

**A Comparative Study on Reading Performance of Pupils with
Preschool and Non-preschool in Relation to the New Break
Through to Literacy: A case of selected schools in Lusaka**

BY

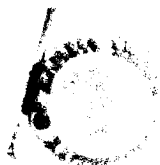
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A dissertation submitted to the University of Zambia in partial
fulfillment of the requirement for award of the degree of master of
education in educational psychology

THE UNIVERSITY OF ZAMBIA

2011



DECLARATION.

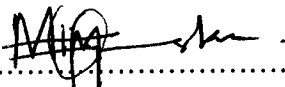
I, Mwanza Sylvia, hereby declare that the work contained in this dissertation is entirely as a result of my individual efforts and that work from other researchers has been acknowledged. I further declare that to the best of my knowledge, no other dissertation with this topic has been submitted for a degree in any university or similar institution.


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APPROVAL

The University of Zambia approves this research report of Mwanza Sylvia as fulfilling part of the requirements for the award of the degree of Master of Education in Educational Psychology: (M. ED PSY)

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DEDICATION

It is rare that an individual finds an opportunity to thank the people that matter the most in their life. I therefore dedicate this work of my hands to my parents Mr. and Mrs. Mwanza for their help and support throughout my study. I also dedicate this work to my husband Mr. Wiza Kabaghe for his unending support and encouragements even in times when he had enough of his own work. He was always there for me. Mr Kabaghe thank you so much, I love you.

Lastly, I dedicate this work to my father in heaven for the grace and uncommon favors he has shown to me throughout my life.

ACKNOWLEDGEMENTS

I offer my sincere gratitude to Professor Adriana Bus, Dr. Beatrice Matafwali and Dr. Akakandelwa Akakandelwa for their tireless efforts in ensuring that this work is a success. Your advice and positive criticisms during my research made me strong and believe that I could make it. I will, forever, be grateful for the support you rendered during my master's programme and thank you very much for being my supervisors and for finding time to be with me besides your busy schedules.

I also acknowledge and appreciate the support that I got from the Department of Educational Psychology, Sociology and Special education (EPSSE). Firstly for picking me as one of the Staff Development Fellows (SDF), and secondly, for the moral and material support that they rendered to me. My sincere gratitude goes to Mr Joseph Mandyata, Dr. O.C Chakulimba, Dr. Kasonde Ngandu , Dr. Daniel Ndhlovu and Ms Snib Chabala Musonda for their encouragements and help in proof reading my work

I would also like to acknowledge and thank my fellow SDFs, especialy Ms Janet Serenje, Mr Gabby Walubita and Mr Thomas Mtonga for the lite moments and support we gave each other during the research.

In addition to the above I would like to thank my friends who indirectly or indirectly added to the success of this paper by helping with printing namely Darwin Chimenge, Nelson Simakando, Brighton Chinji and Ashely Mwenda.

I also dedicate this work to my mother and father, my twin sister Doreen, my dearest brother Emmanuel and all my other siblings for their unending love and support.

I would also love to thank the staff development office and the Lollie Nauter foundation for sponsoring my research because without your financial support it would not have been possible to carry out this research.

Lastly but not the least I thank my husband Mr Wiza Kabaghe for his love and encouragements. To all the teachers and pupils who participated in this research, may the good Lord bless you.

ABSTRACT

This study sought to compare reading performance of pupils with and without preschool background in relation to the New Break Through to Literacy (NBTL). The following were the objectives. To establish whether there is a difference in reading between preschool and non-preschool pupils; to establish if there are differences in executive skills between pupils with preschool and non-preschool; to find out teacher's views on reading differences between preschool and non-preschool children; to find out teacher's views on differences in executive skills between preschool and non-preschool pupils and to assess how home reading contributes to reading differences between preschool and non-preschool pupils. There were three hypotheses in this study which are. There is no difference in reading between preschool and non-preschool pupils; there is no difference in predictors of reading between preschool and non-preschool children, there is no difference in executive function skills between preschool and non-preschool children.

The study used a survey design. The target population was 110, which consisted of 54 pupils with preschool and 46 pupils without -preschool and 10 teachers. Purposive non probability sampling procedure was used in selecting participants. Hands on test instruments were used for the pupils and interview schedule guides for the teachers to collect data. The study instruments were piloted at Regiment basic school before they were used in the study. Data was analyzed quantitatively using the statistical package for social sciences version 16 (SPSS) and qualitatively using emerging themes.

The study revealed that generally, there were significantly low reading levels among grade ones. The study showed that there were no statistically significant differences in reading and executive skills between pupils with preschool and non-preschool. Nevertheless those with preschool exposure performed significantly well on letter knowledge and were reported to pay more attention than the non-preschool during lessons.

It was recommended that the *Zambian* government revises the preschool syllabus so that it can also be in a local language because it was observed that preschool children have problems adjusting to a local language in grade one after using English language in preschool.

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CHAPTER ONE: INTRODUCTION

1.0 Overview

This chapter presents the background of the study, the statement of the problem, purpose of the study, the objectives of the study and hypotheses. The chapter concludes by noting the limitations and delimitations as well as the operational definition of terms.

To delineate the importance of cognitive skills to reading development, the study focused on executive functions in the acquisition of literacy skills to assess if children in the first grade have these skills which are necessary for learning to read. Executive functions are a set of cognitive abilities that control and regulate behavior that is required for learning. These include working memory, inhibitory skills and attention (Diamond et al, 2007). These were selected, because they cover basic cognitive processes that organize thought resources towards a desired condition. Moreover, the preschool period seems to be an important time for development of executive functions (Blair, 2002; Garon, Bryson, & Smith, 2008).

Inhibition could be described as “the ability to ignore distraction and stay focused, and to resist making one response and instead make another” (Diamond, 2006, p. 70). Working memory is defined as “the ability to hold information in mind and manipulate it”. The last function, attention is identified as “the ability to flexibly switch perspectives, focus of attention, or response mapping” (Diamond, 2006, p. 70). The study also focused on reading abilities and oral language of pupils in the first grade. This is because one of the consistent findings in studies and literature is that oral language abilities in early childhood predict beginning literacy skills. These include letter knowledge, name writing and phonological awareness as well as later reading achievement (Bishop and Adams, 1990; Chaney, 1992; Scarborough, 1990).

1.1 Background of the study

Early childhood education is an education division; a complement to elementary school envisioned to accommodate children between the ages of two and six years. Originating in the early 19th century, the kindergarten was an outgrowth of ideas and practices of Robert Owen in Great Britain, J.H. Pestalozzi in Switzerland and his pupil Fredrick Frobel in Germany who coined the term kindergarten a “German word which literary means ‘children’s garden’. It stressed the emotional and spiritual nature of the child, encouraging self-understanding through play activities and greater freedom, rather than the impositions of adult knowledge. (De Guzman et al., 2010).

The first pre-school institution was established in United Kingdom in 1816 by Robert Owen for a philanthropic cause. The preschool was more of a childcare centre wherein children of cotton mill workers, aged between one and six years were taken care of when their parents worked in the mills.

Owen used free and unstructured play in educating young children. Informal teaching was the rule and Owen did all his teachings through informal, physical methods. His concept led to the founding of many early childhood care centres in Britain. .The Hungarian countess Theresa Brunszvik followed in 1828 (preschool learning alliance: 1990).

Preschool programs begun in earnest in the United States during the first quarter of the twentieth century. The philosophical foundation of preschools can be traced to the belief popularized in the seventeenth century, that early childhood is a unique period of life during which the foundation for all later learning is established. The early preschools often started informally and involved the effort of women who took turns in caring for each other’s

children. The first public preschool program begun at Franklin School in Chicago in 1925 with the support of the Chicago women's club.

The popularity of preschool as an option for young children increased dramatically after the 1970s. In 1970, for example, only 20 percent of three and four-year-olds participated in organized education programs. In 1998, approximately half of all children in this age range attended a full-time pre-school program. The increasing popularity of preschool has been fuelled in part by an increase in the number of women entering the work force as well as by a belief among many parents and educators that children need early preparation for elementary school (preschool learning alliance: 1990).

Provisions for the formation of early childhood education programs in Zambia were made as far back as 1957. However it was not until the beginning of the 21st century that provisions of early childhood education began to receive solemn attention. This was influenced by the United Nations obligation that all countries around the world provide universal basic education by 2015. Establishing early childhood institutions became a fundamental requirement for Zambia as well, United nations (1990) in Matafwali and Munsaka (2010). Thus most of the efforts in Zambia had been directed towards the introduction of early childhood education programmes in as many locations in the country as possible. Early childhood education has two parts namely kindergarten and preschool. Kindergarten is for children aged between two and four while preschool is for children between four and six.

Preschools in Zambia are not under the jurisdiction of the Government, they are run by private individuals who register with the Preschool Association of Zambia. Therefore anyone who wants to open a preschool in Zambia can do so as long as they have the means regardless

of their profession and academic background. This has led to the mushrooming of preschools in residential areas as well as other commercial areas.

Since preschools are run by private individuals and residential plots are used in some cases, the quality of preschools is compromised as these facilities need appropriate recreational facilities as well as learning materials. A study by Matafwali and Munsaka (2010) reviewed that there is a general lack of teaching and learning materials in Zambian preschools. When it comes to recreational facilities the scenario is worse since residential plots are used, no space is left for children to play, which is an important aspect of learning. The situation is contrary to Vygotsky (1978), who is of a view that, children are active constructors of knowledge and that development and learning are the result of interactive processes. Preschools, therefore, should recognise that play is a highly supportive context for these developing. Vygotsky (1978) further contends that young children learn most effectively through experimental play. This according to Vygotsky would enhance the development of oral language through symbolic play which is necessary for learning to read.

Moreover, the curriculums that are used in Zambian preschools are not prepared by the Ministry of Education, hence variations in the curriculum which also affects the standards and quality of education being rendered. In addition, Matafwali and Munsaka (2010) revealed that a majority of preschool teachers in Zambia are not trained hence they may not have the required skills and knowledge to teach. Howes et al. (1995) noted that training of teaching staff is an important aspect of the curriculum in that without proper training of teachers; even the most comprehensive curriculum can be rendered useless.

In Zambia children learn the English alphabet, its orthography and phonology in preschool. One's ability to read in English is seen as a measure of his or her future educational

attainment since it is the medium of instruction for most primary and secondary schools. However when the children precede to the first grade the language of initial literacy changes to a local language.

Preschool helps children to use their minds, by knowing his mind a child deals with the activities of the curriculum and other experiences in early years. Mental operations most relevant to early education can be grouped into three major areas namely perception, memory and problem solving. These skills are very relevant in one's life and can lead to success in ones education if they are well stimulated in early years (De Guzman et al., 2010). Moreover a child who is able to remember things learnt at preschool due to sharp memory is more likely to learn to read in elementary school.

According to Maria Montessori in De Guzman et al., (2010), early education has an indispensable role in the whole personality of the child. The stage of human development from 0-6 years is the stage of the most absorbent mind and the critical period of a child. This stage is the most sensitive period in the life of a child that needs a wholesome, healthy and rich background. If a child fails in reading during primary grades, his chances for success in any academic area are greatly reduced. It is therefore essential that a preschool program for children ensure that the children will succeed in reading when they enter school.

According to Anderson (2000), reading is a mental process not getting from print but engaging readers mind to decode meaning. Reading requires thinking. It is not just speaking the words and symbols but rather thinking and speaking. There is a direct relation between the reader and what he is reading. It is a form of exercise of the mind like that of the body. An individual who has interest in reading is said to acquire great learning because it is in reading that we get 98% of learning. Reading can be considered a dominating factor towards

intellectual development of a child. That is why the very objective of each school, specifically preparatory schools is to stimulate a child to want to read, be interested to learn how to read. If as early as preschool years the reading of a child is developed, the more chance it is for his /her intellectual capabilities to grow.

The important contribution of preschool education is in developing and broadening the range of children's learning experiences, to leave them confident, eager and enthusiastic learners who are looking forward to start formal schooling. Many private and public institutions nowadays establish preschools. This encourages parents to enrol their children in preschool education. Many parents believe that preschool will help their children develop skills especially in reading so that when their children enter first grade, they are capable and ready to face new and bigger challenges and experiences (De Guzman et al., 2010).

In preschool the teacher prepares the pupil to learn how to read, guides them in acquiring functional listening and speaking vocabulary, initiates activities using real or concrete objects such as alphabet books, toys and picture books. Preschool imparts skills in auditory and visual discrimination, motor- ocular coordination, poems, introduces phonetic and structural lessons and imparts lessons to make the child ready for the next step of study. Most importantly the children are prepared to begin the new challenge which is formal schooling. (De Guzman et al 2010).

A study by Shatil et al., (2000) reviewed that there is a correlation between writing letters of the alphabet in preschool and the ability to spell in the first grade. More generally, an extensive research literature has demonstrated strong associations between preschool letter knowledge, phonological awareness and early reading (Adams, 1990; Bryant & Bradley, 1985; Wagner & Torgesen, 1985), and preschool letter naming and phonological awareness have also been shown to be strong predictors of Grade 1 writing ability (Berninger, 1992).

Shatil et al., (2000) further found that preschool writing was strongly related to grade one spelling and decoding than was intelligence. These results are important in that they confirm and extend the English-language findings indicating that children's early attempts at writing are by no means insignificant as regards individual differences in later school literacy. Preschoolers with more advanced knowledge of the writing system as witnessed in their writing become better spellers, decoders and comprehenders in Grade one.

1.1.1 The New Break Through to Literacy programme

In Zambia the education system has changed drastically since independence in 1964. Before independence there seldom were preschools in the country. During that time, a local language was used to teach in early primary education. This, however, was abandoned for a 'Straight to English' policy after independence. The change could be attributed to the fact that English is the official language in Zambia. The reason why this is so, is that it adds to the modernity and unity of the country. In terms of modernization, it was thought that English being a language of the global village would enhance commercial development through facilitating international contacts (Kalindi, 2005). However, using English in education to bring about harmony and modernization has not been an outright success. While English prospered in avoiding conflicts in the educational arena between competing groups, it made it extremely difficult for groups that do not have access to English such as the poor in rural areas to learn in schools. Even with these concerns, English was still used in schools from elementary to secondary school.

According to Tambulukani (2002), the fact that initial reading in Zambia was carried out in English, a language that most children have very little or no knowledge of when they start school largely contributed to extremely low levels of both reading and writing exhibited by

most Zambian children. Furthermore, the methods and classroom approaches to reading such as the 'look and say' method resulted in most pupils in primary school failing to learn.

William (1993) postulates that language learning is a process that takes a long time whether in a learning system or an informal out-of-class setting. The degree of learning hinges in part on the period, amount of productivity of the input, what the learner hears or reads and also the type of language activities in which the learner participates such as reciting phrases, listening to the teacher, singing songs as well as writing stories.

The understanding that children were failing to read prompted the Ministry of Education to revise its policy and come up with the Primary Reading Program (PRP) in 1998 stating the following:

Zambia has had almost 30 years' experience of using English as the medium of instruction from grade 1 onwards. Children who have very little contact with English outside the school have been required to learn how to read and write through and in this language which is quite alien to them.... The experience has not been altogether satisfactory. The fact that initial reading skills are taught in and through a language that is unfamiliar to the majority of children is believed to be a major contribution factor to the backwardness in reading shown by many Zambian children (MoE 1996: 39).

In light of this, the PRP has become the programme to spearhead implementation of this change in policy and produce courses that enable children to learn in a familiar Zambian language. This programme has 3-pronged objectives to ensure that this purpose is met, that is, to ensure that: (a) children acquire basic literacy skills in a familiar language in grade 1 and have a basis in oral English language, (b) children transfer the literacy skills into English which remains the main medium for education in grade 2 and, (c) that children develop and extend these vital literacy skills in grades 3 to 7 to give them access to the entire curriculum.

