The audio tapes and transcripts will not be seen or heard by any person in my child's school and in the general public, and will only be processed by the researcher.
- All audio tape recordings will be destroyed after the research is complete.
- No identifying information will be used in the transcripts or the research report.

Date: _____

Signature: _____

APPENDIX 4: School Governing Body Information Sheet

___/___/200__

For Attention: Chairperson of the School Governing Body (SGB)

Re: Information Sheet to Conduct Research at:_____

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

Therefore, with the school principal's permission and consent I would like to conduct the study at the above mentioned school. The procedure for the research project will be as follows. With the child's parents' permission and consent, I wish to look at the child's school reports. I would also like to observe the child during 3 different contexts during school time: structured classroom activity, unstructured classroom activity and on the playground. Each observation per context will last approximately 30 minutes. The purpose of the observations is to gain a better understanding of the child's inclusive education experiences and language functioning within his/her school environment. I will use a checklist to gain this information. My observations will not in any way disrupt any classes or school activities – I will be an unobtrusive observer.

Furthermore, I wish to conduct individual interviews with the school teacher and teaching assistant who are teaching the child with Down Syndrome in her/his classroom. The interviews will include: questions relating to the teacher's/teaching assistant's attitudes regarding their experiences, perceptions and beliefs about inclusive education specifically regarding the child who has Down Syndrome. Specific areas to be covered in the interviews will include: description of the school; teacher's/teaching assistant's demographic information; teaching background; teacher's/teaching assistant's preparation in teaching a child with Down Syndrome; curriculum issues, learning styles and academic abilities of the child; socialization and behavioural factors related to the child and the child's communication abilities – speech, language and literacy. The interviews will be tape-recorded in order to ensure accuracy and will take approximately 1-2 hours of the teacher's time and 1-2 hours of the teaching assistant's time. Furthermore, the teacher and teaching assistant will each be given a rating scale to fill in regarding the child's speech and language abilities and classroom functioning. Areas to be covered in the rating scale include: the child's behaviour, socialization, concentration, academic skills, listening skills, speech and language skills including memory, literacy skills – reading and writing. The rating scale should take approximately 30 minutes to an hour to fill out. The completion of the interview and rating scale will not in any way disrupt any classes or any work that will be taking place and will not take teachers and teaching assistants away from their work responsibilities.

In addition, I plan to assess the child's language and speech abilities and screen his/her hearing. The assessment will be covered in 1 visit of approximately 3 hours. With permission and consent from the school principal, I wish to conduct the assessment and screening at the above mentioned school, at a time and venue suitable and convenient for the school and child. Since the assessment and screening will be conducted after school hours, they will not in any way disrupt any classes or any work that will be taking place The venue required for the assessment and hearing screening should be a quiet room with minimal distractions.

I will also be giving the child's parent/s a questionnaire regarding the child's case history information and conducting an interview with the child's parent/s outside of school time. This interview will include questions regarding the child's communication abilities and the parents' experiences, perceptions and beliefs regarding inclusive education of their child and children with Down Syndrome in general.

Please be assured that the names of the school, teacher, teaching assistant, children and parent/s will not be revealed. Responses and results will be kept strictly confidential. The school's participation in this study is completely voluntary, and refusal to participate will not be held against the school in any way. The school principal is free to withdraw his/her consent or discontinue participation at any time. The school teacher and teaching assistant may also refuse to participate or to answer any questions in the interview and rating scale.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). Should you wish to receive a copy of this research report, it will be made available on request. Appropriate referrals will be made available, should the child require them.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717-4577/3

APPENDIX 4: Principal Information Sheet

___/___/200__

For Attention: The Principal of _____

Re: Permission to Conduct Research at Your School

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

I therefore wish to ask you for permission to conduct the study at your school. The procedure for the research project will be as follows. With the child's parents' permission and consent, I wish to look at the child's school reports. I would also like to observe the child during 3 different contexts during school time: structured classroom activity, unstructured classroom activity and on the playground. Each observation per context will last approximately 30 minutes. The purpose of the observations is to gain a better understanding of the child's inclusive education experiences and language functioning within his/her school environment. I will use a checklist to gain this information. My observations will not in any way disrupt any classes or school activities – I will be an unobtrusive observer.

Furthermore, I wish to conduct individual interviews with the school teacher and teaching assistant who are teaching the child with Down Syndrome in her/his classroom. The interviews will include: questions relating to the teacher's/teaching assistant's attitudes regarding their experiences, perceptions and beliefs about inclusive education specifically regarding the child who has Down Syndrome. Specific areas to be covered in the interviews will include: description of the school; teacher's/teaching assistant's demographic information; teaching background; teacher's/teaching assistant's preparation in teaching a child with Down Syndrome; curriculum issues, learning styles and academic abilities of the child; socialization and behavioural factors related to the child and the child's communication abilities – speech, language and literacy. The interviews will be tape-recorded in order to ensure accuracy and will take approximately 1-2 hours of the teacher's time and 1-2 hours of the teaching assistant's time. Furthermore, the teacher and teaching assistant will each be given a rating scale to fill in regarding the child's speech and language abilities and classroom functioning. Areas to be covered in the rating scale include: the child's behaviour, socialization, concentration, academic skills, listening skills, speech and language skills including memory, literacy skills – reading and writing. The rating scale should take approximately 30 minutes to an hour to fill out. The completion of the interview and rating scale will not in any way disrupt any classes or any work that will be taking place and will not take teachers and teaching assistants away from their work responsibilities.

In addition, I plan to assess the child's language and speech abilities and screen his/her hearing. The assessment will be covered in 1 visit of approximately 3 hours. With permission and consent from you, I wish to conduct the assessment and screening at your school, at a time and venue suitable and convenient for the school and child. Since the assessment and screening will be conducted after school hours, they will not in any way disrupt any classes or any work that will be taking place The venue required for the assessment and hearing screening should be a quiet room with minimal distractions.

I will also be giving the child's parent/s a questionnaire regarding the child's case history information and conducting an interview with the child's parent/s outside of school time. This interview will

include questions regarding the child's communication abilities and the parents' experiences, perceptions and beliefs regarding inclusive education of their child and children with Down Syndrome in general.

Please be assured that the teachers, teaching assistants, children and parents' names will not be revealed. Responses and results will be kept strictly confidential. Your school's participation in this study is completely voluntary, and refusal to participate will not be held against your school in any way. You are free to withdraw your consent or discontinue participation at any time. The school teachers and teaching assistants may also refuse to participate or to answer any questions in the interview and rating scale.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). Should you wish to receive a copy of this research report, it will be made available on request. Appropriate referrals will be made available, should the child require them.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717-4577/3

APPENDIX 4: Principal Consent Form

I hereby consent to participation in the research study. Furthermore, I give the researcher, Michelle Klompas, permission to use information gained from my school in the write up of the study, and in any future publications or presentations.

I understand that participation in this study for my school is voluntary. I also understand that I can refuse to participate or withdraw my consent and discontinue my participation in this study at any time, without it being held against me and/or my school in any way. In addition, I realize that the school teachers and teaching assistants are entitled to refuse to answer any of the questions put to them.

I understand that my and my school's, school teachers' and teaching assistants' privacy will be maintained and that any information the school teachers, teaching assistants and I choose to divulge will remain strictly confidential. Also, I am aware that if the school teachers, teaching assistants and I have any questions at any time, they will be answered. It has been explained to me that the research procedures will not in any way interfere or disrupt the school day, teachers' and teaching assistants' responsibilities.

Please circle your response: I give Michelle Klompas permission to:

View the child's school reports with consent from the child's parent/s.	YES / NO
Complete observations of the child during school time in 3 different contexts: structured classroom activity, unstructured classroom activity and on the playground.	YES / NO
Interview the child's school teacher/s.	YES / NO
Interview the child's teaching assistant.	YES / NO
Give the child's school teacher/s rating scales to be completed.	YES / NO
Give the child's teaching assistant a rating scale to be completed.	YES / NO
Conduct the speech-language assessment and hearing screening of the child on the school premises.	YES / NO

Date: _____

Signature: _____

APPENDIX 4: Principal Consent Form (Audio Recording)

I hereby consent to the teachers and teaching assistants' interviews with Michelle Klompas for her research study entitled:

_____

_____

being tape-recorded. I understand that:

- The audio tapes and transcripts will not be seen or heard by any other person in the school, including myself, and in the general public, and will only be processed by the researcher.
- All audio tape recordings will be destroyed after the research is complete.
- No identifying information will be used in the transcripts or the research report.

Date: _____

Signature: _____

APPENDIX 4: Teacher/Teaching Assistant Information Sheet

___/___/200___

Dear _____,

My name is Michelle Klompas, and I am presently undertaking my Masters degree in Speech Therapy at the University of the Witwatersrand. As part of my degree I am conducting research within the field of inclusive education of children with Down Syndrome. The main purpose of the study is to investigate the experiences of primary school aged children with Down Syndrome in inclusive education settings in Gauteng. Secondary aims of the study include: to evaluate the child's overall functioning in the inclusive school context; to identify and examine the perceptions, attitudes and experiences of parents, teachers and teaching assistants regarding the inclusion of the children into ordinary schools; and to explore barriers, challenges and factors contributing to successful inclusion of the children into ordinary schools.

I therefore wish to invite you to participate in the study. The procedure for the research project will be as follows. With the child's parents' permission and consent, I wish to look at the child's school reports. In addition, I would like to observe the child during school time in 3 different contexts: structured classroom activity, unstructured classroom activity and on the playground. Each observation per context will last approximately 30 minutes. The purpose of the observation is to gain a better understanding of his/her inclusive education experiences and communication abilities within his/her school environment. I will use a checklist in order to gain this information. My observation will not in any way disrupt any classes or school activities – I will be an unobtrusive observer.

I also wish to conduct an interview with you which will include: questions relating to your attitudes regarding your experiences, perceptions and beliefs about inclusive education specifically regarding the child who has Down Syndrome. Specific areas to be covered in the interview will include: description of the school; your demographic information; your background; your preparation in teaching a child with Down Syndrome; curriculum, learning styles and academic abilities of the child; factors relating to the child's socialization and behaviour; child's communication abilities – speech, language and literacy. With your permission this interview will be tape-recorded in order to ensure accuracy and will take approximately 1-2 hours of your time. It will be conducted at a place and time most convenient for you, without disrupting the school day. Furthermore, you will be given a rating scale to fill in regarding the child's language abilities and classroom functioning. Areas to be covered in the rating scale include: the child's behaviour, socialization, concentration, academic skills, listening skills, speech, language and memory skills, literacy skills – reading and writing. The rating scale may be filled out in your own time and returned to me on a date agreed upon. It should take approximately 30 minutes to an hour of your time to fill out.

In addition, I plan to assess the child's language and speech abilities and screen his/her hearing. The assessment will be tape-recorded in order to ensure accuracy of results and will be covered within 1 visit of approximately 3 hours. With permission and consent from the school, the assessment and screening will take place at the school, at a time and venue suitable for the school and child. Since the assessment and screening will be conducted after school hours, they will not in any way disrupt any classes or any work that will be taking place. The venue required for the assessment and hearing screening should be a quiet room with minimal distractions.

Furthermore, the child's parent/s will be given a questionnaire regarding the child's case history information. I will also be conducting an interview with the child's parent/s, which will be similar to the one I will be conducting with you.

Please be assured that your name, the child and parents' names will not be revealed. Responses and results will be kept strictly confidential. Your participation in this study is completely voluntary, and refusal to participate will not be held against you in any way. You are free to withdraw your consent or discontinue participation at any time. You may also refuse to answer any questions in the interview and rating scale.

It is hoped that this research will provide valuable information, which will enhance our knowledge and understanding of inclusive education of children with Down Syndrome in Gauteng and will hopefully improve services and public awareness in this field. Please feel free to ask any questions regarding the study at any point of time. I will answer them to the best of my ability. You may contact me at (011) 885-2751 (home) or 072-2002675 (cell). Should you wish to receive a copy of the research report, it will be made available on request. Appropriate referrals will be made available, should the child require them.

Thank you.

Yours sincerely

Michelle Klompas
Researcher
Tel: (011) 885-2751 / 072-2002675

J. Bowker
Supervisor
Tel: (011) 717-4577/3

APPENDIX 4: Teacher/Teaching Assistant Consent Form

I hereby consent to participation in the research study. Furthermore, I give the researcher, Michelle Klompas, permission to use my responses in the write up of the study, and in any future publications or presentations.

I understand that participation in this study is voluntary. I also understand that I can refuse to participate or withdraw my consent and discontinue my participation in this study at any time, without it being held against me in any way. In addition, I realize that I am entitled to refuse to answer any of the questions put to me.

I understand that my privacy will be maintained and that any information I choose to divulge will remain strictly confidential. Also, I am aware that if I have any questions at any time, they will be answered. It has been explained to me that the research procedures will not in any way interfere or disrupt the school day and my teaching responsibilities.

Please circle your response:

I give consent for Michelle Klompas to complete observations of the child during school time in 3 different contexts: structured classroom activity, unstructured classroom activity and on the playground.	YES / NO
I give Michelle Klompas consent to conduct the tape-recorded interview with me.	YES / NO
I agree to complete a rating scale.	YES / NO

Date: _____

Signature: _____

APPENDIX 4: Teacher/Teaching Assistant Consent Form (Audio Recording)

I hereby consent to my interview with Michelle Klompas for her research study to be tape-recorded. I understand that:

- The audiotapes and transcripts will not be seen or heard by any person in the school and in the general public, and will only be processed by the researcher.
- All audio tape recordings will be destroyed after the research is complete.
- No identifying information will be used in the transcripts or the research report.

Date: _____

Signature: _____

APPENDIX 4: Child Assent Form

My name is Michelle and I am doing a project. I want to know if you want to be in the project. You do not have to say yes and you will not get into trouble if you say no.

For my project I will come visit you at your school. I would like to see what you do during class time. I would also like to see what you do at school during break time.

We will also do some activities together. In some of the activities you will have to listen to me and try your best to answer my questions. I will be listening to what you say. To help me remember what you say I will use a tape recorder. Let me show you what I mean … (Demonstrate, using similar examples to the test items in the speech-language battery).

I also want to know how much you can hear. So you will put on headphones and listen carefully to different sounds.

I will not show the activities to anyone if you don't want me to. If you want to stop the activities tell me, and we will stop.

Please circle if you want to be in the project.

YES

NO

My name is _____

Today is the _____

APPENDIX 4: Child Assent Form (Audio Recording)

Michelle wants to tape record the activities we will do together.

No one else will listen to the tapes.

When the project is finished Michelle will throw away the tapes.

No one else will know my name.

Please circle if it's okay for Michelle to tape record the activities.

YES

NO

My name is _____

Today is the _____

APPENDIX 5: Description of Participating Primary Schools

Descriptive Factor	Primary School of Participant 1 (P1)	Primary School of Participant 2 (P2)	Primary School of Participant 3 (P3)
Number of Learners	Approximately 1,500	Approximately 700 in the primary school. School has a crèche/nursery school on premises with approximately 120 children.	1,300
Number of Staff Members	Approximately 60	30	Approximately 50 teaching staff and 50 ground staff (non-teaching staff)
Resources and Facilities	Library, computer centre with internet access, and psychologist working at the school. Occupational and speech-language therapy are not provided by the school. No formally trained and qualified remedial teachers at the school; the school teachers provide remedial assistance/services. The school has a hall, sports fields, a rugby field, a netball court, tennis courts, after school day care centre, Grade 0/R classes. School grounds are relatively small for the number of learners it accommodates.	Library, computer centre and life skills centre. Private speech and occupational therapists work at the school during school hours but are not employed by the school. The school has a hall, sports fields, rugby field, tennis courts and netball courts.	Library, computer centre, a hall which is also used as a sports' gym, playing field and four tennis courts. Full time educational psychologist provided by the school. School has two in-house qualified remedial teachers for the foundation and intermediate phases. During university teaching terms speech therapy students offer their services at the school on an individual basis during school hours. A private occupational therapist affiliated with the school provides therapy during school hours on and off school premises. Approximately once a month the school organizes a guest speaker and invites parents for workshops on various educational topics.
Extra-Mural Activities	Netball, hockey, rugby, cricket, athletics and public speaking.	Cultural activities: Afrikaans Language and Culture Federation, Voortrekkers and public speaking. Sports: athletics, netball, cricket, hockey, mini cricket, mini hockey, mini netball, tennis and chess.	Cultural activities: dance and drama, art, review group, choir, scripture union and environmental group. Sports: hockey, netball, cricket, tennis, athletics and soccer. Chess and computers.
Other Learners with Special Educational Needs / Disabilities	No other learners with Down Syndrome besides P1. Approximately five learners with hearing problems, including partial deafness, who wear hearing aids, and eye/visual problems. Learners with language barriers – where the medium of instruction at the school is not the same as the home language; emotional scarring and ADHD (Attention Deficit Hyperactivity Disorder). In the past the school had a learner who was blind and a learner who was Deaf.	In total, including P2, there are six children who have special educational needs, of which the breakdown is as follows: in the nursery school there are four children: three children with Down Syndrome and one child who has a physical disability. In the primary school there are two learners with special educational needs: P2 and another learner who has a physical disability and uses a wheel chair.	Not on the same degree as P3, who would be described as LSEN learners (Learners with Special Educational Needs). No learners with disabilities. There are learners with ADD (Attention Deficit Disorder), concentration problems and learners on Ritalin. P3 is the first learner with Down Syndrome to attend the school.

