

FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR CURSE FOR
THE ZAMBIAN CHILDREN UNDER PRIMARY READING PROGRAMME?

BY

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DECLARATION

This project is my own original work and has not been submitted for the award of a degree or any other award to any other university.

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CERTIFICATE OF APPROVAL

This thesis of Geoffrey Kazembe Tambulukani has been approved as partial fulfilment of the requirement for the award of the Doctor of Philosophy in Literacy and language of the University of Zambia

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DEDICATION

This project is dedicated to my family especially my wife Constance Chitambo Tambulukani, my children, Kelvin, Douglas, Pastor Geoffrey, and our only daughter Agness, Dickson and Anthony for whom the world makes sense to me. I remained on this work because of them. I also dedicate this work to my late parents, my father Mr. Tambulukani Nyendwa and my mother Mrs Jesilini Soko Tambulukani who enrolled me at that rural school called Chilongozi Primary school whose first step in culminating in this work. I remember them fondly. This work is also dedicated to my late brother, Mr Morris Jumbe who passed on during the time I was working to complete the work in Leiden, Netherlands. I hope my grand children get inspiration from this work to aim this high in education, I dedicate the work to them too.

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ABSTRACT

Unfamiliarity with the language of teaching is blamed for the high illiteracy rate among people who live in nations in which hundreds of languages are spoken. For a critical test of the importance of the language in which initial reading is taught we took the Zambian situation as a natural experiment using a quasi-experimental design and through quantitative approach tested effects of a fit between the local language spoken in the homes and playground and the language officially designated as language of instruction using the Familiar Language Test and five literacy tests which were administered to children. From three districts that were likely to differ in language fit we selected four state-funded primary schools that all used the new Primary Reading Programme since six years. From each school we randomly took 10 high- and 10 low-achievers and this brought the total number of children in the sample to 240 pupils. The researcher assessed their beginning literacy in a Zambian language and English when they were in their second grade after 18 months of reading instruction. Test results were analysed using regression, multivariate, correlation analysis at t-test. As the pupils were nested in schools a multilevel approach was indicated. Our findings confirmed the hypothesis that oral-language plays major roles in initial reading especially when beginning readers have acquired a minimum of alphabetic understanding that enables word reading and writing. The results also confirmed that transfer of skills from the first language to the second language was evident for the learners who had acquired initial reading ability in the first language.

The relatively slow development even of the highest performing pupils may indicate that the learning process does not tune to children's prior experiences with language and literacy. The study makes two major recommendations based on the results. First that it is desirable to provide for a longer period in which learners practice basic skills of alphabetic understanding and phonemic awareness in the first language from the current one year to two years or more.

The second recommendation was that oral language skills such as songs, games and rhymes which are a strong feature of emergent literacy which children come with to the first grade should continue to be practiced in class to create bedrock for initial reading development in the first language and to compensate especially for those children for whom the language of instruction is not their familiar language. The ideal situation is to extend the number of Zambian languages used for teaching literacy from grade one to four beyond the current seven to accommodate more to benefit more children.

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ABBREVIATIONS AND ACRONYMS

AIEMS	Action to Improve English, Mathematics and Science
BESSIP	Basic- Education Sub-Sector Investment Programme
BSAC	British South African Company
BTL	Break through to Literacy
CALP	Cognitive Academic Language Proficiency
CDC	Curriculum Development Centre
DfID	Department for International Development
ECZ	Examination Council of Zambia
EFA	Education For All
ELT	English Language Teaching
ESL	English as a Second Language
FM	Familiar language
IMF	International Monetary Fund
L1	First Language
L2	Second Language
LEA	Language Experience Approach
LMS	London Mission Society
LOI	Language of Instruction
MoE	Ministry of Education
MoI	Medium of Instruction
MT	Mother Tongue
NBTL	New Breakthrough to Literacy
ODA	Overseas Development Agency
PRP	Primary Reading Programme
PLP	Primary Literacy Programme
ROC	Read On Course
SAP	Structural Adjustment Programme
SITE	Step In To English
UNESCO	United Nation Education and Scientific organization
UNICEF	United Nation International Children's Emergent Fund
ZBEC	Zambia Basic Education Course
ZL	Zambian language

CHAPTER ONE: INTRODUCTION

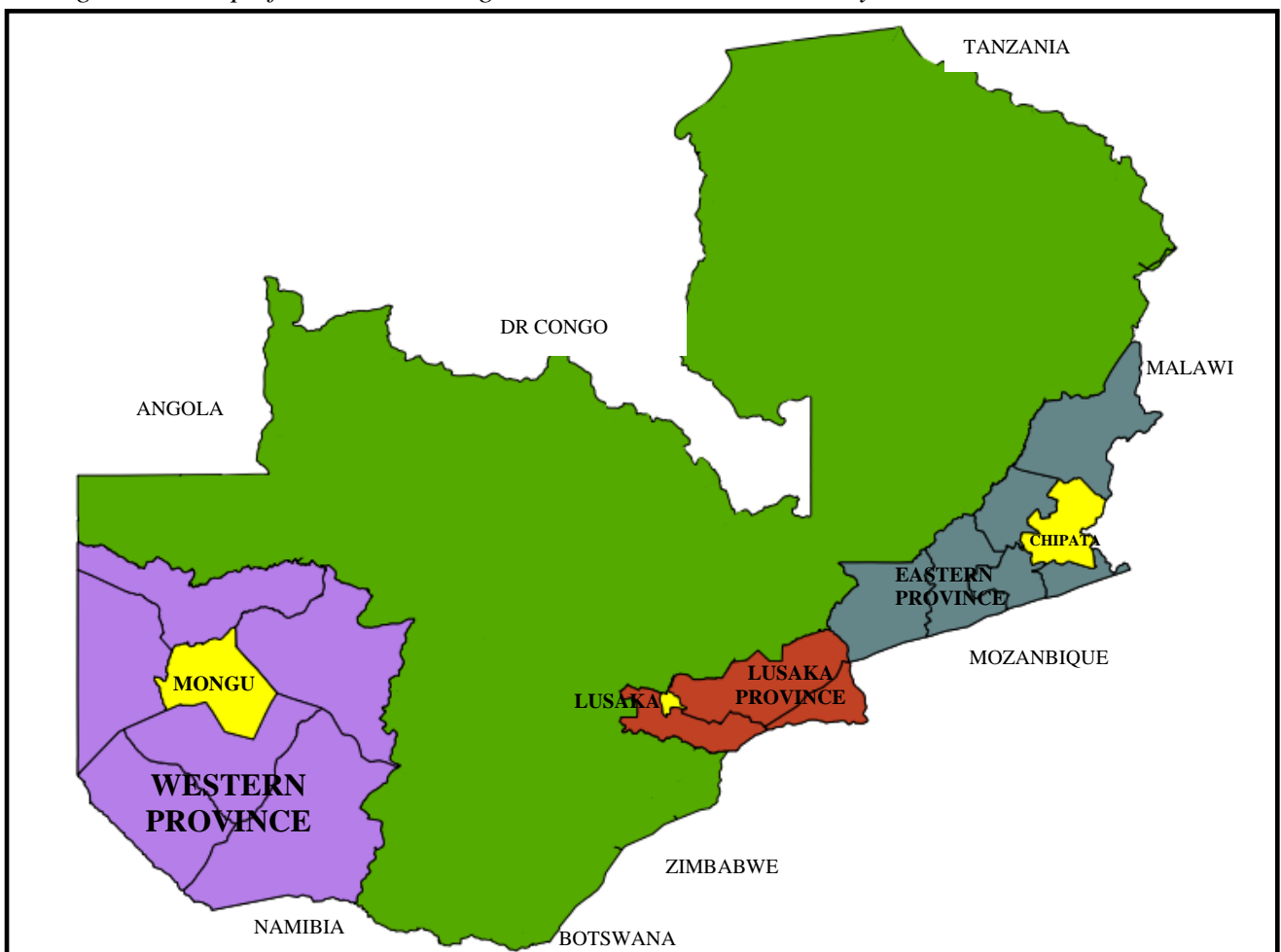
1.0 Overview

This chapter provides the background to the study in which the context of the study is given. The chapter also gives the statement of the problem and the purpose of the study together with the research objectives and questions that guided the study. In addition, the chapter gives the rationale for the study, limitations, delimitation and organisation of the study.

1.1 Background

Zambia is one of the countries in the Sub-Saharan Africa, formally colonised by the British. It gained its independence on the 24th of October 1964. It is a landlocked country surrounded by eight countries namely: the Democratic Republic of Congo, United Republic of Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Namibia and Angola (see Fig 1 below).

Figure 1.1: Map of Zambia showing the three districts under study



It covers a land area of 752, 614 kilometres that is twice the size of Norway. The total population is estimated at 13.1 million according to 2010 census, giving a population density of 11 persons per square kilometre. The population density in big urban areas like Lusaka stands at more than 200 persons per square kilometre.

A major social characteristic of Zambia is that it is multiethnic and multicultural as well. There are reportedly 73 languages in Zambia with seven major languages which include Bemba, Nyanja, Luvale, Kaonde, Lozi, Tonga, and Kaonde. The diversity of ethnic groups with their related languages has led to the existence of several traditions and cultural practices which have implications on the education of children. Some of the traditions have been found to have negative effect on school attendance despite the existence of school facilities. Low school attendance ratios in certain rural parts of the country have been attributed to prevailing traditional and cultural practices.

In 1991, Zambia experienced a major political change comparable only to that of political independence in 1964. This was the transition from a one party state to a multi party system of political governance. The political change was accompanied by major changes in economic, social and political policies. Liberalisation and privatisation of the economy has been the guiding national policy framework for the government since then. In the social sectors, the new social framework involved elimination of state subsidies and free social services and a great demand for cost sharing. It is also important to note that this liberalisation and privatisation have created an environment in which individuals and other private agencies can participate as equal partners in various sectors including education.

The country's economy, on the other hand has not been stable over the years. The local currency, the Kwacha, has depreciated considerably against other currencies. For example, in 1991, the exchange rate of the Kwacha to one dollar was 1:90. These economic hardships have affected education investments at government and household levels. Economically, the government has strictly adhered to the Structural Adjustment Program (SAP) dictates of the World Bank and IMF. Measures like budget balancing, meeting debt servicing schedules, and adherence to financial discipline through cash budgets have been at the centre of macroeconomic policies and some have resulted in deep cuts on the education budgets. Many families have thus faced the difficulties of meeting the education needs of their children as a result of these economic conditions.

Data on educational attainment from the same 1990 statistics gives a picture that 50% of the population is below fifteen years of age. This entails that there is great pressure exerted on educational provision, as there is a high demand for increased provision of education, especially in the urban areas. On the other hand, the sparseness of the population in the rural areas poses the challenge of providing education to small population of children who are geographically very distant from each other.

Since 1996, the education language policy appears to favour the use of mother tongue (MT) from Grade 1 to 4. English had been and was the medium of instruction for all subjects, save the Zambian Languages, from the day a child entered Grade 1, and in some cases, pre-school. However, for educational and other official purposes, seven Zambian languages: Chinyanja, Chitonga, Icibemba, Kiiikaonde, Lunda, Luvale and Silozi were given official status. These also serve as lingua franca in certain regions and communities in the country. These Zambian languages are taught as subjects in primary schools. All primary schools are supposed to

teach a Zambian language chosen from the seven official languages depending on the region the school is located in. In big cities like Lusaka the Zambian languages considered by all schools as passing subjects in the Grade 7 examination, which is a promotion examination for entry in to Grade 8 despite the agreement by the ministry that these subjects must be treated as passing subjects, do not teach them.

A survey I conducted during the period I was collecting showed that on the day the Zambian language (Chinyanja) was to be written for the Grade 7 examination, some Lusaka examination centres were empty as candidates chose not to come for that examination. When some teachers were asked, they said that it was because the subject did not count as a passing subject in Lusaka(Banda 2002). In the secondary schools, however, Zambian languages are taught as optional subjects, and usually paired with French, in schools where French is offered. Usually pupils who are weak in other subjects are encouraged to take a Zambian language as these are considered to be easier. Quite often, teachers who teach Zambian languages prefer to be called “Language teachers” rather than “Zambian Language teachers” because of the falling status of Zambian languages not only in the education system but at national level of debate. For the “lucky ones” who train in both, English and Zambian Languages, a very common subject combination in teacher training colleges and at the University of Zambia, they just call themselves “Teachers of English” or “English teachers” (Banda 2002).

This state of affairs made the **Primary Reading Programme** (PRP) with its three components: **New Break Through to Literacy** (NBTL); **Step In To English** (SITE) and **Read On Course** (ROC) face great challenges as the NBTL, which formed a base for the other two components of the programme used a Zambian language, mother tongue (MT), as its tool to achieve initial literacy in grade one which was the basis for the reading skills development in English in grade two through SITE and later continue consolidating their

reading skills in both Zambian language and English through ROC. Although evaluations which were conducted on the BTL in 1999, a course preceding NBTL and later evaluation of NBTL in 2000 reported success stories with literacy rates at 65% and 59% respectively, in recent years literacy level have reportedly fallen again to as low as 33% (MoE: 2008, 2010, 2012). Concerns which PRP had seemingly addressed have resurfaced and it begs the question, why after all the celebration? Some stakeholders in education began to point at language policy as possible explanation for the slowdown in literacy achievement (Muyebaa: 2010; Banda: 2002, Tambulukani and Bus: 2011, MoE 2012). This study was motivated by these questions on whether the language policy for literacy instruction was working for all children or not.

1.2 Statement of the problem

The Primary Reading Program had been running in the first three districts of Lusaka, Chipata, and Mongu for a similar period of six years since the year 2000. The Zambian Ministry of Education, through PRP, had been implementing a language policy which saw initial literacy in grade one which is the first grade of primary education in Zambia taught in a Zambian language using NBTL course. The policy indicated that a familiar indigenous language should be used to teach literacy in grade one and that basic literacy in grade two should be taught in English which was deemed to be the second language for the majority of children in Zambia through the SITE course. From grade three to grade seven, the language policy dictated that literacy should be taught in both the familiar Zambian language used on NBTL and English. The design was that children would breakthrough to literacy in the local familiar language by the end of grade one and that literacy skills and strategies developed under NBTL would transfer to the SITE literacy course in grade two and be consolidated under the

Read On course (ROC) from grade three to seven. The local languages chosen for initial literacy in the three districts where the study was conducted were the chosen lingua franca of the three regions, and these were Chinyanja for Chipata district in Eastern region, and Lusaka district in Lusaka region, and Silozi for Mongu district in Western region. Many studies exist which support the PRP language policy which states that learning initial literacy in a familiar or first language supports literacy development. After the PRP had been running for six years, it became necessary to test the performance of the PRP language theory in the three Zambian districts of Chipata, Lusaka and Mongu. It was important to assess whether the language policy was working as expected for all the children in the three districts, hence this study.

1.3 Purpose of the study

The purpose of the study was establish whether the language policy of introducing initial literacy in the local, familiar Zambian language in grade one in Zambian primary schools was yielding the desired results of a breakthrough to literacy for all children and also whether literacy skills and strategies gained from the grade one course in the first language transferred to English literacy course in grade two. Considering the diversity of first languages and literacy achievement levels of the children in the three district research sites, the study also aimed at finding out whether low achieving learners benefited equally from the language policy as their high achieving counterparts.

1.4 Objectives of the study

The objectives that guided this study were:

- 1.4.1 assess whether children in the three Zambian districts of Chipata, Lusaka and Mongu benefitted equally from teaching reading and writing in their first language in grade one.
- 1.4.2 determine whether both low and high achieving children benefitted equally from being taught reading and writing in their first language.
- 1.4.3 establish whether reading and writing skills and strategies gained in the children's first language transferred to English when learning to read in English through the SITE course.

1.5 Research questions

The main research question for the study was:

- 1.5.1 How much did all children benefit from teaching reading and writing in their first language?

This was based on the hypotheses that children do benefit from being taught beginning reading and writing skills in their most familiar first language.

- 1.5.2 How did low achieving pupils compare with high achieving children in benefitting from teaching reading and writing in their first language?

- 1.5.3 To what extent did literacy skills gain from learning in the first language in grade 1 and assist with developing literacy skills in English in grade 2?

1.6 Hypothesis

The hypothesis that guided this study was:

All children who were in districts where teaching of initial literacy at grade 1 was in a language which had greater fit with their familiar home language benefited more from literacy instruction and that the benefit transferred to literacy development in English through the SITE course in grade 2

1.7 Significance of the study

This study was the first of its kind to provide empirical evidence of the research finding from a test of the language policy on medium of instruction for initial reading in Grade One under the Primary Reading Programme. The results have clearly brought out issues that relate to policy. The findings of the study may benefit the policy makers in the Ministry of Education in that they may need to review some policies such as the

policy of limiting the number of Zambian languages to be used as medium of instruction to the seven zonal languages to include more representative languages. The Primary Literacy Programme (PLP) may benefit from the results of the study on the role of oral language practice and the need of an extended period of practice with basic skills beyond grade one. The Ministry may benefit also in relation to in-service training of teachers in relation to enriching the oral language practice in Zambian language lessons to include songs, games and rhymes. Teacher educators in institutions of learning may benefit from suggestions on the need to enrich classroom oral language practice in terms of pedagogical practice.

1.8 Conceptual framework

The two figures that follow provide the conceptual framework that guided this study.

The study was guided by what the researcher believes is the logical process of achieving initial literacy for children in a multilingual context such as Zambia.

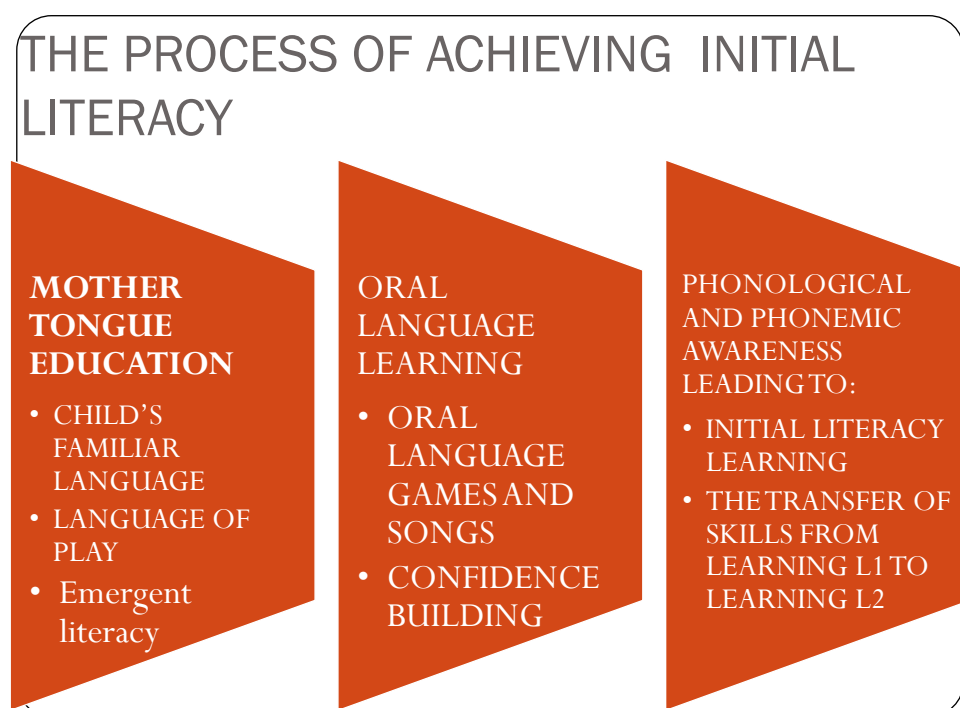


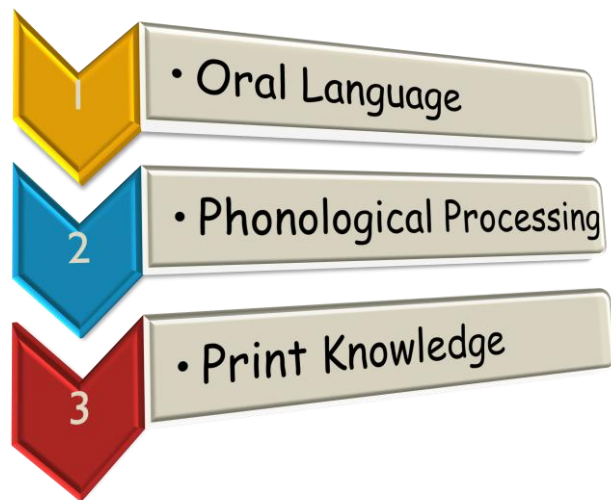
Figure 1: Process of achieving initial literacy

The starting point in the process is to recognise the important role of mother tongue education where the child's familiar language and skills gained from emergent literacy practices at home and in the playground such as stories, songs and games. As Figure 1 shows, the next stage should be exploiting the child's familiar language and skills that are brought to school through stories, songs, games and rhymes. This is even more important in situations where the language of teaching initial literacy is not the familiar language of the children. The new local language being used for teaching can be enhanced through stories, songs, games and rhymes in class. Usually this is done in English lessons but not in Zambian language lessons. The argument being presented here is that such language activities should be practiced also in the local language of teaching. The third stage in the in the process of initial literacy teaching is rigorous practice in phonological and phonemic awareness in the language of teaching literacy because these skills are the key that open the literacy window.

Figure 2 below illustrates domains of emergent literacy that are generally recognized as vital for supporting initial literacy if learners have to breakthrough to literacy in L1 and later develop basic literacy in the second language such as English in the Zambian situation (Cunningham&Zibulsky, 2014). These should be given prominence in any literacy teaching programme in order to realise effective results. The researcher went into this study guided by this conceptual framework.

Figure 2: Domains of emergent literacy (Cunningham, A. E., &Zibulsky. (2014).)

DOMAINS OF EMERGENT LITERACY THAT SUPPORT INITIAL LITERACY



1.9 Theoretical framework

The theories that informed this study included the theory of interrelationships between word identification and oral language as suggested by a number of studies which support the hypothesis that it is easier to relate the phonology of a word to its written form when the word is part of the child's vocabulary (Tabors et al.2001, Whitehurst and Lonigan 2001). Other studies support this theory when they suggest that if there are interrelationships among word identification and several measures of oral language, there is a higher success rate in acquiring basic knowledge about how to read words when children practice a reading vocabulary that is also part of their oral vocabulary (Bowey and Patel 1988; Dickson et al 2003; NICHD Child Care Research Network 2005). This theory supports the strength of teaching initial literacy in children's familiar language which was subject of the experiment conducted under this study.

The second theory that guided the study was the linguistic interdependence hypothesis which states that when children are acquiring reading proficiency in a second language after successful acquisition of literacy in their first language, the same factors that supported literacy development in the first language will support literacy development in the second language. This theory supports the hypothesis that successful literacy acquisition in the first language of children will transfer the skills gained to literacy development in the second language(Cummins et al 1984, Cummins and Swain 1986). In this study, the assumption was that successful development of initial literacy in a local Zambian language in grade 1 would facilitate transfer of the acquired literacy skills to English literacy acquisition in grade 2.

1.10 Scope of the study

The study was conducted in three provinces, namely, Eastern, Lusaka and Western covering three districts. The districts were Chipata in Eastern Province, Lusaka in Lusaka Province and Mongu in Western Province. In each of these districts, four schools were sampled based on the common feature that they were all in the 2000 pilot of the new Zambian NBTL course. The three districts represented two official Zambian languages used for teaching NBTL namely, Chinyanja and Silozi. The teachers that had taught NBTL during the pilot were still in those schools teaching NBTL during the time of the testing under the study.