The Ministry of Education attaches high priority to the attainment of this goal. This is reflected in the policy document which stipulates that:

The aim of the curriculum for the lower and middle basic classes (Grades 1-7) is to enable pupils to read and write clearly, correctly and confidently in a Zambian language and in English (MoE 1996: 34).

The Primary Reading Program (PRP) has the New Breakthrough to Literacy (NBTL) as one of its major components in grade one, which uses as a language of initial literacy the local language used in that particular area. The NBTL was proved successful in a number of African countries in the Southern region. In Zambia, NBTL was formally evaluated in 1999, after the completion of the Northern Province Pilot Initiative and was rated a shining success story (Higgins, Tambulukani and Chikalanga, 2000).

The NBTL emphasizes that children learn better when they are taught in a familiar Zambian language as school ceases to be foreign. It is also believed that children learn to read and write better when they are taught in a familiar language.

The general aims of the NBTL according to M.O.E (2002), is that at the end of the course learners should be able to: read simple texts fluently and effectively, write their own stories legibly, neatly and in straight lines, develop collaborative and independent learning skills. In all this the teacher has been mandated to ensure that each child in his or her care successfully gained the greatest achievement and gift from education.

There are seven local languages which are regionally allocated in Zambia. Silozi for Western Province, Cinyanja for Lusaka, Citonga for Southern province, Kikaonde for Northwestern Province, Icibemba for Northern Province, Luapula province and Copperbelt province and Cilenje for Central Province. Since the New Break Through to Literacy was introduced, the method has been translated into the seven local languages by the Curriculum

Development Centre (CDC). Particularly in Government schools, it has become a common practice that teacher's use one of the seven local languages to teach literacy in grade one. However little is known as to whether the NBTL is good for pupils who have been exposed to preschool as they could have started learning to read in English and could have had their executive function skills stimulated as these are necessary for one to learn how to read. Therefore the researcher saw the need to compare the reading performance of pupils with and without preschool in relation to the NBTL in grade 1.

Executive functions are a set of cognitive abilities that control and regulate behavior that is required for learning. (Diamond et al, 2007). Executive function skills are supposed to be stimulated in preschool and elementary grades as teachers are expected to teach activities which stimulate executive function skills such as attention, working memory and inhibition skills. (Davidse et al., in press; Diamond et al., 2007; Kegel et al., 2009). Clancy Blair (2010) found that executive function skills are associated with school readiness, turn taking and paying attention.

It is important to note that children may only succeed in the first grade if they can stay attentive while carrying out a particular activity, memorize instructions and steps while solving a problem and are able to concentrate on one activity. Children in grade one especially those who have been to preschool are expected to possess executive functions and should have the skills necessary for them to learn to read. It is for this reason that executive function skills were used as one of the variables in comparing reading between pupils who went to preschool and those who did not as they are vital predictors of reading.

1.2 Statement of the problem

Earlier studies aimed at comparing pupils with preschool and non-preschool Education have demonstrated that those with preschool performed better academically than the non-preschool

(Lengalenga, 1994. Arol et al 2002). Despite this finding a recent study by Matafwali (2010), found that many first graders in Zambia fail learning to read, because of this finding. The researcher saw the need to conduct a study to ascertain that the lack of preschool exposure to some children could explain why they do not learn how to read despite the NBTL in the first grade. Therefore the study compared the reading performance of pupils with and without preschool background.

1.3 Purpose of the study

The aim of this research was to compare the reading skills between preschool and non-preschool pupils in relation to the NBTL. Executive skills of pupils who had been to preschool and the non-preschool were also compared as they are seen to regulate behavior that is required for learning to read.

1.4 Objectives of the study

This study was guided by the following objectives:

- 1) To establish whether there is a difference in reading skills between preschool and non-preschool pupils.
- 2) To establish if there are any differences in executive skills between preschool and non-preschool pupils.
- 3) To find out teacher's views on reading differences between preschool and non-preschool pupil.
- 4) To find out teachers views on the differences in executive skills between preschool and non-preschool pupils
- 5) To assess how home reading contributes to reading differences between preschool and non-preschool pupils.

1.5 Hypotheses

The following hypotheses were tested in the study

1. There is no difference in reading between preschool and non-preschool pupils.
2. There is no difference in predictors of reading between preschool and non-preschool children.
3. There is no difference in executive function skills between preschool and non-preschool children

1.6 Significance of the study

It is hoped that the findings of this research will help to explain why preschool education is important in the acquisition of early literacy skills. The study will also help in demonstrating how executive functions enhance learning to read .The study also generated important information that the Ministry of Education and other stakeholders interested in early literacy development need to come up with best practices aimed at facilitating the attainment of literacy skills from preschool to grade one. The study also added to the existing body of knowledge and literature on NBTL and executive functions.

1.7 Limitations of the study

To answer the questions the study needed to compare children with and without preschool education from a larger group of schools. Optimal would be to include at least 20 schools with about 15-30 pupils per school.

The research funds allocated to the study were not given on time and in full. This made it difficult to carry out the research at the expected time. It also made it difficult to increase the number of respondents therefore limiting the research to Lusaka only which limits the extent to which the findings of this study can be generalized.

The study used purposive non sampling procedure in data collection hence it would not be appropriate to generalize the findings of this study.

1.8 Operational definition of terms

Executive functions: a set of cognitive abilities that control and regulate behaviors that are required for learning. These include working memory, inhibitory skills, and attention.

New Break Through to Literacy (NBTL): This is the revised version of the original Molteno Breakthrough to Literacy programme from South Africa. According to this approach a child learns to read and write in a native language before learning to read in English.

Non-preschool: These are pupils in the first grade who were not exposed to preschool

Phonemes: Sounds in words that relate to letters.

Phonemic awareness: Identifying phonemes in words, for example /k/a/t/ are the phonemes of the word 'cat'.

Phonological awareness: Often used to indicate that sounds of words are distinct from words' meaning. This may include sensitivity to syllables and morphemes (Wong, 1998).

Preschool pupils: These are pupils in the first grade who were exposed to preschool before first grade

Preschool: The term preschool in this study was used to refer to educational institutions that are attended prior to primary school or first grade.

Primary Reading Programme (PRP): A program that runs from the first to the third grade it consists of NBTL at first grade, Step into English in the second grade, and read on course in the third grade.

Reading: Understanding language that is written down (Williams, 1998).

Teaching methodology: Refers to the method that teachers use to teach academic skills.

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter is a review of literature on the issues the study addressed, general literature and relevant empirical research studies on; preschool education and acquisition of reading, executive functions and oral language was reviewed to show how preschool education contributes to reading in the first grade and to get a clear picture on the differences in reading between preschool and non-preschool pupils.

2.1 Preschool Education and Acquisition of Reading Skills

Preschool education is the provision of education for children before the commencement of statutory education, usually between the ages of three and five, dependent on the jurisdiction. Preschool is also known as nursery school or kindergarten (Buysee and Wesely: 2005) and is defined as a place where “activities and experiences are offered in a variety of settings that promote the development of children from infancy to age five”. These activities and experiences may be guided by curricular or established practices designed to improve children’s development or competences in one or more domains including cognition, language, literacy, math, social-emotional development and physical development.

According to The Early Years Framework (2008), preschool is generally considered appropriate for children between three and six years of age. During this stage of development, children learn and assimilate information rapidly and express interest and fascination at each new discovery. It is well established in Western countries that pre-conventional children acquire knowledge about reading and writing through a variety of activities including exposure to print in their environment, reading books, name writing, and the like (Bus, 2001).

It is well-known that with little or no direct instruction almost all young children develop the ability to understand spoken language. However, while most kindergarten children have mastered the complexities of speech, they do not know that spoken language is made up of discrete words, which are made up of syllables, which are made up of the smallest units of sound, so-called "phonemes." This awareness that spoken language is made up of discrete sounds appears to be a crucial factor in children learning to read and is often called "phonological awareness." (The Early Years Framework 2008).

In preschool children learn a variety of skills which stimulate executive functions which escalates one's chances of learning to read early in life. It is important therefore that children are enrolled in preschool so that they can learn to read and write before they start formal education.

A study by Mann (1993) examined the predictive validity of the phonological accuracy of invented spellings at the end of the Kindergarten year in a sample of 100 children, 79 of whom were retested on word identification and word attack one year later in Grade 1. Kindergarten spelling performance correlated .58 and .54 with word identification and word attack respectively. These results are all consistent with the position that early writing is important for the development of later reading ability.

Another study by Shalti et al., (2000) found two key findings concerning the association between kindergarten writing and Grade 1 decoding and spelling. Kindergarten writing successfully predicted the ability to decode and to spell even after controlling for the contribution of general intelligence. In both cases, the unique variance explained was by no means inconsequential (7% and 11%). As such, kindergarten writing can be considered a bona fide precursor of later literacy development and not merely a developmental curiosity.

Secondly, when alphabetic skills were entered after general intelligence, kindergarten writing no longer contributed significant variance to either Grade 1 decoding or spelling. This constitutes strong support for the view that the contribution of kindergarten writing to Grade 1 decoding and spelling can be interpreted as a reflection of a child's working knowledge of the alphabetic principle, i.e., awareness of the phonological units represented by letters and the associations between these spoken segments and the graphic symbols (Lieberman et al., 1985; Mann, 1993; Mann et al., 1987; Morris & Perney, 1984; Read, 1971; 1986).

Shalti et al., (2000) also found that kindergarten writing is indeed a precursor of later decoding and spelling ability, not because of what the children seem to be doing when writing (producing arrays of letters and letter shapes to convey socially and culturally appropriate messages), but because of the usually covert, domain-specific knowledge about the relationships between letters and sounds they bring or fail to bring to the task. As a precursor of reading comprehension, kindergarten writing appears to reflect not only domain-specific alphabetic skills but also broader socioliteracy factors underlying higher-order cognitive competencies essential for comprehending text.

Shalti et al., (2000) suggested that there is much to be gained by encouraging kindergarteners to write (Levin, Ravid, & Rapaport, 1998; Snow, Burns, & Griffin, 1998). The cognitive and communicative challenge of putting words down on paper seems to engage not only higher-order conceptual and cognitive faculties important for later text comprehension (and, no doubt, production too) but also appears to be an excellent vehicle for developing a child's working knowledge of the alphabetic principle

2.2 Factors that Facilitate Reading Development in Preschool Years

2.2.1 Phonemic awareness

Phonological awareness is a broad term that includes rhyming and identifying syllables, phonemes, and onsets/rimes. Therefore, phonemic awareness is a subset of phonological awareness. Phonemic awareness is the ability to hear, identify and manipulate phonemes. A phoneme is the smallest unit of sound that influences the meaning of a word (e.g., the word “school” has 4 phonemes /s k u l/). (Snow, Burns, & Griffin, 1998) found that children with high phonemic awareness skills outperformed those with low phonemic awareness on a range of literacy measures. As preschool raises the chance that children have experiences that promote phonological skills, children with preschool education may outperform children without preschool education.

The small units of speech that correspond to letters of an alphabetic writing system are called phonemes. Thus, the awareness that language is composed of these small sounds is termed phonemic awareness. Research indicates that, without direct instructional support, phonemic awareness eludes roughly 25 percent of middle-class first graders and substantially more of those who come from less literacy-rich backgrounds. Furthermore, these children experience serious difficulty in learning to read and write (Adams, 1990,). Therefore children who are not taken to preschool are considered to have less exposure of phonemic awareness and are likely to face difficulties learning to read.

A child's level of phonemic awareness on entering school is widely held to be the strongest single determinant of the success that she or he will experience in learning to read or conversely, the likelihood that she or he will fail (Adams, 1990). In fact, research clearly shows that phonemic awareness can be developed through instruction and, furthermore, that

doing so significantly accelerates children's subsequent reading and writing achievement (Lundberg et al., 1988; Williams, 1980).

The differences between the sounds of two phonemes are often very subtle: Compare /b/ with /p/. Yet, these subtle differences in sound can signal dramatic differences in meaning: Compare 'bat' with 'pat'. Fortunately, because phonemes are the basic building blocks of spoken language, babies become attuned to the phonemes of their native language in the first few months of life. However, this sensitivity to the sounds of the phonemes and the differences between them is not conscious. It is deeply embedded in the sub - intentional machinery of the language system.

Many of the activities involving rhyme; rhythm, listening, and sounds that have long been enjoyed by preschool-age children are ideally suited for this purpose. In fact, with this goal in mind, all such activities can be used effectively toward helping children develop phonemic awareness which is an important aspect of reading.

There are a number of early activities that seem to influence children's phonological skills. For instance, Both Vries and Bus (2009) studied writing the proper name as an activity that promotes phonetic spelling with the name letter and phonetic sensitivity to this letter." Their study showed that the first letter of the name is among the first letters that are written phonetically when children begin to create invented spellings which in the long run may influence children's ability to read.

2.2.2 Book reading

Another activity that may be pivotal for developing precursors of literacy is book reading. Bus et al. (1995) found that children's oral language as well as print knowledge benefited from interaction during and after reading sessions. High quality book reading as well as frequency of reading may be important factors in supporting basic knowledge of reading.

Especially older children expand print knowledge via book reading. Lonigan (2006) found that preschool children were able to significantly expand their print knowledge as a result of book reading, whereas younger children's print knowledge hardly benefited from interactive storybook encounters. One explanation for this might be that kindergarten teachers made more references to print than preschool teachers and/or those children with some knowledge of print may have elicited discussion of print features. Alternatively, a storybook itself might emphasize print and enhance print knowledge by varying font types and sizes, displaying some utterances in text balloons, or using rhyme and alliterations (Justice and Lankford, 2002). Unfortunately, hardly any information was provided about print-salient features within the storybooks that were used in the intervention studies. We speculate that children's ability to divide their attention between an adult and a book increases with growing experience in comprehending and interpreting a story's content. As children grow older, they might have control of skills to explore and process other features of the printed text, such as single letters, while listening to and interacting with an adult at the same time, whereas younger children need to invest all efforts in understanding the story.

Book reading has become a daily routine in most modern western literate families. Assuming that children acquire knowledge of reading and writing long before formal instruction starts. Following suggestions of (Sulzby, 1985) One wonders how this prototypical and iconic aspect of home literacy may contribute to children's reading development. The child's interest in books and joint reading may be rooted in a biologically endowed trait for exploration of uncharted territories stimulating their development (Grain, Thoreson and Dale 1992). According to this theory book reading is a by-product of children's natural interest in stories and other information. According to the social construction hypothesis book reading is a socially created interactive activity (Sulzby and Teale 1991). Children to whom

parents have read books from an early age display more interest in reading books than do children who lack this early experience.

Books may not be enjoyable and comprehensible for young children without intense help and support from adults consequently children may almost never encounter solely an oral rendering of the text. Instead in most cases the words of the author are surrounded by the social interaction between adult and child. It is in the interactional framework of the family that the child first learns to handle written language skills. Exposure to books provides a rich source of linguistic stimulation for the child that may foster literacy development in a unique way.

Book reading may stimulate text understanding because it supports children's knowledge of oral and written language, research in emergent literacy represents a step forward in recognising the potential continuity of book reading experiences with what children learn later. In each developmental phase they may use their whole repertoire of knowledge including the knowledge acquired through joint book reading to make sense of the text (Sulzby, 1996).