APPENDIX 6: Description of Participating Children's Classrooms

Descriptive Factor	Maths Classroom of Participant 1 (Grade 4)	Classroom of Participant 2 (Grade 3)	Classroom of Participant 3 (Grade 1)
Medium of instruction	Afrikaans	Afrikaans	English
Number of children	35	18	29
Teaching assistant	Absent	P2 had a full time teaching assistant employed by his mother.	P3's mother was her teaching assistant on a daily part time basis.
Learning support educators (district level – Gauteng Department of Education)	Available	Absent	Available
Other learners with special educational needs/disabilities	None	The weakest Grade 3 class. There were learners who attended life skills/orientation, speech and occupational therapy. Quantity of work, methods and techniques of teaching were adapted for the class to meet the learners' needs.	No other learners with special educational needs/disabilities. Approximately half the learners were in need of speech and occupational therapy. About a third of the learners were attending these forms of therapy. Approximately half of the learners presented with concentration difficulties and lacked adequate preschool stimulation.
Learners' seating arrangement	Most of the time individually in rows, which was found to be beneficial due to discipline factors. If tasks required group work, learners were seated in groups.	Most of the time individual seating arrangement, especially during the first school quarter. In the Junior Primary Phase learners sat individually facing the black board directly in order to learn cursive writing. Since the learners were distractible, had short attention spans and less learning tended to take place in a group seating arrangement, individual seating arrangement was found to be beneficial. However, occasionally for group work they were seated in groups and assessed as a group.	Seating arrangement according to the theme or need. Seating arrangement changed at least once a month due to the fact that the learners formed friendships and subsequent learning did not take place. Most of the time desks were placed facing the blackboard for formal learning purposes but for group work desks were rearranged in groups or learners were seated in a group on the floor. This seating arrangement was found to be beneficial.
Resources	Books on shelves, cupboard which had educational pictures and games.	Dictionaries and books on shelves, abacuses, measuring equipment for learning purposes, resources from the library and media centre which could be used in the classroom.	'Hands on'/concrete teaching resources: wooden letters; Letter Land resources, posters, story books, magnets, learners had their own individual books, playing cards; for numeracy – each child had his/her own counter sets; learners had individual chalk blackboards, abacuses, picture cards; educational toys such as puzzles; resources from the library such as books, media equipment (videos, DVDs) could be used in the classroom – Grade 1 classes had their own television and video sets; class had resources for paper work learning.

APPENDIX 7: Parent Questionnaire: Child's Case History Information

___/___/200___

Dear _____,

Many thanks for participating in my research. Attached please find a questionnaire regarding case history information about your child. The aim of this questionnaire is to provide me with information regarding your child's history. This information will help me in the process of performing my research and achieving my research aims of investigating the experiences of inclusive education of primary school aged children with Down Syndrome in Gauteng. Please be assured that the information you provide in this questionnaire will be used solely for the purposes of the research. As mentioned before, confidentiality will be preserved. Should you have any queries, you may contact me at the number below.

I will collect the questionnaire from you on _____.
If you are unsure how to answer any questions we can discuss it at that date.
Thank you for your time.

Yours sincerely

Michelle Klompas
(011) 885-2751
072-2002675

Parent Questionnaire: Child's Case History Information

A. Demographic information

I. Child

1. Date of birth: _____
2. Age: _____
3. Gender: _____
4. Home language: _____
5. Present school: _____
6. Medium of instruction of school: _____
7. Grade: _____
8. Teacher's name: _____
9. When was your child diagnosed with Down Syndrome and by whom?

_____

II. Parents

- Mother:
  1. Age: _____
  2. Occupation: _____
  3. Highest educational level: _____
- Father:
  1. Age: _____
  2. Occupation: _____
  3. Highest Educational Level: _____
- Marital Status of Parents: _____

B. Speech, language and hearing abilities, assessments, previous and current therapies

1. Does your child have any speech, language and/or hearing problems? If so, please describe.

_____
_____
_____
_____

2. Has your child had any previous speech-language and/or hearing assessments? If yes, please provide details (date of assessment/s, results and recommendations).

_____
_____
_____
_____

3. Has your child ever received speech and hearing therapy in the past? If yes, please provide details.

_____
_____
_____
_____

4. Is your child currently receiving speech and hearing therapy? If yes, please provide details.

_____
_____

_____
_____

5. Has your child had any other assessments (for example, physiotherapy, occupational therapy, psychologist, IQ assessment and/or any others)? If yes, please provide details.

_____
_____
_____
_____

6. Is your child currently receiving any type of therapy, such as physiotherapy, occupational therapy, psychotherapy, counselling, and/or remedial teaching? If yes, please provide details.

_____
_____
_____
_____

C. Early history

1. Pregnancy

- Age of mother at conception: _____
- Age of father at conception: _____
- Did you experience any problems during pregnancy? If yes, please explain.

_____
_____
_____
_____

- How long was your pregnancy?

_____
_____
_____
_____

2. Labour and birth

- Did you experience any complications during labour? If yes, please explain.

_____
_____
_____
_____

- Was it a natural birth or a caesarean? If caesarean, why?

_____
_____
_____
_____

- Were there any complications during delivery (for example, were suction/forceps used, breech presentation of baby)? If yes, please explain.

_____
_____
_____
_____

3. Neonatal conditions

- Birth weight: _____

- Do your remember your baby's APGAR score? If yes, what was it? _____
- Were there any problems at birth (for example, incubation, jaundice)? If yes, please provide details.
  _____
  _____
  _____
  _____
- Was your baby in a Neonatal Intensive Care Unit? If yes, please provide details.
  _____
  _____
  _____
  _____

4. Feeding history

- Did your baby suck at birth? If not, please provide details.
  _____
  _____
  _____
  _____
- Was your baby breast-fed? If yes, for how long?
  _____
- Was your baby bottle-fed? From what age? For how long?
  _____
- At what age were solids introduced?
  _____
- Were there any feeding problems, such as chewing and/or swallowing problems or messy eating? If yes, please explain.
  _____
  _____
  _____
  _____

5. Developmental milestones

- *Speech-language development*:
  - At what age did your child produce/say?
    Gurgles and coos: _____
    Babbles that sounded like speech: _____
    First words: _____
    First 2 word combinations: _____
    First simple sentences (3 word combinations): _____
    First long, correct sentences: _____

- *Motor development:*
  - At what age did your child first?
    Sit independently: _____
    Crawl: _____
    Walk independently: _____
  - Can your child hold a pencil correctly? _____
  - Which hand does your child use? _____
  - Can your child catch a ball? _____
  - Can your child climb a jungle gym? _____

- *Toilet training*:
  - At what age was your child fully toilet trained? _____

D. Medical history

- Has your child had any history of ear infections?
  _____
  - If yes:
    - In which ear/s did he/she have these infections? _____
      _____
    - At what age/s were these ear infections, and how frequent were they?
      _____
      _____
      _____
      _____
    - How were the ear infections treated? Please explain.
      _____
      _____
      _____
      _____
    - Did your child ever have grommets? If yes, at what age/s?
      _____
      _____
      _____
      _____
- Has your child ever suffered from earache and/or blocked ears? If yes, please explain.
  _____
  _____
  _____
  _____
- Has your child ever had discharge from his/her ears? If yes, please provide details.
  _____
  _____
  _____
  _____
- Has your child ever been hospitalised? If yes, please provide details.
  _____
  _____
  _____
  _____
- Has your child ever had surgery? If yes, please provide details.
  _____
  _____
  _____
  _____
- Is your child on any medication? If yes, please provide details.
  _____
  _____

_____
_____

- Has your child got any visual problems and/or eye problems? If yes, please provide details.

  _____
  _____
  _____
  _____

- Does your child suffer from any allergies? If yes, please explain.

  _____
  _____
  _____
  _____

- Has your child had any of the following illnesses/conditions? If yes, at what age?
  - Asthma _____
  - Bronchitis _____
  - Pneumonia _____
  - Upper respiratory diseases _____
  - Cardiac disease/heart problems _____
  - Infectious diseases _____
  - Coma _____
  - Diabetes _____
  - Epilepsy, convulsions or seizures – if yes, state frequency and treatment _____
    _____
  - German Measles (Rubella) _____
  - Measles _____
  - Meningitis _____
  - Mumps _____
  - Gastro/gastrointestinal problems _____
  - Metabolic difficulties _____
  - Thyroid problems/hypothyroidism _____
  - Nutritional/eating problems _____
  - Tonsillitis _____
  - Adenoid problems _____
  - Sleeping difficulties/sleep apnoea _____
  - Periodontal (gum) disease and/or dental problems _____
  - Skin conditions _____
  - Hypotonia (low muscle tone) _____
  - Skeletal problems _____
  - Head trauma _____
  - Any neurological impairments/conditions _____
  - Other _____
    _____
    _____
    _____

- Has your child suffered from any other medical conditions or problems and/or conditions associated with Down Syndrome not mentioned above? Please, explain.

  _____
  _____

_____
_____

E. Family structure and history

- Who does your child live with? _____
- Who is the primary caregiver for your child? _____
- With whom does your child spend most of his/her day? _____
- Child's Siblings:

Please complete the following table concerning information about your child's siblings:

Gender	Age	Grade
1		
2		
3		
4		
5		
6		

- Do any of the siblings and/or other family members have speech, language, hearing and/or learning problems? If yes, please explain.

  _____
  _____
  _____
  _____

- How does your child get along with his/her siblings?

  _____
  _____
  _____
  _____

F. Schooling history

- Was your child involved in any early stimulation (intervention) programmes? If yes, please provide details (name of programme, professionals involved, from what age and for how long).

  _____
  _____
  _____
  _____

- Describe the schools your child has attended (from preschool to present). Please state whether they are ordinary schools or schools for learners with special education needs.

  _____
  _____

_____
_____

- Has your child ever repeated a grade? Please provide details.

_____
_____
_____
_____

G. <u>Socialization and behaviour</u>

- Please describe your child's behaviour:

_____
_____
_____
_____

- Does your child display any of the following: Please circle

Tantrums	Thumb sucking	Limited concentration
Crying	Dummy sucking	Lying
Whining	Nail biting	Strong fears
Withdrawal	Head banging	Fear of people/objects
Extreme shyness	Forgetfulness	No sense of danger

- Does your child display any strange or unusual behaviours and/or social interactions? Pleas explain.

_____
_____
_____
_____

- Does your child have friends? Please elaborate your answer.

_____
_____
_____
_____

- Does your child get along with other children of his/her age? Please explain.

_____
_____
_____
_____

H. <u>Personality</u>

- Please describe your child's personality:

_____
_____
_____
_____

I. Additional comments

- Please provide any other information that you feel is important that has not been addressed in the above questions:

  _____
  _____
  _____
  _____

Thank you very much for your time and participation.

APPENDIX 8: <u>Parent Interview Schedule: Child's Communication Abilities and Functioning in the Inclusive School Context and Parent's Attitudes, Perceptions and Experiences of Inclusive Education</u>

Throughout the interview, the researcher will replace "child" with the child's name.
Date: _____

<u>Section A: Child's communication abilities</u>

1. <u>*General*</u>:

- How does your child communicate his/her needs and wishes?
  a) Does your child use speech, verbal language, in order to communicate his/her needs and wishes? Please explain.
  b) Does your child use gestures/body/non-verbal language in order to communicate his/her needs and wishes? Please explain.
  c) Does your child use a combination of speech, verbal language and gestures/body/non-verbal language in order to communicate his/her needs and wishes? Please explain.
- How would you describe your child's speech, language and hearing abilities?
  <u>*Follow-up questions*</u>:
  - When did you first notice that your child had a speech, language and/or hearing problem?
  - Has your child's speech, language and/or hearing problems changed since they were first noticed? If yes, in what ways?

2. <u>*Speech*</u>:

- Describe your child's speech.
  <u>*Follow-up questions*</u>:
  - Is your child's speech clear – does he/she pronounce the sounds correctly? Please give details.
  - Are there any sounds that are particularly problematic for your child to say? If yes, can you please provide examples of what your child says and how the word is supposed to be pronounced (for example, "wobot" instead of "robot")?
  - Do strangers understand him/her?
  - Is your child's speech fluent?
    - If not:
      - Does he/she repeat sounds or words? Please provide examples.
      - Does he/she have blocks – get stuck on sounds or words? Please explain.

3. <u>*Voice*</u>:

- Do you feel your child's voice is typical compared to other children his/her age? Please explain.
  - If you feel your child's voice is unusual:
    - Does it sound? Nasal; hoarse; harsh; strained; squeaky; very loud; very soft; very high-pitched; very low-pitched; other.

4. <u>*Language*</u>:

- Describe your child's vocabulary.
  a) How does your child's vocabulary compare to that of other children his/her age?
  b) Does your child produce/use immature (babyish) vocabulary/words? If yes, please provide examples.

- Describe you child's sentences.
  a) Does your child produce age appropriate sentences, in terms of:
     - Sentence length (number of words said in a sentence)? Please explain.
     - Grammar (word order)? Please explain.
  b) If not, approximately how many words does your child say in one typical sentence?
  c) Can you provide an example of a typical sentence that your child would say?
- Can your child tell stories?
  a) If yes, do the stories make sense in terms of:
     - Grammar (for example, word order and tenses)? Please explain.
     - Story sequence (beginning, middle and end of a story)? Please explain.
- Has your child ever sung the words of songs/nursery rhymes?
- Is your child aware of rhyming words? For example, hat and bat.
- Describe your child's understanding of language.
  a) Does you child understand the names of things?
  b) Can your child follow instructions?
     - If yes, how many instructions do you think he/she could follow before he/she forgets them?
  c) Can your child understand stories?
- Describe your child's memory.
  a) Can he/she remember words or stories that you tell him/her?
- Describe your child's reading ability.
  a) Can he/she identify letters?
  b) Can he/she read single words?
  c) Can he/she read simple sentences?
  d) Does your child understand what he/she reads?
- Describe your child's writing ability.
  a) Can your child write his/her name on his/her own?
  b) Can your child write single words independently?
  c) Can you child write simple sentences independently?
     - If yes, is his/her spelling correct?
  d) Does he/she understand what he/she writes on his/her own?
  e) Does your child's own written language make sense?

5. *<u>Hearing and listening</u>*:

- How is your child's hearing?

  <u>Optional follow-up questions</u>:

  - If your child has a hearing problem:

  a) What do you think the cause of his/her hearing problem is?
  b) When did this hearing problem start?
  c) Has his/her hearing changed in any way – become worse or better? Please explain.

  - Does your child wear hearing aid/s? If yes, please provide details.
  - Does your child use any assistive devices to aid his/her hearing? If yes, please provide details.
  - Has your child ever been exposed to loud noises? For example, as an infant was he/she incubated? Please, provide details.
  - Is you child presently exposed to loud noises? For example, does he/she listen to loud music using headphones? If yes, for how long?

6. *Additional comments*:

- Is there any other information that you would like to add regarding your child's communication abilities?

Section B: Parent's attitudes, perceptions and experiences regarding inclusive education

- What do you understand by the term 'inclusion' in the context of education and generally?
- How do you feel about inclusion, in general, of children with disabilities/learners with special educational needs into ordinary schools?
- How do you feel about inclusion, in general, of children with Down Syndrome into ordinary schools?
- What are your expectations of the inclusive education process for your child?
- What factors made you decide to place your child in an ordinary school?
- How do you feel about your child's experiences of inclusion into ordinary school/s?
- As a parent, what have your experiences been with regard to placing your child in an ordinary school?
- What processes and procedures have you and your child gone through in order for him/her to be placed in an ordinary school?
- In general, what support services have been provided to you and your child in the inclusion process into the ordinary school/s?
- From your experiences, what do you think are the advantages of inclusion of children with Down Syndrome into ordinary schools:
  a) For the child with Down Syndrome?
  b) For the other children in the ordinary school?
  c) For the teachers at the ordinary school?
  d) For the ordinary school as a whole?
- From your experiences, are there any disadvantages of inclusion of children with Down Syndrome into ordinary schools?
  - If yes, what are they?
- From your experiences, what factors might contribute to success of inclusion of children with Down Syndrome into ordinary schools?
- From your experiences, what might be the barriers and challenges to successful inclusion of children with Down Syndrome into ordinary schools?
- What would your suggestions/recommendations be to other parents of children with Down Syndrome who are considering placing their child in an ordinary school?
- What would your recommendations/suggestions be to the Department of Education in terms of improving the effectiveness of inclusion of children with disabilities, specifically children with Down Syndrome, into ordinary schools?
- What would your recommendations/suggestions be to ordinary schools that would be involved in including children with Down Syndrome into their ordinary classrooms?
- What would your recommendations/suggestions be to teachers who would be involved in including children with Down Syndrome into their ordinary classrooms?
- Do you believe speech and hearing therapists have a role in the initial processes and procedures of placing a child with Down Syndrome in an ordinary school? Please explain.
- Do you believe speech and hearing therapists have a role within the school context once the child has been placed into the ordinary school? Please explain.
- As a parent, do you have a role in your child's inclusion process in an ordinary school? If yes or no, please explain.
  - If you do have a role in this process, what is it?