1.11 Limitations of the study

The following points may highlight possible limitations to this study. First, the design may be considered unbalanced because we tested children assigned by their teachers to the lowest- and highest achieving 25% but not to the group in between these extremes. To get a better impression of the range of scores and the numbers of pupils that lag behind, the middle group should be included in further research. However, we believe that results from the current sample have given an important story that can inform policy decision in future in Zambia and other countries that are grappling with poor reading levels and language policy issues.

Furthermore, we made assumptions about the method and environment without further documentation on the quality of teaching by the teacher, classroom environment, school environment and ethos, and home environment which can also impact on literacy achievement, but the results from this study are still very valid. Finally, the number of schools involved in this study was rather small for a multilevel approach, and results of multilevel analysis can be improved by including more

schools and more pupils per school (Bickel 2007) but a sample of 12 schools, and 240 pupils was considered large enough to answer the research questions in this study and to give some advice on future literacy programme design.

1.12 Delimitations of the study

The study was conducted only in three of the nine provinces in the country, Zambia, namely; Eastern, Lusaka and Western provinces. In each of these provinces the study was limited to a district in each and these were Chipata, Lusaka, and Mongu districts. In each district, only four schools were randomly selected for the study.

1.13 Ethical considerations

The researcher followed normal ethical considerations in the conduct of the study. On arrival in the district, permission was sought from the District Board Secretary who was the head of education in the district. Permission was sought to enter the schools in order to conduct the study in general and to test children in particular. The day before tests were conducted, head teachers were approached and permission sought from them to conduct the study in their schools and classes and to test children. They were requested to pass information on to parents or guardians of the sampled children for permission to test and detain their children a little longer than was usual. Children were given drinks by the researcher because they were kept slightly beyond their normal knocking off time. Confidentiality was assured to the schools in that names of the children would not be used in the report.

1.14 Structure of the thesis

The thesis has six chapters. The chapters are:

Chapter one has the introduction where the background, statement of the problem, research objectives and questions, hypothesis is presented. The chapter also presents

the significance and purpose of the study, delimitation, limitations and ethical considerations.

Chapter Two reviews the literature that has informed the study.

Chapter Three presents the methodology that the researcher used in the study.

Chapter Four presents results from the pilot study which pre-tested the research instruments informed the way the main study was conducted. Chapter five presents the results of the main study. Chapter six presents the discussion section of the report and finally chapter seven presents the conclusions and recommendations arising from the study.

1.15 Summary

The chapter has presented the introduction to the thesis giving background, problem statement, and purpose of the study, research objectives and questions. The chapter has also provided the conceptual and theoretical frameworks that have guided the study. The next chapter will discuss the literature that informed this study.

CHAPTER TWO: LITERATURE REVIEW

1 Overview

This chapter reviews the literature which informed this study. It first presented literature that reports the background to the Primary Reading Programme development. Then literature that presents theories on literacy development is presented followed by literature on interventions that the Zambian government and other partners have initiated to raise literacy levels in Zambian schools. The chapter will also present literature on studies on reading levels among primary school children in Zambia, language policies pre and post independent Zambia, and NBTL evaluations conducted.

2.1 Background to Primary Reading Programme

For a long time since the introduction of English as a medium of instruction from grade 1 to tertiary level of education in 1965 up to 1990s, a noticeable drop in reading levels among school children became progressively evident. All stakeholders in education got concerned with the falling standards of reading and writing among not only primary school children but even among secondary school and tertiary education students at colleges and university. These stakeholders included government officials at different levels, education practitioners such as teachers, inspectors of schools and examinations officers, tertiary institutions, Non Governmental Organisations (NGOs) and parents. A number of studies confirmed these concerns and reported very poor reading levels among Zambian primary school pupils. Southern African Consortium for Measuring Education Quality (SACMEQ 1995) reported that on average only 3% of the children was reading at desirable level, meaning that only this paltry percentage of children were able to read material which was at their grade level and 25% were reading at minimum level. The Ministry of Education National Assessment report indicated that children at grade five were reading three grade levels below their own grade

level in a Zambian language and two grade levels below their own level in English (MoE 1999). The National Reading Committee of the Ministry of Education also reported that over 60% of grade seven pupils could not read at all in both Zambian Language and English (1997). Eddie Williams (1993) also reported that Zambian primary school children were reading at three grade levels below their own grade level in ZL and two grade levels below their own level in English. These reports coupled with what stakeholders had observed led to a number of interventions being put in place by the Zambian government.

Following Eddie Williams (1993) report, the Ministry of Education with the support of the British Overseas Development Agency (ODA) implemented an intervention called The Book Box Project (BBP) in all primary schools in Zambia in 1994. The aim of the project was to flood schools with reading books in English for all grades. The assumption at the time was that the poor reading levels in schools was due to the fact that there were no reading books in schools on which children could practice reading. 1994 was the pilot year for Book Box Project and when the project was evaluated in 1995, the results showed no improvement over the results reported by Williams (1993). Children were still reading three grade levels below their own level in English despite the presence of reading books in schools. This result led to a number of government actions.

In December 1995, the Ministry held the first ever National Reading Forum to which a variety of experts, practitioners and policy makers and implementers were invited at Garden House Motel. The forum was for one week and it was given one major objective, namely, to find the explanation for the poor reading levels among primary school children in Zambia and suggest a lasting solution. Participants included researchers from Britain (Eddie Williams), Malawi, South Africa, Zimbabwe, and the host country Zambia. A number of papers were

presented. A number of models were presented including the Malawian model of bilingual approach with Chewa and English being used as medium of instruction together from Standard One to higher levels of education. Breakthrough to Literacy (BTL) course designed by the South African Molteno Project and which was being used in Johannesburg school in Zulu Sotho languages. The forum came up with two major resolutions. The first major resolution was agreement that the reason for poor reading levels was the continued use of a wrong language policy in education where the language of initial reading and writing from grade one was English, a foreign language which gave Zambian children two challenges at the same time. The two challenges were, to learn a totally new language which was never used in the children's homes with all the embarrassments that go with it. It was noted that continued use of English with such a high status relegated Zambian languages to second class languages which were looked upon with not much honour and respect. It was argued by some participants that all countries that were in the category of developed countries used their own local languages in education. The second challenge facing Zambian children in addition to learning initial literacy in English was to learn a new skill of literacy (reading and writing) which in itself is a demanding exercise. It was agreed that the combination of the two challenges led to the problem of poor reading levels. The problem was compounded by the fact that Zambia is a multilingual country with a reported number of 73 languages.

The second major resolution was to change the language policy from using English as medium of instruction from grade one to higher levels of education to one which allows for use of a local Zambian language as a medium of instruction for initial literacy. The key concept advocated at this forum was that children should learn to read and write in their familiar language, a language used in their homes and one they used when playing with their friends.

Arising from the two resolutions, the Ministry of Education constituted a National Reading Committee whose instruction was to work towards implementation of the First National Reading Forum (FNRF) in Zambia. The first activity of the forum were to visit Malawi and South Africa (Molteno Project schools) to examine how their language policy models were working and whether they could work in Zambia. The Committee, guided by the resolution of the forum recommended the adoption of the BTL model of the South African Molteno Project which used a local familiar language as MOI in grade one with English being taught as a subject which seemed to work very well when the Zambian team visited schools in Soweto township. Once this recommendation was accepted a decision was made to translate the BTL course into IciBemba, a language spoken in Northern Province of Zambia. The reason for having the pilot conducted in Kasama where the language of teaching is Bemba, was because the donor, Irish Aid, who had offered to fund the pilot were already supporting other programmes in the region and it was easier for them if the pilot was where they were already established. All the components, sentence maker, word cards, phonic flip chart and readers were translated first from Zulu to English and then from English to IciBemba. This roundabout way of conducting translation, from an African language through English to another African language was because the Molteno project staff who travelled to guide the exercise did not know any Bemba and the Zambian staff who was to do the translation did not know any word in Zulu. English turned out to be the common language between the two groups. All the components, including non print materials such as sentence holder and writing slate, were adopted for use in the pilot.

In 1996, the government published a new Education Policy document called Educating Our Future in which it articulated the new language policy in education. The new policy supported the change thus:

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 contributory factor to the backwardness in reading shown by many Zambian children. It is also a major factor in fostering rote learning, since from the outset the child has difficulties in associating the printed forms of words with their real underlying meaning. On the other hand, there is strong evidence that children learn literacy skills more easily and successfully through their mother tongue, and subsequently they are able to transfer these skills quickly and with ease to English or another language'

Educating Our Future(1996, page 39).

However, though this policy signified a major shift in policies, the policy applied only to initial literacy in grade one whereas the MOI policy for other school subjects did not change for it remained English from grade one to tertiary education. This created problems at implementation level in the classroom. Teachers tended to lean more to using English even during literacy lessons in grade one such as reciting the English alphabet which gave different letter sounds from those in Zambian languages. It was not uncommon to find the English alphabet written in bold for both capital and small letters hang prominently at the back of the class.

With the support of the new policy the Zambian Ministry of Education initiated another intervention to implement the policy. The South African, Molteno BTL course was piloted in 25 schools of Kasama and Mungwi districts of Northern Province in the three school terms of 1998 with the support of Irish Aid who were already supporting other educational projects in the province. This number of schools translated into 51 grade one classes, 51 teachers and 2500 pupils. The teachers received intensive training conducted by three senior Molteno

Project staff from South Africa. The teachers were trained together with their head teachers, district and provincial education officers who would be their immediate supervisors and monitors of the project and National Reading Committee members based in Lusaka who would be the national monitors of the project. The pilot was rigorously monitored by local Kasama officials and national monitors from Lusaka. Team teaching among grade one teachers was encouraged as a way of supporting one another. Parents and other community leaders were requested to visit the pilot schools and classrooms to observe lessons in IciBemba. This brought about a totally new approach in home-school relations though at first there was some discomfort from both teachers and parents. There was a lot of enthusiasm from both teachers and parents including from pupils and school head teachers. Teachers got used to being monitored during lessons. The pilot was evaluated in 1999 and the result was a resounding success which excited all stakeholders (Kotze et al., 1999). The evaluation used tests on word reading, reading comprehension of short texts, dictation and story writing, all based on the vocabulary covered on the course. The results of the evaluation reported 65% reading achievement rate on average among children in the 25 pilot schools of Kasama. The report also highlighted other positive features of the BTL method such as that it encouraged collaborative learning among pupils; it encouraged reading among pupils through the class library and that children were able to read simple sentences in IciBemba after only one year of literacy instruction and this excited all stakeholders in primary education; children, teachers, education managers and parents. The evaluation also reported a number of challenges which teachers on the pilot cited including that the course had too many pieces of material which would be difficult to maintain or replace under the Zambian school economic capacity. It was this finding that led to the adaptation of the BTL course in order to make it more Zambian school friendly.

After this success, first in Northern Province under IciBemba pilot, and in 2000 under the IciBemba, Chinyanja and Silozi pilot, it was decided to implement the policy of Initial Literacy in the first familiar language in grade one and literacy in English to start in grade two and then from grade three to seven both languages to be used for literacy instruction in all schools throughout the country. This was a big decision which saw a lot of activities and interest from many stakeholders.

In the year 1999, the Ministry developed a programme which later harnessed all literacy courses in primary schools from grade one to seven. This programme was called, Primary Reading Programme (PRP). The National Reading Committee was transformed into the Implementation Committee of PRP based at MoE. To emphasise the importance of reading in early grades, the MoE appointed a Reading Development officer who was to be assisted by two Technical Assistants from DFID. PRP was funded by the British DFID under a seven year programme at the cost of 10.2 million British pounds. The period saw intensive training of teachers, head teachers supervisors from district and provincial education offices and teacher educators in colleges of education and University of Zambia who were training primary school teachers. The training was on the course methodology, materials, lesson routines and assessment procedures based on a meticulous training manual for NBTL, SITE and ROC. The justification for training all the stakeholders together, teachers, head teachers and district and provincial officials, was that all of them should understand the course to the same level to facilitate effective and supportive monitoring and supervision. The programme was developed and implemented in phases and by 2004 all its courses were in all schools. PRP as a DFID funded project ended in 2005 after which it became a normal school programme under government auspices and funding. In 2005, PRP was evaluated by an independent team and the results were still positive that children were reading by grade 2(MoE 2005)

2.2 Overview of Education in Zambia

Before the coming of the Europeans, there existed an indigenous form of education in Africa (Banda, 2002). As earlier stated, the content of indigenous education programmes differed from society to society but the goals were strikingly similar (Bray et al., 1986). This was the system of knowledge comprising realities and survival skills of a given people in relation to their day-to-day life (Smith, 1943). Odora (1994), states that this type of education is the socialisation process, learning by doing and apprenticeship. This was also learning through oral literature and initiation rites. Bogonko (1992:1) writes:

The values, knowledge, and skills of society were transmitted by work and trained by example. The education was characterised by its collective and social nature since every member was learning and teaching all the time.

Bray et al (1986:1) summarise the principle objectives of indigenous education in to what they call three goals of indigenous education namely:

- Normative goals which are concerned with instilling the accepted standards and beliefs governing behaviour.
- Expressive goals which are concerned with the creation of unity and consensus, and
- Instrumental goals which refer to competitive element within the system in intellectual and practical matters, but this competitiveness is controlled and subordinated to normative and expressive aims.

This is the education which traditionally Zambian children go through before they begin formal schooling. It is a kind of education which is collaborative, practical and produces observable results (Banda 2002). A comparison is frequently made to explain why some

Zambian parents withdraw their children from formal school so that they remain in their traditional set up. In some societies in Zambia which rear cattle, it is customary to teach their boy children to herd cattle and after a boy has successfully herd cattle for two years, the boy is rewarded by giving him one animal or cow of his own. In six years such a boy can earn three animals which may have given him two to three calves thereby ending up with six heads of cattle of his own. The opposite is given of a boy who goes to school to start grade 1 and who after seven years of schooling at grade seven has nothing to show for it. He cannot read or write and he has no cattle. The seven years spent at school for this second boy is interpreted to be lost years. For such parents, traditional education has more benefits than school education. The responsibility is on the school system to counter this impression by making school attractive and more beneficial. School should copy some of the practices from society in order to make learning enjoyable and more effective. Literacy lessons and language lessons in the local Zambian language should also include songs, games and rhymes which most likely children already know and can even teach the teacher. Using the local language and these teaching methods will create a stronger relationship between school and homes where children come from thereby reducing some of the cultural shock which children meet when they first report to a modern school and find strange teaching strategies and strange language where a second language is used as medium of instruction. Such shocking situations delay these children from catching up on learning and by the time they are catching up the selection examination has come at grade seven and end up failing and dropping out of school. Schools, therefore, strive to learn from traditional African education in order to make modern education child friendly. There is need to reduce on the disjoint between home and school. Language choice and classroom activities that support literacy development is a good starting point.

2.2.1 Western Education

This type of education was predominantly brought into Zambia by missionaries in the 19th century. It is this system of education, formal education that saw the disintegration of the social structures that the indigenous informal forms of education had established for their societies continued survival (Banda 2002). Schools were seen as centres of mission work, since it was the young people that missionaries placed their main hope on for stable converts to Christianity. Schools were designed to give formal education comprising literacy and numeracy so that people could read the Bible (evangelisation) and spread the gospel to others. Some missionaries also wanted to develop agricultural, carpentry; black-smithing and other skills that would help people raise their standards of living (Mwanakatwe, 1974; Snelson, 1974; Kelly, 1996). Like the Missionaries, the colonial government had their own aims for the education they were providing. The manifestation of the disparities in the type of education provided was emphasised by the creation of two departments, the Department for Native Education and the other for Non-African Education. Mwanakatwe (1974) records that the aims for the provision of Non-African Education were in two folds: to prepare its pupils for highly developed, competitive and sophisticated society found in Europe; and to equip settlers with higher education than the natives so that there was no job competition.

Mwanakatwe(1974) further summarizes the aims for the provision of Native education by both the colonial government and missionaries as to promote evangelism and spread European civilisation; and to produce workers in lowest ranks of the colonial Administration and capitalist firms

2.2.2 Overview of literacy education in Zambia

“Literacy” is the term that has a number of definitions. In an effort to define the term “literacy” James Williams (1990) begins by noting the social nature of literacy. He holds that

to be literate has meant different things in different situations or social contexts. He further says that it is possible to be literate in one context but not in the other. Furthermore, he gives an example of how a middle school student reading and writing at a seventh grade level could be considered literate among his or her peers but illiterate among university graduate students. In some cases, the definition of literacy, as earlier stated, is largely dependent on the relationship between the other two terms, “education” and “school”. The understanding is that whoever does not go through school has no education and, therefore has no literacy (Banda D 2002). This notion has given rise to the situation where other non-school forms of education are called adult literacy, a term Graham- Brown (1991:1) describes as “*a convenient hook to hang what are cheaper forms of education provision*”.

In some cases, the definition of literacy is linked to the official language of the country, which in African countries is very often a foreign language. Global figures on literacy levels are noted as both unreliable and hard to interpret, (Holmarsdottir, 2001). It is also assumed that literacy statistics for Africa “do not include persons who are literate in other languages other than the official languages” which are French, English, Spanish and Portuguese, to be more specific, (Arrove and Graff.1992: 285). The missionaries, on the other hand used the term “literacy” to refer to “the ability to read and write” (Kelly, 1996: 37). In this study, the term literacy will be used to refer to the ability to read and write as the slogan found in many Primary Reading Program materials say, *we **Speak** what we **Read** and we **Read** what we **Write***(Constable et al., 2000).

However, Williams et al (1990) do allude to the assumption that the three types of literacy identified relate to one another and one forms the base for the other. Given the nature of the term literacy, that it may mean different things depending on the situation, we may

understand why Constable et al (2001) took the trouble to combine reading and literacy in the evaluation report for PRP. The definition seems to include aspects that are the bottom lines for the three broad categories of literacy. Constable et al (2000:15) defines literacy by combining it with reading thus:

The terms reading and literacy are used jointly to convey a broad notion of what the ability to read means- the notion that includes the ability to reflect on reading and to use reading experience as a tool for attaining individual and societal goals. Because written text is an important means for conveying the human experience of events, ideas, and emotions, the ability to read and reflect on reading may be viewed as essential for individuals to understand themselves and their world more fully.

This definition is more applicable when we shall consider the final goals of the PRP and its components of NBTL and SITE.

2.2.3 Literacy in pre-colonial education

Very often people tend to think that the pre- colonial African Indigenous Education had no literature since the languages used had no written forms. Likewise, the notion goes on that if there were no books in these languages, the users of such “primitive” languages had no literacy to talk about then, especially when literacy is limited to the meaning of the ability to read and write.

Zaline Roy-Campbell in Brock-Utne (2000:142), drawing on the works of Cheik Anta Diop (1974, 1991), who has written extensively on the African past, points to the achievements of Africans during the age of antiquity in mathematics, architecture, chemistry and medicine, all areas which required technical vocabulary and conceptual framework. Roy-Campbell (2000) as quoted by Banda (2002), records the accounts of Cheik Anta Diop and Walter Rodney as a

testimony to the capability of African people realized through indigenous African education. Rodney referred to colonial education as the deskilling of skilled African people.

It could be said then that even if Zambian languages were not written in the pre- colonial period, these MTs, which were mediums of instructions acted as a record of unwritten history of human life and culture, the most valuable inheritance of human beings (Banda 2002). In it were tools of inculcating literacy, the functional literacy that made the young relevant to their society. Ochiti (1973), Bray et al., (1986) and Ngulube (1989) seem to share the views that with indigenous education, stories, proverbs, sayings of the wise, riddles, beliefs, poems, fairy tales, myths, taboos, legends were books and not only books but theatre. Literacy was there during the period of indigenous education and at the centre of it was language - the mother tongue, (Ngulube, 1989; Kelly, 1996; Brock-Utne, 2000). In modern western education, these elements of culture, stories, proverbs, riddles, beliefs, myths and taboos are written in books written in a foreign language which many disadvantaged African children cannot access because they cannot read. Such children miss out on the important values and culture of their societies because these are hidden in books written in a language they do not understand.

2.2.4 Literacy in colonial education

Kashoki, (1978) observes that non-formal literacy programmes in Zambia, prior to the attainment of political independence in 1964, were predominantly the preserve of voluntary agencies. Most notably the missionaries of different Christian denomination as well as local municipalities and relatively much later the mining companies situated in the mining towns were responsible for these programmes. Formal government contributions at this time were initially by the Department of African Education and later by the Commission for Rural Development. As stated earlier, the missionary's main goal was to spread Christianity, which

could only work well if people were able to read (the Bible) and write (the verses for reference later). Henkel (1989), claims that one of the first tasks for the missionaries was to learn the language of the people of the area around the mission station and to put it down in writing. He further adds that the next step was the opening of schools in which reading and writing was taught first in the local language and then in English. So literacy in the MT was the vision that was shared among various missionaries and was put into practice.

2.2.5 Literacy in Post- Independent Education

In 1965, two important developments in the promotion of non-formal literacy, which was commonly referred to as Adult Education, took place. These are the formation of Zambia Adult Literacy Programme and the Department of Community Development. Among other things this newly created department was tasked to run the literacy programmes (Kashoki, 1987:400). A lot of campaign programmes were organised by teachers and pupils. Radio programmes were put in place to foster the literacy campaigns¹. In these programmes the use of MT was cardinal as there was a lot of community participation. Kashoki gives a case of the Lamba people who presented to government the alternative of using Lamba language for literacy Programmes other than Bemba, one of the seven Zambian Languages with official status (Kashoki, 1993: 163-164).

2.3 Language situation in Zambia

2.3.1. Language distribution

The question of how many languages exist in Africa often does not find a definite answer. Focusing on Zambia, Kashoki(1990:109), claims that Zambia has “approximately 80 Bantu dialects” grouped into “slightly over 20 more or less mutually unintelligible clusters of languages”. Another Zambian researcher Muyebaa (1998) says there are statistically 73 tribes

and about 16 languages and dialects spoken in Zambia. The use of the term “tribe” other than “language” by Muyebaa (1998) is explained by Kashoki (1990) as the root cause for different figures given to the number of languages spoken in Africa. Kashoki (1990) says there are misconceptions regarding the type of African societies that existed before the advent of colonial rule. He holds that the prevalent view of pre-colonial Africa is that of predominance of tribally based societies, each being wrapped up in its own tribal culture (and language). The reasoning behind this notion is that before the colonial rule Africans lived in total or almost total isolation of each other. Kashoki proves this notion wrong and misleading.

Despite all these differences in figures, the commonly known figures of languages spoken in Zambia as recorded in Civics text books taught to pupils in schools is that there are 73 languages spoken in Zambia. Seven out of these 73 languages have been given the co-official status to the official language, English. These are Nyanja, Tonga, Kaonde, Lunda, Lozi, Bemba and Luvale, as mentioned earlier in this chapter. These seven co-official languages are designated for use as subjects to be studied in the education system. They are also used for dissemination of official government information, political campaigns, they are used on radio and television and other public fore. These seven co-official languages and the proportion of the speakers of each are estimated to be as shown in Table 1 (Kashoki, 1990: 117):

Table 1: Proportions of speakers of co-official languages

	LUVALE	BEMBA	KAONDE	LOZI	LUNDA	NYANJA	TONGA
L1	5.9%	30.8%	3.4%	9.3%	2.9%	16.0%	16.1%
L1+2	8.1%	56.2%	7.1%	17.2%	5.3%	42.1%	23.2%

Where **L1**= first language speakers **L1+2**= first and second language speakers.

(Source: Kashoki, 1990:117)

These seven official Zambian languages are the ones the Primary Reading Programme (PRP) with its New Break Through to Literacy (NBTL) adopted for use as languages of initial literacy in the nine Provinces the programme was running. This meant that for the schools that piloted the NBTL in the year 2000 in the Eastern and Lusaka Provinces, Nyanja was the language for initial literacy in grade 1 while for Western province, Lozi was used respectively. When PRP was taken to scale in the whole country in 2003, the seven official Zambian languages considered as the lingua franca in these provinces became the languages of initial literacy in schools. This went against the missionary policy of starting with the local language in the school catchment area and later in grade 3 use the regional common language and from grade 5 on use English as MOI. It also went against the policy in Educating Our Future document of 1996 which advocated for use of a familiar language to the learners because the seven official local languages are not familiar to a large number of Zambian children in school.