It is assumed that the child's interest in books and shared reading may reflect early experiences and joint engagement in books De Beryshe (1993). Parents who start to read early may evoke children's interest towards books and literacy which is sustained throughout the developing years. Indeed there is evidence that children who are frequently read to by both parents begin at an early age to attend the books and shows initiative for reading (Lyytinen, Laakso and Poikkens, 1998).

From experimental research it can be derived that dialogic parent- child book reading stimulates children's vocabulary (Whitehurst et al., 1998). During typical shared reading the adult reads and child the child listens, but in dialogic reading the child learns to become the

story teller. This, however may not be the case when for parents themselves reading is not a source of amusement, activities such as story book reading may not be firmly embedded in family practice and parents may not know how to engage children in reading sessions (Bus and Sulzby 1996)

2.2.3 Oral Language

One of the consistent findings in studies and literature is that oral language abilities in early childhood predict beginning literacy skills such as letter knowledge, name writing and phonological awareness as well as later reading achievement(Bishop and Adams,1990;Chaney,1992; Scarborough,1990). Further studies were done to look at short term and long range outcomes of preschoolers who were diagnosed (and in most cases treated) at speech-language clinics e,g (Aram &Hall, 1989; Adams & Bishop 1990) and nearly all these studies confirmed that preschoolers with language impairments are indeed at risk of developing reading disabilities as well as oral language difficulties at older ages.

In the same vein, Matafwali (2010) established that oral language is the best predictor of literacy outcomes in the early stages of schooling and that weakness in language abilities causes difficulties in acquiring literacy skills. She argued that when the relationship between oral language and literacy development are well established, then reading difficulties could be prevented by successfully treating preschool language impairments such that all children would enter school with sufficient language skills to respond well to high quality literacy instruction.

Matafwali (2010) recommended that preschool education be an integral part of formal basic education which needs to be accessible to all children. Furthermore, she contended that preschool environments must be built on a child's familiar language in order to enable a

successful transition into elementary grades. However, the current practice to promote the use of English is in contrast with the Zambian language policy in primary education and might be a source of confusion for a majority of children when they enter grade one in public schools.

Here we are especially interested in preschool as a scaffold to learning behavior or executive functioning. The basic idea is that many young children only benefit from activities such as book reading and name writing when they are gifted with good working memory, inhibitory skills, and attention, and perform well because they have better learning behavior or executive functions which is expected to be done in preschool.

Kegel et al (2009) postulate that Dutch kindergarten children generally engage in literacy-related activities at home and in school. As a result most children develop some understanding of letter-sound relationships before formal reading instruction starts in first grade this however, is not the case for most Zambian children as some children are not exposed to preschool and even to print even in their homes

Nevertheless, not all children benefit equally from natural stimuli in their environments, partly as a consequence of poor executive functions. This is true for most countries as it is known that most children are exposed to print and phonemes before they enter formal education. However if children have poor executive function those are expected to interfere with the development of entry-level reading skills. The citation above could be cited as one of the reasons why certain children perform well on reading tests and others do not.

2.2.4 Executive Functions

The term executive function describes a set of cognitive abilities that control and regulate other abilities and behaviors. Executive functions are necessary for goal-directed behavior. They include the ability to initiate and stop actions, to monitor and change behavior as

needed, and to plan future behavior when faced with novel tasks and situations. Executive functions allow us to anticipate outcomes and adapt to changing situations. The ability to 'form concepts and think abstractly is often considered an executive function (Lezak and Deutsh, 1995)

Diamond et al., (2007) describe as core executive functions skills: (i) inhibitory control (resisting habits, temptations, or distractions), (ii) working memory (mentally holding and using information), and (iii) cognitive flexibility adjusting to change. Executive functions can be difficult to assess. A person with executive function deficits may perform well on tests of basic attention such as those that simply ask the individual to look at a computer screen and respond when a particular shape appears, but may have trouble with tasks that require divided or alternating attention, such as giving a different response depending on the stimulus presented. Verbal fluency tests that ask people to say a number of words in a certain period of time can also reveal problems with executive function.

One commonly used test asks individuals to name as many animals or as many words beginning with a particular letter as they can in one minute. A person with executive function deficits may find the animal naming task simple, but struggle to name words beginning with a particular letter, since this task requires people to organize concepts in an unusual way. Executive functions also influence memory abilities by allowing people to employ strategies that can help them remember information this is expected to be done in preschool, apparently the activities needed to stimulate memory are not taught in preschool hence then need to find out in this research.

Development of executive functioning plays a key role in children developing academic readiness to attend school (Carlson, 2005). The three types of executive functioning skills can all be beneficial in a school setting. For example, improved working memory allows a child

to hold more information for a longer period of time and mentally rehearse the information so that it can be effectively consolidated into long-term memory. Inhibitory control involves the ability to see many aspects of a problem instead of being stuck in one frame of mind and also to remember the complex rules of behaviour in the classroom setting. Finally, attention shifting allows a student to focus and disengage attention as needed. All these executive functions are necessary for one to learn to read regardless of whether they have been to preschool or not.

A study from the NICHD Early Child Care Research Network (2003) showed that preschool attentiveness predicted math and reading skills in kindergarten-aged children. In addition, behavioural regulation was linked to higher levels of literacy, vocabulary, and math (McClelland et al, 2007). Also, children who advanced more in behavioural regulation over their kindergarten year had greater gains in academic abilities than those who did not. As children are at an advantage in terms of initial school adjustment and learning to read (Bierman et al., 2008), the development of executive function is highly related to early academic success.

The direction of causation in the relationship between executive functioning and academic skills however, is not certain. On the one hand, some studies have shown that executive function plays a role in gaining early language and literacy skills, such as identifying letters automatically and recognizing phonemes, though this role of executive functioning is much less significant in language than it is in acquiring math skills (Blair and Razza, 2007). On the other hand, another theory emphasizes verbal skills in the development of executive functioning; specifically, having difficulty using language to regulate behaviour may be the reason children have problems with response inhibition (Luria, 1959). Using verbal self-

instruction may be a crucial part of controlling one's actions; therefore, it is possible that inhibitory control can be influenced by verbal skills, instead of the other way around.

Stixrud in a report by Loi Eberle (2010) summarized how problems with skills associated with executive functioning are responsible for a variety of learning disabilities in reading, writing, math skills, and content area learning. For example, dysfunctions in working memory, an important aspect of executive functioning, can cause difficulties in reading comprehension. Also, poor readers may have trouble suppressing the activation of irrelevant information

According to Diamond et al. (2007), executive functions are strongly associated with readiness to school than is intelligence. They state that kindergarten teachers rank skills like self-discipline and attention controls as more crucial for school readiness than content knowledge and that executive functions are important for academic achievement throughout the school years. Working memory and inhibition independently predict math and reading scores from preschool through to high school. We wonder whether preschool attendance improves executive functions and children who attended preschool differ in executive functions from their peers without preschool experience.

CHAPTER THREE: METHODOLOGY

3.0 INTRODUCTION

This chapter outlines the methods which were used to collect data in this study. It comprises a section on the research design used, explains the population and sample and sampling procedure, furthermore, the chapter presents the research instruments, reliability and data analysis methods as well as ethical considerations that were taken in the study. A section on the pilot test is also included in this chapter to show the validity of the research instruments that were used

3.1 Research Design

The research design was a survey using both the quantitative and qualitative methods in collecting data from teachers and pupils respectively. The mixed method gave the study a depth which a single approach could not provide. Five schools from Lusaka area were selected for this study and two groups of children were selected which were those with preschool and the non-preschool. The survey encompassed the following stages: (1) selecting schools, (2) selecting and matching per school 10 pupils with and 10 without preschool, (3) asking consent from teachers for children's participation in the study, (4) testing reading skills and executive functions of selected children at the end of grade 1, and (5) interviewing teachers about pupils' learning behavior. It should be noted that there were three hypotheses in this study.

3.2 Target Population and Sample size

The study contrasted grade one pupils with preschool and non-preschool exposure. The study also included the children's teachers to test their perception on the differences in reading and executive function skills between preschool and non-preschool pupils. The target population

comprised of 5 public schools in Lusaka. The target sample per school was 20 pupils, 10 with a preschool background and 10 without giving a total of 100 pupils. The pupils age ranged from 5 to 14. Additionally the study included teachers from the five schools in grade one. Two teachers per school were involved bringing the total to 10 teachers in the study.

3.3 Sampling Procedure

Five schools from Lusaka district were randomly selected excluding those in very low density areas and those in very high density areas. The purpose of this sampling procedure was to accord every child in middle density areas a chance to participate in the study. In selecting participants, the purposive non probability sampling procedure was applied. This was because two groups of children were used in the study, 10 pupils from each school needed to have been to preschool and 10 did not need to information on whether a child had been to preschool or not was obtained from the childs biographic data as well as the teachers. The teachers needed to be teaching in grade one. Pupils had to do the interview inventory first, then the BASAT, Executive function test then the Narrative test. After this teachers were interviewed and a lesson observation was done. Qualitative data was categorized according to themes and quantitative data was grouped before analysis. A pilot study was also done before the actual research.

3.4 Measurement and Reliability

Listed and discussed below are the five instruments that were used to collect data for the study. When administering each of them, a three step general procedure was followed: (1) the entry (greetings and explaining purpose, making assurance and seeking permission from them about the procedure), (2) the main event for collecting data, and (3) the exit which involved thanking the respondents, giving further assurances, and preparing the respondent(s) for any additional sessions.

3.4.1 An Interview Inventory

This was used to generate biographical data of each respondent such as personal details (name, age, and sex), home possessions, socioeconomic status, whether they had been to preschool or not. This activity was conducted on each pupil respondent before the other instruments were administered. It should be noted that this instrument was used before by Matafwali (2010) and was not modified in any way in this study.

3.4.2 READING TESTS

3.4.2.1 The basic skills assessment tool (BASAT) nyanja version

This is a standardized Zambian instrument prepared by the Ministry of Education (M.o.E, 2003) specifically designed to assess grade 1 and 2 school pupil's literacy proficiency. This instrument was also used by Matafwali 2010. However modifications were done on the instrument as the study did not include grade twos which lead to the removal of the reading comprehension.

Sub-skills encompass letter knowledge, letter sound knowledge, phonological tasks, syllable segmentation, initial sound identification and sound blending, reading, writing, reading comprehension and the digit span which measures the pupils retention of information in the working memory. The BASAT was administered on all the pupils without other pupils or teachers being present. It took between 20 and 30 minutes to complete the BASAT tests on each child.

Alphabetic Knowledge: The letter name task required pupils to give the name of each letter from a sequence of 26 letters printed in random order on a card that did not conform to the actual ordering of the alphabet.

Letter sound knowledge: The letter sound knowledge used the same card that was used on letter knowledge; the children were asked to say the sound of each letter.

Sound letter knowledge: the same letter card was used, the examiner then pronounced the sound of each individual letter of the alphabet and the children were asked to identify the corresponding letters. Chronbach's alpha reliability for letter knowledge was 0.99 (n=102)

3.4.2. 2 Phonological processing

Four tasks were used to assess different types of children's phonological awareness, syllable segmentation, discriminating of initial and ending sound; and blending. The maximum score on phonological processing tasks was 29 and the Chronbach's alpha was 0.95

Syllable segmentation, there were four words consisting of two syllables and three syllables respectively, The researcher read out the words individually and the child was asked the number of syllables in each word.

Discriminating initial and ending sound: The task consisted of 20 compound words, pupils were asked to identify the initial sound in the first 10 words. The last 10 word items assessed discrimination of ending sounds.

Blending tasks: This task required pupils to combine sound elements to form a word, in each task the child was expected to sound the letters individually and then put them together to make a word.

Reading ability: The reading task from the BASAT was utilized; both children with preschool and non-preschool were asked to read a series of words and two sentences. The categories of words fell in four groups: two letter words; one syllable word; two syllable words; three syllable words. Chronbach's alpha on the reading test was 0.94

3.4.2.3 Oral Language abilities test

One test was used to tap language abilities of the pupils

Narrative test: This was used as a measure of expressive vocabulary of the pupils. A picture was used where pupils had to mention all the items on the picture. The total score on this task was 30. Chronbach's alpha was 0.88

3.4.3 Class Observation Checklist

This was used to observe a Nyanja literacy class session in order to assess teacher's knowledge and methodology for teaching literacy in grade one. Two teachers from all the selected schools were observed. The purpose of this observation was to check if pupils have the necessary executive functions needed to learn reading. It was also used to check if teachers do activities that enhance reading such as book reading, name writing and if all the needed materials were available in the class rooms.

3.4.4 A Teachers interview schedule

This was used to collect views from grade one teachers on children's learning behavior and the NBTL.

3.4.5 EXECUTIVE FUNCTION TESTS

3.4.5.1 A brief preschool rating form: This was used to assess the executive functions that the children have in order to see if they have the necessary skills needed for learning to read. The grade teacher who upon saying knew all the children well in the class was given a form which had different executive function skills namely; inhibition, emotional control, working memory, shift and plan or organizations. The teacher had to fill in a form that had negative statements on children's behavior; those who scored high on this test were classified as having poor executive functions while those who scored low were classified as having

good executive function skills since the statements were negative. Cronbach alpha on this task was 0.89.

3.4.5.2 Stroop-like task (dogs)

Children had to switch rules by responding with an opposite, i.e., saying “blue” to a red dog and “red” to a blue dog (Beveridge, Jarrold, & Pettit, 2002).

The task consisted of 96 trials distributed over four Conditions, in which demands on working memory (remembering the name of one or two dogs) and inhibition of the most obvious response (e.g., saying “blue” to a red dog) varied. Incorrect naming and corrections were both scored as errors

3.4.5.3 Stroop-like task (opposites)

Children had to respond with the opposite to contrasting pairs of pictures (e.g., saying “fat” to thin) (based on Berlin & Bohlin, 2002). Incorrect naming and corrections were both scored as errors. This test measured working memory (memorising the names of the pictures) and inhibition.

3.4.5.4 Digit Span – The Forward digit span of the BASAT (M.o.E, 2003) was used as a measure of working memory .The test required the pupils to repeat back series of digits that are first spoken by the researchers. The number of digits to be repeated increased from two digits for the first two items to seven for the last test items. The Cronbach alpha on this task was .92

3.5 Data Analysis

Data from the pupils was analyzed quantitatively using Statistical Package for Social Sciences (SPSS) to get frequencies, descriptive statistics, group statistics and t-tests.

Executive function tests were also analyzed quantitative using qui-square tests. Data from the teachers was analyzed qualitatively using thematic approach.

3.6 Ethical Considerations

The researcher obtained permission from the Provincial Education office in Lusaka. Informed consent was sought from respondents and the research was explained to the would be participants. The purpose of the study was explained to the respondents and their teachers who were also informed that the information to be gathered was purely for academic purposes. The respondents were also assured of high levels of confidentiality.

3.7 Pilot Test

In order to verify the validity and reliability of the research tools, the tools were tested at Regiment basic school. Keat (1981), supported the exercise of pre- testing tools, postulating that pilot testing helps the researcher to redesign his tools in case the researcher does not seem to get the correct information from the respondents. Pilot testing also provides an opportunity to the researcher to learn what would be the possible outcome of the study if the tools were able to elicit the correct responses.

The researcher used purposive non sampling procedure. Purposive non sampling procedure refers to selecting of respondents with particular characteristics, in this case 10 pupils who went to preschool and 10 who did not go to preschool were picked from a grade one class. Information on whether a child had been to preschool or not was obtained from the childs biographic data as well as the teachers .The researcher explained the purpose of her visit to the school head and the grade one teacher respectively, with the help of the grade teachers, the researcher identified 20 pupils from the two grade one classes at the school who took part in the pilot study.