- How do others, in your family and community react when they are told that your child is attending an ordinary school?
- How do you feel about your decision to place your child in an ordinary school?

Section C: Child's functioning in the inclusive school context

1. *Academic abilities*

- How do you feel your child is managing with the academic demands placed on him/her in the ordinary classroom/ordinary school? Please explain.
- Is your child experiencing any academic difficulties at his/her ordinary school? If yes, please provide details.
- Is your child receiving any extra help in terms of academics, for example, remedial assistance at his/her ordinary school? If yes, please provide details.
- Do you feel your child is benefiting academically from being placed in an ordinary school as compared to a school for learners with special educational needs? Please explain.

  Follow-up question

  - Is your child benefiting in terms of literacy skills – reading and writing, and numeracy skills from being placed in an ordinary school? Please explain.

2. Socialization and behaviour

- Describe your child's social interaction with 'non-disabled' children at the ordinary school:
  a) Does your child play with them outside school activities? Please provide details.
  b) Is your child invited to their birthday parties? Please explain.
- Does your child interact socially with other children who have Down Syndrome?
- Does your child interact/behave differently with 'non-disabled' children as compared to other children with Down Syndrome? If yes, in what ways?
- Has your child experienced any social difficulties at his/her ordinary school? Please explain.

  Follow-up question

  - For example, in terms of social acceptance? Please explain.
- Do you believe your child has benefited in terms of 'social inclusion' by being at an ordinary school? Please explain.

3. Communication abilities

- Do you believe your child's communication abilities, in terms of speech and language, have improved from being placed in an ordinary school? Please specify.

  Follow-up question

  - For example, by having peer role models who are 'non-disabled'? Please explain.

4. General

- Does you child participate in all classroom and school activities at the ordinary school?

Section D: Additional information

- Do you have any other views or opinions, which you would like to add and share that could help us to better understand the experiences of inclusion of children with Down Syndrome into ordinary schools?

Thank you very much for your participation.

APPENDIX 9: Observation Checklist: Child's Experiences of Inclusive Education and Functioning in the Inclusive School Context

Date of birth and age of child: _____
Grade: _____
School: _____

I. CLASSROOM OBSERVATION: STRUCTURED CLASSROOM ACTIVITY

Date and time: _____
Venue: _____
Subject/class: _____
Nature and description of activity (attach worksheet/handout): _____
_____
_____
_____
_____

Section A: Physical environment and classroom description

1. How many children are in the classroom?
   _____
2. Describe seating arrangement.
   _____
   _____
   _____
   _____
3. Describe materials used.
   _____
   _____
   _____
   _____
4. Is a teaching assistant present?
   _____
   - If yes, what is he/she doing?
     _____
     _____
     _____
     _____
5. Describe resources in the classroom.
   _____
   _____
   _____
   _____
6. Does the physical environment of the classroom (for example, in terms of visual and hearing modifications) accommodate the child's needs (for example, in terms of visual and hearing abilities)? Please explain.
   _____
   _____
   _____
   _____

Section B: Communication: Speech and language abilities

1. Does the child attempt to initiate contact with the teacher?
   _____
   _____

- If yes, is this contact initiation appropriate?

_____

_____

2. Does the child use age appropriate nonverbal communication:
   - With the teacher?

     _____

     _____

   - With his/her class peers?

     _____

     _____

3. Does the child demonstrate appropriate turn taking skills?

   _____

   _____

❖ ***<u>Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task:</u>***

4. *Does the child attempt to initiate contact with the other children in the class?*

   _____

   _____

   - *If yes, is this contact initiation appropriate?*

     _____

     _____

5. *Does the child understand the level of vocabulary and concepts used?*

   _____

   _____

6. *Does the child understand the class discussion?*

   _____

   _____

7. *Do the other children understand what the child says?*

   _____

   _____

❖ ***<u>Optional questions (marked in italics): Answer if context permits:</u>***

8. *Does the child request help?*

   _____

   _____

   - *If yes or no, is this behaviour appropriate given the context?*

     _____

     _____

9. *Does the child request clarification?*

   _____

   _____

   - *If yes or no, is this behaviour appropriate given the context?*

     _____

     _____

10. *Is the child able to correct/clarify his/her message if:*
    a) *His/her teacher does not understand him/her?*

       _____

       - *If yes, describe the prompts/help (type and amount) offered by the teacher – if any at all?*

         _____

         _____

         _____

         _____

    b) *His/her class peers do not understand him/her?*

       _____

- *If yes, describe the prompts/help (type and amount) offered by the class peers – if any at all?*

  _____
  _____
  _____
  _____

11. *Does the child use a variety of syntactic word types (for example, nouns, verbs, adjectives)?*

    _____
    _____

12. *Does the child have word finding difficulties (in terms of using circumlocutions, substitution of words, hesitations) versus expressive vocabulary problems?*

    _____
    _____

13. *Can the child formulate questions correctly?*

    _____
    _____

14. *Does the child use correct syntactical structures?*

    _____
    _____

15. *Does the child use correct morphological markers?*

    _____
    _____

16. *Is the child's speech clear (does the child have articulation errors and/or any speech problems)? Explain.*

    _____
    _____
    _____
    _____

Section C: Academic functioning

1. Does the child demonstrate age appropriate attention and concentration?

   _____
   _____

2. Can the child follow the teacher's instructions?

   _____
   _____

❖ ***Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task:***

3. *In terms of the academic demands of the task/activity:*
   - *Is the child meeting these demands? Explain.*

     _____
     _____
     _____
     _____

   - *Is the child completing the task with difficulty / ease / correctly / wrongly?*

     _____
     _____

   - *Did the child complete the required task?*

     _____

4. *Is the child meeting the reading requirements of the task? Explain.*

   _____
   _____
   _____
   _____

5. *Is the child meeting the written requirements of the task? Explain.*

_____
_____
_____
_____

Section D: Teacher information

a) *Teacher-child interaction*

1. Does the teacher treat the child in the same way as he/she treats the other children in the class?

_____
_____

2. Does the teacher understand what the child says?

_____
_____

3. Does the teacher show awareness of the child's needs?

_____
_____

- If yes, does he/she provide adaptations accordingly? Explain.

_____
_____
_____
_____

4. ***Optional question: Answer depending on appropriateness of the classroom activity/task:*** Does the teacher include the child in the classroom discussion / activity?

_____
_____

b) *Adapted techniques/strategies*

1. Any adapted techniques/strategies used by the teacher with the child compared to those techniques/strategies used with the other children? Describe.

_____
_____
_____
_____
_____

Section E: Behaviour

1. Does the child demonstrate appropriate behaviour?

_____
_____

2. Any behavioural problems? If yes, describe.

_____
_____
_____
_____

Section F: Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task and if context permits: Social functioning

1. *Does the child socialize with other children in class:*
   - *Learners with special educational needs – if present in the classroom?*

_____
_____

- *'Non-disabled' children?*

  _____

  _____

2. *Do other children initiate contact/communication with the child?*

   _____

   _____

Section G: Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task: General

1. *Do the other children include the child in group tasks/activities? Describe (for example, how do they include him/her?).*

   _____

   _____

   _____

   _____

2. *Does the child participate in the group tasks/activities? Describe (for example, socially, physically, academically).*

   _____

   _____

   _____

   _____

Section H: Additional comments

_____

_____

_____

_____

Section I: Questions for the teacher

1. Was the child's functioning and behaviour during the classroom lesson typical or representative? Please explain.

_____

_____

_____

_____

_____

2. Was the content and structure of the lesson typical or representative? Please explain.

_____

_____

_____

_____

II. CLASSROOM OBSERVATION: UNSTRUCTURED CLASSROOM ACTIVITY

Date and time: _____

Venue: _____

Subject/class: _____

Nature and description of activity (attach worksheet/handout): _____

_____

_____

_____

_____

Section A: Physical environment and classroom description

1. How many children are in the classroom?

   _____

2. Describe seating arrangement.

   _____
   _____
   _____
   _____

3. Describe materials used.

   _____
   _____
   _____
   _____

4. Is a teaching assistant present?

   _____

   - If yes, what is he/she doing?

     _____
     _____
     _____
     _____

5. Describe resources in the classroom.

   _____
   _____
   _____
   _____

6. Does the physical environment of the classroom (for example, in terms of visual and hearing modifications) accommodate the child's needs (for example, in terms of visual and hearing abilities)? Please explain.

   _____
   _____
   _____
   _____

Section B: Communication: Speech and language abilities

1. Does the child attempt to initiate contact with the teacher?

   _____
   _____

   - If yes, is this contact initiation appropriate?

     _____
     _____

2. Does the child use age appropriate nonverbal communication:
   - With the teacher?

     _____
     _____

   - With his/her class peers?

     _____
     _____

3. Does the child demonstrate appropriate turn taking skills?

   _____
   _____

❖ ***Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task:***

4. *Does the child attempt to initiate contact with the other children in the class?*

   _____

   _____

   - *If yes, is this contact initiation appropriate?*

     _____

     _____

5. *Does the child understand the level of vocabulary and concepts used?*

   _____

   _____

6. *Does the child understand the class discussion?*

   _____

   _____

7. *Do the other children understand what the child says?*

   _____

   _____

❖ ***Optional questions (marked in italics): Answer if context permits:***

8. *Does the child request help?*

   _____

   _____

   - *If yes or no, is this behaviour appropriate given the context?*

     _____

     _____

9. *Does the child request clarification?*

   _____

   _____

   - *If yes or no, is this behaviour appropriate given the context?*

     _____

     _____

10. *Is the child able to correct/clarify his/her message if:*
    a) *His/her teacher does not understand him/her?*

       _____

       - *If yes, describe the prompts/help (type and amount) offered by the teacher – if any at all?*

         _____

         _____

         _____

         _____

    b) *His/her class peers do not understand him/her?*

       _____

       - *If yes, describe the prompts/help (type and amount) offered by the class peers – if any at all?*

         _____

         _____

         _____

         _____

11. *Does the child use a variety of syntactic word types (for example, nouns, verbs, adjectives)?*

    _____

    _____

12. *Does the child have word finding difficulties (in terms of using circumlocutions, substitution of words, hesitations) versus expressive vocabulary problems?*

    _____

    _____

13. *Can the child formulate questions correctly?*

_____

_____

14. *Does the child use correct syntactical structures?*

_____

_____

15. *Does the child use correct morphological markers?*

_____

_____

16. *Is the child's speech clear (does the child have articulation errors and/or any speech problems)? Explain.*

_____

_____

_____

_____

Section C: Academic functioning

1. Does the child demonstrate age appropriate attention and concentration?

_____

_____

2. Can the child follow the teacher's instructions?

_____

_____

❖ ***Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task:***

3. *In terms of the academic demands of the task/activity:*
   - *Is the child meeting these demands? Explain.*

     _____

     _____

     _____

     _____

   - *Is the child completing the task with difficulty / ease / correctly / wrongly?*

     _____

     _____

   - *Did the child complete the required task?*

     _____

4. *Is the child meeting the reading requirements of the task? Explain.*

_____

_____

_____

_____

5. *Is the child meeting the written requirements of the task? Explain.*

_____

_____

_____

_____

Section D: Teacher information

a) *Teacher-child Interaction*

1. Does the teacher treat the child in the same way as he/she treats the other children in the class?

_____

_____

2. Does the teacher understand what the child says?

_____
_____

3. Does the teacher show awareness of the child's needs?

_____
_____

- If yes, does he/she provide adaptations accordingly? Explain.

_____
_____
_____
_____

4. ***<u>Optional question</u>: Answer depending on appropriateness of the classroom activity/task:*** Does the teacher include the child in the classroom discussion / activity?

_____
_____

b) *<u>Adapted techniques/strategies</u>*

1. Any adapted techniques/strategies used by the teacher with the child compared to those techniques/strategies used with the other children? Describe.

_____
_____
_____
_____

<u>Section E: Behaviour</u>

1. Does the child demonstrate appropriate behaviour?

_____
_____

2. Any behavioural problems? If yes, describe.

_____
_____
_____
_____

<u>Section F: Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task and if context permits: Social functioning</u>

1. *Does the child socialize with other children in class?*
   - *Learners with special educational needs – if present in the classroom?*

     _____
     _____

   - *'Non-disabled' children?*

     _____
     _____

2. *Do other children initiate contact/communication with the child?*

_____
_____

<u>Section G: Optional questions (marked in italics): Answer depending on appropriateness of the classroom activity/task: General</u>

1. *Do the other children include the child in group tasks/activities? Describe (for example, how do they include him/her?).*

_____
_____

_____
_____

2. *Does the child participate in the group tasks/activities? Describe (for example, socially, physically, academically).*

_____
_____
_____
_____

Section H: Additional comments

_____
_____
_____
_____

Section I: Questions for the teacher

1. Was the child's functioning and behaviour during the classroom lesson typical or representative? Please explain.

_____
_____
_____
_____

2. Was the content and structure of the lesson typical or representative? Please explain.

_____
_____
_____
_____

III. PLAYGROUND/BREAK TIME OBSERVATION

Date and time: _____

Venue: _____

Nature and description of activity: _____
_____
_____
_____
_____

Section A: Physical environment

1. Describe the physical environment and/or resources.

_____
_____
_____
_____

2. If the child has physical limitations: Does the physical environment meet the child's needs? Explain.

_____
_____
_____
_____

Section B: Communication: Speech and language abilities

1. Does the child attempt to initiate contact with the other children?

_____
_____

- If yes,
    a. Describe this contact initiation.

    _____
    _____
    _____
    _____

    b. Is this contact initiation appropriate?

    _____
    _____

2. Does the child use age appropriate nonverbal communication with the other children?

   _____
   _____

❖ ***<u>Optional questions (marked in italics): Answer if context permits:</u>***

3. *Does the child demonstrate appropriate turn taking skills:*
   a) Verbally?

   _____

   b) Non-verbally?

   _____

4. *Does the child understand when other children speak to him/her?*

   _____
   _____

   - *If not, at which level is the breakdown in comprehension (for example, at the word level – in terms of vocabulary and concepts, and/or sentence level, and/or discourse level)?*

   _____
   _____
   _____
   _____

5. *Does the child request help from the other children?*

   _____
   _____

   - *If yes or no, is this behaviour appropriate given the context?*

   _____
   _____

6. *Does the child request clarification from the other children?*

   _____
   _____

   - *If yes or no, is this behaviour appropriate given the context?*

   _____
   _____

7. *Do other children understand what the child says?*

   _____
   _____

8. *Is the child able to correct/clarify his/her message if the other children do not understand him/her?*

   _____

   - *If yes, describe the prompts/help (type and amount) offered by the other children – if any at all?*

   _____
   _____
   _____
   _____

9. *Does the child use a variety of syntactic word types (for example, nouns, verbs, adjectives)?*

   _____
   _____

10. *Does the child have word finding difficulties (in terms of using circumlocutions, substitution of words, hesitations) versus expressive vocabulary problems?*

    _____

    _____

11. *Can the child formulate questions correctly?*

    _____

    _____

12. *Does the child use correct syntactical structures?*

    _____

    _____

13. *Does the child use correct morphological markers?*

    _____

    _____

14. *Is the child's speech clear (does the child have articulation errors and/or any speech problems)? Explain.*

    _____

    _____

    _____

    _____

Section C: Social functioning

1. Does the child socialize/interact with other children:
   - If there are other learners with special educational needs – with them? Is this interaction appropriate?

     _____

     _____

     _____

   - 'Non-disabled' children? Is this interaction appropriate?

     _____

     _____

     _____

2. Do other children initiate contact/communication with the child?

   _____

   _____

3. Does the child spend time on his own? Comment if he/she does so for the full duration of the break time (***confirm this fact with the teacher – if this is typical or representative behaviour***).