2.3.2 Non-official vernaculars

In Zambia, all the Zambian languages are commonly referred to as vernacular subjects in schools. With the use of English as a medium of instruction from grade one of primary school education, there were rules in many schools stating that pupils speaking in vernacular languages while on school grounds would be punished. This has created a negative impression in the minds of children about these vernaculars. The negative connotations the word “vernacular” has now acquired have even given rise to situations where expressions like “I will just do it vernacularly” to mean “I will just simplify it” has become an accepted phrase (Banda, 2002). These non-official vernacular languages are called ethnic languages or MT and are not taught in schools. Even in situations where the whole school population is drawn from the same catchment’s area where the so-called non-official vernacular is the

home language for the pupils, it is still not used as MOI and not even taught as a subject. The lingua franca of that province, meaning one of the seven official languages, will be the one being taught. Generally, these vernacular languages are not used in any government context. They are exclusively treated as ethnic and domestic languages but their significance for expressions and local identity remain strong. Kashoki (1993) feels that these non-official languages are elements of cultural heritage and must therefore be nurtured and promoted even if by communities as primary agents if government is not able to do so owing to severe limitations of resources:

If non-official languages as elements of nation's cultural heritage are to be nurtured and promoted in the context of language policies that are based on selection and exclusion, coupled with the inability of all national governments to promote all the languages spoken in the country owing to severe limitations of resources, then this responsibility has to be shifted by appropriate legal provision to the Communities themselves in the spirit of self-reliance and self-assertion (Kashoki, 1990:171).

Kashoki (2000) gives one example of the Lamba people of the Copper Belt Province who resisted the use of Bemba language in the literacy campaign programmes in preference to their Lamba language and they were ready to produce school materials using their own resources in order that the language is used for teaching in schools within their language community. The Lenje and Namwanga speaking people also started producing books in their languages in the quest of having their languages join the education system so that their children could learn initial literacy in their familiar language. These initiatives have gone silent may be because of lack of official support. The use of seven regional languages in NBTL created implementation challenges in schools where the language of the school community was one of the non-official languages for both learners and teachers. Even though there was celebration over the initial successes of NBTL in particular and PRP in general by 2006, the concerns about the many children for whom the seven official languages were not familiar language motivated this study.

2.4 The English Medium policy

This policy was, in 1961, considered in the Northern Rhodesia Legislative Council after one member of parliament moved a motion that English should be the main teaching medium in African schools from standard one (now Grade 3) onwards. In response, the then Minister of African Education stated that the ideal medium of instruction in the first 4 years of primary school is the mother tongue, while the main African languages of the Territory, in this case the four languages mentioned above (Chitonga, Chinyanja, Ibibemba, Silozi) would continue to be used as medium of instructions. (Ohannessia,1978:12). Following the UNESCO sponsored commission led by Dr Radford, as stated in chapter one of this work, the newly independent Zambia introduced English, in 1965, as LOI in all schools from Grade one, though it allowed for continued use of the Zambian languages mediums of instructions for Grade1-4 in all “unscheduled” schools. The main rationale for this language policy in favour of English was mainly political as it aimed at unifying a population with a multitude of languages (Mwanakatwe,1974). This was finally enacted into the 1966 Education Act. This is the act, which according to Kelly (2000), Kashoki (1990) and Muyebaa (1998), just “schooled” illiterates graduated from primary schools because initial literacy was done in English, a language completely alien to most pupils.

2.5 The Education Reforms of 1977

After realising that the 1966 language policy was leading the education system into problems, the drafters of the revised Reform document re-stated in their submission to the Ministry of Education:

In the first 4 Grades of primary school, the 7 official Zambian languages will be the LOI but the teachers will be encouraged to use any other language

familiar to the child for purposes of communication and better teaching and learning (Agreed Draft 11th May 1977: 9)

However, when the final document was published in 1977, it contained a complete reversal of this proposed policy. The reforms acknowledged that:

It is generally accepted by educationists that learning is best done in the mother tongue, this situation is found to be impracticable in the case of every child in multi-lingual societies, such as Zambian society. (MoE, 1996:22)

2.6 The 1996 policy: Educating Our Future

This is the latest policy in Zambia and it comes as a result of serious questions that arose as to the focus and relevance of the curriculum at all levels. Grade 1-4 failed to exhibit expected basic reading, writing and numeric skills. The policy that is officially known as “Educating Our Future” takes note of the problem of LOI and it has this to say:

For over 30 years, (i.e. since the 1966 policy) children who have very little contact with English outside school, but have been required to learn concepts through English medium have had unsatisfactory experience (MoE, 1996:39).

The 1996 policy further states that:

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 contributory factor to the backwardness in reading shown by many Zambian children. It is also a major factor in fostering rote learning. Since from the outset the child has difficulties in associating the printed forms of words with their real, underlying meaning (MoE, 1996:39)

Muyebaa (1998) says that the 1996 policy from the surface is very concerned with the falling standard of education in our schools, which have been brought about by a wrong medium of instruction. In one other paragraph the policy agrees with the general opinion that:

There is strong evidence that children learn literacy skills more easily and successfully through their mother tongue and subsequently they are able to transfer these skills quickly and with ease to English or another language. Successful first language learning is, in fact, believed to be essential for successful literacy in the second language (MoE, 1996:39).

This statement does not only support the use of MT in the initial literacy acquisition but also emphasizes a successful learning of L2. This is to enable a successful transfer of skills from MT learning to second language learning. This, therefore, may suggest that for any initial literacy programme to succeed, the language policy followed must support it. The policy position in Educating Our Future also supports the theories linguistic interrelationship and linguistic interdependence explained in Chapter One under Theoretical framework.

2.7 Education interventions

After the successful piloting of the NBTL course in three languages in the year 2000, the Ministry of Education, Zambia embarked on implementation of the new language policy which had recorded successes in the provinces. It was decided to extend the successful intervention to all parts of the country. This intervention was the Primary Reading Programme (PRP). A number of MoE evaluation and monitoring reports recorded successes of this intervention at least in its early years of implementation.

2.7.1 What is PRP?

The Zambia Primary Reading Programme (PRP) was a seven- year Reading Programme by the Zambian Ministry of Education and the British Department for International Development (DfID). It was an initiative supported by DfID to improve reading levels in Zambian primary schools. This initiative was officially launched in April 1999. (Constable et al, 2000; 2001; MOE, 1998). The PRP was located within the Teacher Education Programme (TED) and at the time also fell under the umbrella of the Basic Education Sub-Sector Investment Programme (BESSIP).

BESSIP represented a coherent and wide-ranging proposal to gradually reverse the decline in basic education. It represented a major paradigm shift where government and co-operating partners had committed themselves to phasing out the project-based approach to development and programme financing.(Smith et al, 1998:1)

PRP programme had a three-pronged approach to ensure that children learnt to read effectively.

The first approach was achievement of initial literacy in any of the seven official Zambian languages already discussed in chapter 1. This was with the understanding that children learn to read best in a language in which they are familiar and in which they have a strong oral base. Chanet al (2000) state that:

There is a large body of evidence linking oral language proficiency to the development of literacy skills and it argues that limitations in oral language abilities are the basis of early reading difficulties experienced by pupils

The PRP had developed a reading course for Grade 1 learners in all the seven official Zambian languages. This course was called New Break Through to Literacy (NBTL). This course was available in one school in every zone by 2000 and in all schools in the country by 2003. (MoE, 1998; Kelly, 2000). PRP was running alongside an oral English course called Pathway to English for Grade one. This meant that children in Grade one were not introduced to reading and writing in English but that the focus was on building their oral capacity in English to be in line with the view of Chan et al quoted above. All reading and writing in Grade one was to be in the local official Zambian language.

The second approach was to facilitate the transfer of the literacy skills gained in grade 1 through the NBTL course to learning literacy in English through the SITE literacy course.

The assumptions were that in Grade 1, children would have been introduced to oral English and will learn to read and write in their local Zambian language. In Grade 2, they would simply transfer their newly acquired literacy skills into the new language they have learnt to speak, and find it easier to start reading and writing in English. The Grade Two literacy course was known as Step In To English (SITE). This course was in all schools by 2004 (MoE: 2005).

The third and final strategy was consolidation of reading skills acquired in the local familiar Zambian language and in English through NBTL and SITE respectively now through a reading course known as Read On Course (ROC) which was developed as a literacy handbook for teachers of Grades 3-7. This literacy handbook reached all primary schools in Zambia by 2003.

Another very important intervention that the Ministry of Education introduced was the separation of literacy from language in the curriculum. In Zambia, up till PRP was introduced, reading had not been taught as a separate subject in its own right, but had been included in the curriculum under “language”. Reading then was taught as a component under Zambian Language or English Language on the school time table alongside other components such as Writing, Oral Work and Supplementary Reading. The resulting effect of this arrangement was that initial literacy skills were not adequately taught leading to many children not benefitting from education as they remained in the ‘lay by’ with no opportunity for reprieve. These would be the children who either dropped out of school mid way or failed their grade 7 selection examination which required reading skills. This situation changed with the introduction of PRP when literacy was taught separately from language lessons. The curriculum allocated one hour of literacy work each day for grades one to four. The

assumption in the PRP was that unless children are given specific lessons to learn to read in the early stages, and lessons to support the development of reading skills in the higher grades, they will not be able to learn across the curriculum, or achieve their full potential in the national examination. To ensure that PRP and the new language policy which brought in the use of a Zambian language as language of teaching in schools, it was seen to be necessary to sensitise the population on the new policy. A Communication Strategy was developed which involved the use of radio, television, newspapers, printed t-shirts with advocacy messages and meetings with parents in schools to explain the benefits of the language policy. A radio programme called '*FasteleFastele*' designed by dB Studios in Lusaka, was run weekly of national radio where different stakeholders appeared and advocated for the new method. The name of the radio programme was deliberately coined from the public bus conductors' language for easy recognition and acceptance by the public. Some of the messages on the T-shirts read:

Reading is power

Reading is life

The T-shirts were given out to some teachers in all the nine provinces, ministry officials and members of the PRP Implementation Committee as a way of ensuring wide coverage. At the level of the seven regional languages, adequate public awareness education was carried out to make the nation accept PRP, and the take off of PRP was of very high profile and everyone had very high hopes of its success for all children in all provinces.

2.7.2 What is NBTL?

The New Break Through to Literacy (NBTL) started as just Break Through to Literacy (BTL) when it was first piloted in Kasama, in the Northern Province. BTL is literacy course developed by the Molteno Project in South Africa and it was running in some schools in

Johannesburg. This is an innovative and child centred literacy strategy that introduces children to initial literacy instruction in their mother tongue (MT). A Zambian delegation travelled to South Africa in 2006 to observe the course being implemented in South African school and after seeing high success rate among first graders in Johannesburg schools, recommended its piloting in Zambia. The course was first piloted in Kasama and Mungwi districts of Northern Province in 1998 with the help of Irish Aid, IciBemba language was used, as it is the lingua franca of the area. After the course had run for one year, it was evaluated in 1999. The results of the evaluation excited Ministry of Education officials, teachers and parents. The evaluation report stated that the course had achieved an ‘unqualified success’ with a reading rate of 65 percent. However, the teachers in the pilot schools reported some challenges experienced during the implementation of the BTL which they believed would prove difficult to cope with under the Zambian economic and social situation (Kotze et al 1999). They recommended adaptation of the course. It was only after this result that MOE, in association with DFID established the Primary Reading Programme and modified the BTL to make it more cost effective and user-friendly for the Zambian situation. The underlying philosophy and teaching approach in the adapted Zambian course was still that of the original Molteno BTL course. The adapted course was called the New Breakthrough to Literacy course (NBTL)(Constable et al., 2001). Characteristics of NBTL which impressed MoE officials and other stakeholders included:

- It used a learner centred approach,
- It used a local familiar language to introduce initial literacy in Grade 1 as recommended in the Education policy document, Educating Our Future (MoE 1996:39).

- It used a variety of learner centred teaching strategies including, independent activity, phonics, word recognition, language awareness, book reading, whole language, and storytelling,
- It provided for a class library, a concept which was not there under previous methods such as Zambia Primary Course (ZPC) and Zambia Basic Education Course(ZBEC).
- It encouraged a language rich classroom environment with ‘talking walls’, and
- Collaborative learning especially when learners were fetching word cards from the sentence maker where they supported one another.

The main aim of the course was to get children to breakthrough to literacy in a Zambian language (ZL) by the end of Grade 1 that means getting children to read in ZL in one year.

The course materials for the NBTL course were presented in form of a kit per each Grade 1 class and each kit had the following materials:

- One Teacher’s guide which sets out the work to be done by teacher and learners in a clear sequence explains the materials found in the kit and how to use them, the methodology to use for lessons, assessment guide, class management and other instructions for the teacher (MoE 2000).
- 20 Learners Activity Books (LAB) for use by learners when engaged in independent activity to practice literacy work done. These are well illustrated with pictures for meaning and learner motivation (MoE 2000).
- A set of 26 titles of readers with stories deemed appropriate the level of the learners and also with appropriate illustrations in form of pictures (MoE 2001).
- A Sentence Maker which was a store for word cards. It also stored cards with individual letters used as prefixes and suffixes and symbols such as punctuation marks.

- Four Conversation posters that were used to facilitate oral discussion to introduce the lesson topic or sentence of the day with the groups that are with the teacher in the Teaching Corner (Group Teaching Time).
- A Phonic Flip Chart which was used to introduce and practice the phonic sound of the day during the Starting Together stage of the lesson when all pupils are together with the teacher.
- A slate which was used to demonstrate handwriting and other writing activities by the teacher and also to give out group activities when learners are working independent of the teacher.

Each NBTL lesson had a consistent daily routine which followed the following sequence of lesson activities and each stage had specific activities to be done (MoE 2001):

Stage 1: Starting Together in the Teaching Corner (15 Minutes)

- All children come together in the Teaching Corner with the teacher
- Starts with a story or shared book reading
- Followed by a phonics lesson based on the phoneme of the day
- Explanation and allocation of independent activities to groups that will be working independent of the teacher in their work stations

Stage 2: Group Teaching 1 (20 Minutes)

- One group remain in the Teaching Station with the teacher for a teaching lesson
- Eliciting of the sentence of the day based on the conversation poster
- Writing and reading of the sentence from the chalkboard
- The sentence is broken into syllables and phonemes in which the phoneme of the day is found
- Practicing reading of words with the phoneme of the day

- The group is then given a task to go and write the sentence of the day in their books after which they do another activity such as reading a library book or an activity from the Learners Activity Book (LAB) or from the slate.

Stage 3: Group Teaching 2 (20 Minutes)

- Similar routine as in stage 2

Stage 4: Sharing Together (5 Minutes)

- Children come together in the Teaching corner with the teacher
- Sharing of experiences
- Sing a song or a rhyme

2.7.3 What is SITE?

The Step In To English (SITE) is a course developed to help pupils to transfer their newly acquired initial reading skills from their mother tongue to English reading and writing in Grade 2. This course like the sister grade one course was piloted and evaluated with positive results (Constable et al 2001). The main features of the course are similar to those of NBTL. These included, the use of learner centred methodology, similar lesson routine though named differently for copyright purposes, use of learners activity book to promote individual or group practice among learners (LAB), use of conversation pictures used to promote oral language use as a basis for reading and writing activities, use of phonics method to develop basic skills required in reading and allocation of one hour each day for the literacy lesson in English (MoE 2002).

2.7.4 What is ROC?

This is the final component of PRP. However, it is not a course like the other two, NBTL and SITE which have sets of accompanying materials in form of kits. ROC is a single handbook, structured as a teacher support programme and it provides teachers with guidance and

relevant teaching strategies to help their pupils to develop and consolidate the newly acquired literacy skills. For Grades 3 to 4, an hour is allocated to literacy; in grades 5 to 7, a half hour is provided and during both of these periods, the goal is to consolidate literacy skills acquired in the early grades in both languages- a Zambian language and English, (Constable et al., 2001, MoE: 2002)).

2.8 Course development

Following the celebrated success of the South African BTL course, the Ministry of Education made a policy decision to adapt the BTL course into a Zambian school friendly course and adopt it for use in all Zambian schools. A team from the Molteno Project and a team of Zambian educationists and teachers who were on the pilot came together to modify the course and developed what came to be known as the Zambian New Breakthrough to Literacy (NBTL). The development process was superintended over by local and external consultants using workshop format at a central place in order to maximise the ownership of the course by Zambian teachers, curriculum specialists, standards officers and teacher trainers from colleges of education. The process was participatory and all the teachers who participate in the development process became national trainers of other teachers (MoE; 2001). The new course (NBTL) was developed in two additional Zambian languages of Chinyanja and Silozi. 1999 was used for the development of NBTL materials. The course materials that were adapted to the Zambian situation and developed by the combined team of Zambians and South African included; Teachers Guide, Sentence Maker, Conversation Posters, Phonic Flip Chart and Class Readers. The course was re-piloted in three provinces, Northern, Eastern and Western in the year 2000.

2.8.1 Piloting

The NBTL course was piloted two times. First, it was piloted in 25 schools as the South African Molteno BTL in 1998 in Kasama and Mungwi districts of Northern Province. After

the pilot was evaluated in 1999 and found to be successful, it was adapted and revised to suit Zambian school situations. The revised course was renamed; *Zambian New Breakthrough to Literacy (NBTL)* and this was piloted in IciBemba, Chinyanja and Silozi in 2000. Three more provinces were added to the programme. These were Eastern, Lusaka and Western provinces where one district was used on the second pilot from each of these three provinces, namely, Chipata, Lusaka and Mongu. It was evaluated the same year reported success (Molteno Project: MoE 2000).

2.8.2 Pilot evaluations

In 1999, when children who were in pilot grade one classes entered grade two, an independent evaluation was conducted to determine the performance of the BTL course in IciBemba. The evaluation team consisted of a Briton, South African and Zambian evaluators. The team administered a variety of tests including word reading, dictation and story writing test based on the vocabulary in the BTL course materials and other school materials at the children's level. The results of the evaluation excited every one. They reported the pilot to be an 'unqualified success' (Kotze et al 1999) with reading rate of 65% and this was calculated based on average scores on all tests for all children tested. Coming only after one year of implementation, all stakeholders believed and agreed that the answer to the problem of poor reading levels among Zambian primary school children was found in the BTL course and the language policy of using a local Zambia language as MOI. The evaluation, however, highlighted a few concerns from both head teachers and teachers about the difficulties encountered in safe storage of the BTL kit in the Molten Format. They suggested that though the course scored success in getting children to read in IciBemba after only one year of instruction, the economic situation of most Zambian public schools would make the course unsustainable unless it was adapted to suit Zambian conditions.

1. The newly adapted NBTL which was piloted in two other languages of Chinyanja and Silozi ran in schools from January to October 2000. It was then evaluated at the end of October the same year and reported 59% literacy rate scored, calculated based on average of total scores on all tests by all children tested, and this led government of Zambia to decide to implement it countrywide (MoE 2000)

2.9 Literature on Oral language and Literacy

The PRP was anchored on first language instruction policy and there was literature that supported this policy. Cunningham and Zibulsky (2014) in outlining the three domains that support initial literacy development listed, Oral language, Phonological Processing and Print knowledge and argued that for any literacy programme to succeed these three domains should be given prominence. Verhoeven (1994) and Spolsky, (1986:20) quoted by Banda, (2002) gave a good synopsis of the models of literacy instruction based on varying language policies. Six models of literacy instruction are given and a number of African countries are cited as using some of these models (see chapter six, page 138). Linehan (2004) also highlighted the importance of teaching initial literacy in the first local language of the children. Tabors et al, (2001) and Whitehurst and Lonigan, (2001) in their theory of interrelationships between word identification and oral language supported the approach of teaching early literacy in the children's first language. Bowey and Patel, 1988, and Dickson et al, 2003, argue that there is a higher success rate in acquiring basic knowledge about how to read words when children practice a reading vocabulary that is also part of their oral vocabulary.

2.10 Summary

This chapter reviewed the literature which informed and guided this study. There was no literature that empirically presented data on the performance of the Primary Reading

Programme language policy. There was no study that put the PRP method to empirical test hence the need for this study to fill in that gap. The next chapter presents the methodology employed on the study.

CHAPTER THREE: METHODOLOGY

3.0 Overview

This chapter presents the research methods which were employed in this study. It constitutes the following: research design, target population, sample size, sampling procedure, research instruments, data collection and data analysis.

3.1 Research Design

This study was quantitative in approach and used a quasi-experimental design. It was quasi-experimental because the researcher relied on his knowledge of the three district research sites. It was assumed that the three districts would differ in degree of language fit. It was expected that Mongu would have the best language fit between the language of teaching and the language spoken by the children as their home language because of the homogenous nature of the language community and strong unified cultural setting. The second best fit would be in Chipata district which lies only 80 kilometres away from Katete which has a much deeper Chewa language which is similar to the Chinyanja used on the course. Lusaka would have the worst fit because of its cosmopolitan linguistic community and has a dominance of a variety of Chinyanja which is commonly referred to as street Nyanja. The researcher exploited this language setting. The other feature that justifying the quasi-experimental design was that children in the sample were tested in their normal settings with their teacher present though not conducting the tests.

3.2. Population, Sample and sampling procedures

The population for this study included all grade two children in the three districts of Chipata, Lusaka and Mongu. These were targeted because they had started grade one at the same time and they had passed through the grade one course, NBTL, which was taught in the first

language and at the time of the study they had been learning for a period of eighteen months. In grade two they were learning literacy in English through the SITE course.

There were three provinces purposively selected for this study and these were Eastern, Lusaka and Western provinces (see map in chapter one). These were chosen because they joined the Primary Reading Programme at the same time in the year 2000 during the second pilot of PRP. In each province, one district was purposively selected bringing the total number of districts in the sample to three and within those three districts four schools were also purposively sampled and in each school, twenty children: 10 high achievers and 10 low achievers were randomly sampled from their group membership of 25 based on information provided by class teachers using the regular literacy class assessment and pace grouping of the children. The researcher did field visits to these three districts, Chipata, Lusaka and Mongu. As argued above, there were good reasons to suspect that not all districts were equally successful in providing beginning reading instruction in the children's most familiar language. Eight tests were administered by independent research assistants trained and observed and supervised by the researcher in all the three districts. Testing took place after slightly less than 2 years of instruction, in Grade 2 in reading of the Zambian language and in reading of English.

3.2.1 Schools

In each of the three districts we randomly selected four state-funded primary schools from amongst those that had joined PRP at the same time. There was hardly any choice because we preferred schools that were among the first to teach reading with *New Break Through to Literacy* (NBTL) in Grade 1 and *Step in to English* (SITE) in Grade 2. Each of the selected schools had been using the new approach for six years and all teachers were trained in both methods by attending compulsory courses. The selected schools were all state-funded schools

that recruited pupils from a population that is similar in socio-economic status. Half of the schools in Chipata were from urban and half from rural sites, whereas all four schools in Lusaka were urban and all the four schools in Mongu were rural. The schools were selected from those schools that had joined the Primary Reading Programme at the same time, in the year 2000, and, therefore, had similar experiences in the teaching of literacy under the program. This meant that these schools had been on the program for six years at the time of the study, and, therefore, their first Grade One group of children was at the time of the study in Grade Six. The teachers whose children were selected had also been at the same schools and teaching the same class levels.