After collecting and compiling the results, a number of findings emerged. It was observed that a scoring sheet had to be made for the Narrative test as well as the stroop like task. There

was also need to change the teacher's self-administered questionnaire to an interview schedule. The data collected showed that reading levels in grade one were significantly low and that there is no difference in reading between preschool and non-preschool pupils.

CHAPTER FOUR: PRESENTATION OF FINDINGS

4.0 INTRODUCTION

This chapter presents the findings of the study according to the five main objectives. The following were the objective. To establish whether there was a difference in reading performance between preschool and non-preschool pupils; to establish if there were differences in executive skills between preschool and non-preschool pupils; to find out teacher's views on reading differences between preschool and non-preschool pupils; to find out teachers views on the differences in executive skills between preschool and non-preschool pupils and to assess whether home reading contributes to reading differences between preschool and non-preschool pupils. Data was collected using test instruments for pupils and structured interview guides for teachers.

4.1 Social –Economic Background of Pupils

Table 1 below shows the age distribution of the pupils. There were 100 pupil respondents out of which 61% were in the age range 5- 7 years, while 36% were in the age range 8 - 10; only 3% were in the age range 11 – 14 years. Ten teachers were also interviewed making the sample 110.

Table 1 : Age of respondents

	Frequency	per cent
5-7 years	61	61.0
8-10 years	36	36.0
11-14 years	3	3.0
Total	100	100.0

There were 100 pupils in the study, 53 % were female and 47% were male. Out of the 100, fifty four had been to preschool and 46 had not been to preschool. The study further showed that 46% of the pupils read at home and 55% did not.

Figure 1 below shows the books that pupils read at home. According to figure one, 5 pupils read story books, one pupil read books on child abuse, one pupil read alphabet books, four pupils read English complementary books, nineteen pupils read grade one books and 13 read Nyanja books.

Figure 1: Books pupils read

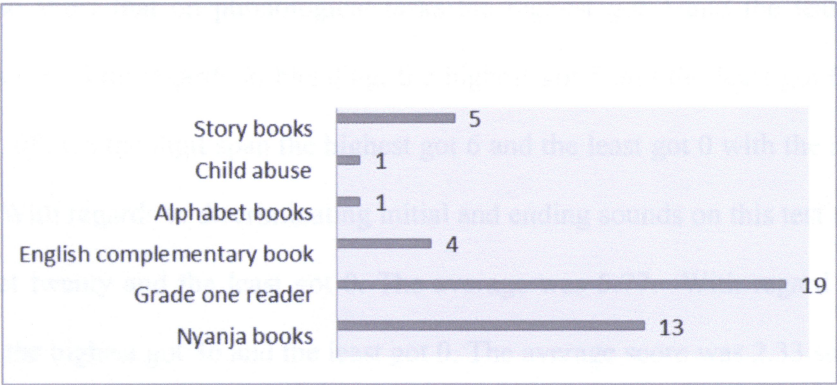
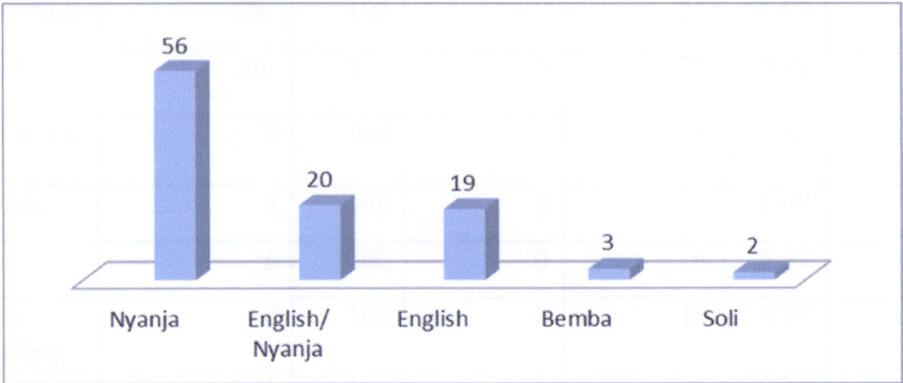


Figure 2 below shows that out of the 100 pupils who took part in the study 56 spoke Nyanja in class, 20 spoke both Nyanja and English, 19 spoke only English, 3 spoke Bemba and 2 spoke Soli. This shows that a good number of children in the first grade do not even know or use Nyanja in their classrooms.

Figure 2: Language used in the classroom



4.2 PERFORMANCE ON READING TESTS

Table 2 below shows the descriptive statistics on the performance of pupils on the reading test. All the sub test items are shown. The findings show that on letter knowledge which includes letter writing, identifying letters and relating letters to sound out of the 100 pupils who took part. The highest got 26 while the lowest got 0. The average scores were 18.56 for letter writing, 16.09 for letter identification and 8.22 for relating letters to sound. The Findings also show that on phonological tasks the highest got 4 and the least got 0. The average was 0.8. With regards to blending, the highest got 5 and the least got 0 the average score was 1, 08. On the digit span the highest got 6 and the least got 0 with the average score being 5.48. With regards to discriminating initial and ending sounds on this test the highest in the study got twenty and the least got 0. The average was 5.77. With regard to the actual reading test the highest got 36 and the least got 0. The average score was 2.33 suggesting that the reading levels among first graders are significantly low.

Table 2: Descriptive Statistics on all variables on reading

Skill	Total marks obtainable	N	Minimum	Maximum	Mean	Std. Deviation
letter writing	26	100	0	26	18.56	9.296
letter identification	26	100	0	26	16.09	10.934
letter to sound	26	100	0	26	8.22	10.968
phonological tasks	4	100	0	4	.87	1.236
blending sounds	5	100	0	5	1.08	1.733
digit span	6	100	0	6	5.48	1.453
discriminating initial and ending	10	100	0	10	5.77	3.997
reading test	36	100	0	36	2.30	4.249

4.2.1 Differences in reading between preschool and non-preschool pupils

Table 3 below shows that 100 pupils took part in the reading test, the highest got 140 while the lowest got 0. The average score was 60.05 and the standard deviation was 40.502.

Table 3: Overall performance the reading test

	N	Minimum	Maximum	Mean	Std. Deviation
Reading Total	100	0	140	60.05	40.502

Table 4 below shows the group statistics among pupils with preschool and non-preschool. It shows that out of the pupils with preschool the average score on reading was 64.80 while for the non-preschool the average was 54.36.

Table 4: Group Statistics of performance on reading

		N	Mean
Reading Grand Total	preschool	54	64.80
	No preschool	46	54.36

To test if the differences in reading between preschool and non-preschool pupils were statistically significant. An independent sample t-test was conducted on the reading grand totals. The results were: $t = 1.28$; $df = 97$; $p > 0.05$. This clearly shows that there was no statistically significant difference in reading between preschool and non-preschool pupils as shown in table 5 below.

Table 5: Independent sample t-test on reading

Reading performance	Alpha	t	df	p. value	Comment
Equal variances assumed	0.05	1.281	97	.203	$p > 0.05$ accept H_0

To further compare predictors of reading between preschool and non-preschool pupils. Table 6 below shows that in the letter writing test the average score among preschool pupils was 20.98 while among the non-preschool it was 15.64. In phonological tasks another predictor of

reading the average was 0.85 for preschool pupils while it was 0.85 for the non- preschool. In another predictor of reading, blending sounds to make words, preschool pupils had an average of 1.11 while the non preschool pupils had an average of 1.04. Lastly table 6 show that when relating letters to sound, those with preschool had 8.09 while the non-preschool had 8.37

Table 6: Group Statistics on predictors of reading between preschool and non-preschool pupils

	preschool	N	Mean	Std. Deviation
letter writing totals	preschool	54	20.98	8.144
	Non- preschool	45	15.64	9.833
phonological tasks totals	preschool	54	.89	1.093
	Non- preschool	46	.85	1.398
blending sounds totals	preschool	54	1.11	1.712
	Non- preschool	46	1.04	1.776
letter to sound totals	preschool	54	8.09	10.809
	Non- preschool	46	8.37	11.269

To check if the differences in the predictors of reading between preschool and non-preschool were statistically different, an independent sample t test was done. According to table 7 below the results on letter writing shows that there was a statistically significant difference in letter writing. However no significant difference was observed on phonological tasks, blending and relating letters to sound.

Table 7: Independent sample t test on predictors of reading between preschool and non- Preschool pupils

	Alpha	t	df	P value	comment
Letter writing	0.05	2.904	85.488	0.005	P<0.05; reject H ₀
Phonological tasks	0.05	0.162	84.602	0.872	P>0.05 accept H ₀
Blending	0.05	0.194	98	0.847	P>0.05 accept H ₀
Letter to sound	0.05	0.125	0.901	0.834	P>0.05 accept H ₀

Table 8 below shows the descriptive statistics on the vocabulary test that was conducted in the study, the highest score on the test was 29 and the lowest was 3.

Table 8 : Descriptive Statistics on vocabulary test

	N	Total Marks Obtainable	Minimum	Maximum	Mean
vocabulary test grand total	100	30	3	29	18.02
Valid N (listwise)	100				

Table 9 below shows that 54 pupils with preschool took part in the vocabulary test the average among them was 18.44 while among the 46non- preschool the average was 17.52

Table 9: Group Statistics on vocabulary test

		N	Mean
vocabulary test grand total	Preschool	54	18.44
	No preschool	46	17.52

To test if the difference in vocabulary between preschool and non-preschool pupils was significant, a t-test was done on a vocabulary test. Table 10 below show that $t = 0.711$; $df = 98$; $p > 0.05$ therefore showing that there was no statistically significant difference in the vocabulary performance between preschool and non- preschool pupils.

Table 10: t-test results on vocabulary

vocabulary test grand total	F	Sig.	t	df	p. value	Comment
Equal variances assumed	.041	.839	.711	98	0.479	$p > 0.05$ accept H_0
Equal Variance not assumed			.708	94	0.480	

4.2.2 How home reading contributes to reading differences between preschool and non-preschool pupils

Table 11 below shows that there were 100 pupils in the study out of which 54% had preschool and 46% were non-preschool. Out of the preschool pupils 29 % read at home while 16% out of the non-preschool read at home. The table also shows that there was no an association between

being to prechool and reading at home as it clearly shows that 29% preschool pupils read st home as opposed to 16% without preschool..

Table 11: Child reads at home vs. Child has a preschool background

		Child has a preschool background		Total
		Preschool	No preschool	
Child reads at home	no	25%	30%	55
	yes	29%	16%	45
Total		54%	46%	100%

Figure 3 below shows that out of the pupils who read at home 36% reported to have been helped by mothers; 17% were helped by their father, 11% by their aunties, and 3% by uncles, 11 %by sisters 17% by brother and 2% by friends.

Figure 3: Who helps the child to read at home?

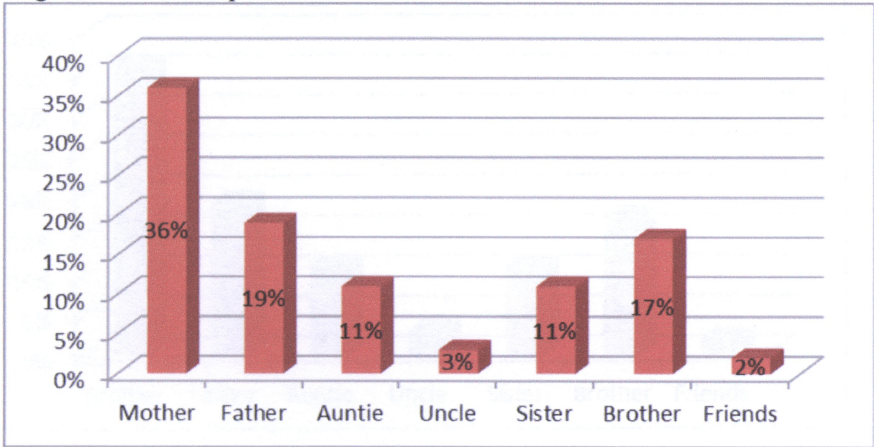


Table 12 below shows the group statistics on the reading test between pupils who read at home and those who did not read at home. It shows that the average score was 46.67 among those who did not read at home while it was 76.11 among those who read at home.

Table 12: Group Statistics on children who read at home and those who did not

		N	Mean	Std. Deviation
BASAT Grand Total	Did not read at home	54	46.67	36.187
	Read at home	45	76.11	39.909

To test if there was a statistically significant difference in reading between pupils who read at home and those who did not. A t- test was done as shown in table 13 below, t=-3.847; df =97;

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Table 11: Child reads at home vs. Child has a preschool background

		Child has a preschool background		Total
		Preschool	No preschool	
Child reads at home	no	25%	30%	55
	yes	29%	16%	45
Total		54%	46%	100%

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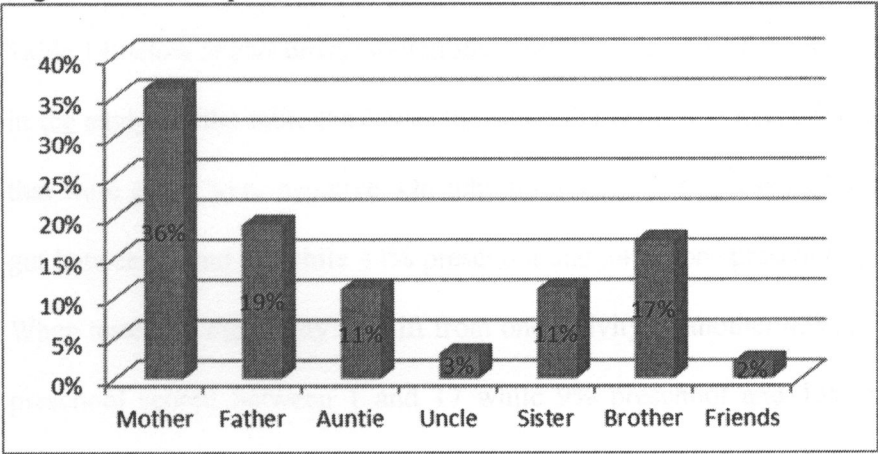


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		N	Mean	Std. Deviation
BASAT Grand Total	Did not read at home	54	46.67	36.187
	Read at home	45	76.11	39.909

To test if there was a statistically significant difference in reading between pupils who read at home and those who did not. A t- test was done as shown in table 13 below, $t=-3.847$; $df=97$;

p. <0. 05 showing that indeed there were differences in reading between pupils who read at home and those who did not. The finding suggested that pupils who read at home performed better than those who did not read at home regardless of whether they had been to preschool or not.

Table 13: T-test on children who read at home and those who do not read

BASSAT Grand Total	t	df	P .value	Comment
Equal variances not assumed	-3.813	89.909	0.001	P < 0.05 reject H ₀

4.3 PERFORMANCE ON EXECUTIVE FUNCTION SKILLS

4.3.1 Differences in executive function skills between preschool and non-preschool pupils

Table 14 below shows cross tabulations on all the executive function skills that were assessed in the study. In the table the lower the score the better the executive skills as the statements that were given were negative. On inhibition skills 10% preschool and 12% non- preschool got between 1 and 16 while 44% preschool and 34% non- preschool got between 17 and 48. When tested on the ability to shift from one activity to another 45% preschool and 33% non-preschool scored between 1 and 17 while 9% preschool and 13% non- preschool scored between 18 and 30. On another executive function skill emotional control 20% preschool and 15% non- preschool scored between 1 and 15 while 36% preschool and 31% non- preschool scored between 16 and 30. The last executive skill was working memory were 25% preschool and 24% non preschool scored between 1 and 25 while 29% preschool and 22% non preschool scored between 26 and 51.