   _____

   _____

Section D: Behaviour

1. Does the child demonstrate appropriate behaviour?

   _____

   _____

2. Any behavioural problems? If yes, describe.

   _____

   _____

   _____

   _____

Section E: General

1. Do the other children include the child in activities?

   _____

   _____

2. Do the other children exclude the child from activities?

   _____

_____

3. Does the child participate in the activities?

_____

_____

- If so, how does he/she participate: For example, is he/she an active or passive participant; is he/she a leader or a follower?

  _____

  _____

  _____

  _____

Section F: Additional comments

_____

_____

_____

_____

Section G: Question for the teacher (Ask the teacher who was on break duty, if he/she knows the child. If he/she does not know the child, ask the child's classroom teacher)

1. Was the child's functioning and behaviour during break time typical or representative? Please explain.

   _____

   _____

   _____

   _____

APPENDIX 10: Educator (Teacher and Teaching Assistant) Interview Schedule: Educator's Attitudes, Perceptions and Experiences of Inclusive Education and Child's Functioning in the Inclusive School Context

Throughout the interview, the researcher will replace "child" and "the child with Down Syndrome" with the child's name.

Date: _____

Section A: Demographic information: This section is common to the teacher and the teaching assistant

1. Age: _____
2. Gender: _____
3. Home language: _____
4. Grade currently teaching/working as a teaching assistant: _____

Section B: School and classroom description: This section is specific to the teacher

I. *School description*

1. Name and type of school at which you teach: _____
   _____
2. Medium of instruction of the school: _____
3. How many children are at the school? _____
4. How many staff members are working at the school? _____
5. Describe the available resources at the school (such as library, computers).
6. Describe the available facilities at the school (such as halls, sports fields).
7. Describe the extra-mural activities offered at the school.
8. If there are any additional resources at the school, such as therapists, please describe them.
   - If yes, are they provided by the school?
9. Are there other learners in the school with special educational needs/disabilities?
   a) If yes, how many?
   b) What type of special educational needs do these children have?

II. *Classroom description*

1. How many children are in your class?
2. Are there other children in your class with special educational needs/disabilities?
   a) If yes, how many?
3. What is the medium of instruction in your classroom?
4. Describe the children's seating arrangement in your class (such as individual tables or groups).
   a) Do you feel this seating arrangement is beneficial? Please explain.
5. Describe the resources available in your classroom.
6. Do you have a teaching assistant in your classroom?
   - If yes, describe her/his role.
   - What are your thoughts regarding a teaching assistant?

Section C: Teaching background

Questions common to the teacher and the teaching assistant:

1. Highest educational qualification: _____
2. Have you had any courses which dealt with learners with special educational needs/learners with disabilities as part of your training?

3. Have you had any additional training/courses for teaching children with special educational needs after you completed your qualification and/or training?
    - If yes, for how long and what did it involve?
4. Length of teaching experience: _____
5. Length of teaching experience with current grade: _____
6. For how long have you been teaching the child with Down Syndrome?
7. Have you ever taught/worked at a school for learners with special education needs?
    - If yes, for how long?
    - If yes, what type of school was it?
8. Apart from teaching/working as a teaching assistant, have you had any previous contact or experience with children with Down Syndrome and/or their families in general? Please provide details.
9. Have you had any previous experience in teaching/working as a teaching assistant with other learners with special educational needs? Please provide details.
    a) Have you had any previous experience in teaching/working as a teaching assistant with children with Down Syndrome? Please provide details.

Questions specific to the teacher:

1. What subject/s do you teach the child?

Questions specific to the teaching assistant:

1. What teaching assistant qualification and/or training did you receive? Please explain.
    - Where and by whom was this qualification and/or training offered?
2. For how long have you been this child's teaching assistant? _____

Section D: Attitudes, perceptions and experiences regarding inclusive education

Questions common to the teacher and the teaching assistant:

1. What do you understand by the term 'inclusion' in the context of education and generally?
2. Are you aware of any inclusive education policies? Please elaborate.
3. Do you know if the school has/follows any particular inclusive education policy/policies?
    - If yes, please explain.
    - If yes, is the policy/are the policies put into practice at the school? Please explain.
4. How do you feel about inclusion, in general, of children with disabilities/learners with special educational needs into ordinary schools?
5. How do you feel about inclusion, in general, of children with Down Syndrome into ordinary schools?
6. What have your experiences been like of teaching/working with the child with Down Syndrome in an ordinary school?
7. What resources and support services have been provided to you for teaching/working with the child with Down Syndrome in an ordinary school?
    a) For example, in terms of information giving and training. Please provide details.
    b) Do you think they are sufficient? Please explain. If not, how could they be improved?
8. From your experiences, are there any advantages of inclusion of children with Down Syndrome into ordinary schools? Please provide details.
    a) For the child with Down Syndrome?
    b) For the other 'non-disabled' children in his/her ordinary class and school?
    c) For you and the teachers at the ordinary school?

d) For the ordinary school as a whole?

9. From your experiences, are there any disadvantages of inclusion of children with Down Syndrome into ordinary schools? Please explain.
    a) For the child with Down Syndrome?
    b) For the other 'non-disabled' children in his/her ordinary class and school?
    c) For you and the teachers at the ordinary school?
    d) For the ordinary school as a whole?
10. Do you have concerns regarding including a child with Down Syndrome into ordinary schools? Please discuss.
11. Do you believe inclusion into the ordinary school has been successful for this child? Please explain.
    a) If yes – what factors contributed to success?
    b) If no – what were the barriers and challenges?
12. From your experiences, what factors contribute to success of inclusion of children with Down Syndrome into ordinary schools?
13. From your experiences, what are the barriers and challenges to successful inclusion of children with Down Syndrome into ordinary schools?
14. From your experiences, do you feel teachers/teaching assistants in ordinary schools are equipped to deal with the inclusion of children with Down Syndrome into their ordinary classrooms? Please explain.
    - If you feel teachers/teaching assistants are not equipped to deal with this issue, what should be done to address this issue?
15. From your experiences, do you feel ordinary schools are equipped to deal with the inclusion of children with Down Syndrome? Please explain.
    - If you feel ordinary schools are not equipped to deal with this issue, what should be done to address this issue?
16. What would your suggestions/recommendations be to other parents of children with Down Syndrome who are considering placing their child in an ordinary school?
17. What would your recommendations/suggestions be to the Department of Education in terms of improving the inclusion of children with disabilities/special educational needs into ordinary schools?
18. What would your recommendations/suggestions be to the Department of Education in terms of improving the inclusion of specifically children with Down Syndrome into ordinary schools?
19. What would your recommendations be to teachers who would be involved in including children with Down Syndrome into their ordinary classrooms?
20. What would your recommendations be to ordinary schools that would be involved in including children with Down Syndrome?
21. Do you believe speech and hearing therapists have a role in the initial processes and procedures of placing a child with Down Syndrome in an ordinary school? Please explain.
22. Do you believe speech and hearing therapists have a role within the school context once the child has been placed into the ordinary school? Please explain.
23. How do other staff members at the ordinary school react to the fact that you are teaching/working with the child with Down Syndrome at the school?
24. How do community members react to the fact that you are teaching/working with the child with Down Syndrome in an ordinary school?
25. Generally, what do you believe is the school's attitude towards inclusive education of children with special educational needs?

- Is this attitude any different towards children specifically with Down Syndrome?

26. What contact do you have with other professionals, agencies and associations to aid you in teaching/working with the child with Down Syndrome in the ordinary school?

Questions specific to the teaching assistant:

1. What would your recommendations be to teaching assistants who would be involved in teaching/working with children with Down Syndrome in ordinary classrooms?
2. From your experience, do you believe children with Down Syndrome in an ordinary school should have a teaching assistant?
3. Who was responsible for placing you as a teaching assistant for the child with Down Syndrome in the ordinary school?
4. Who do you think should be responsible for placing teaching assistants for children with special educational needs in ordinary schools? Please explain.
5. From your experiences, are there any advantages of having a teaching assistant for children with Down Syndrome in ordinary schools? Please provide details.
    - For the child with Down Syndrome?
    - For the child's teacher/s at the school?
6. From your experiences, are there any disadvantages of having a teaching assistant for children with Down Syndrome in ordinary schools? Please provide details.
    - For the child with Down Syndrome?
    - For the child's teacher/s at the school?
7. Generally do you think the role/work of teaching assistants may be viewed as a factor, which contributes to effective inclusion of children with Down Syndrome into ordinary schools? Please explain.

Section E: Teacher/Teaching assistant preparation

Questions specific to the teacher:

1. How did you feel when you first learned of the decision to include the child with Down Syndrome into your classroom?
2. How do you feel presently about including the child with Down Syndrome into your classroom?
3. Prior to the child with Down Syndrome attending your class, did you have any knowledge concerning Down Syndrome?
    - If yes, what did it involve?
4. How did you prepare yourself to teach the child with Down Syndrome in your class? Please provide details.
5. Were there any challenges that you faced in terms of teaching the child with Down Syndrome in an ordinary classroom with 'non-disabled' children? Please explain.
    - If yes:
        a) What were they?
        b) Did you have to prepare yourself to meet the challenges of teaching the child with Down Syndrome and 'non-disabled' children together? Please explain.
            - If yes, can you please describe this preparation?
        c) How did you manage to overcome these challenges?
6. Currently, are you facing any challenges/difficulties in terms of teaching the child with Down Syndrome in an ordinary classroom with 'non-disabled' children? Please explain.
    - If yes:
        a) What are they?
        b) How do you think they could be overcome?

Questions specific to the teaching assistant:

1. How did you feel when you first started to work with the child with Down Syndrome in an ordinary classroom as a teaching assistant?
2. How do you feel presently about working with the child with Down Syndrome in the ordinary classroom as a teaching assistant?
3. Prior to teaching/working with the child with Down Syndrome, did you have any knowledge concerning Down Syndrome?
4. If yes, what did it involve?
5. How did you prepare yourself to teach/work with the child with Down Syndrome in an ordinary classroom? Please provide details.
6. Were there any challenges that you faced in terms of teaching/working with the child with Down Syndrome in an ordinary classroom? Please explain.
   - If yes:
     a. What were they?
     b. How did you manage to overcome these challenges?
7. Currently, are you facing any challenges/difficulties in terms of teaching/working with the child with Down Syndrome in an ordinary classroom? Please explain.
   - If yes:
     a. What are they?
     b. How do you think they could be overcome?

Question common to the teacher and teaching assistant:

1. Presently, how do you feel about your ability and competence to teach/work with a child with Down Syndrome in an ordinary classroom?

Section F: Child's functioning in the inclusive school context

I. *Curriculum, learning styles and academic abilities*

Questions common to the teacher and the teaching assistant:

1. Do you follow the O.B.E. (Outcomes Based Education) curriculum and principles with the child? Please provide details.
2. Have you had to adapt or modify the curriculum and your teaching methods in order to meet the child's needs?
   - If yes:
     a) How did you do these adaptations or modifications?
3. Do you feel the child is coping with the academic demands placed on him/her in the ordinary classroom/ordinary school? Please explain.
   a) Is the child experiencing any academic difficulties at his/her ordinary school? If yes, please provide details.
4. Is the child receiving any extra help in terms of academics, for example, remedial assistance at his/her ordinary school?
   - If yes, is this assistance provided by the school?
5. Do you feel the child is benefiting academically, for example, in terms of literacy skills – reading, writing and numeracy skills, from being placed in an ordinary school? Please explain.
6. From your experiences, what are the learning styles/profiles of a child with Down Syndrome in terms of their:
   - Strengths? Please provide details.
   - Weaknesses? Please provide details.
7. What do you think/believe are effective teaching methods for children with Down Syndrome, in terms of:

- Teaching reading and writing skills?
- Materials and activities?
- Individual and/or small group instruction?
- Reinforcement strategies?

8. Describe the child's participation and involvement in classroom discussions and activities.

Questions specific to the teacher:

1. If you use adaptations or modifications with regard to the curriculum and your teaching methods in order to meet the child's needs: How are these adaptations or modifications affecting the other children in your class?
2. Are your expectations of the child similar or different to your expectations of other children in your class/ 'non-disabled' children? Please explain.

Questions specific to the teaching assistant:

1. What teaching techniques/methods do you use with the child?

II. *Socialization: Questions common to the teacher and the teaching assistant*

1. How do you believe inclusive education will affect the self-esteem of a child with Down Syndrome? Please explain.
2. Please describe the child's behaviour during break time.
   - During break time does the child play with other 'non-disabled' children? Please provide details (for example, are they in the same grade or age group).
3. Does the child interact socially with the other 'non-disabled' children at his/her school? Please provide details.
4. If there are other children in your classroom/in the school with disabilities:
   - Does the child interact socially with them during school time?
   - Does the child interact/behave differently with 'non-disabled' children as compared to other children with disabilities during school time?
     - If yes, in what ways?
5. Has the child experienced any social difficulties at his/her ordinary school, for example, in terms of social acceptance? Please explain.
6. Do you believe the child has benefited in terms of 'social inclusion' by being at an ordinary school? Please explain.
   - *Follow-up question*: For example, with regard to the child's self-esteem?

III. *Communication abilities: Questions common to the teacher and the teaching assistant*

1. Do you believe the child's communication abilities, in terms of speech and language, have improved from being placed in an ordinary school? Please specify.
   - *Follow-up question*: For example, by having peer role models who are 'non-disabled'? Please explain.

IV. *General: Question common to the teacher and the teaching assistant*

1. Does the child participate in general school activities? Please explain.

Section G: Additional comments: This section is common to the teacher and the teaching assistant

1. Do you have any other views or opinions, which you would like to add and share that could help us to better understand the experiences of inclusion of children with Down Syndrome into ordinary schools?

Thank you very much for your participation.

APPENDIX 11: Educator Rating Scale: Child's Communication Abilities and Classroom Functioning in the Inclusive School Context

___/___/200___

Dear _____,

Many thanks for participating in my research. Attached please find a rating scale regarding the child's communication abilities and classroom functioning. This information will help me to investigate the experiences of inclusive education of primary school aged children with Down Syndrome in Gauteng. Please be assured that the information you provide in this rating scale will be used solely for the purposes of the research. As mentioned before, confidentiality will be preserved. Should you have any queries, you may contact me at the number below.

I will collect the rating scale from you on _____.
If you are unsure how to answer any questions we can discuss it at that date.
Thank you for your time.

Yours sincerely

Michelle Klompas
(011) 885-2751
072-2002675

School: _____
Child's grade: _____
Date: _____

Please answer the following questions regarding the child with Down Syndrome.

Section A

Please circle the appropriate number for each question and feel free to add any comments in the spaces provided.

1 = Excellent **2 = Good** **3 = Adequate** **4 = Fair** **5 = Poor**

AREA	RATING	COMMENTS
Behaviour during classroom activities	1 2 3 4 5	
Attention and concentration for full duration of a lesson	1 2 3 4 5	
Listening skills required for classroom learning	1 2 3 4 5	
Understanding meaning of words and concepts used in classroom	1 2 3 4 5	
Understanding of classroom discussions	1 2 3 4 5	
Understanding of spoken/oral stories	1 2 3 4 5	
Understanding concepts of sequencing: beginning, middle and end (for example, in a story)	1 2 3 4 5	
Knowledge of rhyming words	1 2 3 4 5	
Identification of words that begin with the same sound	1 2 3 4 5	
Knowledge of letter-sound correspondence	1 2 3 4 5	
Breaking up words into their syllables	1 2 3 4 5	

Breaking up words into their component sounds	1 2 3 4 5	
Putting sounds together to make up words	1 2 3 4 5	
Identification of letters of the alphabet	1 2 3 4 5	
Reading single words	1 2 3 4 5	
Understanding meaning of single words that he/she reads	1 2 3 4 5	
Reading Sentences	1 2 3 4 5	
Understanding meaning of sentences that he/she reads	1 2 3 4 5	
Writing letters of the alphabet independently	1 2 3 4 5	
Writing his/her own name independently	1 2 3 4 5	
Writing single words independently	1 2 3 4 5	
Understanding meaning of words that he/she writes on his/her own	1 2 3 4 5	
Writing sentences independently	1 2 3 4 5	

Understanding meaning of sentences that he/she writes on his/her own	1 2 3 4 5	
Spelling	1 2 3 4 5	

If you would like to make additional comments regarding any of the above questions, please use the space below.

_____
_____
_____
_____
_____
_____

Section B

Please circle **YES or NO** for each question and feel free to add any comments in the spaces provided.