3.2.2 Pupils

A total of 240 children were chosen from 12 schools, covering 4 schools from each of the three districts. The study targeted Grade Two children in primary school because by this grade children would have been introduced or taught initial literacy skills in the indigenous local Zambian language in grade one and basic literacy skills in English in Grade Two. Classes in each school have an average of 40–50 pupils and are divided in four ability groups (see also Williams 1996) and children are taught in these rather homogeneous groups of about 10–15 children at a time. Teachers assign their pupils to one of four levels ranging from advanced to staying behind based on an assessment of children's abilities to read and write words that have been practiced in the first three months. More assessments follow during first grade and in second grade after completing other components of the method. Theoretically children can be upgraded to higher-level groups or down-graded after every assessment exercise depending on their performance. Upgrading rarely happened because it was almost impossible for children to catch up when they were assigned to a lower-level group at the start. We randomly selected per school 10 pupils from the lowest and 10 from highest levels or pace groups, resulting in a total of 240 pupils. To avoid getting children with

different learning backgrounds, children for testing were selected from one class who were taught by the same teacher in Grade One who now was teaching them in Grade Two. According to the teachers, all participants were normally developing and had started school aged 7. Information on the occupation of the children's principal caretakers was not sought directly from each pupil, since previous research has shown that data from children was not sufficiently precise to provide useful information on their family circumstances and therefore it would require very time-consuming personal questioning (Williams 1996). According to the teachers, all pupils were from families with a few years of schooling at the most living in poor neighbourhoods with a low standard of living. It should be mentioned that most children from better-educated families living in more affluent circumstances attend private schools (about 30% of the Zambian school population). Questions about home possessions presented to children in the Lusaka district revealed low standards of living: 30% had a flushing toilet at home, 50% running water, 59% a stove, and 65% electricity. Visits to a few homes in each district confirmed our suspicion that there was hardly any print (e.g. advertisement, calendars, coupons, TV guides, invitations, books, magazines, and newspapers) or other incentives for becoming literate such as paper and pencil and diaries in the pupils' homes (Purcell-Gates 1996). There were no libraries to provide beginning readers with reading materials at home and hardly any initiatives by schools to stimulate parental involvement in their children's reading development.

The children were all eight to nine years old and in Grade Two. This meant that they had all gone through a similar experience of being taught reading and writing in Grade One in an indigenous Zambian language and eight months of being taught reading and writing in Grade Two in English by the same teachers. No grade repeater children were included in the sample, and also no transfer cases from other schools were included.

Finally, before tests were administered, the teachers were asked to place the children according to their knowledge into two categories. These categories were whether the official language of teaching reading and writing in the school was the child's first language (L1) or the language of teaching was the child's second language and that the child actually had a different Zambian language as the first language (L2).

3.3 Data collection procedures

The researcher assisted by research assistants paid field visits to the three districts: Chipata, Lusaka, and Mongu. Data collection started only after consent was granted by the District Board Secretary's officer and the head teachers to conduct the tests in their schools and classes. Class teachers were also asked for permission to on behalf of the children's parents to have the children tested. This was done a day before the tests were administered in order that parents were informed. Once consent was granted by all gate keepers to the children, tests were conducted. All 240 children were tested first as whole class for dictation and story writing tests and later one-to-one for the speed word reading, phonemic awareness, and letters sound tests sessions in the child's classroom. The order of tests was that tests in a Zambian language were done first followed by test in English. Testing took place within a period of three weeks, with the help of three local research assistants who knew the local language, trained and supervised by the first author. Teachers of the children were not involved in testing pupils, though one teacher was always available to help settle children down. Because most Zambian schools do not have spare rooms, testing was done in the classroom while the other children were in the playground or lodged in another classroom. Tests were carried out in the same order in one session of about 30 minutes. As indicator of familiarity with the language of instruction, we asked all teachers to indicate for which pupils in their classroom the language of teaching was their first language, that is, the language that they used at home and in the playground in order to identify children for whom the language

of teaching was their L1 and which ones had a second language as their familiar language L1 meaning that for such children the language of teaching was their L2.

Children were tested in their natural setting, at their school and in their classrooms. First the classroom was stripped of all writings displayed on the walls in order to eliminate chances of copying. The classroom was quiet, since the other children who were not involved in the tests had been moved out to join other classes.

All the tests were explained and administered by research assistants specially trained by the researcher. The criteria for selecting these was that they both had to be proficient in English and in one of the two Zambian languages of teaching reading and writing, namely, Chinyanja and Silozi. One research assistant was proficient in English and Chinyanja, and the other in English and Silozi.

The testing was conducted over a period of three weeks in the three districts which have distances of around 600 kilometres between them. The order of administering the tests was that the two writing tests of Word Dictation and Story Writing were administered first to the children all sitting together in the same classroom but at distances which would not allow for copying or aiding each other. The first to administer of these two was the Word Dictation, followed by Story Writing. Tests in the Zambian language of teaching were always conducted first followed by English tests. For the remaining four tests, children were tested individually in the same classroom while the other children waited outside the classroom in the order of, Familiar Language test, Speed Reading test, Phonemic Awareness test and the last one was Letter Sounds test. For each one of these tests, the Zambian language test was administered first then English one followed.

Within each group, children were tested alternately, the high achieving child followed by a low achieving child till the group finished.

3.4 Research instruments

There were a total of six tests administered in this study. Five of the tests had two language versions, namely, the Zambian Language of literacy instruction in the sampled schools and English versions. The only test which did not have two language versions is the letter sounds test because it asked for only the Zambian language version of the regular sound system of Zambian languages. Validity of the tests was enhanced by using the course materials which were being used in class by teachers and learners and by subjecting all literacy tests used in the study to piloting at a school in Lusaka with similar background and experience with PRP as the schools in the study. Validity of the tests was further confirmed by the findings which showed very high correlations of the tests.

3.4.1 Familiar Language Test

The child was asked to name objects and actions on a picture depicting common objects like - water, people, and dress—and actions—like swimming and buying. The illustrations showed four settings: women and children in a canal, women at a market stall, children playing with cars, and women ironing clothes. Children were asked to name what they saw on the illustration in a Zambian language. The researcher noted how many words were named in the Zambian language used for teaching, that is, Nyanja in Lusaka and Chipata, and Lozi in Mongu, and how many words in another Zambian language that is common in the district, that is, town Nyanja in Lusaka and Chipata, and Mbunda in Mongu. To make scoring easier the researcher disposed of two lists of often named words, one in the language of teaching and one in the other local Zambian language (see Table 4). If children preferred words in a Zambian language that was not enlisted these responses were noted and scored as ‘other’

Zambian language. From the 20 listed words only makonde [bananas] is the same word in Lozi and Mbunda, all other words differ. A similar list was available for Nyanja used in the programme for teaching literacy and town Nyanja spoken on the streets of Chipata and Lusaka and the language used by children on the play ground. The vocabulary that was in the test for the language of teaching was taken from the course books which had been practiced in class whereas the vocabulary of the competing language was collected from the users in the community where children lived. In all, children had five minutes to complete the task. When children did not respond after one minute a research assistant pointed to an object and encouraged the child to name it. Intraclass correlations between two assistants scoring 20 children on the language of teaching and the other local language were 0.85 and 0.89, respectively. As an indicator of children's familiarity with the language of instruction we calculated the percentage of responses in the language of instruction. For instance, when a child named eight words in total, of which one was in the Zambian language of instruction and seven in the other language(s), the score was 11%. We thus created an indicator of familiarity with the language of teaching that was unaffected by the total number of responses. The picture in Figure 1 was used to elicit responses from the pupils. It includes four pictures of familiar situations like a market or children playing on the play ground that were used in the Familiar Language test. Table 3.1 shows the list of words from where children were expected to be scored containing L1 and L2 words or phrases describing the pictures.

Figure 3.1: Picture used in Familiar Language Test to elicit descriptions from children



During testing time on FLT, children were called one by one and asked to name objects or actions in the picture first in a Zambian language of their choice and second in English. As the child was talking research assistants were ticking which word in the Table the child used after which a total score out of 20 possible marks was recorded for the child in order to determine which language was the preferred language for the child. If the child used a word which was not in the table, the word was still accepted but recorded as other language and not the language of teaching. No word was rejected because the research acknowledged that some children may hear and understand more than two languages. So any word the child produced which was not on the list of L1 was scored under L2.

Table 3.1: List of words used for the Familiar Language Test

	<i>Lozi</i>	<i>Mbunda</i>	<i>English</i>	<i>Official Chinyanja</i>	<i>Town Chinyanja</i>
1	Mezi	Mema	water	madzi	Manzi
2	Nuka	Ndonga	canal	mtsinje	Kamana
3	Masheleni	bimbongo	money	ndalama	Ndalama
4	Kubapala	Kweha	playing	kutsewera	kusowela
5	Kuhaina	Kubyana	ironing/pressing	kutina	Kuchisa
6	Kukamezi	Kutekamema	drawing water	Kutungamadzi	Kutapamanzi
7	Ndondo	Nongo	clay pot	Mbiya	Nongo
8	Mupusi	Lipusi	pumpkins	atanje	Akapanda/zipuzi
9	Makonde	Makonde	bananas	Nthochi	Cikonde
10	Batu	Banu	people	Anthu	Wanthu
11	Banana	Banike	children	Ana	Wana
12	musimawamalabishi	China	dust bin	Ngungulu	ngungulu
13	Sapalo	Vizalo	dress	delesi	Delesi
14	Hembe	Chizalo	shirt	Malaya	Malaya
15	Mbututu	Keemba	baby	khanda/mwana	Lucece/mwana
16	Tafule	Tebulu	table	gome	Thebulu
17	simbi/haini	Shimbi	pressing iron	Nsimbi	Nsimbi
18	Kutabela	kuwanilila	happy	Kondwera	Temwa
19	Lihaulo	Windo	window	Dzenera	Windo
20	Tali	Chikuko	baby cloth	mbereko	Nguwo

3.4.2 Letter sound Test

This test had 20 items in form of letters of the alphabet and each child was asked to say the sound of the letters in Zambian language. The scoring was again 0 or 1 wrong or correct

responses respectively. Each child had five minutes in which time the child was expected to complete the test. If the child was not attempting for two to three minutes the test was discontinued for that child and the next child would be called in.

3.4.3 Phonological awareness

There were a total of ten words in this test for both a Zambian language and English. These words were selected from vocabulary which had been practiced on the course. Children were tested one at a time and the procedure was that once the child was well settled, the research assistant would explain the procedure and then read the words out to the child. Each word was read twice and then the child was asked to say the word that remains when the initial letter sound in the word is dropped, as in the word /**atata**/ -/**tata**/. One minute was given for each word and if the child does not make an attempt to answer even after prompting, the test is discontinued and the next child is called. The coding for this test was 0 for a wrong answer and 1 for the correct answer. For each child the Zambian test was given first followed by the English test.

3.4.4 Speed Reading

3.4.4.1 Zambian words

For this test, a list of words in the language of teaching selected from the course material covered in grade 1 was provided (see Appendix 1). From the experience of the piloting of the tests, words were arranged in order of complexity and length. Short and two syllable words came first progressively getting to longer words but did not go beyond seven letter words.

Pupils were asked to read as many words as fast as possible from a list of 60 words derived from the reading method during the one minute given. The first 30 words were one- or two-syllable words (e.g. in Lozi: *va*, *boma*, *coko*, *luna*) and words further down were three-syllable words (e.g. in Lozi: *tabela*, *litino*, *sikolo*). From a pilot study it appeared that some

children kept trying the same word resulting in low scores. We therefore developed a procedure in which the examiner assisted the child by running a ruler down the card from word to word. If the child had not made any attempt after 10 seconds the examiner skipped the word. When the child did not attempt to read the examiner encouraged the child to give it a try. If a child had not started to read after three minutes, the examiner broke off the test. Each word was awarded one point. (Cronbach $\alpha = 0.75$).

3.4.4.2 English words

A similar list was derived from the English practice materials and tested likewise. The first 25 words were two- or three-letter words (e.g. *cat, pot, eat, sit*) followed by disyllabic words (e.g. *like, water, teacher*). The procedure was similar to the procedure for Zambian words. (Cronbach $\alpha = 0.81$).

3.4.5 Word dictation test

The test also had two language versions: Zambian language and English. Each version had ten words which the experimenter read out to the children who were now taking the test as a group. Each word was read out aloud three times and two minutes allowed for writing it down. The scoring was 0 or 1.

3.4.6 Story writing test

The test had two language versions. It was based on a picture strip containing six pictures which formed a story when considered together in the right sequence. Children were asked to look at the picture strip and write down the story of what they saw happening in the picture first in Zambian language and second in English. 30 minutes were given for each language. The scoring for this test was 0 indecipherable, 1 for some sentences but with some connected to the story, and 2 for story formed.

3.5 Teacher Interview

Teachers were interviewed about the living circumstances of their pupils. Furthermore they were asked to indicate for each of the participants whether the language in which reading is practiced is the child's first language (L1) or a second language for the pupil (L2).

3.6 Data analysis

We regressed word reading measures in the Zambian language and in English, Phonological awareness and letter-sound knowledge on school and child characteristics. As students were grouped within schools it was necessary to first inspect the random effects of schools (the intraclass correlation coefficient) and, insofar there were school-level effects, to make an attempt to account for some of the variation attributable to school-level characteristics (Luke, 2004). We entered the schools' mean on the Familiar Language Test and urban versus rural as school-level variables that might explain differences between schools. Finally we introduced student-level covariates: gender, whether the child is a high- or low achiever according to the teacher, is strong or weak in the language of instruction compared with the classmates, and interactions between familiarity with language of instruction and achievement level (schools' mean and individual variation). As an additional check of effects of familiarity with the language of instruction, a second set of multiple regressions was conducted with L1 versus L2 classification by the teacher as predictor instead of the Familiar Language Test. T-Test (univariate test) was also used to compare means and correlations were used to establish association or relationships between variables.

3.7 Summary

This chapter has presented the methodology used on this study and the next chapter will present experiences and lessons learnt from the Pilot Study which pre-tested the instruments for validity and reliability.

CHAPTER FOUR: PILOT STUDY EXPERIENCES AND LESSONS

4.0 Overview

Chapter four is reporting on the field testing of the study instruments. It has proved necessary to report on the pilot because, it helped to validate the tests which were later used in the study and it also presents lessons in the administration of the tests which informed the main study and can also benefit other researchers operating in a similar research site. Five instruments were prepared and piloted in one of the two languages in order to assess the appropriateness of the tests relative to the target sample of children. It was also intended to inform the larger study in the area of the actual conduct of the tests (see methodology chapter). The pilot was also used as a training exercise for the researcher and research assistants on how to conduct the various tests. So this chapter is reporting on how the tests performed with the children and what lessons came out of the pilot study that would make the larger study better handled, achieve the desired results and minimise skewing the results of the study. The pilot study was important according to Wimmer and Dominic (1994), in Simwinga (2006: 131), in order to minimize or remove many of the potential unanticipated difficulties during the research process. As Simwinga aptly states, “A pilot investigation is a small scale trial before the main investigation and is intended to assess the adequacy of the research design and tools to be used. It is done to evaluate the data collection instruments and to ascertain if they are appropriate to meet the objectives of the study.”

Five research instruments were trialled in the current pilot. The piloting of these research instruments greatly assisted the researcher to make adjustments to both the instruments and the administration of the instruments as reported in later sections of this chapter and lessons from these adjusted informed the methodology as reported in chapter three.

4.1 Population

The pilot study targeted all grade two children in all Lusaka primary schools since it was one of the NBTL pilot districts.

4.2 Sample

The pilot study was conducted on a sample of twenty (20) grade two children at one of the urban schools in the city of Lusaka. The school was one of the first schools to be on the Primary Reading Programme. The twenty children in the pilot sample consisted of ten females and ten males from one class. These further comprised ten high achieving children and ten low achieving children based on the assessment tests administered by the class teacher. From a class of 45 pupils, the class teacher was asked to select ten high achieving children [five girls and five boys], and ten low achieving children [five girls and five boys]. These children had to have started their grade one at that particular school, remained at the same school, and were taught by the same teachers in grade one and in grade two. This was intended to ensure that they had gone through similar literacy learning environment and experiences. The age group of the 20 children was in the 9-year bracket. The socio-economic background of the children was similar in that the setting of the school is in a middle class small scale business or working class environment.

4.3 Research instruments

Five research instruments were trialled in the pilot. These were:

- Sounding out letters in Cinyanja
- Speed reading test in both Cinyanja and English
- Word dictation test in both Cinyanja and English
- Story writing test in both Cinyanja and English based on Language Chart number sixteen (16) of the Ministry of Education

- Phonemic awareness test in both Cinyanja and English in both Cinyanja and English

The language varieties used in these tests were based on the language in the course books that were being used in the classes with the children in the sample. That meant that Cinyanja vocabulary was taken from the core vocabulary sets in the New Breakthrough to Literacy Teachers Guide for Grade One, and the English vocabulary was also taken from the vocabulary set in the Step in to English Teachers Guide for Grade Two.

Each of the five tests had an accompanying score sheet for recording of answers and scores during the testing.

4.4 Data collection techniques

At the school where the pilot study was conducted, the 20 sampled children were isolated from the rest of the class and taken to another classroom where the research tests were conducted. The five tests were administered one after the other with the target children remaining in the school till the tests were all over. The following procedure was followed before and during the testing process:

- First the researcher briefed the research assistant and the class teacher on the purpose and instructions of each of the tests.
- Second, the teacher randomly selected the children according to the criteria given by the researcher and the selected children were then given Identification numbers (PH 1 – 10 for High achieving Pupils and PL 1 – 10 for Low achieving Pupils). High achieving children were selected from the top most ability group of the four in the class and the low achievers were selected from the lowest ability group of the four groups. Each ability group had more than ten children hence the use of random sampling to get the sample of 20.

Third, the class teacher introduced the research team to the children as a whole class. Fourth, the teacher explained the exercise to the children and made them feel at home with the strangers in the team which included the researcher, one research assistant, and one of the researcher's supervisors.

Then, the class teacher administered the tests to the children with the help of the researcher and research assistant.

Three of the tests were administered to the children individually while the other children were isolated. These tests were; Alphabet reading and letter sounding, Phonemic awareness, and Speed reading. The other two tests were administered to all the twenty children sitting together in the same classroom. These tests were; Word dictation and Story writing.

As the tests were being administered, the researcher and the research assistant were recording the answers and scores for each child and for each test. The scoring was done on a prepared score sheet.

4.5 Data analysis

Data collected for the pilot study was analysed using the Statistical Package for Social Sciences (SPSS). Means, standard deviations Skewness and Kurtosis were to arrive at the conclusions for the pilot study.

4.6 Findings from the pilot testing on reading

Table 4.1 below gives a summary of the results of the pilot study for each of the test administered

Table 4.1: Mean scores, standard deviations, skewness and kurtosis

	Speed reading	Speed reading	Dictation	Dictation	Story writing	Story writing
	Indigenous	English	Indigenous	English	Indigenous	English
Mean	2.42	2.21	4.13	3.88	2.30	2.90
<i>SD</i>	2.55	3.17	5.97	5.14	2.34	2.38
Skew	1.44	1.28	2.03	2.27	1.95	.63
Kurtosis	3.06	.45	4.88	6.27	5.38	-.46
<i>N</i>	19	19	16	16	20	20

It is clear from the results in Table 4.1 that generally, children in this sample scored very lowly on all five tests. These low scores were in both the indigenous Zambian language and English. The mean score for all the tests ranged between 2.10 and 2.90. This was generally poor performance on tests where the highest possible score ranged from 10 for three tests and 60 for one test. Phonemic Awareness, Word Dictation, and Alphabet Reading had each a total of possible 10 points. Story Writing test had a total of 6 possible points. Speed Reading test had a total of 60 possible points.

A number of reasons could explain the poor performance in these tests. One possible explanation could be that the tests used words which on average were long, with between three and seven letters. This length of words proved quite a challenge for this sample of children.

It was also very clear that for the Phonemic Awareness test, deletion of the first sound of the indigenous language (e.g. Amalume = _malume) items proved easier for the children ($M = 4.11$, $SD = 3.60$) than the last sound, for example “Yanika = yanik_” ($M = 3.11$, $SD = 2.81$). However for English items, deletion of the first sound showed children’s performance ($M = 2.72$, $SD = 3.41$) which was not significantly different from the performance when the last sound was deleted ($M = 2.56$, $SD = 3.57$).

Table 4.2: Differences between indigenous and English versions of the tests

	Indigenous	English		
Phonemic awareness	7.46 (5.96)	5.74 (6.98)	$t = 1.91$	$p < .05$
Speed reading	4.64 (5.81)	4.43 (5.27)	$t = .29$	$n.s.$
Word dictation	12.15 (6.25)	13.60 (7.900)	$t = -1.16$	$n.s.$

It was remarkable that only the phonemic awareness test results as shown in Table 3 revealed differences in favour of the indigenous language. For the other tests, there were no differences in children's performance between English and indigenous items. This result was unexpected since the expectation was that even for the other tests children would score higher in indigenous language than in English. Possible explanations for these unexpected results could be in the selection of language items for both languages. The same problem of long words was evident here which proved a challenge to the children. The other explanation for the apparent improvement in children's performance in English could be that the English items had just been practised in class before the pilot study was conducted and that some of the items were still on display on class room walls. Some of the children kept looking around the walls especially during dictation and speed reading tests.

Table 4.3: Differences between low and high level children (pilot)

	Phonemic awareness		Speed reading		Word dictation		Story
	Indigenous	English	Indigenous	English	Indigenous	English	
Low level	2.78 (3.83)	1.22 (2.11)	.50 (.84)	.17 (.41)	9.50 (4.48)	7.40 (3.66)	1.40 (1.71)
High level	11.70 (4.00)	9.80 (7.41)	6.30 (6.15)	6.10 (5.40)	14.80 (6.84)	19.80 (5.75)	2.80 (1.81)
<i>T</i>	-4.96	-3.51	-2.94	-2.65	-2.05	-5.75	-1.78
<i>P</i>	.001	.003	.008	.009	.027	.001	.045

tested one-sided

Table 4.3 shows that generally high level children performed better than the low level children on all five tests. However, despite the high level children showing better performance in all the five tests they were not yet proficient in phonemic awareness skills. For the low level children they hardly made a start and thus need a lot of practice. The low level children however, did comparatively better on word dictation in indigenous words and story writing than in the other tests.

The differences in performance between low and high level children confirm that the selection criteria for ability grouping of children used by teachers are accurate because the children given to us by the teachers as low and high achievers performed accordingly in these tests.

Table 4.4: Correlations between the tests

	Phonemic awareness		Speed reading		Word dictation	
	Indigenous	English	Indigenous	English	Indigenous	English
Phonemic awareness						
Indigenous	-					
English	.83	-				
Speed Reading						
Indigenous	.77	.64	-			
English	.80	.69	.88	-		
Word dictation						
Indigenous	.71	.59	.82	.78	-	
English	.78	.76	.68	.76	.71	-
Story writing	.67	.73	.57	.57	.51	.49

The indigenous language and English versions of the phonemic awareness tests are highly correlated ($r = .83$), indicating that they assess very similar skills. Correlations with speed reading, word dictation and story writing are high indicating that phonemic awareness is a strong predictor of reading and writing skills. The indigenous language version proved a much better predictor than the English version.

The high correlations between speed reading and word dictation tests suggest that children apply similar strategies to carry out both tests. This may mean that they rely heavily on letter sound knowledge. The somewhat lower correlations with story writing may indicate that in that task children are employing other skills.

On the whole, test results in all these tests were similar to the results in the main study reported in Chapter Five. The other four Lusaka schools in the main study performed similar to the performance of children in the Lusaka pilot school. Generally in the pilot tests children performed poorly in Zambian language and slightly better in English tests.