Table 14: Cross tabulation on all the executive function skills between preschool and non-preschool pupils

Executive Function skill			Preschool	Non-preschool	Total
Inhibition categories	1-16	count	10 %	12 %	22%
	17-48	count	44%	34%	78%
Total			54%	46%	100%
Shift categories	1-17	count	45%	33%	78%
	18-30		9%	13%	22%
Total			54%	46%	100%
Emotional control categories	1-15	count	20%	15%	35%
	16-30	count	34%	31%	65%
Total			54%	46%	100%
Working memory categories	1-25	count	25%	24%	49%
	26-51	count	29%	22%	51%
Total			54%	46%	100%

Table 15 below shows the results of the Chi-square tests that were run on all the executive function skills that were assessed in the study. According to table 15 the p values on all the skills were above 0.05 showing that there were no statistically significant differences in executive function skills between preschool and non-preschool pupils.

Table 15: chi-square test on all executive function skills between pupils with and without preschool

Executive function skills	χ^2	df	p. value	Comment
Inhibition skill	0.829	1	0.363	$p > 0.05$ accept H_0
Shift from one activity to another	2.554	1	0.110	$p > 0.05$ accept H_0
Emotional control	0.044	1	0.834	$P > 0.05$ accept H_0
Working memory	0.468	1	0.494	$p > 0.05$ accept H_0

Table 16 below shows the correlations that were recorded between executive functions and being able to read better. According to table 16, pupils who had poor

emotional control performed significantly better on reading with a correlation of less than 0.05. This was also recorded on working memory implying that, pupils with poor emotional control and those with good memory performed well on a reading test than those with good emotional control and poor memory.

Table 16: correlations between reading and executive functions

Coefficients								
	Unstandardized coefficients		Standard coefficients			correlatioans		
Model	B	Std Erro	Beta	t	sig	Zero order	partial	part
Constant	102,185	35,231		2,900	,005			
Age of respondents	-5,493	2,893	-,191	- 1,899	,061	-,201	-,179	,881
Home possessions	4,957	2,407	,208	2,059	,042	,277	,194	,875
Sex of respondents	,400	8,037	,005	,059	,096	,116	,005	,909
preschool	9,579	7,919	,118	1,210	,230	,139	,114	,936
Emotional control	2,662	1,224	,281	2,175	,032	,081	,205	,531
Working memory	-1,915	,723	-,327	- 2,649	,010	-272	-,250	,583
Inhibition totals	-1,113	,696	-197	- 1,599	,113	-,168	-,151	,585
Shift totals	,400	1,013	,045	,395	,694	,042	,037	,690

4.4 FINDINGS FROM SURVEYED TEACHERS

Classroom factors examined in the present study included among other things, teacher pupil ratio, knowledge in executive skills and availability of materials in the classrooms. The teachers also gave views on their perceptions of differences in reading and executive function skills between preschool and non-preschool pupils. Descriptive results are presented below.

4.4.1 Examination on how often teachers had pupils with preschool in Government schools

Teachers were asked how often they had pupils who had been to preschool in their classrooms. The general view was that a lot of pupils in government run schools had been to preschool. They were further requested to state whether the pupils came with already learnt skills. Five teachers reported that pupils with preschool exposure came with already learnt skills. The other five reported that most of the pupils did not come with learnt skills. One of the respondent reported that pupils came with learnt skills but because of the differences in the language their skills were not noticed because they virtually got confused. In addition, the teachers were asked to comment on how pupils who went to preschool found the shift from English to a local language in the first grade .All the teachers stated that the pupils found it extremely difficult especially when it came to reading, One of the teachers gave an example of the word book, she reported that usually pupils that had been to preschool came knowing how to write the word book but the moment they are in an NBTL class they begin to write it as buku. This made it very difficult for the pupils to adjust in fact most of the pupils became frustrated until they moved to grade two were they begin to learn in English.

4.4.2 Teachers views on reading differences between preschool and non-preschool pupils.

Four teachers were of the opinion that pupils with preschool performed better than the non-preschool. Six stated that those without preschool performed better in reading. Six teachers reported that pupils who never went to preschool had problems while 4 said that those who went to preschool had problems.

4.4.3 Teacher's views on executive skills of pupils with preschool and non-preschool

4.4.3.1 Attention span of pupils

Paying attention when a teacher is teaching is a skill necessary for one to learn to read therefore the teachers were asked which pupils pay more attention between those with preschool and non-preschool. Out of ten teachers who were interviewed, two reported that those with preschool education did not pay attention as they were too playful while three announced that there was no difference in attention between those with preschool and the non-preschool. Five teachers however indicated that those with preschool pay more attention during lessons.

4.4.3.2 Working Memory

A question was asked on which pupils remembered things learnt better, between preschool and non-preschool. Three teachers said that those with preschool remembered things better than the non-preschool while four said that the non- preschool remembered things better than the preschool pupils. Three observed that there was no difference on how much they remembered things regardless of whether one had been to preschool or not.

Generally, teachers were asked which pupils possessed better executive functions between the preschool and the non- preschool. Five reported that pupils with preschool had better

executive functions than the non-preschool. Three said that non-preschool pupils had better executive functions than the preschool; two alleged that there was no difference between the two groups in terms of executive functions.

When further probing was done, the five who thought that pupils with preschool possessed better executive functions alleged that since these children were taught how to hold a pencil, a book and were told stories in preschool they were better able to hold books and pencils correctly than those who were not taught. They further held that they were able to remember parts of a story better than their counterparts. Another teacher reported that some of the pupils who went to preschool came to the first grade already knowing how to write their name which is also an import skill in beginning reading. Some teachers echoed that pupils without preschool possessed better executive functions as those with preschool were confused since the stories which they were told were in English but in the first grade a local language was used.

One of the teachers stressed that some pupils became frustrated and were not willing to learn. This was also observed by the researcher as one pupil did not want to go to the teaching corner when it was time to read. It was also noticed that the child could barely speak nor understand Nyanja but could very well understand and speak English. The two who said that there was no difference in executive functions between pupils with and without preschool said that the skill depended on individual pupils as some children who went to preschool came with already learnt skills while others did not, they also alleged that some pupils who never went to preschool were very eager to learn and performed better than some who went to preschool.

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.0 INTRODUCTION

This chapter discusses the findings which were presented in chapter four. The chapter discusses the findings in accordance with the five themes as determined by the objectives. The following are the themes. Differences in reading between preschool and non-preschool pupils; differences in executive function skills between preschool and non-preschool pupils ; teacher's views on differences in reading between preschool and non-preschool pupils; teachers views on differences in executive function skills between preschool and non-preschool pupils and How home reading contributes to differences in reading between preschool and non-preschool pupils.

5.1 Differences in reading between learners with and without preschool education

The study found out that there were marginal differences in reading between preschool and non- preschool pupils. The average on a reading test was 64.80 among the preschool while among the non-preschool the average was 54.36, showing that the reading levels among grade ones are significantly low. This confirmed earlier findings by Matafwali (2010), who found that the reading levels among first graders in Zambia were significantly low. The findings further showed that pupils in Zambian government schools were not equipped with grade level reading skills as the reading test used in this study were made and standardized for Zambia by the Ministry of Education to assess grade one and two literacy proficiency. Despite being tested on what they learnt most (80%) children failed even to read two syllable words. This included the population of children who had been to preschool who were expected to have started learning to read before the first grade.

In light of these findings a t-test was conducted which confirmed that there was no significant difference in the ability to read between preschool and non-preschool pupils. Poor reading

even among pupils who had been to preschool could be attributed to the low quality of preschools in the country.

As regards the relationship between preschool and basic skills which were assessed as predictors of reading in this study, the study revealed that pupils who went to preschool performed significantly better in letter writing. However no significant difference was noted on phonological tasks, and blending sounds. The findings on letter writing indicate that pupils who had been to preschool could have been taught skills such as writing letters in preschool or were exposed to them early enough hence their competence in this skill. These findings are in agreement with Bus (2001) who is of a view that pre-conventional children acquire knowledge about reading and writing through a variety of activities including exposure to print in their environment, reading books, name writing and the like.

When further assessment was done, on oral language, a predictor of reading. The study found that there were no significant differences between preschool and non-preschool pupils in terms of how they used to express themselves. Nonetheless the scores on this skill were very high for both categories of children implying that they both possess this important skill which is necessary for one to learn to read. The findings were consistent with a number of studies (Bishop and Adams, 1990; Chaney, 1992; Scarborough, 1990), which postulate that oral language abilities in early childhood predict beginning literacy skills such as letter knowledge, name writing and phonological awareness as well as later reading achievement.

In the same vein, Matafwali (2010) established that oral language is the best predictor of literacy outcomes in the early stages of schooling and that weakness in language abilities causes difficulties in acquiring literacy skills. Therefore the findings in this research gave hope to the future since it was discovered that both children who had been to preschool and those who had not been to preschool had good language abilities. Hence it would be good to

follow up these children with good language abilities in the future to see if indeed they will be better readers. Nevertheless as it is, the reading levels are significantly low.

5.2 How home reading contributes to reading differences between preschool and non-preschool pupils.

In this study home influence in terms of a child reading at home or not was assessed. It was revealed that 29 pupils out of the 54 pupils with preschool read at home as compared to 16 out of 46 non- preschool. This implies that children who went to preschool were more likely to read at home than those who did not go to preschool, This could be because parents who took their children to preschool assumed that children would learn to read better if they were exposed to reading in the early years hence the move to have their children taken to preschool. This was in line with (Sulzby 1985) who is of a view that children acquire knowledge of reading and writing long before formal instruction starts.

The study further reviewed that all the pupils who read at home were assisted by a family members. This implies that these pupils could have been coming from stimulating environments which could make them be in a position to read regardless of whether they have been to preschool or not, this is in agreement with (S ulzby and Teale 1991) who are of view that children whom parents have read books to from an early age display more interest in reading books than do children who lack this experience. Bus (2001) alluded that books may not be enjoyable and comprehensible for young children without intensive help and support from adults, consequently children may almost never encounter solely an oral rendering of the text. Instead in most cases the words of the author are surrounded by the social interaction between adult reader and child.

The study further found that there was a statistically significant difference in reading between pupils who read at home and those who did not read ($t=-3.813$, $df= 89.909$ $p=.000$) suggesting that pupils who read at home performed better than those who did not. This was also evident from the average scores on reading which were 46.67 among those who did not read at home and 76 .11 among those who read at home. This was the case regardless of whether the pupils had been exposed to preschool or not proving that there was no association between being to preschool and reading at home as those that read at home performed extremely well even if some did not go to preschool. These findings therefore suggest that the reading of pupils improves if they are from stimulating environments and if they practice reading when they are not at school. The findings were consistent with De Beryshe (1993) who postulated that the child's interest in books and shared reading may reflect early experiences and joint engagement in books. Therefore pupils should be encouraged to read at home and to be assisted by parents as it is known that parents who start to read to their children early may evoke children's interest towards books and literacy which is sustained throughout developing years. Indeed there is evidence that children who are frequently read to by both parents and teachers begin at an early age to attend to books and show initiative for reading (Lythenen, Laakso and poikkens 1998).

5.3 Differences in executive functions between preschool and non-preschool pupils

This study found that pupils who did not go to preschool performed better on an inhibition test which is an executive function skill. Nevertheless a Chi square test was done to test the hypothesis that there is no difference in inhibition skills between preschool and non-preschool pupils. The results showed that the differences were not statistically significant therefore indicating that in terms of inhibition skills there was no difference between pupils who had preschool exposure and those not exposed. This could be because inhibition skills are not well established in Zambian children before they start formal education, therefore it

can be said that the children were just beginning to learn the skill. Moreover it becomes very difficult for one not to be distracted if other classmates are not part of what is happening. For example when pupils are on the teaching corner others are on their desks doing other activities and sometimes uncontrollably making noise thereby disturbing pupils on the teaching corner. Carlson (2005) notes that, Inhibitory control involves the ability to see many aspects of a problem instead of being stuck in one frame of mind and also to remember the complex rules of behaviour in the classroom. This in tells that pupils who are able to inhibit outdoor and indoor distractions are more likely to learn to read because their concentration is high. It was expected in this study that pupil's wit preschool would perform better on this skill than non-preschool but the results proved otherwise.

On the 'strop like test' which was done in the study 60% exhibited good inhibition and 40% exhibited poor inhibition skills. These results were not expected as the children were given instructions on saying the opposite of what they saw. For example they had to say boy upon seeing a picture of a girl and vice versa. The results confirmed that the children had poor inhibition skills as it was expected that they would do very well on this exercise considering that it was done immediately after instructions were given. This activity also proved that some pupils in the first grade lack concentration which could be a reason why they fail learning to read.

The minor differences that were noted on this skill could also be attributed to the open mindedness and eagerness of pupils who never went to preschool. This is because they did not know what to expect from the teachers as they had never been exposed to school and were therefore more willing to learn as opposed to those who had been to preschool who could have viewed things in a different way and therefore were rigid. It was expected nonetheless that preschool pupils would perform better on this skill. However the finding

proved otherwise, hence revealing that there was no difference in inhibition between preschool and non-preschool pupils. This could be attributed to the fact that these skills are not stimulated in preschool due to the poor standards of preschools in Zambia. This is in line with Matafwali (2010) who reported that preschools are not mandated by the Ministry of Education to follow a standard curriculum.

Oral language and inhibition skills are believed to be linked; this is based on the understanding that verbal skills are very important in the development of executive functions. Blair & Razza (2007), for example specified that having difficulty using language to regulate behaviour may be the reason children have problems with inhibition. The findings in this study were in contrast with Blair and Razza (2007) as it was observed that pupils performed very well on the oral language test but performed poorly on an inhibition task. The same observation was made by Luria (1959) who postulated that using verbal self-instruction may be a crucial part of controlling one's actions therefore; it is possible that inhibitory control can be influenced by verbal skills, instead of the other way around.

The ability to shift from one activity to another is an executive skill that is necessary for one to learn to read. For example one has to know that after learning the sound they need to move to blending of sound to make a word so that they are able to read. This study found that both pupils with preschool and non-preschool performed extremely well on this test. The reason could be that it comes naturally to shift from one activity to another as long as one is instructed. This, however, does not remove the assertion that maybe the grade one teachers have succeeded in stimulating the ability to shift from one activity to another in the pupils. Moreover songs were used to alert the children that activities are changing which could also be the reason why they successfully shifted to other activities as the song would prepare them for the next activity.



Emotional control is another skill that is related to executive functions that was assessed in this study. The study revealed that both pupils with preschool and non-preschool had poor emotional control; only 18 out of the 54 pupils with preschool exhibited good emotional control while only 15 out of the 46 who never went to preschool exhibited good emotional control. This indicated that these pupils overreact to small things, have explosive angry outburst and react more strongly to situations than other children. This could be because the pupils are still young and not emotionally developed enough to control themselves.

When controlled for emotional control and reading on the BASAT, it was observed that pupils who had poor emotional control and exhibited angry outburst and reacted strongly to situations performed significantly better than those who had good emotional control. This could be because grade one classrooms are overcrowded therefore teachers only notice children when they overact and do things in a different way. This was confirmed by the researcher who observed a lesson where a number of children had a page missing in their books which they were supposed to read from. One child who had poor emotional control screamed at the teacher saying that the page was missing in his book and was immediately assisted. However the other children who have good emotional control were left out with books that have no pages. This therefore shows that in order to survive in Zambia schools one has to have out bursts which may not be the case in other countries. Therefore what is considered bad in other countries seems to be a good weapon to being heard and noticed in Zambian primary schools which are crowded.