AREA	RATING	COMMENTS
Does the child display behavioural problems?	YES NO	
Can the child follow oral instructions/directions?	YES NO	
Does the child display carryover and retention abilities of materials taught from one lesson to the next?	YES NO	
Does the child display memory difficulties?	YES NO	
Does the child remember new words?	YES NO	
Does the child request help?	YES NO	
Does the child request clarification when he/she does not understand what is said to him/her?	YES NO	
Is the child able to correct/clarify his/her message when others do not understand him/her?	YES NO	
Does the child voluntarily participate in classroom discussions?	YES NO	

Does the child initiate conversation with you appropriately?	YES NO	
Can the child stick to the topic of conversation?	YES NO	
Does the child use appropriate nonverbal communication, for example, body language, while communicating with you?	YES NO	
Does the child use appropriate nonverbal communication, for example, body language, while communicating with his/her class peers?	YES NO	
Does the child understand the concept of perspective taking – for example, how you would feel as opposed to how his/her classroom peers would feel?	YES NO	
Does the child demonstrate appropriate turn taking skills in the classroom context?	YES NO	
Do you understand what the child says?	YES NO	
Do other children in the classroom understand what the child says?	YES NO	
Does the child use a variety of word types (for example, nouns, verbs, adjectives) and word categories (for examples names of animals, clothes)?	YES NO	
Does the child have word-finding difficulties – for example, are there hesitations or word substitutions when the child speaks?	YES NO	
Can the child formulate questions correctly?	YES NO	
Is the child able to answer your questions using sentences with correct grammar and word order?	YES NO	
Can the child report to you what happened, for example, what happened during break time?	YES NO	

If you would like to add any information regarding the above questions, please use the space below.

_____
_____
_____
_____
_____

Section C

- Describe the child's speech:

_____
_____
_____
_____
_____

- Describe the child's language abilities:

_____
_____
_____
_____
_____

- Describe the child's reading abilities:

_____
_____
_____
_____
_____

- How does the child's reading compare with the outcomes set for his/her grade?

_____
_____
_____
_____
_____

- Describe the child's writing abilities:

_____
_____
_____
_____
_____

- Does the child's written language make sense? Please explain.

_____
_____
_____
_____
_____

- How does the child's writing compare with the outcomes set for his/her grade?

_____
_____
_____

- How does the child interact with you?

- How does the child interact with his/her peers?

- Describe the child's participation in classroom activities:

- Do you have any additional comments regarding the child's communication abilities and classroom functioning level?

Thank you very much for your participation.

APPENDIX 12: Description of English and Afrikaans Assessment Tools

Owens (2004) explains that reliability refers to whether measurement is repeatable or not, whereas validity refers to whether the test assesses what it claims to assess.

Reynell Developmental Language Scales, Second Revision (Reynell & Huntley, 1987) (Age Range: 1.0 – 7.0 years)

- Verbal Comprehension Scale A – assesses comprehension developmentally, through the use of objects as stimuli, from the earliest stage of selective recognition of word patterns, to gradually increasing complexity of understanding of different parts of speech, to the stage where comprehension extends to situations beyond the 'here and now'.
- Expressive Language Scale: Structure section – assesses the structure of expressive language from the earliest stages of pre-language, vocalizations to the use of complex sentences with subordinate clauses.
- Expressive Language Scale: Vocabulary section – assesses expressive vocabulary by using firstly, objects to elicit single nouns; secondly, pictures to elicit single and plural nouns, verbs and adjectives; and thirdly, the child is required to define words such as nouns, verbs and adjectives without the provision of picture or object stimuli.
- Expressive Language Scale: Content section – assesses the creative use of language by requiring the child to verbalize connected thoughts. For this task picture stimuli are provided.

The Reynell Developmental Language Scales, Second Revision has a high reliability measure and the test demonstrates validity in the content of the scales (Reynell & Huntley, 1987) as well as concurrent validity and good predictive validity (Silva, Bradshaw & Spears, 1978 in Reynell & Huntley, 1987).

Test for Auditory Comprehension of Language, Third Edition (TACL-3) (Carrow-Woolfolk, 1999) (Age Range: 3.0 – 9.11 years)

The TACL-3 is an assessment of auditory comprehension of language.

- Vocabulary subtest – assesses the comprehension of literal and common meanings of word classes for example, nouns, verbs, adjectives and adverbs.
- Grammatical Morphemes subtest – assesses the meaning of grammatical morphemes such as prepositions, noun number and case, verb number and case, noun-verb agreement, derivational suffixes and pronouns.
- Elaborated Phrases and Sentences subtest – assesses the comprehension of syntax, for example, syntactically based word relations, elaborated phrases and sentences.

The TACL-3 demonstrates a high degree of reliability and is a valid measure of the auditory comprehension of language (Carrow-Woolfolk, 1999).

Clinical Evaluation of Language Fundamentals-Revised (CELF-R) (Semel, Wiig & Secord, 1987) (Age Range: 5.0 – 16.11 years)

- Linguistic Concepts subtest – tests the understanding of concepts such as inclusion/exclusion, coordination, temporal, conditional and quantitative concepts.
- Word Structure subtest – tests the form of language, specifically morphology in an expressive task.
- Formulated Sentences subset – tests syntax expressively, it is a sentence construction subtest.
- Word Associations subtest – this subtest is an expressive task, which tests the ability to recall labels of members of a semantic group within a specified time limit.

The CELF-R shows content validity and good test-retest reliability (Semel, Wiig & Secord, 1987).

The British Picture Vocabulary Scale Second Edition (BPVS-II) (Dunn & Dunn, 1997) (Age Range: 3.00 – 15.08 years)

The BPVS-II is a test of receptive vocabulary and is well-known as a valuable instrument for research purposes. The BPVS-II may be seen as a screening test of scholastic aptitude (verbal ability or verbal intelligence) only when firstly, English is the home language and the language of the community in which the individual lives and has grown up in and secondly, when the primary language of

instruction at school is and has been in the past English (Dunn & Dunn, 1997). Dunn and Dunn (1997) report evidence for the validity of the BPVS-II. In terms of reliability, the BPVS-II makes use of a Standard Error of Measurement (SEM) which is added to and subtracted from the individual's score in order to define a confidence band around it. Then, the examiner is able to make a statement of the probability that the individual's true score is found in that range (Dunn & Dunn, 1997).

Expressive One-Word Picture Vocabulary Test (EOWPVT) (Gardner, 1979) (Age Range: 2.0 – 12.0 years)

The EOWPVT was used in this study as a measure of expressive vocabulary. Gardner (1979) explains that the purpose of the test is to gain a basal estimate of a person's verbal intelligence through his/her acquired one-word expressive picture vocabulary, which refers to the quality and quantity of the person's vocabulary derived from what he/she has acquired from home and formal education. With regard to reliability, internal consistency of the test is demonstrated at each age level (Gardner, 1979). Gardner (1979) reports of evidence for the validity of the EOWPVT as a measure of expressive vocabulary.

Test of Auditory-Perceptual Skills (TAPS) (Gardner, 1985) (Age Range: 4.0 – 12.0 years)

- Auditory Number Memory: Digits Forward subtest – measures the person's rote memory of sequenced digits presented through the auditory modality.
- Auditory Word Memory subtest – measures the person's ability to recall a series of single words which is not meaningful. It also measures the ability to hear one-syllable words, two-syllable words and compound words and the person's ability to repeat these words as the sequence becomes progressively more difficult. This subtest is not a sequencing task.
- Auditory Sentence Memory subtest – measures the person's ability to immediately recall auditory information in sequence.
- Auditory Word Discrimination subtest – measures auditory discrimination ability at the whole-word level.

Generally, adequate reliability for each subtest and the test as a whole is indicated at each age level (Gardner, 1985). Gardner (1985) documents evidence for the validity of the TAPS as a tool for the assessment of auditory-perceptual skills.

Pendulum Test for Auditory Perception (Age Range: 6.0 – 12.11 years)/Pendulum Ouditiewe Waarnemingsprofiel (Age Range: 5.0 – 9.11 years)

- Auditory Analysis subtest – assesses the ability to analyse/segment the sounds of a word, which is presented through the auditory modality, at increasing levels of complexity.
- Auditory Synthesis subtest – assesses the ability to synthesize/blend sounds of a word, which are presented by means of the auditory modality, into a meaningful whole, at increasing levels of complexity.
- Auditory Closure subtest – assesses the ability to complete an incomplete word, which is presented through the auditory channel, into a meaningful whole by adding the missing sounds.
- Auditory Memory subtest – assesses the ability to recall verbally a story presented through the auditory modality.
- Auditory Discrimination subtest – assess the ability to detect similarities and differences between sounds in words and word pairs.
- Auditory Association subtest – assesses the child's ability to relate concepts and ideas, select them and put them together verbally, for example, "the boy shouts loudly; the girl whispers… (softly)".
- Auditory Sequencing subtest – assesses the child's ability to immediately perceive and recall a series of sounds and numbers of increasing length in the correct temporal order.

In terms of reliability and construct validity the Pendulum is commonly used by clinicians in South Africa. From clinical experience there is a strong sense that this tool is reliable and valid.

Articulation Assessment

An English/Afrikaans Phonetic Inventory was administered, depending on the child's home language, in order to assess the participating child's expressive phonology – speech – including articulation skills and the presence of phonological processes. The inventory is constructed by clinicians and comprises of words which contain all the possible phonological sounds in the English language at initial, medial and final word positions including consonants, clusters and vowels. The assessment was analysed according to developmental norms of acquisition of the sounds. With regard to reliability and construct validity the English/Afrikaans Phonetic Inventory is commonly used by clinicians in South Africa. From clinical experience there is a strong sense that these tools are reliable and valid.

Assessing Intelligibility Worksheet (Shipley & McAfee, 1992)

A spontaneous speech-language sample and narrative discourse was used to assess each participating child's speech intelligibility across 50 utterances. Findings revealed average number of words per utterance, percentage of intelligibility in words and utterances respectively. Inter-rater reliability was conducted for all participants by using the formula suggested below by Prutting and Kirchner (1987). Reliability of 95% between the raters was found, which was high. In cases of disagreement between raters, the ratings were reviewed and established through consensus.

Pragmatic Protocol (Prutting & Kirchner, 1987) (Age Range: 5.0 years – Adults)

The pragmatic protocol by Prutting and Kirchner (1987) was used to assess the area of pragmatics. The protocol comprises of 30 pragmatic aspects of language and is divided into the following categories of the communicative act:

- Verbal aspects which cover speech acts, topic, turn taking, lexical selection/use across speech acts and stylistic variations.
- Paralinguistic aspects that include intelligibility and prosodics.
- Nonverbal aspects which encompass kenesics and proxemics.

Aspects of the participating children's pragmatic communication were categorized as appropriate or inappropriate in accordance with the definitions of each category and examples presented by the authors. If no opportunity occurred to observe any of the parameters, it could be marked on the protocol. Examples and comments regarding the individual's responses could also be noted. The protocol was analysed qualitatively in a descriptive manner.

In terms of reliability, the pragmatic protocols for P1 and P2 were completed by two raters: the researcher and a qualified speech and hearing therapist who has experience in conducting child speech and language assessments. The researcher was able to complete the verbal and paralinguistic aspects of the protocols for P1 and P2 only after objective translations of the assessment situations from Afrikaans to English were completed by the bilingual speech and hearing therapist who conducted the Afrikaans assessments. Both raters were present during the assessments. The protocol was completed separately by each rater. The inter-rater reliability was calculated for P1 and P2 by using the following formula as suggested by Prutting and Kirchner (1987):

$$\frac{\text{agreements}}{\text{agreements + disagreements}} \times 100$$

Point-by-point reliability was calculated for appropriate and inappropriate judgements by using the above formula. Reliability of 90% between the raters was obtained, which was high. In cases of disagreement between raters, the ratings were reviewed and established through consensus.

Narrative Discourse

Narrative discourse was assessed by means of a story, which was elicited by using a set of four picture sequence cards and a single picture. The narratives were analysed according to story grammar analysis (Stein & Glenn, 1979 in Owens, 2004) in accordance with the following seven elements (Owens, 2004):

1. Setting statements: introduction and description of the character/s.

2. Initiating events: description of the action of one of the characters or this story element might encourage the character/s to act through a natural event or find an object.
3. Internal responses: description of the characters' reactions.
4. Internal plans: includes the characters' techniques for achieving their goals.
5. Attempts: description of the characters' actions to cause a consequence, for example, achieving their goals.
6. Direct consequences: description of the success or failure of the character/s at achieving their goal/s as a consequence of the attempt.
7. Reactions: description of the emotional responses, thoughts or actions of the character/s to the result or previous chain of events.

In terms of reliability, the identical procedures of inter-rater reliability to the Pragmatic Protocol (Prutting & Kirchner, 1987) were used for the narrative discourse. Inter-rater reliability of the narratives was conducted for all three participants. Reliability between the raters for all three participants ranged between 90-95% which was high. In cases of disagreement between the raters, the ratings were reviewed and established through consensus.

AST = Die Afrikaanse Semantiese Taalevalueringsmedium (Pretorius, 1989) (Age Range: 3.0 – 11.11 years)

The following subtests were administered:

- Temporaal opeenvolgende relasies (Temporal sequential relations): Assesses comprehension of time and sequencing, which is an important skill for learning.
- Passiewe relasies (Passive relations): Assess comprehension of passive relations.
- Idiome, metafore en spreekwoorde (Idioms): Assesses comprehension at an abstract level of language.
- Humor (Humour): Assesses comprehension of humour, which is an abstract level of language. In this task the child is required to make a verbal deduction from a visual clue, and the child's knowledge/understanding of the humourless concept is assessed.
- Verbale absurditeite (Verbal absurdities): Assesses the comprehension of semantic (meaning) dependency between words. This subtest indicates whether a child is able to form and relate concepts.
- Vergelykende relasies (Comparative relations): Assesses comprehension of comparisons such as "longer", "heavier".
- Reseptiewe woordeskat (Receptive vocabulary): Assesses comprehension/understanding of single words (vocabulary).
- Gesins- en familierelasies (Familial relationships): Assesses comprehension of familial relationships between people, which is an important skill for learning and processing literature.
- Meerduidige woordbetekenisse (Homonyms): Assesses the ability to evaluate the knowledge that one word can have more than one meaning.
- Insluiting en uitsluiting (Inclusion and exclusion): Assesses the ability to process and understand verbal directions, including linguistic concepts such as "a few", "some".
- Voornaamwoorde (Pronouns): Assesses comprehension/knowledge of pronouns.
- Woorddefinisies (Word Definitions): Assesses verbal descriptions of single words.
- Vergelykings (Comparisons): Expressively assesses knowledge of concrete words which can affect abstract concepts.
- Sinoniemrelasies (Synonyms): Assesses ability to explain one word in terms of another.
- Digotomierelasies (Opposites): Assesses knowledge of opposites in an expressive task.
- Konsepvorming (Concepts): Assesses expression of concepts and semantic relationships that exist between words.
- Ruimtelike relasies en voorsetselgroepe (Spatial relationships and prepositional groups): Assesses expression of spatial relationships and prepositions such as "in, on, behind".

Generally, adequate and desirable reliability for each subtest has been indicated (Pretorius, 1989). Evidence for the validity of the AST as an assessment tool has also been documented (Pretorius, 1989).

References

Carrow-Woolfolk, E. (1999). *Test for auditory comprehension of language* (3rd ed.). *(TACL-3)*. Austin, TX: PRO-ED.

Dunn, L. M., & Dunn, L. M. (1997). *The British picture vocabulary scale* (2nd ed.) *(BPVS-II)*. Windsor, Berkshire, UK: NFER-NELSON.

Gardner, M. F. (1979). *Expressive one-word picture vocabulary test*. Novato, CA: Academic Therapy Publications.

Gardner, M. F. (1985). *Test of auditory-perceptual skills (TAPS)*. San Francisco: Children's Hospital of San Francisco.

Owens, R. E., Jr. (2004). *Language disorders: A functional approach to assessment and intervention* (4th ed.). Boston: Pearson Education.

Pretorius, A. (1989). *Die Afrikaanse Semantiese Taalevalueringsmedium (AST)*. Pretoria, South Africa: A Pretorius.

Prutting, C. A., & Kirchner, D. M. (1987). A clinical appraisal of the pragmatic aspects of language. *Journal of Speech and Hearing Disorders, 52*, 105 – 119.

Reynell, J. K., & Huntley, M. (1987). *Reynell developmental language scales* (2nd revision). Windsor, England: NFER-NELSON.

Semel, E., Wiig, E. H., & Secord, W. (1987). *Clinical evaluation of language fundamentals – revised (CELF-R)*. San Antonio, TX: The Psychological Corporation Harcourt Brace Jovanovich.

Shipley, K. G., & McAfee, J. G. (1992). *Communicative disorders: An assessment manual*. London: Chapman & Hall.