4.7 Lessons learnt

As stated earlier the pilot study was intended to inform the methodology chapter in the main study on how best to conduct the research and how the research instruments performed and what changes could be made to them in order to make them more effective and efficient. As expected, the pilot study brought out some very interesting lessons which assisted the researcher to make changes to the methodology and the test items used in the main study. This section of the report is presenting the lessons learnt from the pilot which were effected in the methodology chapter.

4.7.1 Research environment

The actual testing of the sampled children on the five tests was done in one of the classrooms used by the same children for their normal literacy and other school subjects lessons. This

meant that all the displays put up by the class teacher on the classroom walls were still hanging there. This included charts, vocabulary items in both the indigenous Zambian language and English learnt during their literacy lessons, and written material in other subjects. These too were written in both the Zambian language of Lusaka, Cinyanja, and English.

The researcher did not demand the removal of the wall displays before the testing started. It was observed that during the Word Dictation, Speed Reading and Story Writing tests children kept looking around the classroom for the words to write down. Some of the words in the tests were actually on the walls and some children did copy those. Even though this was a good strategy in literacy development to allow environmental print to enhance children's literacy, it was not desirable for this particular study. Some children actually wrote down words from the classroom walls which were totally different from the required words in the test, and did not pay attention to the test instructions. They just copied down words from the walls.

The researcher, therefore, took this as a lesson from the pilot study which helped to improve the testing environment during the main study. It was decided to eliminate reading materials on display in the testing room during the main study.

4.7.2 Use of children's teachers for testing

During the pilot study, the researcher had decided to use the children's class teachers to explain the purpose of the tests and to assist with the administration of the tests while the researcher and research assistant were recording the responses and the scores. This decision was arrived at because it was thought that a familiar person, in this case their teacher, would make the children feel comfortable and remain at ease during the testing period.

The experience turned out to be very unsatisfactory. The teachers actually ended up intimidating their children when they saw that the children were failing to write the correct

responses. Teachers could not believe that the children were failing to get right what they thought were very simple items. Comments like, “*come on, you know this word, don’t you?*”, “*Come on, don’t disappoint me*”, were heard from the teachers helping with the tests. The researcher was at pains to discourage this practice from the teachers. Even when the research assistant took over the testing, teachers who remained in the testing room kept showing visible disappointment with their children when they did not get the item correct. The use of children’s teachers for testing, therefore, proved negative and intimidating for the children. The researcher took this as a lesson for the main study. It was decided that class teachers would not be used in the administration of the tests. The researcher and research assistant would conduct the tests and also carry out the recording of responses and scores.

4.7.3 Using teachers to select the sample of children

The sample of the children to be tested in the pilot study was selected with the help of class teachers based on the course assessment procedures they used to ability group the children in class. Both the *New Breakthrough to Literacy (NBTL)* course for Grade One and the *Step in to English (SITE)* literacy course for Grade Two employ an assessment system which requires that children are regularly assessed on what they have learnt after which they are to be placed in the appropriate pace groups according to their scores. The class is divided into four almost equal groups, and children of similar ability according to their scores in the assessment tests are placed in the same pace group. So, the high achieving children would be placed in the top most group and the lowest achieving children would be in the lowest and fourth pace group. There would then be two middle groups. The sample of children for the pilot study had 10 high achieving children selected from the top group, and 10 low achieving children selected from the lowest group. This system of selecting the sample for the study proved very accurate. After the tests were marked and scores recorded it was clear that all the high achieving children had better scores than all the low achieving children. Most of the low

achieving children did not even attempt to read a single word in the Speed Reading test. This selection system therefore proved reliable and was to be used in the main study where class teachers' ability groups would be used as a basis for identifying high achievers and low achievers in sample selection.

4.7.4 Performance of the research instruments

There were a few difficulties that the children encountered during the tests that necessitated some changes to the main study instruments. Some of the changes made are highlighted below:

4.7.4.1 Phonemic awareness

This test was carried out in order to test the children on identifying word sound. Initially the test was conducted in such a way that the child was asked to give the remaining sound of the word after deleting the first letter sound of that word (e.g., **pig** = **-ig**), and then also to give the remaining sound of the word after deleting the last letter sound in the word, for example **"bed = be-"**. The researcher found that most children could not give the sound of the word after deleting the last letter sound in the word. It was then decided that in the main study children should only be asked to give the sound of the word after deleting the first item.

Timing was also another factor that was taken into consideration. Initially the child was given one minute in which to attempt sounding out each item. This time proved to be too short for them and it was decided that in the main study a child should be given two minutes for this task.

4.7.4.2 Speed (word) reading

Children were tested individually in the indigenous Zambian language and in English. They were allowed to read aloud as many words as possible within 60 seconds. The setting was such that the researcher and the research assistant ensured that the other children were set

aside and did not hear what the child was reading. For the children who could not start reading promptly, they were encouraged to do so through some probing or encouragement comments without reading the words for them. When the one minute was over, the child was stopped and the score recorded before calling the next child.

Initially, consideration was not given as to how long the words were. It was found that the longer the words were, the more difficult it became for the child to read them. It was therefore decided that in the main study children should be given shorter and most commonly used words of 2 letters progressing to a maximum of 7 letters for this test. Another improvement to the test was the use of the researcher or research assistant assisting the child by running a ruler down the page from word to word. This was arrived at as children spent much time to figure out individual words and usually got stuck on one word without moving on to attempt other words given the time limit.

4.7.4.3 Word dictation

As was the case with speed reading, children were made to read longer and uncommonly used words which proved to be difficult for the children though they were taken from the course books which children had already covered according to teacher assurances. It was decided that in the main study we would use words starting with two letters to a maximum of seven letters in that order to facilitate an easier start for pupils.

4.7.4.4 Letter sounds

This test was done to test the children in giving the sound of letters. There were no changes made to this test, as children were able to comprehend the exercise.

4.7.4.5 Familiar language test

This test was not conducted at the pilot study but was included for the main study. This test was the core test as it tested the language factor on the children's reading achievement. It was

not ready at the time of the pilot. However, the test was validated by teacher categorisation of children into either L1 or L2 and the test results in the main study correlated very well with teacher categorisation.

4.7.5 Children's survival strategies in the tests

The pilot gave very interesting information on how children handled challenges faced during testing. They used a variety of strategies to cope with difficulties during the tests. Some of the strategies seemed to work positively but in the main the strategies yielded negative results.

4.7.5.1 Use of print environment in the classroom

- Copying the appropriate word from wall displays for spelling accuracy
- Copying words randomly from wall displays as a way of not showing failure
- Reading words from the classroom displays as a way of not showing failure
(e.g. the word *cry* the child would read *table*; *uncle* the child would read *girl*; *like* the child would read *teacher* after looking around the classroom walls)

4.7.5.2 Use of phonics to spell or pronounce words they had not met before

Under speed reading test children would use the phonics strategy to sound out the letters they recognised in the words, e.g. English words like:

- *baby* was read as *boy* presumably because of the letter '*b*' or '*y*'
- *like* was read as *kite*

and Cinyanja words like:

- *gogo* was read as *bola* possibly because of the letter '*o*'
- *capa* was read as *kapa* because of '*apa*' and also presumably because in English the letter *c* is pronounced /*k*/

- *anai* was read as *ana*
- *ana* was read as *andi*
- *sopo* was read as *poto*
- *amai* was read as *inama*
- *uka* was read as *buku* possibly because of the /u/and /k/

4.7.5.3 Wild attempts where children uttered any word as a way of attempting so that they are not seen to be failures

Examples in speed reading test include:

The word '*father*' was read as '*bus*'; *like* was read as *tea*; *clothes* was read as *grandmother*; *uncle* was read as *playing*.

This strategy could have meant that children were exploiting the vocabulary that had been practised in class and children were just regurgitating them.

In cases where children could not recall any of the practised words, they could only produce whispers in an attempt to sound out the words.

4.8 Conclusion

4.8.1 Revision of research instruments

Based on the experiences from the pilot testing, the researcher revised some of the tests before they were used in the main study. The result of the pilot was that the testing process went on much more smoothly.

4.8.1.1 Phonemic awareness

The researcher found that most children could not give the sound of the word after deleting the last letter sound in the word. It was then decided that in the main study children should only be asked to give the sound of the word after deleting the first letter sound in the word.

Timing was also another factor that was taken into consideration. Initially the child was given one minute in which to attempt sounding out each item. This time proved to be too short for them and it was decided that in the main study a child should be given two minutes for this task (see the methodology chapter three).

4.8.1.2 Speed reading

Initially, consideration was not given as to how long the words were. It was found that the longer the words were, the more difficult it became for the child to read them. It was therefore decided that in the main study children should be given shorter and most commonly used words of 2 letters progressing to a maximum of 7 letters for this test. Another improvement to the test was the use of the researcher or research assistant assisting the child by running a ruler down the page from word to word. This was arrived at as children spent much time to figure out individual words.

4.8.1.3 Word dictation

As was the case with speed reading, children were made to read longer and uncommonly used words which proved to be difficult for the children. It was decided that in the main study shorter words, which are commonly used, should be used progressively in this test.

4.8.1.4 Familiar language test

This test was not conducted at the pilot study but was included for the main study. This test is the core of the study as it tested the language factor on the children's reading achievement. It was not ready at the time of the pilot.

4.9 Summary

This chapter shared the experiences from the piloting of research instruments which informed the main study. The pilot testing of the instruments helped to validate the research instruments and also helped to achieve better reliability before the use of the tests in the main study. The next chapter presents the results from the main study.

CHAPTER FIVE: RESULTS IN MAIN STUDY

5.1 Overview

This chapter presents the findings of the study aimed at finding out whether children from the three districts with different levels of fit between the language of teaching and the language children used at home and in the play grounds would perform equally on the tests, compare the performance of low achieving children with that of high achieving children, and establish whether literacy achievement in the first language assisted literacy development in English in grade 2.

5.2. Validity of the Familiar Language Test

As the familiar language test is a core instrument its validity was tested in two ways. First, it was tested whether scores on the familiar language test matched with how teachers categorised children. They categorized them as L1 speakers, meaning that the language of instruction was also their home language and the language of play or as L2, meaning that for these children the language of teaching was not their home language and also not their language of play. For these children the language of teaching was actually their second or third Zambian language. Secondly, the researcher, in selecting the three districts of Chipata, Lusaka and Mongu, to be the sites to test the familiar language hypothesis, used his knowledge of the mismatch or fit between the language of teaching and the competing language on the streets of these three research sites. It was expected that Chipata being only eighty kilometres from Katete district and about fifty kilometres away from Chadiza district both of which have the language of teaching spoken on the streets and homes, would have better fit between the language spoken by the children and the language of teaching than

Lusaka that was distant from the two districts. In Mongu on the other hand, with Mbunda as the other competing language, it was expected that children's home language and their language of play would be very close to the language of teaching.

5.2.1 Match between Familiar language test and teachers' judgments

On average children scored 9.71 words ($SD=3.99$) on the Familiar Language Test. A minority scored 4 or lower (11%) or over 16 (6%). Table 5.1 illustrates that the categorisation of pupils into L1 and L2 according to the knowledge of their pupils was accurate. As expected children who according to the teacher were categorized as L1's performed better on the language of teaching with an average score of 8.04 and had low scores on the second language with some scoring as low as zero whereas children categorized as L2 did better on the other Zambian language with an average score of 7.27 and had low scores on the language of teaching with an average score of 2.74. Differences between L1 and L2 on language of teaching and second language were significant according to t-tests, $t(df = 238) = 10.64, p < .000$ and $t(df = 238) = -11.02, p < .001$, respectively. In other words, children's scores on the familiar language test agreed with the categorisation by teachers.

Table 5.1: Agreement between test results and coding by the teacher

	Teacher judgement	
	L1	L2
Language of teaching ¹	8.04(4.35)	2.74(3.11)
Second/other language ¹	.94(2.78)	7.27(4.49)

¹Test scores (max = 20)

5.2.2 Differences between districts on familiar language test

With ANOVAs, scores on Language of teaching and Second language were compared and as expected the contrast between three districts was significant for Language of teaching, $F(2, 237) = 114.87, p < .001, \eta^2 = .49$. According to post hoc testing (Scheffe) all three districts differed ($p < .001$). Only Chipata and Lusaka scored on the Second language, $F(2, 237) = 174.32, p < .001, \eta^2 = .60$, with, according to post-hoc testing, similar results for Chipata and Lusaka. On familiarity with the language of teaching, based on the scores obtained by pupils on the language of teaching, districts ranked in the order of Mongu scoring highest, followed by Chipata with Lusaka coming in third position. This result confirmed what was expected. However, the difference between Chipata and Lusaka as Table 5.2 illustrates was small with both districts scoring almost similar on the second language, whereas the difference between Mongu and the other two districts was very significant.

As Table 5.2 shows, results from testing children on whether the language of teaching literacy in class was fitting well with the language children used in their homes and the playground showed differences between districts. In Mongu district, children scored highly on the language of teaching, Lozi, and scored zero on the second competing language, Mbunda. This meant that, when children were asked to discuss the picture in the test bringing out names of objects and actions that they saw in the picture, children spontaneously and freely used Lozi and not the other language. This result indicated that in Mongu the language of instruction was the children's familiar language and therefore the language fit was high with the scores ranging between 90% and 100%.

Chipata district results on the test came second to Mongu but the picture that came out indicated that the majority of the children in Chipata schools responded in the other language

(L2) and not in the language of teaching. Children used the street variety of Nyanja and not the textbook Nyanja which is referred to as Chewa in the nearby districts on Katete and Chadiza. Therefore, for Chipata, the language fit was low with the range falling between 14% and 55%.

Lusaka scored the lowest on this test. Almost all the children in Lusaka schools preferred to use the other language, L2, and not the language of teaching literacy in class. Children used the street Nyanja L2 to discuss the picture. This result indicated that for Lusaka district the language fit was the lowest with scores ranging between 6% and 9%.

Table 5.2: *Differences between districts in Familiar Language Test*

		<i>N</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
words correctly said in Zambian language 1	Lusaka	80	.675	.854	.00	3.00
	Chipata	80	4.250	2.901	.00	13.00
	Mongu	80	8.000	4.346	.00	18.00
	Total	240	4.308	4.272	.00	18.00
words correctly said in Zambian language 2 or another Zambian language	Lusaka	80	8.513	2.239	1.00	12.00
	Chipata	80	7.688	5.033	.00	20.00
	Mongu	80	.000	.000	.00	.00
	Total	240	5.400	4.978	.00	20.00

5.3 Data description

5.3.1 Familiar language test

Table 5.3 shows that schools in Lusaka had the lowest scores on the Familiar Language Test with means ranging from 6% to 9%, indicating that pupils were more familiar with the vocabulary of another local language than with the vocabulary used in the reading method. By contrast, the schools in Mongu had the highest scores ranging from 90% to 100%, indicating that pupils at these schools were familiar with the language of teaching. The scores of Chipata schools laid between those of the Lusaka and Mongu schools (14-55%), thus supporting our assumption that there would be some overlap between the vocabulary of the Nyanja spoken by the children in Chipata and standard Nyanja, due to the fact that Chipata is close to places where the deep Nyanja is spoken on the street and in the homes. Likewise, teachers classified pupils in Mongu as L1 whereas in Lusaka and Chipata pupils were mainly classified as L2.

5.3.2 Phonemic awareness

Table 5.3 shows that, generally schools in all three districts performed poorly on this test with only four schools scoring above 4 and the rest of the schools are in the range of 2 to 3 scores. The highest scores were obtained by two Mongu schools that scored 6.35 and 7.20 in Zambian language followed by two schools from Lusaka district that scored 4.45 and 4.85. Chipata schools in the Zambian language test performed the lowest with scores ranging between 2.45 and 3.50. The English test presents similar results with Mongu schools performing better than Lusaka schools and Chipata coming last. In English, Mongu had two schools scoring 5.35 and 6.65 whereas Lusaka highest scoring schools had 3.05 and 4.14, with Chipata having only one school scoring above 3. The rest of the schools in Chipata were in the range of 1.00 to 2.55. This result was not anticipated because in the Familiar language test and other tests, Chipata outperformed Lusaka, so what was expected was that, assuming

the importance of familiarity with the language of instruction, Chipata would perform better than Lusaka.

5.3.3 Letter Sounds

Results in this test showed a total reversal of the picture with Lusaka outperforming the other two districts by a wide margin. Out of a total of 20 possible scores, Lusaka school scores ranged from 13.45 to 17.35 with only one school with a low 9.30. Surprisingly, Chipata schools came second to Lusaka with scores ranging from 10.20 to 11.50 with only one school with a very low score of 4.85. Mongu schools which were scoring highly on several other tests, this time scored the lowest, coming in the third position after Lusaka and Chipata in that order. Scores for Mongu ranged from 8.20 to 12.50. There was no school in Mongu that scored below 8. This result might be explained by the fact that Lusaka schools on average performed better in English may have received more practice in letter sound through reciting of the English alphabet.

Table 5.3: Mean Scores per School on Language Measures and Word Reading and Ph.AwTests(Standard Deviations in Parentheses)

District	School	Location	% of L1 children according to teacher	% of responses in language of instruction (FLT)	Speed reading ZL (max=60)	Speed reading, Eng (max=60)	Ph Awareness ZL (max=10)	Ph Awareness Eng (max=10)	Sounds
Lusaka	Chitu	urban	20	9(8)	3.60(5.42)	4.90(3.96)	4.45(3.75)	3.05(4.11)	13.45(7.17)
	Kaba	urban	5	6(10)	1.55(3.55)	.85(2.89)	2.20(2.56)	1.40(2.58)	9.30(7.12)
	Chin	urban	0	7(8)	5.30(6.83)	6.25(7.25)	3.05(2.56)	1.15(2.45)	14.80(5.93)
	StLa	urban	0	6(10)	2.55(3.75)	4.90(3.89)	4.85(3.01)	4.14(2.99)	17.35(3.28)
Chipata	Chan	Rural	0	43(30)	4.40(6.43)	4.85(6.12)	3.25(3.43)	3.40(3.66)	10.20(8.25)
	Maku	Rural	0	14(09)	4.25(5.44)	1.75(3.04)	3.45(2.98)	2.30(3.75)	11.50(8.06)
	Chip	urban	25	48(24)	6.85(8.70)	6.10(6.93)	3.50(2.76)	1.00(2.38)	11.15(6.89)
	Kazi	Rural	0	55(30)	2.20(4.26)	1.15(2.39)	2.45(2.76)	2.55(2.23)	4.85(5.94)
Mongu	Imwi	urban	50	90(31)	13.10(11.27)	9.65(10.33)	6.35(3.99)	5.35(3.61)	8.60(5.90)
	Mupa	Rural	100	100(00)	11.05(12.46)	7.55(7.74)	3.65(4.08)	3.00(3.78)	8.20(5.35)
	Kala	Peri urban	85	100(00)	13.95(10.63)	7.30(7.53)	3.70(4.10)	2.90(3.86)	9.75(6.31)
	Mula	urban	70	100(00)	29.00(16.20)	22.45(14.53)	7.20(4.09)	6.65(3.53)	12.50(6.81)

5.3.4 Speed reading

With 10 out of 12 schools scoring on average between 2 and 5 words per minute, pupils scored on the low end of the Zambian and English speed reading tests despite almost two years of reading instruction. As mean scores in Table 5.3 demonstrate, schools in Mongu by far outperformed those in Lusaka and Chipata. Out of a total of 60 words to be read in 60 seconds, children in Mongu schools scored highest with school average scores ranging from 11.05 to 29.00 in Zambian language with Chipata schools coming second with scores ranging from 4.25 to 6.85. Lusaka schools scored the lowest with a range of 1.55 to 5.30 words read per minute. The school in Lusaka scoring 5.30 performed reasonably better in other tests as compared to other schools in Lusaka. These school differences may be explained by school factors which were not a subject of investigation in this study, but clearly school was a factor in these results.

5.3.5 Word dictation

Overall children were as proficient in English as in a Zambian language but not in all provinces. In Lusaka children were somewhat more proficient in English than in the Zambian language while it was the other way around in the two other provinces. In the Western province scores were higher than in the Eastern province or Lusaka whereas Lusaka and the Eastern province had similar scores (see Table 5.3/continuation).

Table 5.3. Continuation

District	School	Dictation ZL (max=10)	Story writing (max=2)
Lusaka	Chitu	2.97(2.79)	.25(.64)
	Kaba	.72(1.29)	.10(.45)
	Chin	1.87(2.00)	.15(.49)
	StLa	2.17(1.26)	.25(.44)
	Chan	3.20(2.91)	.80(.95)
Chipata	Maku	1.27(1.52)	.55(.76)
	Chip	2.87(2.38)	.20(.41)
	Kazi	.70(1.39)	.20(.62)
	Imwi	4.57(2.67)	.95(1.00)
	Mupa	2.62(2.64)	.90(.97)
Mongu	Kala	4.50(2.78)	.65(.59)
	Mula	6.65(3.06)	1.45(.89)

As Table 5.3 shows the scores in the dictation test were generally very low in all districts. Out of a possible 10 marks, average scores in all the three districts ranged between .70 and 3.20 for nine schools. Only three schools in Mongu scored between 4.50 and 6.65. Mongu again outperformed the other two districts whose scores were not different. Chipata and Lusaka districts had one school each scoring below 1 out of 10 and these are the same schools that scored lowly in other tests. Again even in this test school and district had some effect though not very significant.

5.3.6 Story writing in Zambian language

The results in Table 5.3/continuation are poorest with all schools in the three districts except one school in Mongu which scored below 1 out of a possible 2. Only one Mongu school

scored 1.45. Even with these very low scores, Mongu still outperformed the other two districts with one school scoring 1.45 and the other three schools scoring just under 1. Lusaka and Chipata scores were not different as the schools in these two districts scored between .10 and .55. Only one school in Chipata scored .80 which is equally low. This means that all the children in the three districts could not form a sentence in a Zambian language after 18 months of learning, not even in Mongu schools where the language fit was highest. However, Mongu schools on average scored above the total average for all schools in this test with scores ranging between .65 and 1.45 while the total average score was .53. Schools in Chipata had scores ranging from .41 to .96, and Lusaka schools had scores ranging from .10 to .25. These were very low scores for all schools in all districts. The test proved very difficult for the pupils.

5.4 Findings per district

5.4.1 Language situation in the districts

One of the questions that the researcher set out to answer through the data coming out of the test results was whether district had an effect on the results of the tests. It was expected that children from different districts would score differently especially because of the language fit between the Zambian language of teaching and the second Zambian language.

5.4.2 Whether the language situation in the districts affected learning to read and write

The question the researcher set out to answer here was whether the three districts differ in reading and writing proficiency. In so far possible we tested both, proficiency in a Zambian language and proficiency in English. The following skills were tested: phonemic awareness, word reading, letter sound knowledge, writing words and story writing.

5.4.2.1 Letter Sounds

Lusaka Children were more proficient in sounds than Mongu and Chipata children, $F(2, 237) = 9.64, p < .001$. Mongu and Chipata children did not differ according to post hoc testing.

Results in this test showed a total reversal of the picture with Lusaka outperforming the other two districts by a wide margin. Out of a total of 20 possible scores, Lusaka school scores ranged from 13.45 to 17.35 with only one school with a low 9.30. Surprisingly, Chipata schools came second to Lusaka, beating Mongu, with average scores ranging from 10.20 to 11.50 with only one school with a very low score of 4.85. Mongu schools which were scoring highly on several other tests, this time scored the lowest, coming in the third position to Lusaka and Chipata in that order.

5.4.2.2 Phonemic awareness

Table 5.3 shows that, generally schools in all three districts performed poorly on this test with only four schools scoring above 4 and the rest of the schools are in the range of 2 to 3 scores. Children were more proficient in a Zambian language than in English ($\eta^2 = .151$) and this effect was similar in each district as indicated by the finding that the interaction language X district was not significant. Contrasts between districts revealed a significantly higher score for Mongu compared to Chipata and Lusaka. Chipata and Lusaka did not differ.