Working memory is another important skill necessary for one to learn to read as pupils are expected to remember what they learn in order for them to be able to read. when this executive function skill was tested the study found that only 24 out of the 54 who had been to preschool were reported to have good working memory while 24 among the 46 who never

went to preschool were reported to have good working memory by their teachers. Not much can be said about this finding because working memory is a purely cognitive skill which has to do with information processing and is expected to be stable overtime. Therefore it was concluded in the study that children in the first grade have poor information processing which confirmed the finding by Matafwali (2010) who reported that when difficulties in working memory occur at the same time as language are substantial risk of failing to read. Therefore it can be said that the problems in information processing contribute to poor reading in grade one.

However when correlations were done on reading and working memory, it was observed that *there was a significant correlation between being able to read and having good memory* therefore showing that those who have poor working memory perform less however when controlled for preschool, it was observed that when one has good working memory and had been to preschool, they performed significantly better on the reading test therefore showing that preschool may help children with the ability to remember things

According to Diamond et al (2007), executive functions are strongly associated with readiness to school than is intelligence. They state that kindergarten teachers rank skills like self-discipline and attention controls as more crucial for school readiness than content knowledge and that executive functions are important for academic achievement throughout the school years. Working memory and inhibition independently predict math and reading scores from preschool through to high school. Therefore the significantly poor reading levels could perhaps be justified by the poor working memory as was reported by the teachers and as shown by the tests. In assessing this skill most teachers rated their pupils at either 3 or 2, while only a few were rated one which implied good working memory.

5.4 Teacher's views on differences in executive functions of preschool and non-preschool pupils

The study established that most teachers who teach grade ones are not conversant with the term executive functions. However, they did teach activities that promote executive functions such as name writing, storytelling, reading and so on. Not knowing what executive functions are in itself is a problem as they may not attach importance to this important skill since they did not know it. It is important therefore that teachers are taught about executive functions in college and the importance of them being able to stimulate these skills should be well emphasized. This is important because if they are not taught the importance, they may not be able to appreciate their role especially in stimulating reading competence in children.

Blair and Razza (2007) suggest that curricula designed to improve self-regulation skills as well as enhance early academic abilities may be most effective in helping children succeed in school. Therefore there is need for the preschools in Zambia to have a curriculum that will help stimulate these skills in children. This however is very difficult as most preschools are owned by private individuals who come up with a curriculum and have it approved by the curriculum development center. If this continues it will be very difficult to stimulate these important skills in children, therefore it is recommended that the curriculum development center be the one to make these curriculums so that all preschools can adopt one with this important skill.

In this study, it was concealed that teachers have different views on which pupils pay more attention between those with preschool and non-preschool, out of the ten teachers who were interviewed five reported that pupils who went to preschool pay attention than those who did not go preschool. Two stated that those who never went to preschool pay more attention than those who did not as they were eager to learn since they had never been to any form of

school. Three teachers alleged that there is no difference in attentiveness between pupils with preschool and non-preschool. The ability to pay attention among pre-schoolers could be because they have been in class before and therefore know that they are expected to be attentive in class which may not be the case for the non- preschool

A study from the NICHD Early Child Care Research Network (2003) showed that preschool attentiveness predicted math and reading skills in kindergarten-aged children. In addition, behavioural regulation was linked to higher levels of literacy, vocabulary, and math. However this was not the case among first graders in Zambian schools as the reading standards are significantly low regardless of whether they had been to preschool or not which prompts us to question the standards of preschools in the country.

In this study, it was discovered that there are enough resources for stimulating executive functions which are contained in the NBTL kit. This was evident by the number of teachers (8 out of 10) who indicated that they had enough reading materials and story books for the children to read. This therefore confirms that it is not the lack of reading materials that is affecting the reading levels but the lack of expertise by teachers to stimulate executive functions among pupils .The shift from English to a local language was also seen to affects the pupils ability to read, This is because in the first grade pupils are just beginning to learn but they become so confused in the system because they learn in a local language which most children are not familiar with. Moreover the Nyanja that is used in class is very different from the Nyanja that children use when playing which makes it very difficult for them to learn. The situation is worse for pupils who were exposed to preschool as they may have started learning to read and write in English

5.5 Teachers views on differences in reading between preschool and non-preschool teachers.

In this study, it was established by teachers that there was no difference in reading between preschool and non-preschool pupils. Most of the teachers were of the view that pupils are individuals and therefore read differently. Most of them, however, echoed that pupils with preschool were disadvantaged by the fact that they had started learning to read in English at preschool. This was observed to have had caused problems for the pupils as most of them could not easily speak Nyanja. For example some pictures of children drawing would be shown to a child who had been to preschool and they would be able to say that they could see a child drawing. Nevertheless when they were asked to say the word drawing in Nyanja only a few could manage to say it correctly. Moreover the pupils had difficulties when it came to spellings as some of the pupils especially those who were exposed to preschool who could have started learning to read and write in English.

For example some pupils knew how to write the word book in English with the preschool knowledge but they failed to write buku which is book in Nyanja. Hence there is need for consistency in the language of instruction from preschool to the first grade. Matafwali (2010) contended that preschool environments must be built on a child's familiar language in order to enable a successful transition into elementary grades. Henceforth the need to have government preschools introduced where a local language can be used to enhance consistency and better learning as Kalindi (2005) postulates that children learn better when they are taught in a familiar Zambian language as school ceases to be foreign, it is also believed that children learn to read and write better when they are taught in a familiar language.

The teachers views were contradicted by the test results as the test showed that there were minor differences in reading proving that the preschool performed better. Nevertheless the t-

test showed that the differences were not statistically significant proving that the teachers views

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The study investigated the differences in reading between preschool and non-preschool pupils in relation to NBTL. The study revealed that the reading levels in the first grade were significantly low despite the government's efforts to improve the reading standards in the first grade. In addition the study revealed that there were no differences in reading between preschool and non-preschool. On the predictors of reading the study showed that pupils who had been to preschool performed significantly better on letter writing than those who did not. Nevertheless the study proved that pupils who practiced reading at home performed better in reading than those who did not read at home regardless of whether they had been to preschool or not. This confirmed that there was no association between being to preschool and reading at home.

The study further revealed that there were no differences in executive functions between pupils who were exposed to preschool and those who were not, suggesting the need to check the quality of Zambian preschools as it is expected that executive skills should be stimulated in preschool.

Finally, teachers reported that pupils who went to preschool were disadvantaged by the system as they could have started learning to read and write in English. This assertion by teachers was confirmed by the test results which showed that there was no difference in reading even if preschool pupils were early exposed to literacy skill. Nonetheless teachers revealed that pupils with preschool education pay more attention than those who did not go to preschool.

6.2 RECOMMENDATIONS FOR VARIOUS STAKEHOLDERS

This study makes the following recommendations

- The Ministry of Education should make preschools an integral part of the formal basic education system so that they can be run by the Government to insure that evaluation of these schools be done to improve the standard of preschools in the country.
- The Ministry of Education should ensure that preschool environments are built on a child's familiar language in order to promote consistency and successful transition into elementary grades as opposed to the current practice where pupils learn in English at preschool and a local language at first grade.
- The curriculum development center should ensure that it is involved in the preparation of curriculums in preschools to guarantee appropriate curriculums for preschools.
- Preschool teachers should be taught how to stimulate executive function skills in children while they are in preschool so that they can be well equipped with this important skill for learning to read in the first grade.
- Parents should ensure that they spare some time to read with their children in order for them to encourage their children to read.

6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

In relation to this study, it would be necessary to carry out further research in the following areas:

- A study of factors that contribute to poor performance among pupils with preschool background in grade one.
- A longitudinal study on performance of pupils with preschool background
- The effect of home background on reading of pupils in the first grade

- An Investigation on whether children really break through to literacy in the second Grade
- The implications of the New Break Through to Literacy on reading of pupils in the first grade.

REFERENCES

- Adams, M. J. (1990). **Beginning to Read, Thinking, Learning and Hearing about Print.** Cambridge, M.A.: MIT Press.
- Albert Shanker Institute (2001). **Preschool Curriculum: What's in for Children and Teachers.** Washington D.C.
- Aro, M., Tolvanen, A, Poikkeus, A-M, & Lyytinen, H. (2002). **The Development of Reading and Spelling Skills and the Predictors of accuracy and fluency. An intensive follow up in a Transparent Orthography** (Finnish). City: university.
- Bennette, W. S. (2008). **Preschool Education and Its Lasting Effects: Research and Policy Implementation.** [http://epicpolicy.org/publication /preschool education](http://epicpolicy.org/publication/preschool%20education)
- Berlin, L., & Bohlin, G. (2002). **Response inhibition, hyperactivity, and conduct problems**
- Beveridge, M., Jarrold, C., & Pettit, E. (2002). **An experimental approach to executive fingerprinting in young children.** *Developmental psychology journal* vol 11 issue 2 pages 107-123
- Bierman, K.L., David, L.S., Kathy A. (2008). **Characteristics of Aggressive-Rejected, Aggressive (Nonrejected), and Rejected (Nonaggressive) Boys.** *Developmental psychology journal* Volume 64, Issue 1, pages 139–151,
- Bishop, D. V. M. & Adams, C.(1990). **A prospective study of the relationship between specific language impairment, phonological disorders and reading retardation.** *Journal of Child Psychology and Psychiatry*, 31, 1027-1050
- Blair C. and Razza.(2007) **P.R Relating Effortful Control, Executive Function, and False Belief Understanding to Emerging Math and Literacy Ability in Kindergarten,** : *Child Development*, March/April 2007, Volume 78, Number 2, Pages 647 – 663

Bradley, L., and Bryant, P.E. (1985). **Rhyme and Reason in Reading and Spelling**. Ann Arbor: University of Michigan Press.

Bus A. G and Sulzby E. (1996), **Becoming literate in a multicultural society**. In. J Shimron (Ed), **Literacy and Education: Essays in memory of Dina Feitelson** (pp. 31-34) Cresskill, NJ: Hampton press.

Bus A.G. Van IJzendoorn,M.H (1999). **Phonological awareness and early reading: A meta analysis of experimental training studies**, Journal of educational psychology, 91, 403-414

Bus A.G. Van IJzendoorn,M.H. &Pellegrini A,D(1995). **Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy**, A review of Educational Research,65,1-21

Bus, A.G. (2001). **Early book reading in the family: A route to literacy**. In: S. Neuman & D. Dickinson (Eds.), **Handbook of Early Literacy Research** (pp.179-191). New York: Guilford Publications.

Bus, A.G., and Both-de Vries, A.C. (2009). **It's all in the name**. In: D. Aram & O. Korat (Eds.)

Buysee, V., & Wesley, P.W. (2005). **Consultation in Early Childhood Settings**. Baltimore, MD: Paul H. Brookes Publishing Co., Inc

Carlson, S.M. (2005). **Developmentally sensitive measures of executive function in preschool children**. *Developmental Neuropsychology*. 28(2), 595-616.

Catts,H.W., & Fey M.E., Zhang,X., & Tomblin, J.B (1999) **Language Basis of reading and reading disabilities: Evidence from a longitudinal investigation**, scientific studies of reading. 3, 331-361

Chaney, C. (1992). **Language development, metalinguistic skills, and print awareness in 3-year-old children.** Applied Psycholinguistics, 13, 485-514

Cristal, D. (1994). **The Cambridge Encyclopedia of Language.** Oakleigh: Cambridge University Press

De Guzman. Agnes . O. Doniza, Lydia Y. Sabio M.A. Teresa . M. (2010) **Factors that affect the reading performance of grade 1 pupils with and without preschool education.** Bigaa Elementary school in Cubuyuo. Lugana

DeBeryshe B. D (1993) **Joint picture-book reading correlates of early language skills.** Journal of Child Language, 20, 455- 461

Defrancis, .J. (1989). **Visible Speech: The Diverse Oneness of writing systems.** Honolulu

Diamond Adele, W. Steven Barnett, Jessica Thomas, Sarah Munro, (2007) **The Early years Preschool Programme improves cognitive control** Hi: University of Hawaii Press.

Downing, J.A (1964). **The I TA Reading Experiment : Three Lecturers on the Research in Infant Schools with Sir James Pitman's Initial Teaching Alphabet** Bath: UK: Evans Brothers Limited

Ehri, L. (1998). **Reconceptualizing of Sight Word Reading and its Relation to Reading.** Inp Gough. **fingerprinting in young children.** Infant and Child Development, 11, 107-123.

Higgins, C., Tambulukani, G., & Chikalanga, I. (2000) **Report on the Evaluation of New Breakthrough To Literacy,** Lusaka: MoE.

Hilmo and M, Snowling (EDS) **Reading Development and Dyslexia.** Pp (45-63). London: Whurn

Howes. C, Smith E, and Galinsky E (1995), **The Florida Child Care Quality Improvements Study**, Interim Report. New York, N.Y Families and Work Institute.

<http://www.everything-daddy.com/blog/all-about-preschools-history-of-preschool-and-others/>

IOWA School Boards Foundation (2007), **A Literature Review: The Effects of Preschool Attendance**

Johnson, K. L., & Roseman, B. A. (2003). **The source for phonological awareness**. East Moline, IL: Linguisystems, Inc

Kalindi .S. C. (2005), **The Impact of the New Primary Reading Programme on the poor readers** (Unpublished Dissertation): The University of Zambia

Kegel, C.A.T., Van der Kooy-Hofland V.A.C and Bus, A. (2009), **Improving early phoneme skills with a computer program: Differential effects of regulatory skills, Learning and Individual Differences** doi:10.1016/j.lindif.2009.07.002

Lengalenga W. C (1994) **A Comparative Study of the Scholastic Performance of Pre-school and Non Preschoolers in Early Primary School**. University of Zambia: Unza Press

Levin, L., Ravid, D and Rapaport, S. (1999) **Developing morphological awareness and learning to write: a two way street** (P77-104). InT, Nunes (ed) learning to read an intergrated review rom research and practice. Amsterdam : Klumer

Lezak, Muriel Deutsh.(1995), **Neuropsychological Assessment**. 3rd edition. New York: Oxford University Press,

- Liberman, I.Y., Rubin, H., Duques, S., & Carlisle, J. (1985). **Linguistic abilities and spelling proficiency in Kindergarten and adult poor spellers.** In D. B. Gray and J. F
- Loi Eberle, M.A., (1995-2010) **“Executive Functioning” New Research about Familiar Behavior: A Report from the Recent IECA Conference**
- Lonigan, C.J. (2006). **Conceptualizing phonological processing skills in prereaders.** In D. Dickinson & S.B. Neuman (Eds.), *Handbook of early literacy research: Vol. 2* (pp. 77-89). New York: Guilford
- Lundberg, I., Frost, J., & Peterson, O. (1988). **Effects of an extensive program for stimulating phonological awareness in preschool children.** *Reading Research Quarterly*, 23, 263-284. 7
- Luria, A.R. (1959). **The directive role of speech in development and dissolution.** *Word*, 15, 341-
- Mann, V. (1991) **“Language Problems: A Key to Early Reading Problems.”** In Wong, B., (ed) *Learning About Learning Disabilities*. San Diego: Academic Press, (pp. 163-193).
- Mann, V., Tobin, P., & Wilson, R. (1987). **Measuring phonological awareness through the invented spellings of kindergarten children.** *Merrill-Palmer Quarterly*, 33, 365-391.
- Mann, V.A. (1993). **Phoneme awareness and future reading ability.** *Journal of Learning Disabilities*, 26, 259-269.
- Matafwali .B. (2010) **The Role of Oral Language in the Acquisition of Early Literacy: A case of Zambia Languages and English.** Unpublished Thesis
- Matafwali .B. and Munsaka .E. (2010) **An Evaluation of Community Based Early Childhood Education in Zambia.** Unpublished article