APPENDIX 13: Oral Sensory Motor Evaluation (OSME) Checklist (Specific Characteristics of Down Syndrome)

Participant Number: ____ **Date:** _____ **Date of Birth:** _____
Chronological Age: _____

HEAD	COMMENTS
• Brachycephaly (back of head slightly flattened)	
• Microcephaly	
• Other	

FACE	COMMENTS
• Frontal view: Rounded face	
• Lateral view (side view): Flat profile/flat facial features	
• Midface hypoplasia (underdevelopment of the midface)	
• Other	

EYES	COMMENTS
• Almond-shaped eyes	
• Epicanthic folds (skin folds at the inner corner of the eyes)	
• Upslanting palpebral fissures (slanting of the eyelids)	
• Brushfield spots of the iris (white or light-yellow speckling around the rim of the iris/coloured spots in the iris)	
• Other	

NOSE	COMMENTS
• Small	
• Depressed/flattened bridge of the nose	
• Other	

EARS	**COMMENTS**
• Low-set ears	
• Small outer ears	
• Small ear canals	
• Overfolded helices	
• Other	

OTHER	**COMMENTS**
• General tone (mouth, cheeks) at rest	
• General tone (mouth, cheeks) during speech	
• Saliva control – drooling at rest	
• Saliva control – drooling during speech	
• Mouth posture – open or closed	
• Nose or mouth breather	

ADDITIONAL COMMENTS

Reference

Kumin, L. (2003). *Early communication skills for children with Down Syndrome: A guide for parents and professionals* (2nd ed.). Bethesda, MD: Woodbine House.

Kumin, L. (2004). Mental retardation. In L. Schoenbrodt (Ed.), *Childhood communication disorders: Organic bases* (pp. 151-183). New York: Thomson Delmar Learning.

Marshall, F. (2004). *Coping with Down's Syndrome*. London: Sheldon Press.

Newton, R. (2004). *The Down's Syndrome handbook: A practical guide for parents and carers* (new ed.). London: Vermilion.

Selikowitz, M. (1997). *Down Syndrome: The facts* (2nd ed.). New York: Oxford University Press.

Shprintzen, R.J. (2000). *Syndrome identification for speech-language pathologists: An illustrated pocket guide*. San Diego, CA: Singular Publishing Group Thomson Learning.

APPENDIX 14: Pilot Checklist

Date: _____

Venue: _____

If necessary you may add written comments on the actual parent questionnaire/parent interview schedule/observation checklist/teacher interview schedule/educator rating scale.

Please complete the following questions:

1. Approximately how long did it take you to complete the questions/items?

_____

_____

- Was the time sufficient – was it too long or too short? Please explain.

  _____

  _____

2. Is the length of the questionnaire/interview/checklist/rating scale appropriate? Please explain.

_____

_____

3. Do any changes need to be made to the structure of the questions/items? If yes, please explain.

_____

_____

4. Is the order of the questions/items appropriate? If no, please explain.

_____

_____

5. Are the questions/items appropriate? If no, please explain.

_____

_____

6. Do any questions/items need to be deleted? If yes, which questions/items?

_____

_____

7. Do any questions/items need to be changed? If yes, which questions/items and how would you recommend to change them?

_____

_____

8. Do any questions/items need to be added? If yes, what do you suggest?

_____

_____

9. Are any of the questions/items ambiguous and/or poorly worded? Please specify and explain.

_____

_____

10. If Afrikaans is your home language: Did you have any difficulties in terms of understanding the questions/items in English? If yes, please specify which questions/items were problematic.

_____

_____

11. If Afrikaans is your home language: Did you have any difficulties in terms of answering the questions/items in English?

_____

_____

12. Do you have any other comments and/or suggestions which would assist the researcher in improving the questions/items?

_____

_____

_____

_____

_____

Thank you for your time and comments.

APPENDIX 15: Description and Responses of the Pilot Teacher

a) Description of the pilot teacher

The pilot teacher was 51 years old and her home language was English. In addition to remedial teaching, she had a post graduate qualification in Special Education. She had attended many courses and additional training over the years regarding learners with special educational needs/disabilities. At the time of the pilot study she was no longer teaching. In total she had 26 years of teaching experience, which included 10 years at schools for learners with special educational needs (schools for children with severe intellectual and physical disabilities). She taught a remedial class (Grades 1, 2 and 3 – Junior Phase) that catered for learners with special educational needs at an ordinary public school in Gauteng for 12 years. Throughout her teaching career she had taught many learners with Down Syndrome at schools for learners with special educational needs and at the ordinary public school in Gauteng within the remedial class situation. She also had personal contact with children with Down Syndrome and their families.

b) Important findings obtained from the pilot teacher's responses during the teacher interview

Failure of the inclusive education system for learners with Down Syndrome:

- Disappointment in the system – system as a barrier to successful inclusion of learners with Down Syndrome into ordinary public schools

"He was a very high functioning Downs, had he not been Downs I reckon he would probably cope quite well in a mainstream situation, bottom of the range but always part of the troop. But his disabilities, his speech and his appearance and eventually socialization got in the way. **I THINK THE INSTITUTION FAILED HIM, HE DIDN'T FAIL, THE WAY THINGS CHANGED FAILED HIM"** (pilot teacher). The pilot teacher conveyed her disappointment in the system of inclusive education for learners with Down Syndrome in ordinary public schools. Reflecting back on her experience of teaching a learner with Down Syndrome in an ordinary public primary school she emphasized the failure of the system even though the learner was high functioning. The high functioning level of the learner is believed to be a factor intrinsic to the child which would have contributed to his successful inclusive education. However, as the pilot teacher explained, the system of inclusive education was the barrier to the child's successful inclusion into the ordinary public school.

According to the pilot teacher factors which contributed to the failure of the system included the negative attitudes and resistance of the teachers towards inclusive education of learners with Down Syndrome; barriers which teachers were facing within the South African post apartheid education system such as overcrowding of classrooms, discipline and language barriers; social barriers, for example, lack of acceptance of the child with Down Syndrome by other learners, lack of sensitivity

and cruelty that the learner with Down Syndrome was exposed to from other learners at the school. In the words of the pilot teacher: “It’s doing particularly the Down Syndrome child a tremendous disservice to be placed in a mainstream school. I think they have been subjected to untold cruelties and harshness and things they shouldn’t be exposed to…now they’ve been the brunt of mockery, lack of sensitivity, cruelty and they by nature don’t understand what’s happening and they keep on trying to befriend these people and they just get mocked. And I think because of their appearance and their characteristics that they are now really suffering in the mainstream…the most recent ones have suffered badly under the government situation” (pilot teacher).

The social barriers were attributed to the wider problematic socio-cultural and political situation which South Africa faced in the era of post apartheid education. The pilot teacher explained that in this era, ordinary public schools which had had fairly entrenched values, regulations and discipline systems were faced with an influx of ‘previously disadvantaged’ learners. Such learners were from diverse family backgrounds, socio-economic classes and areas and many of them had previously been exposed to crime and violence “so schools now are quite volatile and lacking in discipline to a large extent” (pilot teacher). Therefore, these factors, which are extrinsic to the child with Down Syndrome, are considered to be the barriers and challenges to the successful inclusion of children with Down Syndrome into ordinary public schools in Gauteng, South Africa.

Although the pilot teacher had the necessary skills to teach a child with Down Syndrome in an ordinary class and had previously supported the concept of inclusive education of children with Down Syndrome, she expressed reluctance to do so at the time of the study. As she reported, “Inclusive education for learners with Down Syndrome in ordinary public schools is not working, it can’t work anymore until big changes need to take place”. These changes which are critical implications of the study, as mentioned in Chapter 7, include a revision of the inclusive education policy to be in line with the realities within the South African situation and creating awareness and education amongst the public specifically school going aged children regarding disabilities, Down Syndrome and inclusive education.

APPENDIX 16: Description of Participating Children with Down Syndrome

The following descriptive information pertaining to the participating children with Down Syndrome was attained from the parent questionnaire, the children's previous assessment and progress reports of other professionals and school reports.

- **Participant 1**

Early history

Full term pregnancy, no problems and or complications reported during pregnancy, labour and delivery. P1 had a natural birth. His birth weight was appropriate for gestational age. At birth P1 was incubated and had jaundice for the duration of one day. He sucked at birth, though reportedly sucking was not very strong. P1 was breast-fed for 18 months and bottle-fed from 6 months to approximately 2 years of age. Solids were introduced within appropriate age limits. No feeding problems were reported, except for lip closure while chewing which was still difficult but not impossible at the time of data collection. Delayed speech-language and motor developmental milestones were reported. Full toilet training was achieved within normal limits. In terms of fine motor skills, P1 was able to hold a pencil correctly. With regard to gross motor skills, he was able to catch a ball and climb a jungle gym.

Medical history

P1 had bilateral ear infections once to twice a year up until 6 years of age. He had grommets at approximately the ages of 1.6 years, 4 years and 6 years. The infections were associated with 'glue ears' and discharge from his ears especially when he had grommets and when his eardrums (tympanic membranes) burst on one or two occasions. P1 was hospitalized at 6 months of age for pneumonia, at 11/12 months of age for heart surgery and for one day admissions for removal of adenoids to assist a sleep problem, teeth extractions and grommets. At the time of data collection P1 was receiving Tofranil for relaxing, calming and sleep difficulties and Sudafed for sinusitis, drooling, muscle and bladder control. He has had bronchitis, upper respiratory diseases, German measles (rubella), mumps, chicken pox, 'convulsions' (not epilepsy) prior to cardiac surgery which lasted approximately two to three minutes usually when he used to wake up, hypothyroidism early on to which his body has adapted and at the time of data collection his thyroid functioning was within 'normal' limits, sleeping difficulties, delayed teething time and irregular teething patterns – difficulty with shedding teeth therefore, pro-active measures were taken and deciduous (milk) teeth were removed to create space for permanent teeth, dry skin and sinusitis.

Family history

No family history of speech, language, hearing and/or learning problems was reported.

History of assessments and therapies

At the age of 5.6 years P1 had a hearing test which revealed 100% speech discrimination at 25dB, normal tympanogram and acoustic reflexes in the left ear and a grommet present in the right ear. When P1 was 5.10 years old an occupational therapy report documented that he had impaired gross and fine motor coordination and deficits of visual perception. An occupational therapy assessment conducted at the age of 7.7 years indicated the following results on the Developmental Test of Visual Perception: general visual perception – quotient/standardized score = 84, motor-reduced visual perception – quotient/standardized score = 93 and visual motor integration – quotient/standardized score = 77. From the ages of 9 to 11 years, speech-language therapy addressed the following areas: articulation including /r/, /k/ and /g/ sounds; tongues exercises for muscle tone and tongue motor ability; receptive language including vocabulary, opposites, synonyms and concepts; expressive language including verbal expression, intelligibility, narratives and picture description; auditory attention, auditory memory, auditory sequencing and auditory closure. During this time period the speech-language report indicated that P1 displayed limited attention and that he was distracted by auditory and visual stimuli and required much attention and motivation.

History of school progress
In terms of school history, the Table below illustrates the breakdown of P1's school history according to grades and ages.

P1's school history

Type of School	Age	Grade
School for learners with special education needs – specifically for speech, language and hearing impairments	3 – 5 years	
Ordinary pre-school	6 and 7 years	0
Ordinary primary school	8 and 9 years	1
	10 years	2
	11 years	3
	12 years	4

When P1 was in Grade 3, at the age of 11 years, a visit to his school by learning support educators from the school's district Gauteng Department of Education was conducted. A meeting was held with the school principal, P1's teacher, the HOD (Head Of Department) of the Junior Primary and the learning support educators in order to provide the teacher with input in terms of teaching P1 in the ordinary classroom and with regard to adapting the curriculum for him. The learning support educators commented from their observations that P1 was well adjusted in the classroom and was progressing according to his potential. P1's fourth term Grade 3 school report indicated that he progressed well in literacy and that he worked more independently and with more goal-directedness.

- **Participant 2**

Early history
Full term pregnancy, no problems and or complications reported during pregnancy and delivery. P2 was born by caesarean section, as his mother was involved in a car accident six years before he was born and broke her pelvis. P2's birth weight was appropriate and average for gestational age. At birth P2 had jaundice and subsequently was placed under fluorescent lights for two days. P2 sucked at birth and was breast-fed for 18 months, solids were introduced within age appropriate limits and no feeding problems were reported. Delayed speech-language, motor (crawling and walking independently) and toilet training developmental milestones were reported. P2's mother reported that he was a very responsive baby. In terms of fine motor skills, P2 was able to hold a pencil correctly. With regard to gross motor skills, he was able to catch a ball and climb a jungle gym.

Medical history
P2 had bilateral ear infections about once a year or every two years at approximately the ages of 2 and 6 years old. He had grommets at 3 and 6 years of age for which he was hospitalized. He has had check ups by an Ear Nose and Throat (ENT) Specialist. Other hospitalizations included: when he was 9 months old for heart surgery, 2 years old for removal of adenoids, 8 and 9 years of age for teeth extractions. Reportedly he has had a few upper respiratory diseases (infections) approximately at 4 and 5 years of age. An additional heart problem was reported, which did not require surgery and rectified by 6 years of age. P2 had tonsillitis on several occasions, approximately three times and the last episode was when he was 6 years old. He has had sleeping difficulties including sleep apnoea, which reportedly had not affected his daily performance. P2 presented with flat feet. His mother reported that he was given vitamin supplements, as he had a low immune system.

Family history
No family history of speech, language, hearing and/or learning problems was reported.

History of assessments and therapies

An occupational therapy report compiled when P2 was 5 years old indicated that he showed good progress; his motor abilities improved, but he would require constant monitoring and attention; improvement was noted with visual perception; basic concepts required further stimulation and his motivation required improvement, specifically when performing abstract tasks. At the age of 7.5 years a speech-language assessment indicated the following results: concentration difficulties in structured circumstances; limited attention span; significant delays in the areas of receptive vocabulary, comprehension of noun phrases, adverbial phrases, verbs, complex grammar and inferences; expressively he produced telegrammatic sentences, little use of adjectives, determiners, pronouns and adverbs, plurals and past tense morphology was absent; elements of apraxia were present; he presented with more consistent phonological processes (final consonant deletion, cluster reduction, stopping, backing, fronting, assimilation) and fewer idiosyncratic processes therefore, his speech was more intelligible, he could not produce /f/, /t/, /d/, /r/, /s/ and /z/, his speech was very nasal, velopharyngeal incompetence (referral to ENT) and nasal emission (he received SSB – Suck, Swallow, Breathe synchrony therapy).

History of school progress

During Grade 0 at nursery school it was reported that P2 socialized with younger children (in his 6th year – turning 7 years old, he socialized with the 3-5 year age group). His Grade 2 report indicated that he did not meet the requirements for the Grade in the following areas: listening to riddles and jokes, telling riddles and jokes, writing a story, past and future tense, listening to a story, responding to simple questions and reading common words. However, he met the requirements with regard to art, drama, singing, recognition of 3D forms and comparison (numeracy).

- **Participant 3**

Early history

P3's mother reported a full term pregnancy and no problems and or complications during the pregnancy, labour and delivery. P3 had a natural birth. Her birth weight was appropriate and average for gestational age. At birth P3 was incubated, she had respiratory problems and was diagnosed with a heart problem. Immediately after birth, she was taken to a Neonatal Intensive Care Unit (NICU) for three weeks, as she required oxygen and cardiac monitoring. In NICU she was placed on a drip and was tube fed with her mother's breast milk for a week, thereafter P3 was taken out of her incubator for breastfeeding. She was breast-fed for 17 months and refused to be bottle-fed. Solids were introduced within age appropriate limits and feeding was reported to be messy due to the small size of her mouth. In terms of speech-language developmental milestones, gurgling, cooing, babbling, production of first words and first two-word combinations were achieved within average age limits, although productions of three-word combinations, simple and complex sentences were delayed. Her motor developmental milestones were achieved within age appropriate limits. However, an occupational therapy assessment report indicated delayed developmental milestones. Reportedly, her toilet training developmental milestones were delayed. With regard to fine motor skills, P3 was able to hold a pencil correctly. In terms of gross motor skills, she was able to catch a ball depending on its size and was able to climb a jungle gym.

Medical history

P3 had a history of ear infections associated with middle ear fluid from approximately 3 months of age. These infections were less frequent after grommets were inserted at the age of 6 months old. Approximately at the age of 3 years she began having frequent infections and the second set of grommets were inserted when she was 3.6 years old. In addition to the grommets for which she was hospitalized, these ear infections were treated with nose drops. P3 was receiving vitamins. Reportedly, her heart problem which was diagnosed at birth was not present at a follow-up consultation. P3 had sleeping difficulties at 2 years of age, tonsillitis and adenoid problems at the age of 4 years, chicken pox at 6 years old and measles when she was 7 years old. Her metabolism was slow and her thyroid functioning and spine still required investigation at the time of data collection. With regard to dentition, P3's teeth protruded and were very small. She has had dry skin from birth.