Table 5.3 shows that the highest scores were obtained by two Mongu schools that scored 6.35 and 7.20 in Zambian language followed by two schools from Lusaka district that scored 4.45 and 4.85. Chipata schools in the Zambian language test performed the lowest with scores ranging between 2.45 and 3.50. The English test presents similar results with Mongu schools performing better than Lusaka schools and Chipata coming last. In English, Mongu had two schools scoring 5.35 and 6.65 whereas Lusaka highest scoring schools had 3.05 and 4.14, with Chipata having only one school scoring above 3. The rest of the schools in Chipata were in the range of 1.00 to 2.55. This result was not anticipated because in the Familiar language

test and other tests, Chipata outperformed Lusaka, so what was expected was that even this test, Chipata would perform better than Lusaka

5.4.2.3 Word (speed) reading

Children were more proficient reading words in a Zambian language than reading words in English ($\eta^2=.109$) but the advantage of the Zambian language was not obvious in all three districts as was indicated by the interaction language X district ($\eta^2=.214$). In Mongu and Chipata children were more successful with the Zambian language but in Lusaka scores for English were higher. The scores of Mongu were higher than the scores of Chipata and Lusaka but Chipata and Lusaka did not differ. Overall children in Mongu were better readers probably because their L1 is the language used for instruction.

5.4.2.4 Word dictation

The two districts Chipata and Lusaka lagged behind Mongu while Chipata and Lusaka did not differ much. Overall children were as proficient in English as in a Zambian language but not in all districts. In Lusaka children were more proficient in English than in the Zambian language while it was the other way around in the two other districts. In the Mongu, scores were higher than in the Chipata or Lusaka.

5.4.2.5 Story writing

District caused an effect ($F(2, 237) = 30.19, p < .001, \eta^2 = .203$) favouring Mongu above the two other districts that did not differ from each other.

The results in this test (Table 5.3) were poorest with all schools in the three districts except one school in Mongu which scoring below 1 out of a possible 6. Only one Mongu school scored 1.45. Even with these very low scores, Mongu still outperformed the other two districts with one school scoring 1.45 and the other three schools scoring just under 1. Lusaka and Chipata scores were not different as the schools in these two districts scored between .10

and .55. Only one school in Chipata scored .80 which is equally low. This means that all the children in the three districts could not form a sentence in a Zambian language after 18 months of learning, not even in Mongu schools where the language fit was highest.

5.4.2.6 Performance in general on tests per district

In general, children in Mongu outperformed children in Lusaka and Chipata with the exception of sounds while Lusaka and Chipata children performed at a similar level on most reading and writing tests. On sounds Lusaka children did better than both other districts of Chipata and Mongu. When compared, when tests were applied in English and the Zambian language, average scores were lower for English than for a Zambian language in all three districts.

Table 5.4. Mean scores and standard deviations on literacy tests per district

		Districts			
		Total	Lusaka	Chipata	Mongu
Sounds		10.97(7.13)	13.72(6.65)	9.42(7.70)	9.76(6.23)
Phon.Awareness	Zambian language	4.01(3.58)	3.64(3.04)	3.16(2.97)	5.23(4.29)
Phon.Awareness	English	3.08(3.61)	2.44(3.29)	2.31(3.15)	4.48(3.97)
Speed reading	Zambian language	8.15(11.39)	3.25(5.16)	4.42(6.52)	16.77(14.48)
Speed reading	English	6.47(8.98)	4.22(5.37)	3.46(5.34)	11.74(12.00)
Dictation	Zambian language	2.85(2.82)	1.94(2.07)	2.01(2.36)	4.59(3.09)
Story writing	Zambian language	.54(.81)	.19(.51)	.44(.74)	.99(.91)

5.5 Differences between low and high achievers

As can be derived from Table 5.5, low- and high-achievers did not differ with respect to familiarity with language of instruction and percentage in L1. Teachers rated low and high achievers equally at .30 for achievers and .29 for high achievers. Scores on the familiar language test were in agreement with teacher categorisation of children into L1 for both low and high achieving groups. Both low and high achievers were distributed equally in all the twelve schools both as categorised by teachers and also by performance on tests.

However, examination of other test results shows significant differences in scores between the two achievement levels as can be seen in Tables 5.4. It is also very clear that the two levels differed significantly in phonemic awareness and knowledge of sounds.

5.5.1 Differences between achievement levels in Phonemic Awareness test

In phonemic awareness test in Zambian language, the difference between scores for low and high achievers was significant, $t(238) = -11.50, p < .001$. High achievers scored on average 6.04 out of a possible 10 points compared to the average score of 1.97 for the low achievers. Likewise, high-achievers outperformed low-achievers on the English version of the phonemic awareness test, $t(238) = -9.39, p < .001$. Overall, the English version of the test revealed lower scores than the Zambian language version.

Table 5.5: Mean Scores per Achievement Level(Standard Deviations in Parentheses)

	All pupils	Low-Level pupils	High-Level pupils
	N=240	N=120	N=120
% of L1 children according to teachers	.30(.46)	.30(.46)	.29(.46)
% of responses in language of instruction(FLT)	.48(.42)	.47(.42)	.50(.42)
Sounds (max=20)	10.97(.46)	6.72(6.38)	15.22(5.00)
Phonemic awareness/Zambian (max=10)	4.01(3.23)	1.97(2.49)	6.04(3.35)
Phonemic awareness/English (max=10)	3.07(.23)	1.20(2.41)	4.95(3.64)
Number of Zambian words read per min (max=60)	8.15(11.39)	3.02(6.12)	13.28(13.04)
Number of English words read per min (max=60)	6.48(8.98)	2.16(4.07)	10.79(10.37)
Word dictation/Zambian (max=10)	2.85(2.81)	1.28(1.73)	4.41(2.83)
Story writing/Zambian (max=2)	.54(.05)	.11(.43)	.97(.87)

5.5.2 Differences between achievement levels in Sounds test

As can be seen in Table 5.4 average scores in the test on letter sounds equally showed significant differences between levels, $t(238) = -11.50, p < .001$. Low achievers scored lowly on this test while high achievers scored very highly. The average score for low achievers was 6.71 and for the high achievers it was 15.22 out of 20 possible marks. High achievers outperformed low achievers in this test.

5.5.3 Differences between achievement levels in word reading test

In word reading of Zambian words per minute, high achievers outperformed low achievers with an average score of 13.28 words per minute read whereas low achievers had an average score of 3.02 per minute. In English the results showed a similar picture with high achievers outperforming low achievers with an average score of 10.79 with low achievers scoring an average of 2.16 words per minute.

High achievers outperformed low achievers in the number of Zambian ($z = -7.51, p < .001$) and English words read per minute ($z = -8.62, p < .001$). Because tests were not normally distributed, especially in the low achieving group, we used a nonparametric test (Mann-Whitney) for statistical testing. On average, more than half of the low achievers (54%) were unable to complete any item while zero scores were rare (about 15%) among high achievers. In addition, on inspecting mean scores per school, we noticed that there was substantial variety in the group of high achievers whereas low achievers scored in the same range of very low scores no matter which school. These results were similar to the trends shown in the pilot testing results where low achievers performed more poorly than children categorised as high achievers by class teachers.

5.5.4 Differences between achievement levels in dictation

From Table 5.5 shows significant difference in scores on dictation between low and high achievers, $t(238) = -10.34$, $p < .001$. The average score in Zambian language for low achievers was 1.28. The pupils categorised as high achievers had an average score of 4.41, and this score though not very high, still outperformed that of low achievers.

5.5.5 Differences between achievement levels in story writing

This test produced very surprising and depressing results. Both low and high achievers performed badly in the test. Average mean score for low achievers was .1. The results in this test (Table 8) were poorest with all schools in the three districts except one school in Mongu which scoring below 1 out of a possible 6. Only one Mongu school scored 1.45. Even with these very low scores, Mongu still outperformed the other two districts with one school scoring 1.45 and the other three schools scoring just under 1. Lusaka and Chipata scores were not different as the schools in these two districts scored between .10 and .55. Only one school in Chipata scored .80 which is equally low. This means that all the children in the three districts could not form a sentence in a Zambian language after 18 months of learning, not even in Mongu schools where the language fit was highest with a standard deviation of .42 while the average score for high achievers was .97 with a standard deviation of .86. This means that low achievers were unable to form any sentence in Zambian language while high achievers could.

5.6 Multiple regression analyses

To answer the question whether instruction in the familiar language promotes learning to read and write the main outcome measures speed reading in the Zambian language and dictation were regressed on familiarity with language of instruction, level of achievement and interactions between familiar language and achievement level in order to determine whether

familiarity with the language of instruction predicted the results and whether this variable was as predictive for both low or high achievers.

5.6.1 Speed (word) reading

Log transformations were carried out on the reading tests. As a result, reading Zambian words (skewness: .34, kurtosis: -1.31) and English words (skewness: .28, kurtosis: -1.27) were normally distributed, consistent with the requirements of multiple regression analysis. By inspecting residuals, the adequacy of a multilevel model was tested (Luke, 2004). The level-1 errors were independent and normally distributed with a mean of zero; and the random effects were normally distributed with a mean of zero, and were independent across schools. So, the underlying assumptions of a multilevel model were satisfactory. Having established that the model was satisfactory it is time to look at the results.

5.6.1.1 School-level effects on the reading of Zambian words

The variance components of model 1 in Table 5.5 suggests statistically significant variability at the between-school and within-school level, respectively ($\tau_{00} = .09$ and $\sigma^2 = .22$). The intraclass correlation, equal to $.09 / (.09 + .22) = .29$, suggests that slightly less than one-third of the differences in reading Zambian words was attributable to school traits. To test whether children's average familiarity with the language of instruction could explain this school effect, school means on the Familiar Language Test were added to the model as a school-level covariate. Urban or rural was entered as another school-level covariate. The results, displayed in the second column of Table 5.5, show that familiarity with the language of instruction significantly affected the pupils' scores. Schools with a good match between the language in which reading is practiced and children's language scored, on average, slightly more than 1 standard deviation ($.62 / .56$) higher than schools with a poor fit. We dropped the second covariate, namely whether the school is urban or rural, because this covariate did not explain additional variation beyond familiarity with the language of instruction. The variance

component corresponding to the random intercept decreased from .09 to .03 (a reduction of 67%), demonstrating that the inclusion of school means on the Familiar Language Test explained much of the variation between schools.

5.6.1.2 Effects of pupil-level covariates on the reading of Zambian words

The third column of Table 5.6 presents the results from the final analysis in which individual- and school-level covariates were simultaneously added to the hierarchical model. Individual-level variables were: whether children were assigned to the high- or low achievers by their teacher, gender, and individual deviation from school mean on the Familiar Language Test (school-mean centred scores). The latter was assessed by calculating individual deviations from school means on the Familiar Language Test. By entering individual-level variables, the fit of the model improved. Clearly, the final model was significantly superior to model 2 including only school-level predictors; $\chi^2 = 126.67$ (333.4-206.73) with (10-4=) 6 degrees of freedom.

Table 5.6: Fixed and Random Effects in the Reading of Zambian Words after 18 Months of Instruction

<i>Fixed effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept γ_{00}	.62(.09)***	.32(.09)**	.17(.10)
FL (school mean) ¹ γ_{01}		.62(.15)***	.36(.15)*
(Achievement) Level γ_{10}			.30(.07)***
Level X FL (school mean) γ_{11}			.50(.12)***
Individual deviation from school mean on FL γ_{02}			.18(.21)
Level X Individual deviation (FL) γ_{12}			.37(.33)
<i>Random effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept τ_{00}	.09(.04)*	.03(.02)	.03(.02)*
Individual deviation from school mean on FL τ_{11}			.03(.04)
Residual σ^2	.22(.02)***	.22(.02)***	.13(.02)***
<i>Model Fit Statistics</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
-2 log Likelihood	344.23	333.40	206.73
AIC	350.23	341.40	226.73
BIC	360.68	355.33	261.54

¹school means on the Familiar Language Test

* $p < .05$. ** $p < .01$. *** $p < .001$.

Gender was dropped because this covariate did not explain variation. However, high achievers scored on average slightly less than 1 standard deviation $(.30/.56)$ higher than low achievers. School mean for Familiar Language continued to cause a main effect when individual-level variables were added; schools with the best average fit between language in which reading is practiced and Zambian language spoken by children scored $.64$ standard deviations $(.36/.56)$ higher than schools with a poor fit. This means that about 80% of the group with a good fit between familiar language and language of instruction is performing better than children with a poor language fit.

The cross-level interaction of school means on the Familiar Language Test and children's achievement level was also statistically significant, meaning that familiarity with the language of instruction was an extra incentive for high achievers. In Mongu where mean scores on the Familiar Language Test were highest (90% or above), high achievers scored on average 1.33 standard deviations beyond low achievers $[(.30 + (.50*.90))/.56]$. Both levels were as proficient in the language of teaching which indicates that the problems experienced by the low achievers were not caused by unfamiliarity with the language of teaching but other factors like the method used to instruct reading or the quality of teaching. In Lusaka schools with the lowest average score on the Familiar Language Test, the difference amounted to $.59$ standard deviations $[(.30 + (.50*.07))/.56]$ which is much less than in Mongu. The model did not further improve by adding an individual-level language covariate, i.e., individual deviations around the school mean on the Familiar Language Test, meaning that linguistic variety within classes was limited.

By including all individual-level predictors the predictive ability of the model improved by approximately 83% ($R^2 = 1 - .03 + .03/.22 + .13 = 1 - .17 = .83$). The variance component for the random intercept was significant ($\tau_{00} = .03$), suggesting that there was still variation in

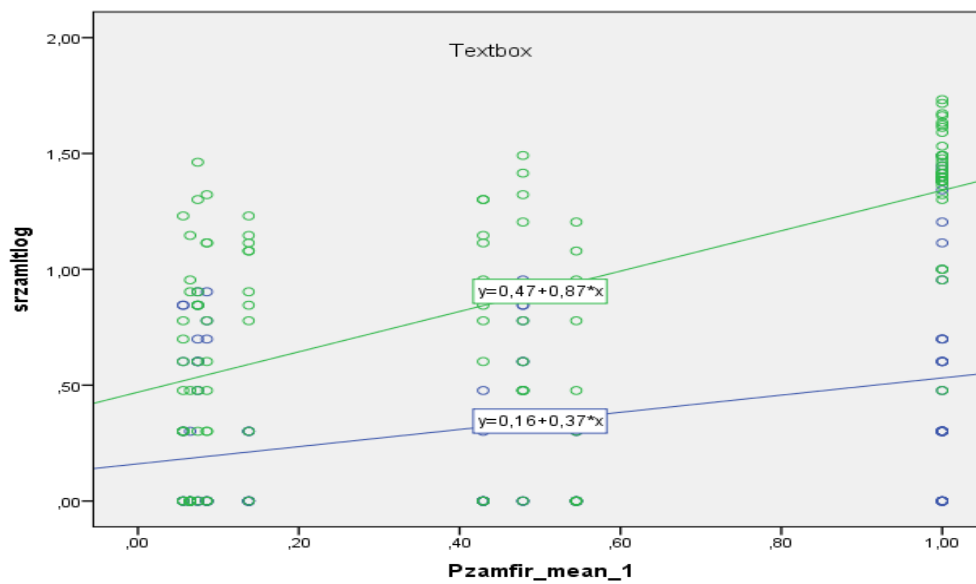
average school performance that was not accounted for by the school-level variables in the model. The significant residual ($\sigma^2 = .13$) indicated that there were individual differences among pupils within schools even after accounting for all effects.

When we entered teachers' categorization as L1 or L2 - instead of pupils' scores on the Familiar Language Test while all other variables were the same as in the regression model presented above, the regression model revealed on the whole a very similar pattern of outcomes.

5.6.1.3 Do low and high achievers benefit equally from the language fit?

Figure 5.1 shows that high-achievers benefited from a match between the home language and the language of instruction while low-achievers hardly benefited from a match. X-axis represents the school's average score on familiar language test and the y-axis the score on speed reading in the Zambian language. While both groups of children with a fit of the language of teaching start off on a low score both less than 1 word on speed reading the high achievers progress and score higher to reach almost 1.5 score while the low achievers hardly make any progress as they manage to reach only up to .50. This is a very interesting and surprising measure because, it was expected that the language of teaching once familiar to the child, it will lead to better achievement. In this case it seems that familiarity with the language of teaching benefits all children but high achievers much more than low achievers. Combined with the results in Table 5.4 high achievers outperformed the low achievers in basic skills such as phonemic awareness and sounds. The results indicate that familiarity with the language of teaching is more beneficial as children get more advanced in basic skills and have reached a level at which basic skills are sufficient to practice reading of words and sentences.

Figure 5.1: High and low achiever benefit from familiarity with language



The x-axis in Fig. 5.1 represents the schools' average scores on familiar language test and the y-axis the scores on speed reading in the familiar Zambian language. The blue line represents the low achievers and the green line the high achievers. From Fig. 5.1, it is clear that familiarity with the language of teaching only benefits high achievers whose average scores drastically improve with familiar language, starting with an average score of below .50 moving up to score 1.50. Whereas, low achievers, clearly do not benefit from familiarity with the language of teaching because the line remains horizontal with very marginal improvement in reading scores to just a very low score (.50). The main question for this study was whether familiarity with the language of teaching (L1) was an advantage for learning to read and write. Clearly from Fig.5.1, a good language fit gives advantage only to some not to all children. If the language does not help low achievers, then there must be other factors at play causing this problem.

5.6.2 Dictation

5.6.2.1 School-level effects on dictation

The variance components of model 1 in Table 5.7 suggests statistically significant variability at the between-school and within-school level, respectively ($\tau_{00} = 2.51$ and $\sigma^2 = 5.40$). The intraclass correlation, equal to .31, suggests that slightly less than one-third of the differences in writing Zambian words were attributable to school traits. To test whether children's average familiarity with the language of instruction could explain this school effect, school means on the Familiar Language Test were added to the model as a school-level covariate. The results, displayed in the second column of Table 5.7, show that familiarity with the language of instruction significantly affected the pupils' scores. Schools with a good match between the language in which reading is practiced and children's familiar language scored, on average, slightly more than 1 standard deviation ($3.05/2.81=1.09$) higher than schools with a poor fit. The variance component corresponding to the random intercept decreased from 2.51 to 1.34 (a reduction of 47%), demonstrating that the inclusion of school means on the Familiar Language Test explained much of the variation between schools.

5.6.2.2 Effects of pupil-level covariates on writing Zambian words

The third column of Table 5.7 presents the results from the final analysis in which individual- and school-level covariates were simultaneously added to the hierarchical model. Individual-level variables were: whether children were assigned to the high- or low achievers by their teacher and individual deviation from school mean on the Familiar Language Test (school-mean centred scores). By entering individual-level variables, the fit of the model improved. Model 3 was significantly superior to model 2 including only school-level predictors; $\chi^2 = 157.07$ ($1085.39-928.32$) with $(10-4=)$ 6 degrees of freedom.

Gender was dropped because this covariate did not explain variation. However, high achievers scored on average higher than low achievers. School mean for Familiar Language discontinued causing a main effect when individual-level variables were added. The cross-level interaction of school means on the Familiar Language Test and children's achievement level was statistically significant, meaning that familiarity with the language of instruction was an incentive but only for high achievers. The model did not further improve by adding an individual-level language covariate, i.e., individual deviations around the school mean on the Familiar Language Test.

Table 5.7: Fixed and Random Effects on word dictation after 18 Months of Instruction

<i>Fixed effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept γ_{00}	.258(.48)***	1.02(.48)**	.42(.55)
FL (school mean) ¹ γ_{01}		3.05(.78)**	1.86(.86)
(Achievement) Level γ_{10}			1.92(.32)***
Level X FL (school mean) γ_{11}			2.29(.52)***
Individual deviation from school mean on FL γ_{02}			1.04(.87)
Level X Individual deviation (FL) γ_{12}			2.16(1.43)
<i>Random effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept τ_{00}	2.51(1.13)*	1.34(.70)	1.21(.56)*
Individual deviation from school mean on FL τ_{11}			.65(1.18)
Residual σ^2	5.40(.51)***	4.77(.45)***	2.49(.23)***
<i>Model Fit Statistics</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
-2 log Likelihood	1113.99	1085.39	928.32
AIC	1119.99	1097.39	948.32
BIC	1130.44	1118.27	983.13

¹ school means on the Familiar Language Test

* $p < .05$. ** $p < .01$. *** $p < .001$.

When we entered teachers' categorization as L1 or L2 - instead of pupils' scores on the Familiar Language Test while all other variables were the same as in the regression model presented above, the regression model revealed on the whole a very similar pattern of outcomes.

5.6.3 Predicting reading words in English

Analyses with reading words in English as dependent measure revealed very similar outcomes. Twenty-six percent of the variance in reading English words was attributable to school traits. Schools with a good fit between language in which reading is practiced in Grade 1 and the Zambian language spoken by children scored, on average, slightly less than 1 standard deviation ($.38/.52=.9$) higher than schools with a poor fit. Furthermore, a good fit between language in which reading is practiced in Grade 1 and the Zambian language spoken by children enlarged individual differences within schools. In schools with the best average language fit, high achievers scored $[(.32 + (.50/.90))/.52=]$ 1.48 standard deviations higher than low achievers whereas the difference was much smaller in classes with the poorest language fit $[(.32 + (.50/.07))/.52=.67$ standard deviations]. When pupils scored beyond the classroom mean on the Familiar Language Test the score of high achievers on the English words further improved and as is indicated by a significant interaction between achievement level and individual deviation. This result confirmed and is in agreement with the theory of linguistic interdependence cited in chapter one and as discussed in chapter six that literacy skills acquired in L1 will support literacy skills development in L2. By including all individual-level predictors the predictive ability of the model improved by approximately 77%. The significant residual ($\sigma^2 = .06$) indicated that not all differences among pupils within schools were explained after accounting for all effects. Entering teachers' classifications as L1 or L2 - instead of scores on the Familiar Language Test - revealed a similar pattern of results (see Table 5.8).

Table 5.8: Fixed and Random Effects in the Reading of English words after 18 Months of Instruction

<i>Fixed effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept γ_{00}	.58(.08)***	.39(.11)**	.22(.12)
FL (school mean) ¹ γ_{01}		.38(.17)*	.15(.18)
(Achievement) Level γ_{10}			.32(.07)***
Level X FL (school mean) γ_{11}			.50(.11)***
Individual deviation from school mean on FL γ_{02}			.10(.17)
Level X Individual deviation (FL) γ_{12}			.79(.29)**
<i>Random effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept τ_{00}	.07(.03)*	.05(.01)*	.05(.03)
Individual deviation from school mean on FL τ_{11}			.01(.00)
Residual σ^2	.20(.02)***	.20(.02)***	.10(.01)***
<i>Model Fit Statistics</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
-2 log Likelihood	316.20	312.08	147.43
AIC	322.20	320.08	167.43
BIC	332.64	334.00	202.23

¹ school means on the Familiar Language Test

* $p < .05$. ** $p < .01$. *** $p < .001$.

CHAPTER SIX: DISCUSSION OF RESULTS

6.1 Overview

This chapter discusses the results of the study and results are presented according to the research questions and other questions that arose in the process of analysing of data and literature review.