- Mercer, C. D and Mercer, A.R (1993) **Teaching Students with Learning Problems** (4th ed)
Merrill: Englewood cliffs
- MoE (1992) **Focus On learning**. Lusaka: Ministry of Education.
- MoE (1996) **Educating Our Future**. Lusaka: ZEPH.
- MoE (2000) **The Basic School Curriculum Framework**. Lusaka: Curriculum Development Centre.
- MoE (2001) **Learning Achievement at the Middle Basic Level**. Lusaka: ECZ.
- MoE (2002) **Follow Up to the 1999 Baseline Study**. Primary Reading Programme, Lusaka.
- MoE (2002) **Zambian New Breakthrough to Literacy Teacher's Guide**. Lusaka: Longman Zambia.
- Morris, D., & Perney, J. (1984). **Developmental writing as a predictor of first-Grade reading achievement**. The Elementary School Journal, 84, 441-457
- Muter V (1994) **The Influence of Phonological Awareness and Letter Knowledge on Beginning Reading and Spelling development**. Inc
- NICHD Early Child Care Research Network. (2005). Pathways to reading: **The role of oral language in the transition to reading**. Developmental Psychology, 41(2) 428-442
- Scanlon and Vellutino (1996), **Pre-requisite Skills, Early Instruction and First Grade Reading: Selected Results from a Longitudinal Study**. Mental Retardation and Developmental Disabilities; Research Reviews 2, 54-64
- Scarborough H.(1990). **Very early language deficits in dyslexic children**. Child Development 61, 1738-1734
- Schroeder, L. (2005), **Mother Tongue –Bases Bilingual Education: Promoting Cognitive Development from Minority Language Groups**. A Paper Presented at the 4th Pan African Reading for all conference, Ezulwini, Swaziland

Shatil Evelyn Iris Levin., and David L. Share **RUNNING HEAD: KINDERGARTEN WRITING & GRADE 1 LITERACY . On the Contribution of Kindergarten Writing to Grade 1 Literacy:** Applied Psycholinguistics, 21, 2000, (1-21). University of Haifa

Shulzby E (1985) **Children's emergent reading of favourite storybooks: A developmental study reading research quarterly**, 20,458-481

Snow, C. E., Burns, M.S., & Griffin, P. (1998). **Preventing reading difficulties in young children.** Washington DC: National Research Council

Sulzby, E. (1996) **Roles of oral and written language as children approach conventional literacy.** Inc. Pontecorvo, M.Orsolini, B., Burge, and L.B Resnick (Eds.) Early text construction in children (pp. 25-46) Hillsdale, NJ: Erlbaum

Sulzby, E., and Teale, W (1991). **Emergent literacy.** In R. Barr, M Kamil, P Mosenthal and P.D Pearson (Eds.) Handbook of reading research (Vol. 2 pp.727-758) New Yourk ogman.

Tambulukani, G. (2002) **"The Primary Reading Programme: The Zambian Experience of going to Scale" In Reaching Out, Reaching All – Sustaining Effective Policy and Practice for Education in Africa**, ADEA Biennial Meeting, Arusha, October 2001. Arusha: Association for the Development of Education in Africa (ADEA).

The Early Years Framework. Scottish Government. 2008.ISBN 978-0-7559-5942-6.
<http://www.scotland.gov.uk/Resource/Doc/257007/0076309.pdf#page=9>

Venezkey, R. L. (1970). **The Structure of English Orthography.** The Hague: Mouton

Vygotsky, L. (1978). **Interaction between learning and development.** In M. Cole, V. John-Steiner,S. Scribner & E. Souberman (Eds.), *Mind in society* (pp. 79-91). Cambridge,Massachusetts: Harvard University Press.

Wagner, R., & Torgesen, J.K. (1987). **The nature of phonological processing and its causal role in the acquisition of reading skills.** *Psychological Bulletin*, 101, 192-212
Whitehurst, G.J., Falco, F.L., Lonigan, C.J., Fischel, J.E., Debaryshe, B.D., Valdez-Menchaca, M.C., & Caulfield, M. (1998). **Accelerating language development through picture book Reading.** *Developmental Psychology*, 24, 552–559

Williams, E. (1993) **Report on Reading in English in Primary Schools in Zambia.** ODA Research Project, No 4770

Williams, E. (1998) **Investigating Bilingual Literacy: Evidence From Malawi And Zambia**. DFID Education Research, No. 24.

Wong, B (1998), **Learning about Learning Disabilities**. San Diego: Academic Press

Ziegler J.C and Goswami, U. (2005), **Psychology Bulletin** 131 (1) 3-29, American Psychology Association

APPENDIX A

BIORAPHICAL DATA

DISTRICT.....**SCHOOL:**_____

NAME:_____ **ID**_____

AGE:_____ **SEX** _____

CLASS_____

This instrument will be completed by the researcher who will interview one pupil at a time while other pupils will be kept away from the interview room. English language will be used to get information from the pupils, but where necessary, Nyanja will be used in order to get the most desired information.

SECTION 1: LANGUAGE BACKGROUND

	LANGUAGE	ENGLISH (1)	NYANJA8u7 (2)	OTHERS- SPECIFY (3)
1	Which language does your mother/caregiver speak best?			
2	Which language does your father/caregiver speak best?			
3	Which language(s) are spoken in your home? Which language is used most frequently?			
4	Which language(s) do you use when playing with others? Which language do you mostly use?			
5	Which language do you mainly use in class?			

Note: More than one option can be chosen from above

SECTION 2: EXPOSURE TO LITERACY ACTIVITIES AT HOME

Q.1 Do you read at home?

1.Yes [] 2.No []

Q.2 Note: if the answer the above is, No go to section 3

Q.3 If the response to the question above is yes, ask the child to list titles of books/journals/other reading materials he/she has read.

a) _____

b) Does someone help you when you are reading at home?

1. Yes [] 2.No []

Q.4 If so, who?

[Mother] [Father] [Siblings] [Other], please specify_____

SECTION 3: SOCIO-ECONOMIC STATUS

Q.1 What is your Father's/ caregiver's occupation? -----

Q.2 What is your Mother's occupation? _____

Q.3 Did you attend pre-school/nursery school before coming to this school?

1. Yes [] 2.No []

Q.4 If the answer to the above is yes, ask the child to state the name of the school he/she went to_____

SECTION 4: HOME POSSESSIONS

Q.1 Do you have a television in your home? 1. Yes [] 2. No []

Q.2 Do you have a stove at home? 1. Yes [] 2. No []

Q.3 Do you have electricity at home? 1. Yes [] 2.No []

Q.4 Do you have running water at home? 1. Yes [] 2.No []

Q.5 Do you have a flushable toilet? 1. Yes [] 2.No []

Q.6 Do you have a car at home? 1. Yes [] 2.No []

Q.7 In which residential area do you live?_____

APPENDIX B

GRADE 1 TEACHERS' INTERVIEW SCHEDULE

Dear Sir/Madam,

The purpose of approaching you is to seek your input in this research on A COMPARATIVE STUDY OF READING PERFORMANCE OF PRESCHOOL AND NON-PRESCHOOL PUPILS IN RELATION TO THE NEW BREAKTHROUGH TO LITERACY ON LEARNERS WITH AND WITHOUT PRESCHOOL. This exercise is purely for academic purposes and the information you will provide is not transferrable to other purposes or people. Please answer all questions as freely as possible because your input will make a valuable contribution to how best reading can be taught under the New Breakthrough to Literacy.

I sincerely thank you in advance,

Mwanza Sylvia (Researcher)

PART A: DEMOGRAPHIC DATA. Please tick or write where necessary.

a)

SCHOOL:

.....

c) **TEACHER'S GENDER:** 1. Male [] 2. Female []

d) **TEACHER'S I.**

--	--

e) **TOTAL NUMBER OF PUPILS IN**

--

CLASS:

BOYS

GIRLS

--	--

PART B: BACKGROUND INFORMATION: Please tick or write where necessary.

Q.1. Is the PRP (NBTL, SITE and ROC approaches) being implemented at this school?

a). Yes [] b). No []

Q.2. For how long has the PRP been in use at this school?

a). Less than a year [] b). One to Three years [] c). Four to Five years [] d). Five years plus []

Q. 3. How often do you have children that have attended preschool in your class

a). Very often [] b). Often [] c). Not often []

Q.4. If yes, do they come with already learnt reading skills?

a) Yes [] b). No []

Q.5. How do you find the shift from English to a local language?

A) Very difficult [] b). Difficult [] c). Easy []

Q.6. Which children perform better in reading at grade one, those with a preschool background or those without? a) With a preschool background [] b) Without a preschool background []

PART C: EXECUTIVE FUNCTIONS

Q.7. Do you know what executive functions are?

Q.8. Do you teach executive functions in your classroom?

Q.9. What activities do you feel promote executive functions?

Q.10. Do you do book reading, Name writing or storytelling to the children?

Q.11. Do children with preschool background pay attention during class activities than those without?

Q.13. Do children with preschool background remember things more than those without?

Q.14. Are all the materials necessary for teaching executive functions available in the classroom?

Q15. Do learners with preschool seem to possess executive functions?

Q.16. From your own analysis which children face the more problems those with a preschool background or those without?

a). with preschool background b). Without preschool background 3.Both
[] [] []

Thank you very much for your support and help

APPENDIX C

LITERACY LESSON OBSERVATION CHECKLIST

SCHOOL:

CLASS: **TOTAL NUMBER OF PUPILS:** **BOYS:**

..... **GIRLS:**

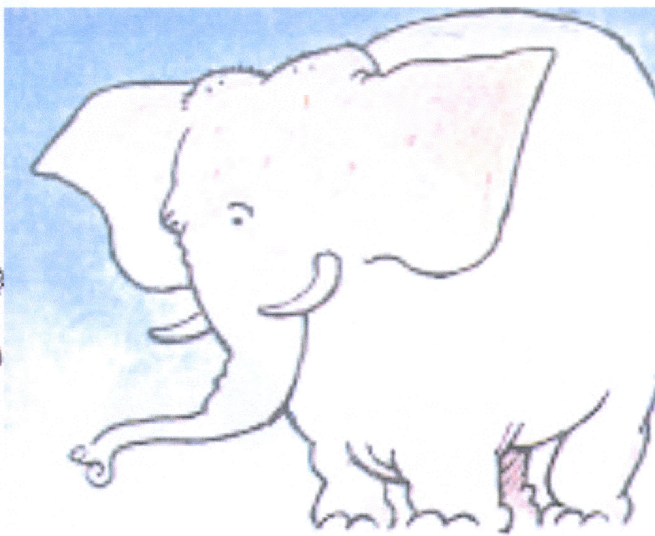
CLASSTEACHER'S GENDER: **AGE:** **TEACHING EXPERIENCE IN GARDE 1:**

Two Grade 1 teachers will be observed teaching literacy. Prior permission and consent will be sought. This is an important activity as it will help to understand the type of methods and materials used in the achievement of reading by the learners. It will also help in examining if executive functions are taught in the classrooms and also if all the needed materials are present, in addition it will help the researcher to assess the executive functions on her own. .

S/N	ASPECTS TO BE OBSERVED	SCORING			Comments
		Very Good (2marks)	Good (1marks)	Poor (0 mark)	
A	CLASSROOM ENVIRONMENT				
	1. Talking walls				
	2. Classroom organization				
	3. Furniture				
	4. Labels				
B	TEACHER SKILLS				
	6. Conversant with language				
	7. Teaching regulatory skills				
	8. Proper teaching methods				
	9. Uses materials appropriately				
	10. Time management				
C	TEACHING AIDS/MATERIALS				
	11.books present				
	12. Sufficiency				
	13. Utilisation				
D	EXECUTIVE FUNCTIONS				
	14 Is book reading done				
	15. Name writing				
	16. Pupils pay attention				
	17.Pupils able to remember				
	18. Inhibition skills				
	19.Ryming				

APPENDIX D

EXECUTIVE FUNCTIONS



TASK





School _____

Grade _____

Name _____

A. Letter Recognition

B. Letter sound association

C. Phonological Awareness

D. Reading

E. Writing

F. Reading comprehension

G. Digit Span

Appendix f

BASIC SKILLS ASSESSMENT TOOL (BASAT)
Reading and Writing Skills – Grade 1

Reading and Writing Skills – Grade 1

Name: _____

School _____

Grade: _____

Teacher: _____

Examiner: _____

Province: _____ District: _____

Time begun: _____ Time ended: _____

Time begun: _____ Time ended: _____

Time begun: _____ Time ended: _____

	Year	Month	Day
Date			
Date of birth			
Age			

1. Has the child got any of the following impairments? Tick where appropriate

- Physical impairment
- Visual impairment
- Hearing impairment
- Intellectual disabilities
- Speech/language impairment

2. Summary of the BASAT (Fill in this table after completing the assessment)

2. Summary of the BASAT (Fill in this table after completing the assessment)	
Area	Score and Skill Level
A. Letter knowledge	
B. Letter-sound knowledge	
C. Phonological tasks: 1. Syllable segmentation	
2. Initial Sound Identification	
3. End Sound Identification	
4. Sound blending	
D. Reading	
E. Writing	
F. Reading comprehension	
G. Digit Span	

Use additional paper if needed!

The BASAT



A. Letter knowledge		Average Number of Letters Known
Indicate and count the letters the child knows and estimate the average number of letters the child knows which means that the child can write, name and identify them.		
1. Writes letters.		<input type="text"/>
2. Names letters.		
3. Identifies letters.		

B. Letter-sound knowledge		Average Number of Letter-Sound-Relations Known
Indicate and count the letter-sound relations the child knows and estimate the average number of letter-sound relations the child knows which means that the child can relate the letters to the sound and the sound to the letter Indicate Letter-sound relations here		
1. Relates letters to letter sounds.		<input type="text"/>
2. Relates letter sounds to letters.		

C. Phonological tasks:		
For each item in section C, mark "1" if the child answers the item correctly otherwise mark "0". Calculate the total score for each section!		
C1. Segments words into syllables: (e.g. un-der, re-mem-ber):		
		Score
a. Teacher (teach-er)	c. September (sep-tem-ber)	
b. Answer (an-swer)	d. Everyone (eve-ry-one)	
TOTAL SCORE: SYLLABLE SEGMENTATION (max.4)		<input type="text"/>

C2. Discriminates initial sounds in Words:		C3. Discriminates ending sounds in words:	
	Score		Score
a. apple		a. dog	
b. impala		b. pen	
c. eggs		c. tom	
d. use		d. hat	
e. orange		e. cup	
f. sun		f. bus	
g. box		g. work	
h. money		h. red	
i. pipe		i. much	
j. cat		j. life	
TOTAL SCORE: INITIAL SOUND DISCRIMINATION (max.10)	<input type="text"/>	TOTAL SCORE: END SOUND DISCRIMINATION (max.10)	<input type="text"/>
C4. Blends sounds into words:		Score	
a. p /o/ t (pot)	d. s /i/ t (sit)		
b. d /i/ g (dig)	e. m /u/ d (mud)		
c. r /a/ t (rat)			
TOTAL SCORE: SOUND BLENDING (max.5)		<input type="text"/>	

D. Reading:

For each item mark "2" if the child reads the item perfectly and "1" if the child commits only one minor error, otherwise mark "0". Calculate the total score for the whole reading section!