Family history

No family history of speech, language, hearing and/or learning problems was reported.

Early stimulation (intervention) programmes and history of assessments and therapies

Between the ages 3 months to 2 years P3 made good progress at early stimulation/intervention programmes, which included communication-based intervention. Areas targeted included receptive and expressive language skills and in terms of feeding, areas regarding lip closure and tongue movements were addressed. Between the ages 3 to 4 years old she attended speech-language therapy at her school, which involved the following therapy aims: story telling skills, concepts – shapes, associations, listening skills, extending her sentence length production, production of certain language structures such as prepositions, blowing and sucking exercises and phonology - /p/ for /f/ (stopping) and /s/ for /f/ and /p/ substitutions. Reportedly, at this time, P3 displayed relatively good understanding and comprehension skills, however her attention including auditory attention and concentration was poor. Significant improvement over time was reported at speech-language therapy between 5 to 8 years of age. Results of a speech-language assessment carried out at the age of 7.0 years indicated articulation errors, a significant delay in receptive and expressive language skills as well as auditory processing skills. Reportedly during action ball tasks at the age of 7 years, P3 enjoyed group activities where she could be the leader. An occupational therapy assessment at 8.0 years of age indicated that P3's concentration and cooperation were positive factors.

History of school progress

Reportedly, when P3 was at pre-nursery school at 4 years old, her first term progress report indicated that she made progress at her level, her visual memory, visual perceptual skills, concentration and listening skills were satisfactory. At the age of 5 years old, her second term progress report at pre-nursery school indicated that her ability to work independently and her pencil grip with cutting, colouring in, pasting and writing was satisfactory and that she made progress and worked at her level with confidence.

APPENDIX 17: Detailed Results of Participating Children's Audiological Screening and Speech-Language Assessment

PARTICIPANT 1
Chronological age: 12.4 years
Grade: 4
Home language and medium of instruction at school: Afrikaans

1. Hearing screening

- Otoscopic examination: No obstructions in the external ear canals were evident, and no pathologies were evident bilaterally. External ear canals appeared small and narrow bilaterally. Wax observed bilaterally but did not appear to be impacted.

- Tympanometry: Ear canal volumes were slightly below the norm bilaterally.
  - *Right ear*: Type B tympanogram, which indicates no pressure peak. It is indicative of little or no change in compliance of the middle ear, as air pressure in the external ear canal is varied (middle ear pressure was not matched with the outer ear pressure). This result may imply serous and adhesive otitis media and in some cases congenital middle ear malformations. A perforation of the tympanic membrane was not indicated by the ear canal volume, which was not increased, or by the otoscopic examination. Type B tympanogram may also indicate that the ear canal may be totally occluded with cerumen (wax), or with a patent ventilating tube in the eardrum. Tympanometry could not be retested as P1 complained of hearing voices and subsequently the retesting was not carried out.
  - *Left ear*: Type A tympanogram, which is indicative of normal middle ear functioning.

- Pure tone testing (air conduction): A complete pure tone (air conduction) screening could not be completed as P1 lost concentration and responses became inconsistent.
  - *Right ear*: P1 passed the screening performed at 20dB for 1000Hz and 2000Hz and at 25dB for 4000Hz. At 500Hz screening results could not be obtained as P1's responses became inconsistent.
  - *Left ear*: At 500Hz testing was done at 30dB as indicated by biological calibration due to surrounding noise level, at which level P1 passed the screening. He passed the screening performed at 20dB for 1000Hz, 2000Hz and 4000Hz.

2. Summary of language test results

Test	Score	Interpretation
A) RECEPTIVE LANGUAGE		
The AST * subtests: Below Average for all receptive subtests, areas of strength within the below average range were receptive vocabulary and humour.		
• Receptive Vocabulary	S.D. = –1.4 (A.E. = 7 years 0-5 months)	Below Average
• Inclusion and Exclusion	S.D. = below –4.0 (A.E. = below 3 years 0 months)	Below Average
• Comparative Relations	S.D. = below –4.0 (A.E. = 3 years 9-11 months)	Below Average
• Temporal Sequential Relations	S.D. = below –4.0 (A.E. = below 3 years 0 months)	Below Average
• Familial Relationships	S.D. = below –4.0 (A.E. = 3 years 3-11 months)	Below Average
• Passive Relations	S.D. = –2.8 (A.E. = 4 years 0 months to 5 years 2 months)	Below Average
• Pronouns	S.D. = below –4.0 (A.E. = below 3 years 0 months)	Below Average

• Homonyms	S.D. = below –4.0 (A.E. = 3 years 0 months to 4 years 2 months)	Below Average
• Idioms	S.D. = –2.6 (A.E. = 3 years 0 months to 5 years 11 months)	Below Average, echolalia noted (imitated the words with limited comprehension).
• Humour	S.D. = –1.5 (A.E. = 5 years 6 months to 7 years 2 months)	Below Average
• Verbal Absurdities	S.D. = below –4.0 (A.E. = 3 years 0-11 months)	Below Average
Reynell – Verbal Comprehension Scale A subtest **	Age Equivalent score = 3 years 2 months	Below Average
B) EXPRESSIVE LANGUAGE		
The AST * subtests: Below average for all expressive subtests, area of strength within the below average category was synonyms.		
• Word Definitions	S.D. = –4.0 (A.E. = below 3 years 0 months)	Below Average
• Spatial Relationships & Prepositional Groups	S.D. = below –4.0 (A.E. = below 3 years 0 months)	Below Average
• Comparisons	S.D. = below –4.0 (A.E. = 3 years 0 months to 4 years 5 months)	Below Average
• Synonyms	S.D. = below –4.0 (A.E. = 5 years 9-11 months)	Below Average
• Opposites	S.D. = below –4.0 (A.E. = 3 years 9-11 months)	Below Average
• Concepts	S.D. = below –4.0 (A.E. = 3 years 0-8 months)	Below Average
Auditory Association (Pendulum) ***	Scaled score = 2 (A.E. = 5.5 – 5.8 years)	Below Average
MEAN (AVERAGE) OF ALL SUBTESTS OF THE AST * (RECEPTIVE AND EXPRESSIVE SUBTESTS) = TOTAL ACHIEVEMENT ON THE AST * = S.D. = below –4.0 = (A.E. = 4 years 0-5 months) = Below Average. P1's receptive scores on the AST were generally higher/better than his expressive scores on this test.		

Key to abbreviations in Table:
A.E. = Age Equivalent Score

*The AST = Die Afrikaanse Semantiese Taalevalueringsmedium: The maximum age for this test's administration is 11.11 years, therefore test's results and scores were analysed at the age of 11.11 years.

S.D. of AST = Standard Deviation score, S.D. of between –1.0 and 1.0 is average.

**Reynell = Reynell Developmental Language Scale (second revision) = This scale covers the age range 1 to 6 years; the scale was standardized on children aged from 1 to 7 years; standard scores are available up until 7 years 0 months. Therefore, a standard score could not be obtained for P1.

*** Pendulum = Pendulum Ouditiewe Waarnemingsprofiel

C) PRAGMATICS

Pragmatic Protocol (Prutting & Kirchner): P1 presented with difficulties in terms of verbal aspects (speech acts, topic, turn taking, lexical selection/use across speech acts, stylistic variations); paralinguistic aspects (intelligibility and prosodics – rate, rhythm and stress of speech, his speech tended to be flat and lacking prosody); and nonverbal aspects (kinesics – bodily movement and

language in relation to communication, proxemics – bodily position and spatial relations with regard to communication). His difficulties with the verbal and paralinguistic aspects of pragmatics were related to his speech and language impairments.

D) NARRATIVE DISCOURSE: Story: P1's narrative was below average.

E) AUDITORY PROCESSING TEST RESULTS

Sub-Tests of the Pendulum *	Scaled Score	Age Equivalent Score	Interpretation
Auditory Story Memory	3	5.9 – 5.11 years	Below Average
Auditory Discrimination	4	6.0 – 6.4 years	Below Average
Auditory Analysis	Below 1	Below 5.0 years	Below Average
Auditory Synthesis	6	6.9 – 6.11 years	Below Average
Auditory Closure	11	8.5 – 8.8 years	Below Average
Auditory Sequencing (Letters & Digits)	Below 1	Below 5.0 years	Below Average

* Pendulum = Pendulum Ouditiewe Waarnemingsprofiel

3. Speech

A) ARTICULATION: P1 presented with the following articulation errors:

- *Substitutions:*
  1. /j/ for /l/ in initial word position
  2. /z/ for /l/ in medial word position
  3. /x/ for /r/ in initial and medial word positions; initial and final cluster word positions
  4. /voiceless th/ for /s/ in initial, medial and final word positions; initial and final cluster word positions
- *Omissions:*
  1. /l/ in final position
  2. /r/ in final cluster positions
- *Distortions:*
  1. Interdental /l/ in final cluster word positions

B) SPEECH INTELLIGIBILITY: P1's average number of words per utterance was 2.8 (2 to 3 words per utterance). He was 49% intelligible in words and 16% intelligible when speaking in utterances out of sample of 90 words and 32 utterances. These results indicate that his level of intelligibility decreased at an utterance level, which generally comprised of more than one word. At times P1's speech was intelligible but other times it was difficult to understand him. His tongue placements (alveolar placements on many occasions), which might have been due to low tone and/or lack of coordination affected his speech intelligibility negatively. P1's articulation errors decreased his level of intelligibility. This intelligibility rating should be viewed as being approximate, rather than absolute or definitive. P1's level of fatigue and concentration, which fluctuated, and the child's familiarity with the stimuli presented to elicit the sample must be taken into account.

4. Oral Sensory Motor Evaluation (OSME)

In terms of saliva control, at times when P1 concentrated, drooling was evident during speech and at rest, which was not severe. His mouth posture was generally closed. He did not present with strong intra oral pressure, which was evident when he was asked to puff his cheeks. P1 presented with a slight under-bite. Diagonal movements of the mandible (lower jaw) on command were forceful. No dissociation was evident between the mandible and the tongue on command and during speech. P1's tongue presented with slightly low tone at rest. In terms of tongue movements, when he was asked to elevate his tongue externally, move his tongue from side to side (laterally) externally and to perform

circumoral (circular) movements externally – he performed these movements with assistance from his lower jaw. He used the blade of his tongue when he was asked to elevate his tongue to his alveolar ridge to produce the sounds /n/ and /t/. He could not make contact between the lateral edges of his tongue and his teeth to produce /sh/. He could not perform sufficient tongue movements to produce a diphthong sound such as /ow/. P1 struggled to produce and sequence rapid coordinated speech movements, such as /patakapatakapataka/ for which he produced /pakata/ and he could not produce the word "buttercup" in a rapid sequence for which he produced /bakapbakapbakap/ (he omitted the middle sound /tter/). For the sound /t/ he produced an inter-dental /t/. In terms of prosody, his rate of speech was quite slow and his speech rhythm was jerky. With regard to his voice pitch, it was starting to break (due to adolescence); his voice seemed to be loud at times and had a flat-like quality. Nasal resonance in his voice was intermittent but present at times. With concentration P1 ate neatly with a closed mouth posture.

PARTICIPANT 2
Chronological age: 10.6 years
Grade: 3
Home language and medium of instruction at school: Afrikaans

1. Hearing screening

- Otoscopic examination: No obstructions in the external ear canals were evident and no pathologies were evident bilaterally. External ear canals appeared small and narrow bilaterally. Wax observed bilaterally but did not appear to be impacted.

- Tympanometry: Ear canal volumes were slightly below the norm bilaterally.
  - *Right ear*: Type As and type C tympanogram. Type As tympanogram, which is a shallow tympanogram, indicates pressure compliance function that is characterized by normal middle ear pressure and limited/low compliance relative to the mobility of the normal tympanic membrane. This finding indicates a stiff middle ear system. Type As tympanogram may imply reduced mobility of the ossicular chain or some form of otitis media. Type C tympanogram indicates that the eardrum still has some mobility, and this type of tympanogram may or may not be related to the presence of fluid in the middle ear. It may indicate early stages of otitis media. A persistent type C tympanogram indicates poor Eustachian tube function in the presence of an intact tympanic membrane.
  - *Left ear*: Type A tympanogram, which is indicative of normal middle ear functioning.

- Pure tone testing (air conduction): At times P2's responses to the pure tone (air conduction) screening were inconsistent, therefore, these results should be viewed with caution.
  - *Right ear*: P2 passed the screening performed at 20dB for 2000Hz and at 25dB for 500Hz and 1000Hz. At 4000Hz he failed the screening, as he responded at 35dB.
  - *Left ear*: P2 passed the screening performed at 20dB for 1000Hz and 2000Hz and at 25dB for 4000Hz. He failed the screening at 500Hz, as he responded at 30dB.

2. Summary of language test results

Test	Score	Interpretation
A) RECEPTIVE LANGUAGE		
The AST * subtests: Below Average for all receptive subtests, areas of strength within the below average range were receptive idioms and humour.		
• Receptive Vocabulary	S.D. = below –4.0 (A.E. = 4 years 0-5 months)	Below Average
• Inclusion and Exclusion	S.D. = below –4.0 (A.E. = 3 years 0-5 months)	Below Average

• Comparative Relations	S.D. = below –4.0 (A.E. = 3 years 9-11 months)	Below Average
• Temporal Sequential Relations	S.D. = below –4.0 (A.E. = 3 years 0-11 months)	Below Average
• Familial Relationships	S.D. = below –4.0 (A.E. = 3 years 0-2 months)	Below Average
• Passive Relations	S.D. = –2.2 (A.E. = 3 years 0-11 months)	Below Average
• Pronouns	S.D. = below –4.0 (A.E. = below 3 years)	Below Average
• Homonyms	S.D. = –2.9 (A.E. = 3 years 0 months to 4 years 2 months)	Below Average
• Idioms	S.D. = –1.8 (A.E. = 3 years 0 months to 5 years 11 months)	Below Average
• Humour	S.D. = –1.2 (A.E. = 3 years 0 months to 5 years 5 months)	Below Average
• Verbal Absurdities	S.D. = –3.1 (A.E. = 3 years 0-11 months)	Below Average
Reynell – Verbal Comprehension Scale A subtest **	Age Equivalent score = 3 years 3 months	Below Average
B) EXPRESSIVE LANGUAGE		
At times his expressive language was characterized by echolalia (he imitated what the therapist said).		
The AST * subtests: Below average for all expressive subtests.		
• Word Definitions	S.D. = –2.7 (A.E. = below 3 years 0 months)	Below Average
• Spatial Relationships & Prepositional Groups	S.D. = below –4.0 (A.E. = 3 years 0-5 months)	Below Average
• Comparisons	S.D. = –3.1 (A.E. = 3 years 0 months to 4 years 5 months)	Below Average
• Synonyms	S.D. = below –4.0 (A.E. = below 3 years)	Below Average
• Opposites	S.D. = below –4.0 (A.E. = 3 years 0-5 months)	Below Average
• Concepts	S.D. = below –4.0 (A.E. = 3 years 0-8 months)	Below Average
Auditory Association (Pendulum) ***	Scaled score = below 1 (A.E. = below 5 years 0 months)	Below Average
MEAN (AVERAGE) OF ALL SUBTESTS OF THE AST * (RECEPTIVE AND EXPRESSIVE SUBTESTS) = TOTAL ACHIEVEMENT ON THE AST * = (Age Equivalent = 3 years 0-5 months) = Below Average. P2's receptive scores on the AST were generally higher/better than his expressive scores on this test.		

Key to abbreviations in Table:
A.E. = Age Equivalent Score

*The AST = Die Afrikaanse Semantiese Taalevalueringsmedium: The maximum age for this test's administration is 11.11 years, therefore test's results and scores were analysed at the age of 11.11 years.

S.D. of AST = Standard Deviation score, S.D. of between –1.0 and 1.0 is average.

**Reynell = Reynell Developmental Language Scale (second revision) = This scale covers that age range 1 to 6 years; the scale was standardized on children aged from 1 to 7 years; standard scores are available up until 7 years 0 months. Therefore, a standard score could not be obtained for P2.

*** Pendulum = Pendulum Ouditiewe Waarnemingsprofiel

C) PRAGMATICS

Pragmatic protocol (Prutting & Kirchner): P2's area of strength included nonverbal aspects of communication, in terms of kinesics (bodily movement and language in relation to communication) and proxemics (bodily position and spatial relations with regard to communication). Areas of pragmatics, which he had difficulties with included: verbal aspects (speech acts; topic; turn taking in terms of initiation, repair/revision, contingency, quantity/conciseness; lexical selection/use across speech acts; stylistic variations), paralinguistic aspects (intelligibility and vocal quality – nasal). His difficulties with the verbal and paralinguistic aspects of pragmatics were related to his speech and language impairments.