6.2 Familiarity of the language of teaching predicts achievement in language skills

The present research supports the hypothesis that a better fit between children's most familiar Zambian language and the Zambian language in which basic reading skills are practiced leads to better reading skills in the Zambian language. Pupils from schools with the best average fit scored slightly more than one standard deviation ($.62/.56=1.11$) higher on reading Zambian words than pupils from schools with the poorest average fit. The results thus corroborate the theory that easy access to the meaning and phonology of Zambian words appears to be crucial for acquiring basic reading skills in a Zambian language which is in line with the literature on reading (e.g., Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg and Poe 2003; NICHD Child Care Research Network 2005). The test used in the current study to determine children's familiar language was not adopted from anywhere because no such test could be found by the researcher, but it was designed and developed by the researcher and since then a few other researchers have used it (Mwanza 2012, Matafwali 2010). This test has thus proved to be a reliable measure of familiarity with the language.

Other differences such as instruction and assignments given in an unfamiliar language are less plausible as an explanation for delays. Teachers seem to make use of the Zambian language that is most familiar to their pupils for telling them what to do, managing the

class and introducing new activities. This means that the concept of code switching is already in practice in districts where the language fit between the language of teaching and the children's familiar language or the teacher's familiar language is poor. In these classes, the language officially designated as the language of instruction is not used by both pupils and their teachers during their spontaneous communication. However, NBTL materials were written in the language of teaching initial literacy, and is therefore expected to be the officially designated language of Chinyanja, which for Lusaka and Chipata children proved to be unfamiliar and they did not spontaneously prefer it. Possible explanation for this language mismatch between the children's language and the language of teaching these two districts could be the cosmopolitan nature of the population in these districts which means that for most children in Lusaka and Chipata their language of play is different from the classroom Nyanja. The practice of code switching between the two varieties of Nyanja which has been referred to by Serpell (2011) and Banda (2002) was a common feature among teachers in Lusaka and Chipata schools but it was being used in classes in the two districts as a survival strategy. Explanation of concepts and class tasks by the teacher was in the children's other language instead of the official Zambian language used in course materials.

6.3 Language fit according to district

The question that begged answers from the study was whether the Zambian language policy for instructing reading in first grade was successful and districts did have a high fit between the language of teaching (L1) and the familiar language of the children in the schools under study. Performance on familiarity with the language of teaching, on the basis of scores obtained by pupils, ranked in the order of Mongu scoring highest with an

average score of 8 words on L1 and 0 on L2, followed by Chipata with Lusaka coming in third position. This result confirmed what was expected. The results for Lusaka schools showed that no children preferred words from the list on L1 with an average of .68 words; they all used words from L2 with an average score of 8.51 words. In Chipata a few children were familiar with words from L1 but not many, resulting in an average score on this language of 4.25 words, while the majority preferred words from L2 with an average score of 7.69 words. One may wonder why there was this difference with Lusaka schools. It has been stated earlier that the proximity of Chipata district to Katete and Chadiza districts where the language of teaching is the language on the street, with distances of 80 kilometres and 60 kilometres respectively between them, the possibility of language mixing and code switching is possible. It was expected even in the selection of the districts that some children in Chipata schools would prefer the language of teaching to the other language because of language mixing between Nyanja on the streets of Chipata and deep Nyanja spoken in the nearby districts. There is a lot of mobility of people between these towns agreeing with Serpell's (2011) reference to sociolinguistic environment of Zambia and that communicative competence is embedded in social relations. The results of the Familiar Language test have proved that, the officially designated language of teaching (L1) is not preferred by many children in the two districts of Chipata and Lusaka. Children using a mix of languages and showing code-switching as some expect in a multilingual society like Zambia were very rare. In Mongu district, however, where the test results showed a strong language fit between the language of instruction and the language children used in homes and playground, it was the official language of instruction which was being used for teaching and learning initial

literacy. The Familiar Language test results showed between 90 and 100 percent of children's spontaneous preference for the L1 which was the language of teaching, and the results showed zero scores for the other language which could also be heard being used on Mongu streets. These results not only align the researcher's expectations based on his knowledge of the language situation in Mongu but also teachers' reports of children's familiarity with the language of instruction. On average they characterized 80% or more children as L1 users of the language of instruction.

6.4 Related arguments on Familiar language concept

The study also took note of dichotomies in language which include dichotomies of language versus dialects, mother tongue versus familiar language, and official languages of schooling versus other (deviant, informal, illegitimate) forms of speech (Serpell, 2011). The point presented in this study was not to dispute that these dichotomies exist in the three districts studied, but that the official language policy implemented by government in Zambia was not benefitting all children equally because of these dichotomies. The dichotomy related to the Nyanja officially designated for teaching initial literacy in Chipata and Lusaka and the Nyanja children spoken at home and play ground explained the preference for L2 by children in the two districts. The language usage situation in Zambia reported by Serpell (2011) where 50% of adults in urban areas claimed fluency in more than three languages including English and those in rural areas claiming fluency in more than two languages cannot authoritatively be applied to children learning at grades one or two. It may also be difficult to prove that all those languages claimed by adults are used for communication in the home or by children in the play

ground. Current findings show that children have strong preferences for one language and code-switching is rare even though several languages are spoken in their environment.

The study also acknowledged that communicative competence embedded in social relations was predictive of educational success (Serpell 2011) and it was because of this that the researcher went into the design with the assumption that the three districts would present varying language situations because society in those districts had varying linguistic situations. The dichotomy related to the Nyanja officially designated for teaching initial literacy in Chipata and Lusaka and the Nyanja children spoken at home and on the playground explained the preference for L2 by children in the two districts. The study further assumed that the communicative competence in either the designated language of teaching or the other language familiar to the children would have an effect on children's educational success and this was proved by results in language tests administered to the children in the sample of this study in the three districts. By applying multivariate models we could show that, taking into account individual differences, beneficial effects of teaching reading in a familiar language were substantial and similar for reading and writing.

6.5 Interdependence hypothesis between ZL and English

The other research question that the study set out to answer was whether successful initial reading in the familiar language supported development of reading in English in grade two. It was expected (1) that children who were taught initial reading in grade one in districts where the language fit was high, would successfully develop reading skills in that language and (2) that the skills developed in the first language would transfer to

reading development in English in grade two. This view is supported by many researchers that have been reported in chapter three (Banda, 2002; Cummins et al, 1984; Cummins and Swain, 1986) and the current study. Practicing reading in a familiar Zambian language is an incentive for learning to read in English probably because a better understanding of the relationship between spelling and phonology in the Zambian language as a result of learning in a familiar language facilitates learning to read in English. Pupils from schools with the best average fit between language in which reading is practiced in Grade 1 and the Zambian language spoken by children scored (.38/.52=.73 standard deviations higher on English words than pupils from schools with a poor fit. Results thus corroborate the linguistic interdependence hypothesis predicting that the acquisition of reading in L2 is mediated by the level of L1 competence at the time the child starts to practice reading in L2. This proof of transfer from L1 reading ability to English reading ability was very crucial in the Zambian context during the design of the Primary Reading Programme because most parents and policy makers assign very high status to English as the language of development both for the individual and the nation and also that it was the language for employment. The feeling in 2000, during the period in which NBTL was designed, was that children should quickly switch to being taught reading in English because the belief was that starting to learn in L1 would slow down or disadvantage English. So, it was important that the method adopted showed quick and effective benefits accruing to English from L1 success.

Linehan (2004:10) also highlighted a number of barriers that threatened the implementation of PRP and also reported mitigation measures that made implementation

possible which new reading programmes in Zambia such as the Primary Literacy Programme can learn from. Some of these threats or barriers cited related to language are as quoted here:

- i) *It was argued that initial literacy through a local language would mean that all teachers would have to be deployed to areas where their own language was spoken and this would create chaos and might even lead to a 'tribal education system'. In practice, teachers do not need to be native speakers of the language in order to teach it at Grade 1 since the concepts and vocabulary are very basic and would be known by any adult person living in the area regardless of whether it was their mother tongue or not. In fact, in PRP pilot schools, it has been found that non-native speakers are getting better results, probably for the very reason that they are being extra careful and may be using the children as informants, which fits well with the child-centred methodology.*
- ii) *It was also argued that since English was spoken in urban areas, local languages would disadvantage the urban child. It often took a visit to a school by a Ministry of Education official to convince teachers that the language that was spoken by children in the playground – the language of play - was not English, but the dominant local language.*
- iii) *Allied to this argument was the concern that since schools often had many language groups represented in their student body, it was impossible to choose a language of instruction that would suit all. Again, it soon became apparent to teachers that all of the children quickly picked up the language of play and were far more comfortable in this than any of them would be in English.*
- iv) *The strongest threat was the prospect of parental opposition to the use of local languages. There was a fear that parents would see this as a backward move since English has long been the high status language (Linehan, 2004:10).*

It was because of this that the researcher conducted a number of tests not only in L1 but also in English to test the hypothesis of transfer from L1 to L2 or the interdependence hypothesis discussed under the section titled 'Theoretical Framework'. These tests were word reading, phonemic awareness, dictation, and story writing. Generally results showed that children from the district and schools that had a high language fit scored highly not only in the Zambian language tests but also in English except for story writing where all districts equally scored very lowly with only one school in Mongu scoring rather high. This agreed with the theory of linguistic interdependence which states that

when children are acquiring literacy skills in the second language after successfully acquiring initial reading skills in their first language, the factors and strategies that supported literacy development in L1 will support literacy development in L2 (Cummins et al 1984)

6.6 Did both low and high achievers benefit equally from high language fit?

The other question that the study addressed was whether low achievers and high achievers benefitted equally from familiarity of the language or not. From comparisons of test results in phonemic awareness, word reading and dictation, it was clear that for both low and high achievers familiarity with the language in which reading skills are practiced grows in importance as children become more proficient in reading. In schools with an on average higher score on reading tests, the difference between low and high achievers amounts to about 1.5 standard deviations for reading in the Zambian language and in English whereas the differences are there but less dramatic - slightly more than 0.5 standard deviations – when children are taught in an unfamiliar Zambian language. This indicates that, in particular after children have learned how to read words by applying letter-sound rules, familiarity with the language in which reading is practiced facilitates word reading and speeds up reading development (e.g., Evans, Shaw and Bell 2000; Sénéchal and LeFevre 2002; Storch and Whitehurst 2002). Figure 5.1 in Chapter five clearly shows that low achievers despite having a high language fit did not benefit from the language policy to the same extent as high achievers. Low achievers did not sufficiently develop basic skills which could assist them in reading. The figure on the other hand shows that high achievers benefitted more from the language policy under PRP. Scores in word reading for both Zambian languages (L1) and English for high

achievers were high with an average score of 13.28 while low achievers had an average of only 3.02 in ZL and high achievers had an average score of 10.79 in English and low achievers had an average of 2.16.

The question that begs answers here is how did these low achievers remain behind even though they were in the same classes as the high achievers and they did not differ in familiarity with language of instruction? Half of the 25% lowest performing children score only 0 to 2 words on the reading tests even though they are familiar with the language of instruction. Scores in phonemic awareness in Zambian language L1 which on average were 6.04 out of a possible 10 for high achievers and only 1.97 for low achievers indicate that low-achievers did not reach a basic understanding of reading after almost two years of teaching. A genetic disposition for dyslexia, i.e., serious problems in acquiring alphabetic knowledge, may be true for a minority but not for all pupils with a delay. Considering the shallow orthography of Zambian languages, it is not very plausible that more than 5% has severe reading impairment caused by phoneme processing deficits (Paulesu, Démonet, Fazio, McGrory, Chanoine, Brunswick, Cappa, Cossu, Habib, Frith and Frith 2001). An additional explanation could be that the New Breakthrough To Literacy (NBTL) approach does not provide sufficient practice in basic reading skills particularly for children who did not have a chance to familiarize with the alphabetic principle outside school by reading books or exploring writing (Bus, 2001). It is also possible that teachers do not succeed to implement the method. Even though the method prescribes training in phonics, actual pedagogic practices may be insufficient to promote all children's understanding of letter-sound relationships and this may explain

delays in reading. The NBTL approach reserves extra time per week for the lowest achieving pupils but teachers may, for several reasons, not succeed in realizing additional training in groups that lag behind (Miles 2009). Future research should explore these explanations for reading delays by documenting the quality and duration of training in basic reading skills as realized for low- and high achievers.

It was expected by developers of the method that children who were placed in the fourth (weakest) group would successfully move up to higher groups after successive assessment, teaching and remedial work. In reality it rarely happened that way. Children who in the early days of starting grade one had been placed in the lowest group after the first or second assessment actually remained in that group for ever and never caught up with their high achieving colleagues, they remained in what this researcher refers to as the “**literacy lay-by**”. For these children, the reason that they do not catch up with their colleagues is not language. For low achievers in Mongu where the language fit was between 90 and 100 percent, low achievers have the language but they still perform badly on language tests. There may be numerous teacher, pupil, classroom and home factors that can explain this unfortunate reality where children remain behind and never catch up. This situation begs for further research by this researcher or other researchers to find a plausible explanation why children with a perfect language fit fail to benefit from the language. The situation may be made worse by the absence of a policy that supports repetition for children who are not progressing. What is commonly referred to as automatic promotion from one grade to another is what dooms these low achieving children to this category until they drop out of school or are removed from school by

grade seven selection examinations which unfortunately for these children require that you are a fluent and competent reader.

6.7 Quality education and learner achievement in reading

The situation where children fail to learn to read despite an appropriate language policy for them defeats the quest for the Zambian government to achieve quality education for all children as advocated by the Educating Our Future (MoE, 1996) policy document. One of the indicators of quality in education which is regularly referred to at Ministry of Education Annual Review Meetings is achievement levels in reading in Zambian languages and English, and numeracy. The reading level figures have kept dropping in the last few years despite a widely celebrated PRP. It may be helpful to see the place of literacy in the context of the three boxes used by UNESCO and World Bank to discuss quality education. These are the **Inputs**, **Process** and **Output** boxes as illustrated in figure 6.1. Inputs box comprises infrastructure, furniture, teachers, water and sanitation, and learning and teaching materials. The Process box comprises classroom practices of teaching and learning and use of resources. Outputs box consists of indicators that confirm that quality education is being delivered such as progression rate, achievement rate and other indicators.

Figure 6.1: Model of quality education (UNESCO, 2002).

EFA model of quality education



Source: Adapted from UNESCO in Banda 2002.

In discussing quality education, education stakeholders refer to first the Inputs box which includes infrastructure provision, quality furniture provision, learning and teaching materials provision and teacher supply. It is assumed that once these are in place, then quality education will ensue. Most developing countries are busy mobilising resources to meet the requirements of the Inputs box. Once they are satisfied that adequate Inputs have been provided; there are good looking schools with good furniture, books are provided, and teachers are deployed, they sit back and begin to observe for indicators in Outputs box, such as achievement in reading, progression rates, dropout rates, and many others. The Process box which focuses on classroom process, practice, environment, and culture is usually not the focus of attention and yet this is where teaching and learning processes take place. It is in the middle box where the dynamics of language policy, teacher instruction, teacher ability, assessment and feedback, use of the available materials and rich language environment are found and should be facilitated. This study was looking at only one aspect in the middle box to see how learners were benefiting from the language policy and instruction.

From the year 2014 the government through the Ministry of Education embarked on replacing PRP with the Primary Literacy Programme (PLP) where the same language policy is central but with an extension from one year to four years of teaching reading in L1 based on the same seven official regional languages of Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja, and Tonga. Although increasing the duration in which the use of a Zambian language as medium of instruction was supported by Snow and Moje (2014) and it was the subject of recommendation in this study (Tambulukani & Bus, 2012), it was not the only factor that the study identified as possible reason for poor results of

PRP. Under the same PRP, the English programme was enriched with a programme of oral practice through stories, songs, games and rhymes which were not evident in the local language components courses. NBTL, the grade 2 Zambian Language programme, and the Read On Course did not have a strong oral language component where children could enrich the language of teaching through stories, songs, games and rhymes like the English course, Pathway, had. The other possible factor may have been the fact that the very important basic skill practice in phonics was rushed under NBTL, because children practiced one phoneme per day and these were not revised or repeated. The absence of a strong syllabic practice under PRP may be another factor. Syllabic practice seems a possible way to familiarize children with the spelling of Zambian words. When the researcher was administering the phonemic awareness test, all teachers in all schools liked the test and admitted never practicing phonemic awareness in class. They asked to remain with a copy of the test so that could remain to practice it with children in class. It was desirable therefore that PRP is put to test in order to find out what worked and what did not work in order for future methods to achieve better results. This is what this study set out to achieve, to examine PRP with the view of finding out whether the policy that guided it was working equally for all Zambian children or not. The results clearly are showing that the policy did not work for all children.

6.8 Success of the local language-medium policy

As the researcher anticipated, the local language-medium policy is successful in Mongu but not in Lusaka and Chipata. In four schools in Mongu, pupils were familiar with Lozi - the language of instruction: They preferred Lozi to Mbunda when they named details in a picture and teachers classified them as Lozi users. Correspondingly, children in Mongu

where the language fit is high also performed well on language tests thereby proving most researchers on language policy in education right. Pupils from the Lusaka schools, on the other hand, were not familiar with the language in which they practiced reading as is indicated by their preference for words from “town Nyanja” and their classification by the teacher and their scores on language tests were generally poor. The Nyanja spoken on the street and at home in Lusaka is inconsistent with the “standard Nyanja” in the reading method. According to their teachers, most Chipata pupils also preferred “town Nyanja” to “standard Nyanja”. They scored somewhat higher on the Familiar Language Test than Lusaka pupils, in line with the hypothesis that the local language spoken in Chipata in some homes and on the street has some similarity with the Nyanja used for teaching basic reading skills and some children may therefore be familiar with this language. Overall the findings support the impression that the language designated as the official language in a district may not dominate in the homes and on the street and is only known by a small minority. As reading is taught in the official language in Grade 1 (deep Nyanja), many Zambian pupils in Chipata and Lusaka practice reading skills with words of which the sound and meaning are less familiar and perform poorly in language tests.

The current findings contradict the assumption that Zambian children easily switch from a vernacular language to the official local Zambian language that is used for instruction and that their not having the language of teaching as mother tongue should not disadvantage them. Even though there is some overlap between pupils’ vocabularies and the language of instruction among some children in Chipata schools because of proximity to districts that speak deep Nyanja, children experience serious problems with reading as

the low scores of Chipata pupils on the reading tests indicate. These children did not code switch during testing in this study.

6.9 Performance of Lusaka schools on tests in English and on letter sounds

On all language tests in the Zambian language of teaching (L1), children in Lusaka schools scored very poorly, but their scores on letter sounds and familiar language test in English they outperformed the other districts of Chipata and Mongu. On sounds, scores for Lusaka schools ranged between 9.30 and 17.35, Chipata scores ranged between 4.85 and 11.50, and surprisingly Mongu scores ranged between 8.20 and 12.50. The researcher interrogated this result and attributed the high score average for Lusaka to possible rich English environment in Lusaka and effective practice with the English alphabet which may have been missing in the other two districts. In reading in both English and Zambian language Lusaka children scored higher when they read English words as compared to Zambian words whereas in the other districts scores were higher on Zambian words. These results for Lusaka could point to the possibility that for Lusaka schools, English is a more familiar language to the children than the deep Nyanja used in NBTL although they are both second languages to these children because they have the other Nyanja that is most familiar to them.

6.10 Summary

This chapter discussed the results of the study in relation to the research objectives, questions and hypothesis. In the main, the study has addressed all the three objectives. The next chapter presents the conclusions and recommendations arising from the findings of the study.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

7.0 Overview

The previous chapter discussed the findings of the study. This chapter presents the conclusions and recommendations arrived at after discussion of the results of the study.

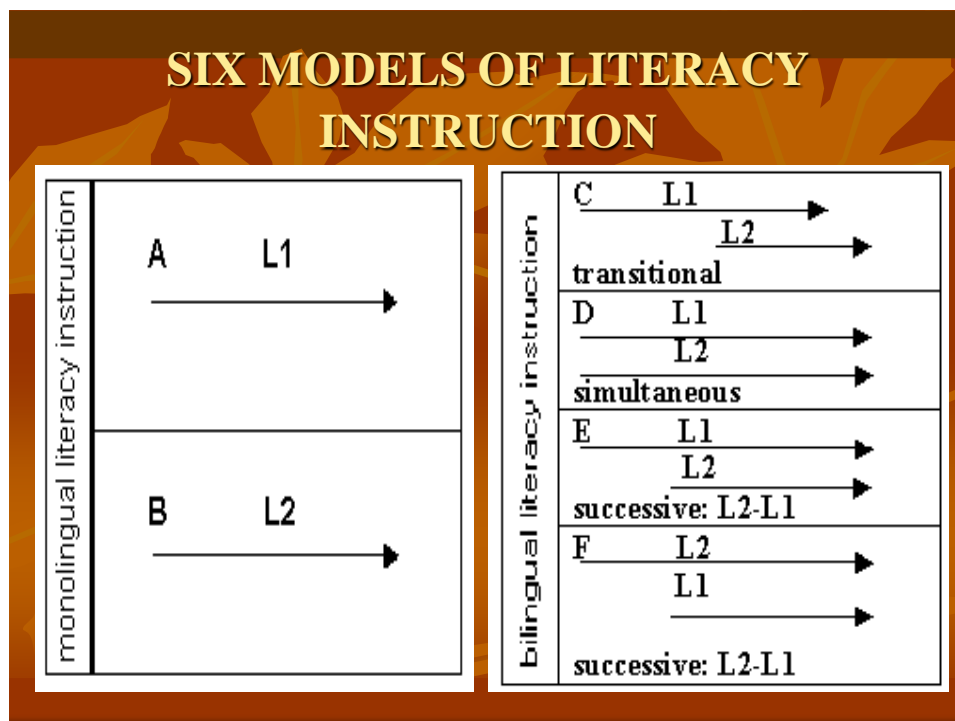
7.1 Conclusions

The results showed that the new language-medium of instruction policy applied under PRP in Zambia fell short of expectations. Not only was progress in the reading of English rather weak but progress in reading of a local language was weak as well. The majority of children's reading ability did not enable them to comprehend simple written sentences in a Zambian language even though they had been exposed to 18 months of reading instruction. The average reading score of 8.15 Zambian words per minute was low compared with reading proficiency of children in countries with an equally transparent orthography after the same period of instruction (Patel *et al.*, 2004). For instance, Dutch children read on average about 30 Dutch words per minute after 18 months of instruction. However, it may be argued that comparisons with Western countries may not hold due to high absenteeism rates, ill-health and other problems faced by both teachers and children in Zambian schools due to HIV/AIDs pandemic and other socioeconomic factors. It may also be unfair competition because of the rich resource base in the Dutch or other European learning environment where teacher factors, learner factors, school management factors and community factors are mostly more supportive of effective teaching and learning than they are in developing countries like Zambia. It may be more preferable and fair to compare the Zambian situation with situations in neighbouring countries but relevant data were still missing at the time of the study. It is however,

common knowledge that during the active implementation of PRP, Zambian teachers were trekking to some Southern African countries to teach because ‘the pasture was considered better’ including resources and materials to support teaching.

Banda (2002) has quoted, Verhoeven (1994) and Spolsky (1986:20) and gives a good synopsis of literacy models followed by a number of African countries, and the Zambian PRP fits in well in the model given below:

Figure 6.2: Models of literacy instruction



Source: Adapted from Banda (2010)

In Model A, the minority language (Local language) is used exclusively as language of instruction and as the target language while there is no literacy instruction in the majority language (English).

In Model B, The majority language is the language of literacy instruction and target language while the minority language is excluded.

In Model C, literacy instruction starts in the minority language and at the same time or a short time later literacy is also taught in the majority side by side with the minority language. In the course of instruction, L1 is interrupted and gives to L2 which remains the only language of literacy instruction, hence the label given to the model as Transitional Model.

Model D, E, and F all aim at bilingual literacy development though the two languages may start at different points in the curriculum. Williams (1990) seemed to favour bilingual literacy. As can be seen in these models, Zambia has attempted Models B, C and E. Under PRP and currently moving towards PLP, the country is in Model C.

Malawi has two official languages, Chichewa (L1) and English (L2) and the model used is start with L1 and transition to L2.