	Score		Score
1. Recognizes own name.			
2. Combines two letters/sounds/both into a syllable or word:		3. Reads 1-syllable words:	
a. an		a. sit	
b. so		b. run	
c. at		c. old	
d. be		d. spoon	
4. Reads 2-syllable words:		5. Reads 3-syllable words:	
a. water		a. elephant	
b. pencil		b. holiday	
c. yellow		c. happiness	
d. football		d. yesterday	
6. Reads sentences:			
a. Musa and Maria are going to school.			
b. Musa is wearing a blue shirt.			
TOTAL SCORE READING SECTION (max.38)			

E. Digit Span (Working memory):

For each item ('a' and 'b') Mark "1" if the child remembers the digit sequence correctly otherwise mark "0". Calculate the total score.

		Score
1. Remembers two numbers in sequence:	a. 4-3	
	b. 1-5	
2. Remembers three numbers in sequence:	a. 5-6-4	
	b. 3-1-5	
3. Remembers four numbers in sequence:	a. 4-1-6-2	
	b. 3-6-5-1	
4. Remembers five numbers in sequence:	a. 5-6-3-1-4	
	b. 2-1-4-6-3	
5. Remembers six numbers in sequence:	a. 7-3-5-1-6-2	
	b. 1-5-2-7-4-3	
6. Remembers seven numbers in sequence:	a. 5-8-3-6-1-7-2	
	b. 3-5-2-8-7-1-6	
	TOTAL SCORE DIGIT SPAN (max.12)	

APPENDIX G

Independent Sample t-test on the comparisons of reading between pupils with and without Preschool.

Reading test

Group Statistics					
	Preschool	N	Mean	Std. Deviation	Std. Error Mean
BASSAT Grand Total	yes	54	64.80	36.894	5.021
	no	45	54.36	44.195	6.588

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
BASSA T Grand Total	Equal variances assumed	3.804	.054	1.281	97	.203	10.441	8.148	-5.732	26.613
	Equal variances not assumed			1.260	85.895	.211	10.441	8.283	-6.026	26.908

Vocabulary test						
Group Statistics						
	Child has a preschool background	N	Mean	Std. Deviation	Std. Error Mean	
vocabulary test grand total	yes	54	18.44	6.327	.861	
	no	46	17.52	6.629	.977	

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
vocabulary test grand total	Equal variances assumed	.041	.839	.711	98	.479	.923	1.298	-1.652	3.498
	Equal variances not assumed			.708	93.916	.480	.923	1.303	-1.663	3.509

Predictors of reading

Group Statistics					
	preschool	N	Mean	Std. Deviation	Std. Error Mean
letter writing totals	yes	54	20.98	8.144	1.108
	no	45	15.64	9.833	1.466
phonological tasks totals	yes	54	.89	1.093	.149
	no	46	.85	1.398	.206
blending sounds totals	yes	54	1.11	1.712	.233
	no	46	1.04	1.776	.262
letter to sound totals	yes	54	8.09	10.809	1.471
	no	46	8.37	11.269	1.662

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
letter writing totals	Equal variances assumed	5.255	.024	2.954	97	.004	5.337	1.806	1.752	8.922
	Equal variances not assumed			2.904	85.488	.005	5.337	1.838	1.684	8.990
phonological tasks totals	Equal variances assumed	2.913	.091	.165	98	.869	.041	.249	-.454	.536
	Equal variances not assumed			.162	84.602	.872	.041	.254	-.464	.546
blending sounds totals	Equal variances assumed	.049	.825	.194	98	.847	.068	.349	-.626	.761
	Equal variances not assumed			.193	94.282	.847	.068	.350	-.628	.763
letter to sound totals	Equal variances assumed	.915	.341	-.125	98	.901	-.277	2.212	-4.666	4.112
	Equal variances not assumed			-.125	94.101	.901	-.277	2.219	-4.683	4.129

Independent samples t-test on pupils who read at home and those who did not					
Group Statistics					
	Child reads at home	N	Mean	Std. Deviation	Std. Error Mean
BASSAT Grand Total	no	54	46.67	36.187	4.924
	yes	45	76.11	39.909	5.949

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
BASSAT Grand Total	Equal variances assumed	2.396	.125	-3.847	97	.000	-29.444	7.654	-44.635	-14.253
	Equal variances not assumed			-3.813	89.909	.000	-29.444	7.723	-44.787	-14.101

APPENDIX H

Chi-square tests on specific executive function Skills

Inhibit categories * Child has a preschool background

Crosstab					
			Child has a preschool background		Total
			yes	no	
Inhibit categories	1-16	Count	10	12	22
		Expected Count	11.9	10.1	22.0
	17-48	Count	44	34	78
		Expected Count	42.1	35.9	78.0
Total		Count	54	46	100
		Expected Count	54.0	46.0	100.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.829 ^a	1	.363		
Continuity Correction ^b	.447	1	.504		
Likelihood Ratio	.827	1	.363		
Fisher's Exact Test				.469	.252
Linear-by-Linear Association	.821	1	.365		
N of Valid Cases ^b	100				
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.12.					
b. Computed only for a 2x2 table					

Shift categories * Child has a preschool background

Crosstab					
			Child has a preschool background		Total
			yes	no	
shift categories	1-17	Count	45	33	78
		Expected Count	41.8	36.2	78.0
	18-30	Count	8	13	21
		Expected Count	11.2	9.8	21.0
Total		Count	53	46	99
		Expected Count	53.0	46.0	99.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.554 ^a	1	.110		
Continuity Correction ^b	1.827	1	.176		
Likelihood Ratio	2.560	1	.110		
Fisher's Exact Test				.141	.088
Linear-by-Linear Association	2.529	1	.112		
N of Valid Cases ^b	99				
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.76.					
b. Computed only for a 2x2 table					

Emotional categories * Child has a preschool background

Crosstab					
			Child has a preschool background		Total
			yes	no	
emotional categories	1-15	Count	18	15	33
		Expected Count	17.5	15.5	33.0
	16-30	Count	34	31	65
		Expected Count	34.5	30.5	65.0
Total		Count	52	46	98
		Expected Count	52.0	46.0	98.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.044 ^a	1	.834		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.044	1	.834		
Fisher's Exact Test				1.000	.502
Linear-by-Linear Association	.044	1	.835		
N of Valid Cases ^b	98				
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.49.					
b. Computed only for a 2x2 table					

Working memory categories * Child has a preschool background

Crosstab					
			Child has a preschool background		Total
			yes	no	
working memory categories	1-25	Count	24	24	48
		Expected Count	25.7	22.3	48.0
	26-51	Count	29	22	51
		Expected Count	27.3	23.7	51.0
Total		Count	53	46	99
		Expected Count	53.0	46.0	99.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.468 ^a	1	.494		
Continuity Correction ^b	.233	1	.629		
Likelihood Ratio	.468	1	.494		
Fisher's Exact Test				.549	.315
Linear-by-Linear Association	.463	1	.496		
N of Valid Cases ^b	99				
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 22.30.					
b. Computed only for a 2x2 table					

Organisation and plan categories * Child has a preschool background

Crosstab					
			Child has a preschool background		Total
			yes	no	
how child is organise categories	1-15	Count	30	26	56
		Expected Count	30.0	26.0	56.0
	16-30	Count	23	20	43
		Expected Count	23.0	20.0	43.0
Total		Count	53	46	99
		Expected Count	53.0	46.0	99.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.000 ^a	1	.993		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.000	1	.993		
Fisher's Exact Test				1.000	.577
Linear-by-Linear Association	.000	1	.993		
N of Valid Cases ^b	99				
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.98.					
b. Computed only for a 2x2 table					

BRIEF-P[®]
Behavior Rating
Inventory of
Executive Function-
Preschool Version[®]

RATING FORM

Gerard A. Gioia, PhD, Kimberly Andrews Espy, PhD, and Peter K. Isquith, PhD

Instructions to Parents and Teachers

On the following pages is a list of statements that describe young children. We would like to know if the child has had *problems* with these behaviors *during the past 6 months*. Please answer *all the items* the best that you can. Please do not skip any items. Think about the child as you read these statements and circle:

- | | | | |
|----------|--------------------|------------------|-----------|
| N | if the behavior is | Never | a problem |
| S | if the behavior is | Sometimes | a problem |
| O | if the behavior is | Often | a problem |

For example, if having tantrums when told "No" is **never** a problem, you would circle **N** for this item:

Has tantrums when told "No"

☒ N S O

If you make a mistake or want to change your answer, **DO NOT ERASE**. Instead draw an **X** through the answer you want to change and then circle the correct answer:

Has tantrums when told "No"

☒ X S O

Before you begin answering the items, please fill in the child's name, gender, age, and birth date, as well as your name, relationship to the child, and today's date in the spaces provided at the top of the next page. If you are the child's teacher or child care provider, please check the box next to the response that best describes how well you know the child and indicate how long you have known the child in the space provided.

Child's Name _____ Gender _____ Age _____ Birth Date ____/____/____
Your Name _____ Today's Date ____/____/____

Relationship to Child: ☐ Mother ☐ Father ☐ Teacher* ☐ Other*
How well do you know the child? ☐ Not Well ☐ Moderately Well ☐ Very Well Have known the child for ____ months ____ years

	Inhibit	Shift	Emotional Control	Working Memory	Plan/ Organize
1.					1 2 3 ①
2.					1 2 3
3.					1 2 3 ①
4.					1 2 3
5.					1 2 3 ①
6.					1 2 3
7.					1 2 3
8.					1 2 3
9.					1 2 3
10.					1 2 3 ①

11.					1 2 3 ①
12.					1 2 3
13.					1 2 3
14.					1 2 3
15.					1 2 3
16.					1 2 3 ①
17.					1 2 3 ①
18.					1 2 3
19.					1 2 3 ①
20.					1 2 3 ①

21.					1 2 3 ①
22.					1 2 3
23.					1 2 3
24.					1 2 3
25.					1 2 3 ①
26.					1 2 3
27.					1 2 3
28.					1 2 3
29.					1 2 3
30.					1 2 3 N

Subtotals Items 1-30

	Inhibit	Shift	Emotional Control	Working Memory	Plan/ Organize
31.					1 2 3
32.					1 2 3
33.					1 2 3 ①
34.					1 2 3
35.					1 2 3
36.					1 2 3
37.					1 2 3 ①
38.					1 2 3
39.					1 2 3
40.					1 2 3
41.					1 2 3

42.					1 2 3
43.					1 2 3 ①
44.					1 2 3 N
45.					1 2 3 ①
46.					1 2 3 N
47.					1 2 3 N
48.					1 2 3 ①
49.					1 2 3
50.					1 2 3
51.					1 2 3
52.					1 2 3 ①

53.					1 2 3 N
54.					1 2 3 ①
55.					1 2 3 N
56.					1 2 3 N
57.					1 2 3 N
58.					1 2 3
59.					1 2 3
60.					1 2 3
61.					1 2 3
62.					1 2 3
63.					1 2 3 N

Subtotals Items 31-63
Subtotals Items 1-30
Total scale raw scores

Inhibit Shift Emotional Control Working Memory Plan/ Organize

Child's Name _____ Gender _____ Age _____ Birth Date ____/____/____

Your Name _____ Today's Date ____/____/____

Relationship to Child: ☐ Mother ☐ Father ☐ Teacher ☐ Other _____

How well do you know the child? ☐ Not Well ☐ Moderately Well ☐ Very Well Have known the child for ____ months ____ years.

During the past 6 months, how often has each of the following behaviors been a problem?		Never	Sometimes	Often
1. Overreacts to small problems		N	S	O
2. When given two things to do, remembers only the first or last		N	S	O
3. Is unaware of how his/her behavior affects or bothers others		N	S	O
4. When instructed to clean up, puts things away in a disorganized, random way		N	S	O
5. Becomes upset with new situations		N	S	O
6. Has explosive, angry outbursts		N	S	O
7. Has trouble carrying out the actions needed to complete tasks (such as trying one puzzle piece at a time, cleaning up to earn a reward)		N	S	O
8. Does not stop laughing at funny things or events when others stop		N	S	O
9. Needs to be told to begin a task even when willing to do it		N	S	O
10. Has trouble adjusting to new people (such as babysitter, teacher, friend, or day care worker)		N	S	O
11. Becomes upset too easily		N	S	O
12. Has trouble concentrating on games, puzzles, or play activities		N	S	O
13. Has to be more closely supervised than similar playmates		N	S	O
14. When sent to get something, forgets what he/she is supposed to get		N	S	O
15. Is upset by a change in plans or routine (for example, order of daily activities, adding last minute errands to schedule, change in driving route to store)		N	S	O
16. Has outbursts for little reason		N	S	O
17. Repeats the same mistakes over and over even after help is given		N	S	O
18. Acts wilder or sillier than others in groups (such as birthday parties, play group)		N	S	O
19. Cannot find clothes, shoes, toys, or books even when he/she has been given specific instructions		N	S	O
20. Takes a long time to feel comfortable in new places or situations (such as visiting distant relatives or new friends)		N	S	O
21. Mood changes frequently		N	S	O
22. Makes silly mistakes on things he/she can do		N	S	O
23. Is fidgety, restless, or squirmy		N	S	O
24. Has trouble following established routines for sleeping, eating, or play activities		N	S	O
25. Is bothered by loud noises, bright lights, or certain smells		N	S	O
26. Small events trigger big reactions		N	S	O
27. Has trouble with activities or tasks that have more than one step		N	S	O
28. Is impulsive		N	S	O
29. Has trouble thinking of a different way to solve a problem or complete an activity when stuck		N	S	O
30. Is disturbed by changes in the environment (such as new furniture, things in room moved around, or new clothes)		N	S	O

During the past 6 months, how often has each of the following behaviors been a problem?		Never	Sometimes	Often
31. Angry or fearful outbursts are intense but end suddenly		N	S	O
32. Needs help from adult to stay on task		N	S	O
33. Does not notice when his/her behavior causes negative reactions		N	S	O
34. Leaves messes that others have to clean up even after instruction		N	S	O
35. Has trouble changing activities		N	S	O
36. Reacts more strongly to situations than other children		N	S	O
37. Forgets what he/she is doing in the middle of an activity		N	S	O
38. Does not realize that certain actions bother others		N	S	O
39. Gets caught up in the small details of a task or situation and misses the main idea		N	S	O
40. Has trouble "joining in" at unfamiliar social events (such as birthday parties, picnics, holiday gatherings)		N	S	O
41. Is easily overwhelmed or overstimulated by typical daily activities		N	S	O
42. Has trouble finishing tasks (such as games, puzzles, pretend play activities)		N	S	O
43. Gets out of control more than playmates		N	S	O
44. Cannot find things in room or play area even when given specific instructions		N	S	O
45. Resists change of routine, foods, places, etc.		N	S	O
46. After having a problem, will stay disappointed for a long time		N	S	O
47. Cannot stay on the same topic when talking		N	S	O
48. Talks or plays too loudly		N	S	O
49. Does not complete tasks even after given directions		N	S	O
50. Acts overwhelmed or overstimulated in crowded, busy situations (such as lots of noise, activity, or people)		N	S	O
51. Has trouble getting started on activities or tasks even after instructed		N	S	O
52. Acts too wild or out of control		N	S	O
53. Does not try as hard as his/her ability on activities		N	S	O
54. Has trouble putting the brakes on his/her actions even after being asked		N	S	O
55. Unable to finish describing an event, person, or story		N	S	O
56. Completes tasks or activities too quickly		N	S	O
57. Is unaware when he/she does well and not well		N	S	O
58. Gets easily sidetracked during activities		N	S	O
59. Has trouble remembering something, even after a brief period of time		N	S	O
60. Becomes too silly		N	S	O
61. Has a short attention span		N	S	O
62. Plays carelessly or recklessly in situations where he/she could be hurt (such as playground, swimming pool)		N	S	O
63. Is unaware when he/she performs a task right or wrong		N	S	O