D) NARRATIVE DISCOURSE: Story: P2's narrative was below average. He found it difficult to sequence a simple 4 picture card story.

E) AUDITORY PROCESSING TEST RESULTS

Sub-Tests of the Pendulum *	Scaled Score	Age Equivalent Score	Interpretation
Auditory Story Memory	Below 1	Below 5 years 0 months	Below Average
Auditory Discrimination	Below 1	Below 5 years 0 months	Below Average
Auditory Analysis	Below 1	Below 5 years 0 months	Below Average
Auditory Synthesis	1	5 years 0 months – 5 years 4 months	Below Average
Auditory Closure	Below 1	Below 5 years 0 months	Below Average
Auditory Sequencing (Letters & Digits)	Below 1	Below 5 years 0 months	Below Average

* Pendulum = Pendulum Ouditiewe Waarnemingsprofiel

3. Speech

A) ARTICULATION: P2 presented with the following articulation errors:

- *Substitutions:*
  1. /k/ for /t/ in initial, medial and final word positions
  2. /k/ for /st/ in initial word clusters
  3. /k/ for /rt/ in final word clusters
  4. /g/ for /d/ in initial and medial word positions
  5. /h/ for /r/ in initial words position
  6. /voiceless th/ for /s/ in initial, medial and final word positions
  7. /voiceless th/ for /sh/ in initial and medial word positions
  8. /voiceless th/ for /sl/ in initial word position
  9. /voiceless th/ for /rs/ in final word clusters
  10. /voiceless thp/ for /spr/ in initial word clusters
  11. /t/ for /sk/ in initial word clusters
  12. /l/ for /sl/ in final word position
  13. /kl/ for /str/ in initial word clusters
  14. /kl/ for /skr/ in initial word clusters
  15. /pd/ for /pr/ in initial word position
  16. /bj/ for /br/ in initial word position

17. /gl/ for /dr/ in initial word position
18. /xl/ for /xr/ in initial word position

- *Omissions:*
  1. /n/ in medial word position
  2. /l/ in final word position
  3. /r/ in final word position
  4. /ng/ in final word position
  5. /k/ for /kr/ in initial word position (he omitted the /r/)
  6. /k/ for /rk/ in final word clusters (he omitted the /r/)
  7. /k/ for /ngk/ in final word clusters (he omitted the /ng/)
  8. /t/ for /nt/ in final word clusters (he omitted the /n/)
  9. /voiceless th/ for /ks/ in final word clusters (he omitted the /k/ sound and substituted /voiceless th/ for /s/)
  10. /p/ for /lp/ in final word clusters (he omitted the /l/)
  11. /f/ for /lf/ in final word clusters (he omitted the /l/)
  12. /l/ for /ls/ in final word clusters (he omitted the /s/)
  13. /k/ for /lk/ in medial word clusters (he omitted the /l/)
  14. He omitted the /lt/ in final word cluster

B) PHONOLOGICAL PROCESSES

From the above findings of P2's articulation it is evident that the following phonological processes were operating in his speech:

1. Backing, for example, /k/ for /t/ in initial, medial and final word positions.
2. Cluster reduction, for example, /k/ for /rk/ in final word clusters (he omitted the /r/).
3. Deletion of final consonants, which was not evident with all consonants, for example, /l/ in final word position.

C) SPEECH INTELLIGIBILITY: P2's average number of words per utterance was 1.66 (1 to 2 words per utterance). P2 was 35% intelligible in words and 19.4% intelligible in utterances out of sample of 60 words and 36 utterances. This finding indicates that his level of intelligibility decreased at an utterance level, which generally comprised of more than one word. His articulation errors and phonological processes decreased his level of speech intelligibility. This intelligibility rating should be viewed as being approximate rather than absolute or definitive. P2's level of fatigue and concentration, which fluctuated, and the child's familiarity with the stimuli presented to elicit the sample must be taken into account.

4. Oral Sensory Motor Evaluation (OSME)

Diagonal movements of the lower jaw (mandible) were jerky. Lateral and slow circumoral (circular) movements of the tongue externally were performed with associated movement of the lower jaw. Furthermore, elevation of the tongue to the alveolar ridge to produce /n/ or /t/ sounds was produced with assistance from the lower jaw. In terms of coordinated speech movements: his productions of /pa/ sound repetitions were nasal; /ta/ sound repetitions were inter-dental and nasal; /ka/ sound repetitions were glottal – movement of the root of the tongue was evident; he could not produce /pataka/ repeatedly but rather he produced /pata/ with nasal emission; for /buttercup/ repetitions – P2 produced /babacup/, he substituted /ba/ for /ter/ in medial position, on 2 repetitions of /buttercup/ he produced /gullercup/, he substituted /g/ for /b/ in initial position (backing) and /l/ for /t/ in medial position. With regard to prosody: rate of speech – his speech tended to be somewhat slow; his rhythm of speech tended to be slow and monotone. His voice quality was nasal and seemed to have a 'hoarse' quality. P2's speech was nasal; nasal emission and nasal resonance were evident during speech, however, he was able to puff his cheeks to create intra oral pressure.

5. Behaviour and play during the assessment

During the assessment P2's concentration and attention fluctuated. He was responsive to the therapist and to the stimuli provided. His general behaviour appeared to be immature for his chronological age.

P2 presented with relational/functional play, for example, he used a hairbrush to brush the doll's hair; representational, dramatic/symbolic play, for example, he pretended to eat a plastic toy hamburger. These play levels are immature and inappropriate for his chronological age.

PARTICIPANT 3
Chronological age: 8 years 5 months
Grade: 1
Home language and medium of instruction at school: English

1. Hearing screening

- Otoscopic examination: No obstructions in the external ear canals were evident and no pathologies were evident bilaterally.

- Tympanometry:
  - *Right ear*: Type A tympanogram, which is indicative of normal middle ear functioning.

  - *Left ear*: The following results were obtained: ear canal volume = 3.9 ml, which is above the norm (a perforation of the tympanic membrane was not indicated by the otoscopic examination); static compliance = 0.1 ml, which is below the norm; and pressure of +155 daPa, which is above the norm. These results do not correlate and a tympanogram type could not be established, as unreliable tympanometry readings were indicated.

- Pure tone testing (air conduction):
  - *Right ear*: P3 passed the screening performed at 20dB for 1000Hz, 2000Hz and 4000Hz and at 25dB for 500Hz.

  - *Left ear*: P3 passed the screening performed at 20dB for 500Hz, 1000Hz, 2000Hz and 4000Hz.

2. Summary of language test results

Test	Score	Interpretation
A) RECEPTIVE LANGUAGE		
British Picture Vocabulary Scale Second Edition	Standardized Score = 63 (A.E. = 3 years 8 months)	Below Average (in the extremely low score range)
Linguistic Concepts subtest (CELF-R) *	Standard Score = 3	Below Average. P3 did not seem to understand the instructions and the concepts used, for example, "Point to the line that is not yellow".
Vocabulary subtest (TACL-3) **	Standard Score = 3 (A.E. = 4 years 0 months)	Very Poor
Grammatical Morphemes subtest (TACL-3) **	Standard Score = 3 (A.E. = 4 years 0 months)	Very Poor
Elaborated Phrases and Sentences subtest (TACL-3) **	Standard Score = 1 (A.E. = below 3 years 0 months)	Very Poor

▪ **Total Test Score for all three subtests of the TACL-3 **** = TACL-3 Quotient = 51 = Very Poor (A.E. = 4 years 3 months)		
Verbal Comprehension Scale A subtest of the Reynell ***	Age Equivalent = 3 years 7 months	Below Average
B) EXPRESSIVE LANGUAGE		
Expressive One-Word Picture Vocabulary Test	Language Standard Score = Below 55 (Language Age = 3 years 10 months)	Low Score
Word Structure subtest (CELF-R) *	Standard Score = 3	Below Average
Formulated Sentences subtest (CELF-R) *	Standard Score = 3	Below Average
Word Associations subtest (CELF-R) *	Standard Score = 3	Below Average
Total Expressive Language Scale (Structure, Vocabulary and Content) of the Reynell ***	Age Equivalent = 3 years 5 months, 3 years 6 months	Main area of difficulty for P3 within the expressive language scale was content.

Key to abbreviations in Table:
A.E. = Age Equivalent Score

* CELF-R = Clinical Evaluation of Language Fundamentals – Revised

** TACL-3 = Test for Auditory Comprehension of Language (Third Edition)

***Reynell = Reynell Developmental Language Scale (second revision) = This scale covers that age range 1 to 6 years; the scale was standardized on children aged from 1 to 7 years; standard scores are available up until 7 years 0 months. Therefore, a standard score could not be obtained for P3.

C) PRAGMATICS

Pragmatic protocol (Prutting & Kirchner): Nonverbal aspects of pragmatics, such as gestures, facial expressions and eye gaze were an area of strength for P3 during the assessment. The paralinguistic aspects of pragmatics including vocal intensity, prosody (rate, rhythm and stress of speech) and fluency were appropriate during the assessment. In terms of verbal aspects of pragmatics, the following areas were inappropriate during the assessment: topic selection; topic introduction; topic maintenance; topic change; repair/revision with regard to turn taking; quantity/conciseness with regard to turn taking (contributions made by P3 were limited); specificity/accuracy of lexical selection/use (lexical items – words/vocabulary used by P3 did not always best fit the text, conversation); cohesion (often the conversation appeared to be disjoined, as utterances used by P3 did not always appear to be related in a logical sequential way). These verbal aspects of pragmatics were related to P3's difficulties with expressive language.

D) NARRATIVE DISCOURSE: Story: P3's narrative was below average. She presented with poor picture sequencing abilities (story of 4 sequence cards).

E) AUDITORY PROCESSING TEST RESULTS

Test	Scaled Score	Age Equivalent Score	Interpretation
Auditory Number Memory: Digits Forward (TAPS) **	3	Below 4 years 0 months (language age)	Below Average
Auditory Word Memory (TAPS) **	3	Below 4 years 0 months (language age)	Below Average
Auditory Sentence Memory (TAPS) **	3	Below 4 years 0 months (language age)	Below Average
Auditory Story Memory (Pendulum) *	Below 1	Below 6 years 0 months	Below Average. P3 was unable to recall any of the details of the story, however, particularly during the administration of this subtest, she was tired and her concentration was poor.
Auditory Word Discrimination (TAPS) **	A score could not be obtained.	A score could not be obtained.	P3 had difficulty with understanding the test instruction in terms of comprehending the meaning of the concepts "same" and "different" within the testing context; therefore, the test could not be carried out. Furthermore, she was tired and her concentration was poor.
Auditory Analysis (Pendulum) *	A score could not be obtained.	A score could not be obtained.	P3 did not understand what was required from this task.
Auditory Synthesis (Pendulum) *	Below 1	Below 6 years 0 months	Below Average
Auditory Closure (Pendulum) *	The full subtest was not administered as P3 became tired and her concentration fluctuated, therefore, the subtest could not be scored.	A score could not be obtained.	Qualitative analysis indicated that P3 had difficulty completing a word when the middle sound was omitted, for example, "tele-one" = "telephone"; and when the initial sound was omitted, for example, "-acaroni" = "macaroni".

* Pendulum = Pendulum Test for Auditory Perception
** TAPS = Test of Auditory-Perceptual Skills

3. Speech

A) ARTICULATION: P3 presented with the following articulation errors:

- *Substitutions:*
  1. /d/ for /voiceless th/ inconsistently in initial word position, for example, /din/ for /thin/; and in final word position inconsistently, for example, /bad/ for /bath/.

2. /d/ for /voiced th/ inconsistently in initial words position, for example, /de/ for /the/; and in medial word position inconsistently, for example, /feader/ for /feather/.
3. /l/ for /y/ inconsistently in initial word position, for example, /lellow/ for /yellow/. This example is observed in children who have the phonological process of alveolar assimilation. However, in P3's speech alveolar assimilation did not seem to be a pattern across her speech sound productions.
4. /w/ for /r/ inconsistently in initial cluster positions, for example, /dwum/ for /drum/.

- *Omissions:*
  1. /voiceless th/ in medial word positions, for example, /birday/ for /birthday/.
  2. /ng/ in final word position, for example, /ri/ for /ring/, /fishi/ for /fishing/.
  3. /s/ inconsistently in initial cluster word position, for example, /plash/ for /splash/.
- *Distortions:*
  1. /s/ distortion in initial word position, for example, in the word /sock/; inconsistently in initial cluster word position, for example, in the words /snake/, /string/; in medial word position, for example, in the word /seesaw/; and in final word position, for example, in the word /glass/. The /s/ distortion was characterized by tongue protrusion (similar to an inter-dental tongue placement).
- *Oral movements observed during speech:*
  Tongue protrusion (inter-dental tongue placement) observed on the following sounds, which might be indicative of uncoordinated tongue movements and weak tongue strength and control:
  1. /t/ inconsistently in final word position, for example, in the word /skate/.
  2. /z/ in medial word position, for example, in the word /present/ and inconsistently in final word position, for example, in the word /matches/.
  3. /l/ sound inconsistently in initial cluster position, for example, in the word /slipper/.
  4. /s/ sound as mentioned above under /s/ distortion.

B) SPEECH INTELLIGIBILITY: P3's average number of words per utterance was 3.12 (approximately 3 words per utterance). Her longest utterance consisted of 10 words, which she produced on one occasion. P3 was 86% intelligible in words and 70% intelligible when speaking in utterances out of sample of 156 words and 50 utterances. This finding indicates that her level of intelligibility decreased at an utterance level. Out of 50 of her utterances, 40 of them consisted of more than 1 word per utterance. This intelligibility rating should be viewed as being approximate, rather than absolute or definitive. Her level of fatigue and concentration, which fluctuated, and the child's familiarity with the stimuli presented to elicit the sample must be taken into account.

4. Oral Sensory Motor Evaluation (OSME)

At times P3 presented with an open mouth posture. On occasion, when she presented with an open mouth posture, at rest, her tongue appeared to protrude. In terms of oral functions of the lips, she was able to round, protrude, retract, open and close her lips. She was able to alternate pucker and smile movements with her lips. She could bite her lower lip and create an adequate lip seal. No obvious nasal emission was evident, as she was able to puff her cheeks. A kissing movement with her lips was not strong. With regard to speech functions of the lips, P3 was able to round, protrude and retract her lips to produce the corresponding appropriate vowel sounds. She could alternate /u/ and /i/ vowel sounds. Biting of the lower lip to produce the /f/ sound was forceful. She was able to open and close her lips to produce /ma/. Diagonal movements of the mandible (lower jaw) on command appeared to be forceful. Dissociation of the mandible and the tongue appeared to be adequate. In terms of oral functions/movements of the tongue, P3 was able to protrude (stick out) her tongue; elevation of her tongue to the alveolar ridge was difficult; she could elevate her tongue externally, lower (depress) her tongue externally, move her tongue from side to side (laterally) externally and perform circular movements with her tongue externally. With regard to speech functions of the tongue, elevation of the tongue to the alveolar ridge to produce the sound /t/ was difficult; while she produced /t/ her tongue protruded (inter-dental tongue placement); she was able to make contact between the lateral edges of her tongue and her teeth to produce /sh/; a /voiceless th/ sound was produced with observable tongue protrusion (observable inter-dental tongue placement); she was able to raise the back of her tongue to her palate to produce /k/; coordination of the tongue with the mandible in order to produce the sound

/ng/ was adequate; tongue placements were appropriate for productions of high, mid and low vowel sounds, and for the diphthong sound /ow/ as in the word /toe/ or /slow/.

In terms of producing and sequencing rapid coordinated speech movements of the sounds /papapa/, /tatata/ and /kakaka/ respectively, P3 produced them at a rate of below 6 years of age. She struggled to produce and coordinate rapidly the sequenced sounds /patakapatakapataka/, she produced them at a rate of below 6 years of age; when she was asked to try to repeatedly produce these sounds quickly, she omitted the sound /ka/ and produced /patapatapata/ repeatedly. Therefore, she produced these diadochokinetic syllable rates at a slow rate, which might be indicative of uncoordinated tongue movements and weak tongue strength and control for producing rapid syllables. These uncoordinated tongue movements were also observed while she was asked to produce the word “buttercup” repeatedly in a rapid sequence, she was unable to do so and produced /but, but, but/ instead of the target word. She also struggled to produce the word “spaghetti” repeatedly in a rapid sequence, for which she produced /paghetti, paghetti/ and for production of the word “petticoat” repeatedly in a rapid sequence, P3 produced /peki, peki, peki/. The prosody – rate, rhythm and stress of P3’s speech was appropriate. The pitch and intensity (loudness) of her voice were both within normal limits. Her voice quality, only at times appeared to be slightly nasal.