South Africa has eleven official languages and the languages for commerce are two, English and Afrikaans. The policy of South Africa is to promote all the official languages and schools and parents have a right to choose the language for use in their schools.

Nigeria has four major official languages and the policy is to see every child study in two of these languages.

These are some of the models being followed by other African countries and what remains to be done is assess how well the policies are working in these countries.

In 2014, the Namibian government announced a major language policy shift from English to mother tongues from pre-primary to grade five. The Namibian Post of 18th March, 2014:5 carried a big headline:

Namibia scraps English from Pre-Primary to Grade Five.

The accompanying article read in part;

The Namibian government has announced that English will no longer be the language of instruction from pre-primary to Grade Five from next year (2015) as part of several changes on the national curriculum. The Education Minister... said the draft language policy prescribes the use of mother tongue as medium of instruction in the formative years of schooling and its continued use as a school subject in further education...English will be used as medium of instruction from Grade Six.

This was a very significant policy change in a neighbouring country to Zambia. At about the same time, however, Zambia was making similar language and curriculum changes leading to the launch of PLP. This is an indication that the policy of teaching initial reading in first language of children is a good policy. The current finding that children learn most when they are taught in a familiar language aligns the policy under PRP. The question arising out of this good news is whose first language? If the language designated as the first language should be the language of instruction for initial reading but it is not the familiar language of children being taught, the policy might fail if other measures are not put in place.

In two ways the design for this study could be criticised that it was unbalanced. Unbalanced because, first of all, familiarity with the language in which reading was

practiced was confounded with the Zambian language of instruction. All schools characterized by a relatively poor language fit taught their pupils in Nyanja whereas schools with the best fit taught in Lozi. It is not very plausible that any differences in reading proficiency have emerged from differences in spelling. In both Lozi and Nyanja, connections between letters and sounds are symmetrically consistent at letter-phoneme level, that is, each letter represents only one phoneme and each phoneme is represented by only one letter (Kashoki 1990). However, as the better fit between children's language and the language of instruction is concentrated in schools in Mongu we cannot rule out that other aspects of the culture, typical for schools in Mongu, offer an explanation as to why these schools outperform schools in Lusaka and Chipata, a hypothesis also supported by Serpell (2011) which states that communicative competence is embedded in social relations. As we did not collect information on family circumstances and pedagogical practices, other differences than familiarity with the Zambian language in which reading is practiced may explain the contrast between Mongu and the other two districts. However, there are no obvious reasons for assuming such differences between Mongu and the other districts.

Furthermore, we made assumptions about the method and environment without further documentation. Future studies should document the quality of reading instruction and the match between children's language and the language used by the teacher for explanations and assignments, thus assessing the quality of teaching and this would delve more into the middle Process box in the Global Monitoring of quality model (UNESCO, 2002). Likewise more documenting of the home environment is advisable. Even though visits to homes in each district confirmed our suspicion that there is hardly any print available,

future studies would do well to explore more the language of print used by family members and in the environment. Future studies should document the quality of reading instruction and the match between children's language and the language used by the teacher for explanations and assignments, thus assessing the quality of teaching. Likewise more documenting of the home and school environments is advisable. Even though visits to homes in each district confirmed our suspicion that there is hardly any print available, future studies would do well to explore more the language of print used by family members and in the environment.

In the pursuit of ways to improve reading instruction in multilingual countries such as Zambia, it is tempting to exclusively blame learning to read in a language that differs from what constitutes the home and playground language of the students as the major cause of a low success rate in learning to read. The present research confirms that reading proficiency is substantially improved when there is a close fit between the students' home language and an indigenous language serving as a medium of instruction. We may therefore expect that a large number of the 1.25 billion people all over the world who live in a complex multilingual environment run a greater risk of not being able to take optimal advantage of reading instruction. Simultaneously, our findings show that there is no easy solution as many Zambian primary school children are not in a position to benefit educationally from the local language-medium policy as currently implemented (Akinvaso 1994) as many children are not familiar with the local language that is designated as language of instruction.

Despite the language-medium policy which favours teaching initial literacy in a familiar language to the children, most Zambian children are not instructed in their most familiar language. This mismatch between the language familiar to the children and the language being used for teaching reading in Zambian schools was compounded by the limited time that children practice reading in the local Zambian language. Clearly, one year of NBTL, practicing reading in the language of teaching was rather short for children who are grappling with an unfamiliar language. Extension of the period in which reading is practiced in the Zambian language is suggested as one possible answer to the present deadlock because children then have more time to familiarize with the indigenous language that is used for instruction which is not their familiar language. The Zambian Ministry of Education has realised this important point and introduced a new policy in 2013 in the Revised Curriculum Framework called the Primary Literacy Programme which extended the period of first language instruction from the one year under NBTL to four years. The new policy dictates that instruction in English should begin in Grade Five after children have acquired sufficient vocabulary in English. However, the PLP does not clearly guide on the teaching of basic skills of phonics and phonemic awareness which are instrumental to learning to read. This position is supported by Snow and Moje (2010) when they argue against what they called “**inoculation fallacy**” thus:

For years, there was a widespread assumption that reading instruction was finished by the end of 3rd grade. The successful 3rd-grade reader was assumed to be prepared for content-area reading in later elementary and secondary grades. But even students who read well by the end of 3rd grade can struggle with comprehension in later grades. We refer to the massive investment in primary grades literacy instruction while neglecting

*later literacy development as the **inoculation fallacy** — the fallacy that an early vaccination of reading instruction protects permanently against reading failure. The need for literacy instruction does not end with the 3rd grade, or even in high school.*

The position of Snow and Moje (2010) is that reading instruction should not end in the early years of education but should continue beyond grade 3 to secondary school. Children need support in developing appropriate reading skills which can support learning other subjects, from primary school to higher grades and it should not be a one off concern or as they call it, one off '**inoculation**'. Reading instruction should be the concern of every teacher not only grades 1 to 4 teachers.

There is evidence however that, in addition to the language issue, other facets of reading instruction may explain delays in learning to read but a broader analysis that considers all facets simultaneously has not yet been conducted. Our findings concerning low achievers suggest that apart from unfamiliarity with the language of instruction, the quality of phonics training and probably also the teachers' ability to apply phonics instruction may contribute substantially to pupils' success rate. The current phonics teaching programme is rather fast tracked where a phoneme is practiced each day with a very slim chance that any of the phonemes covered would be revised or revisited. This approach to teaching phonics begs for review as the results of this study have shown the critical role that phonics and phonemic awareness practice plays in successful reading instruction and where practice in phonics is not well done and given enough time, children who have not developed basic skills to adequate levels will surely remain in the literacy lay-by.

The other aspect that requires consideration which has not been discussed in Zambian education curriculum planning, especially, when planning literacy interventions such as the newly introduced Primary Literacy Programme (PLP) under the revised Curriculum Framework of 2013, is the relation between learners' experiences at home and at school. The current practice where children find a totally different situation, environment and practices may be shocking many children into silence and non participation in class activities. Eventually, this disconnect between home and school may lead some children to remain behind while others progress. As proven by studies in emergent literacy practices in both Lusaka communities (Musonda, 2011) and rural communities (Kaunda, 2013), children at home play with their familiar language, they sing songs in it, they play games, they tell stories and rhymes in the language but when they come to school, these play practices in the local Zambian language of instruction are abandoned or are not used by teachers. Teachers should incorporate home activities like stories, games, songs and rhymes in Zambian language lessons in class. This is important especially when the language of instruction is not the children's familiar language. Since extension of the language policy to other local languages beyond the seven regional languages seems to be an impracticality due to limited resources, enriching the oral practice component in the language of teaching might help to enrich children's vocabulary in it, as Serpell (2011) advises, 'teach them what they will need' not what is required if it is not practical to do so. What they will need here refers to the language of teaching if they do not have it already; they need it so teach them in it. In summary, the study has brought out the following conclusions in answer to the three research questions:

- 7.1.1 The new language medium of instruction policy under PRP as given by the Educating Our Future document fell short of expectations in all three districts as shown by very low scores gained in all tests even in Mongu, the district where the language fit was good
- 7.1.2 Study results have shown that reading proficiency improves when there is a closer language fit between the language of teaching and children's home or familiar language as proved by results in Mongu schools (see results in chapter five). Children from a poor language fit did not benefit from the PRP language policy.
- 7.1.3 Children do not benefit equally from a good language fit as illustrated by Mongu test results, but those children who have sufficiently developed basic skills such as phonemic awareness and phonics knowledge benefit more (see chapter five). Low achieving children in the sample scored poorly on basic skills tests and also performed poorly on all literacy tests despite being taught in their familiar language.
- 7.1.4 Results in this study have confirmed the theory of interdependence because children who scored high marks in the first language also scored high marks in English tests, clearly showing that literacy development in the second language does benefit from literacy development in the first language, proving the theory of transfer from L1 to L2 (see Mongu results in chapter five).

7.2 New knowledge

This study has made the following contributions to knowledge:

First, there is the innovation of the **Familiar Language Test** that tests children in order to determine which language is the most familiar to them especially in a multilingual country such as Zambia. There was no such test before and now other scholars have started using or critiquing it (Mwanza 2012; Matafwali, 2012; Serpell, 2011).

Second, the study has revealed that the familiar language policy does work but it does not benefit all children equally because some take advantage of the good language fit while others even if they have the language they fail to breakthrough to literacy and remain in the '**literacy lay-by**' while others progress.

Third, when familiar language benefits children in learning to read in a Zambian language (ZL), the literacy skills developed in the ZL seem to transfer to literacy skills development in English thereby confirming other researchers' theory of linguistic interdependence (Dickson et al, 2003).

The study has contributed a new concept in literacy studies called, the **literacy lay-by** referring to children who lag behind in literacy development while others progress.

7.3 Recommendations

The researcher has made some recommendations and key among them include that:

7.3.1 Teachers should include oral language strategies such as stories, songs, games and rhymes in Zambian language lessons as a way of enriching the language

proficiency in children especially for those for whom the language of instruction is not their first language and also to make learning local languages fun.

7.3.2 The Ministry of General Education should ensure prompt provision of adequate and appropriate learning materials for the enhanced oral language practice and extended phonics and phonemic awareness practice;

7.3.3 The Ministry of General Education should ensure provision of appropriate teacher training in literacy instruction in the local languages especially in basic skills as an ongoing practice, not a one off activity in teacher training institutions;

7.3.4 Teachers should teach basic skills of phonemic awareness, phonics and syllabic knowledge to children beyond grade one for another one or two years which may give the children an extra tool for them for learning to read and write in these early grades;

7.3.5 The government should seriously consider introducing other Zambian languages to add to the existing seven zonal languages as medium of instruction so that more children are taught literacy in their familiar languages.

7.4 Suggestions for future research

The following areas require further research in order to explain some of the puzzling results from this study.

7.4.1 Research is required to determine other factors that hinder children with a good language fit from benefitting from the language; this will require a closer look into classroom practices in Zambian schools. It is further hoped that results from

this study may inform future development and implementation of literacy programmes such as PLP in Zambia and also in other countries which are using a similar language policy in education.

7.4.2 Research is required to establish the relations between learners' oral language experiences at home and at schools and how this affects the learning of literacy in school.

7.4.3 Research is required to assist government in the selection of additional Zambian languages to join the seven zonal official languages to be used as medium of instruction und PLP. The results of the research may assist government to avoid arbitrary choice of languages which can bring about acrimony among the citizens.

7.5 Summary

The chapter has presented the conclusions from the report. In summary the conclusions arrived at are: the language policy of teaching initial reading in the first language benefitted only some children and not all children in the three districts, for children who have developed a level of proficiency in basic skills and the language of teaching scored high on reading and writing in both Zambian language and English, and finally, low achieving children did not benefit much from the language policy even when familiarity with the language of teaching was good. The chapter has also presented new knowledge generated by the study and a number of recommendations including suggestions for further research.

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APENDICES

APPENDIX 1: THE UNIVERSITY OF ZAMBIA SCHOOL OF EDUCATION DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION LEIDENUNIVERSITY

FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING PROGRAMME?

FAMILIAR LANGUAGE TEST (CINYANJA)

INSTRUCTION

- This test is based on a picture
- Children are tested individually
- Ask the child look at the picture and talk about what they can see in the picture in the Zambian language (both items and actions)
- Listen for the vocabulary the child uses and tick those on the score sheet under the appropriate language
- Repeat the test in English
- Allow 5 minutes for each child

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

FAMILIAR LANGUAGE TEST – CINYANJA
SCORE SHEET

	Cicewa	Score	Cinyanja	Score	English	Score
1.	madzi		manzi		water	
2.	mtsinje		kamana		river	
3.	ndalama		ndalama		money	
4.	kusewera		kusowera		playing	
5.	kutina		kuchisa		ironing/pressing	
6.	kutung		kutapa		drawing water	
7.	mbiya		nongo		clay pot	
8.	atanje		akapanda		pumpkins	
9.	nthoci		vikonde		bananas	
10.	anthu		wanthu		people	
11.	ana		Wana		children	
12.	ngungulu		ngungulu		dust bin	
13.	delesi		delesi		dress	
14.	malaya		malaya		shirt	
15.	mwana/khanda		mwana		baby	
16.	gome		thebulu		table	
17.	nsimbi		nsimbi		pressing iron	
18.	kondwa		temwa		happy	
19.	dzenera		windo		window	
20.	mbereko		nguwo		baby cloth	

**APPENDIX 2: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

**FAMILIAR LANGUAGE TEST
(SILOZI)**

INSTRUCTION

- This test is based on a picture
- Children are tested individually
- Ask the child look at the picture and talk about what they can see in the picture in the Zambian language (both items and actions)
- Listen for the vocabulary the child uses and tick those on the score sheet under the appropriate language
- Repeat the test in English
- Allow 5 minutes for each child

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

FAMILIAR LANGUAGE TEST – SILOZI
SCORE SHEET

	Lozi	Score	Mbunda	Score	English	Score
1.	mezi				water	
2.	nuka				river	
3.	masheleni				money	
4.	kubapula				playing	
5.	kuhana				ironing/pressing	
6.	kuka mezi				drawing water	
7.	pizana yalikupa				clay pot	
8.	mupusi				pumpkins	
9.	makonde				bananas	
10.	batu				people	
11.	banana				children	
12.	musima wamalabishi				dust bin	
13.	sapalo				dress	
14.	hembe				shirt	
15.	mbututu				baby	
16.	tafule				table	
17.	simbi/ haini				pressing iron	
18.	katabela				happy	
19.	lihauloo				window	
20.	kubo				baby cloth	

**APPENDIX 3: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

LETTER SOUNDS TES

LETTER SOUND TEST SCORE SHEET

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

- Ask individual children to read out the letters and sound out the letter sound in the Zambian Language for each letter of the alphabet below.
- Allow up to 30 seconds for each letter.
- Tick those read out and sounded correctly and record the score(44 marks – 1 mark for the letter and 1 mark for the sound).

LETTER SOUND TEST

Sound	Score	Letter	Score
/o/		o	
/u/		u	
/a/		a	
/ts/		t	
/dz/		d	
/e/		e	
/f/		f	
/b/		b	
/p/		p	
/m/		m	
/h/		h	
/i/		i	
/v/		v	
/j/		j	
/k/		k	
/g/		g	
/r/		r	
/z/		z	
/w/		w	
/h/		h	
/s/		s	

**APPENDIX 4: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

STORY WRITING TEST

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

Based on the picture with lions

- Ask the children to look at the picture.
- Ask them to think of what story the pictures tell.
- Ask them to write sentences to tell the story based on the pictures on a given paper. They first write in English and then they write in the Zambian Language.
- A sentence for each picture is required. A minimum of six sentences by each child is needed.
- Allow 30 minutes for this test for each language (English and Zambian Language).

NOTE:

Ensure that the following identification data is written on the answer sheet before the test starts.

- ✓ The name of the school.
- ✓ The grade of the child.
- ✓ The identity (ID) number of the child.
- ✓ The sex of the child (M/F).
- ✓ Mother Tongue status of the child, whether (MT1 or MT2).

MT1 = The Zambian Language of the school in L1.

MT2 = Another Zambian Language of the child L 2.

**APPENDIX 5: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

DICTATION TEST – WORD LIST

Dictation Test Score Sheet - Cinyanja

District: _____ Pupil ID: _____

Name of School: _____

Official Zambian Language: _____

INSTRUCTION

- Explain the test to the children and make them feel at home.
- Ensure that they are ready for the test before you start.
- They should have writing paper and write their identification number on the answer sheet.
- Read the word three times.
- Allow time for the pupils to write down the word on papers provided.
- Maximum time for this test is 2 minutes per word.

	Word	Correct	Incorrect	Attempted
1	mai			
2	tate			
3	Konda			
4	Uka			
5	Tiyi			
6	Bvala			
7	Gula			
8	Sopo			
9	Lemba			
10	Yenda			
10	Yenda			

Word List – English words

	Word	Correct	Incorrect	Attempted
1	baby			
2	ball			
3	ear			
4	fat			
5	girl			
6	desk			
7	car			
8	wash			
9	dress			
10	play			

**APPENDIX 6: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

DICTATION TEST – WORD LIST

DICTIONARY TEST - SILOZI

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

- Explain the test to the children and make them feel at home.
- Ensure that they are ready for the test before you start.
- They should have writing paper and write their identification number on the answer sheet.
- Read the word three times.
- Allow time for the pupils to write down the word on papers provided.
- Maximum time for this test is 2 minutes per word.

	Word	Correct	Incorrect	Attempted
1	muhula			
2	mezi			
3	bona			
4	kuku			
5	mupika			
6	kaze			
7	mushimani			
8	apeha			
9	musizana			
10	muhala			

1	baby			
2	ball			
3	ear			
4	fat			
5	girl			
6	desk			
7	car			
8	wash			
9	dress			
10	play			

**APPENDIX 7: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

PHONEMIC AWARENESS TEST

PHONEMIC AWARENESS TEST SCORE SHEET

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

- This is an oral and individual test. Explain the procedure to the pupil before you start testing. Remember the English test comes after Zambian Language
- Give up-to two attempts to each child.
- You should give an example with the word (pig = ig).
- Say a word out twice.
- Ask the child to repeat the word aloud.
- Ask the child to say the word again but leaving out the initial letter in the word.
- Allow for 10 seconds for each word.
- Tick under the appropriate column to record the child's score.
- Ensure that they are ready for the test before you start.
- They should have writing paper and write their identification number on the answer sheet.
- Read the word three times.
- Allow time for the pupils to write down the word on papers provided.
- Maximum time for this test is 2 minutes per word

English words

	Word	Correct	Incorrect	Attempted
1	log = ___og			
2	boy = ___oy			
3	mat = ___at			
4	man = ___an			
5	bread = read			
6	bed = ___ed			
7	good = ___ood			
8	desk = ___esk			
9	pot = ___ot			
10	cup = ___up			

Follow the same instructions as for English but the **Zambian Language Test** first

Cinyanja words (10 marks)

	Word	Correct	Incorrect	Attempted
1	ana - __na			
2	tiyi = __iyi			
3	mai = __ai			
4	amalume = __malume			
5	atate = __tate			
6	kopa = opa			
7	uka = __ka			
8	gona = __ona			
9	pita = __ita			
10	moto = __oto			

**APPENDIX 8: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

PHONEMIC AWARENESS TEST

PHONEMIC AWARENESS TEST

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

- This is an oral and individual test. Explain the procedure to the pupil before you start testing.
- Give up-to two attempts to each child.
- You should give an example with the word (pig = ig).
- Say a word out twice.
- Ask the child to repeat the word aloud.
- Ask the child to say the word again but leaving out the initial letter in the word.
- Allow for 10 seconds for each word.
- Tick under the appropriate column to record the child's score.
- Ensure that they are ready for the test before you start.
- They should have writing paper and write their identification number on the answer sheet.
- Read the word three times.
- Allow time for the pupils to write down the word on papers provided.
- Maximum time for this test is 2 minutes per word.

English words (10 marks)

	Word	Correct	Incorrect	Attempted
1	log = ___og			
2	boy = ___oy			
3	mat = ___at			
4	man = ___an			
5	bread = read			
6	bed = ___ed			
7	good = ___ood			
8	desk = ___esk			
9	pot = ___ot			
10	cup = ___up			

Follow the same instructions as for English but the **Zambian** language test first.

Nyanja words (10 marks)

	Word	Correct	Incorrect	Attempted
1	ima - __ma			
2	malume = __alume			
3	taate = __aate			
4	kupa = __upa			
5	muhuma = __uma			
6	kota = __ota			
7	sima = __ima			
8	makande = akande			
9	sishete = __ishete			
10	simu = __imu			

**APPENDIX 9: THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION
DEPT OF LANGUAGE AND SOCIAL SCIENCE EDUCATION
LEIDENUNIVERSITY**

**FIRST LANGUAGE TEACHING OF INITIAL READING: BLESSING OR
CURSE FOR THE ZAMBIAN CHILDREN UNDER PRIMARY READING
PROGRAMME?**

WORD (SPEED) READING TEST(60 SECONDS)

SPEED READING TEST

District:_____ Pupil ID:_____

Name of School:_____

Official Zambian Language:_____

INSTRUCTION

- Children are tested individually.
- Explain the following instructions to the children clearly.
- Allow the pupil to read aloud to you as many of the following words as possible within 60 seconds.
- Assist the child by running a ruler down the page from word to word.
- Tick the words read correctly and those attempted but read incorrectly. Do this discretely so that the child does not see your mark.
- When the one minute is over, stop the child and record the score before calling the next child.
- Please ensure that the other children do not hear the child read.
- For children who do not start reading promptly, encourage them to do so through some probing or encouraging comments without reading the words for them.
- If a child is not able to start reading up to three minutes, you stop tesing the child and call the next child.

NOTE!

- ✓ Children should read every word and not skip any word but go fast.
- ✓ The test should be conducted in a room without writings on the wall.
- ✓ The experimenter will be an independent person and not a teacher in the school where the testing is being done.
- ✓ Repeat the procedure in the same manner for each and every child. Keep it the same.

List of words to be read: Cinyanja words

Word	Correctly read	Incorrectly read	Attempted
ana			
uka			
amai			
anai			
buku			
coko			
pita			
lima			
gula			
funa			
tuma			
tate			
tiyi			
gogo			
galu			
poto			
lira			
cona			
capa			
sopo			
gona			
famu			

yenda			
lemba			
bwera			
madzi			
mbuye			
kudya			
Phika			
mpando			
werenga			
desiki			
mmawa			
mwana			
malume			
konda			
zobvala			
yanika			
pongozi			
mtsikana			
nyumba			
sewera			
khala			
phasa			
nthambo			
mmnyamata			
pensulo			
yunifomu			

zitenje			
sukulu			
sunga			
mphunzitsi			
ng'ombe			
chalichi			
mbiri			
munda			
ngolo			
tauni			
kwera			
thengo			
Khasu			
khola			
mbuzi			
mafuta			
cimanga			
citsime			
punzira			
pephera			
mbereke			
gulitsa			
nyama			
nsaka			
matanda			
manja			

posita			
switi			
kalata			
buledi			
galimoto			
Bbwino			
shuga			
botolo			

List of words to be read: English words

Word	Correctly read	Incorrectly read	Attempted
on			
my			
me			
he			
we			
in			
us			
by			
cry			
do			
go			
dry			
cat			
pot			
eat			
sit			
mat			
boy			
oil			
tea			
hoe			
town			
desk			

come			
write			
book			
well			
wake			
farm			
bush			
goat			
water			
girl			
play			
keep			
cook			
house			
pray			
rope			
teacher			
pencil			
chair			
read			
school			
chalk			
cattle			
children			
climb			
teach			

morning			
uniform			
learn			
barn			
news			
church			
kraal			
soap			
grandmother			