

**Identifying the relationship between the home
environment, parental attributes and learner achievement
in reading literacy**

by

KAREN ROUX

Submitted in partial fulfilment of the requirements for the degree

MAGISTER EDUCATIONIS

in

Assessment and Quality Assurance

FACULTY OF EDUCATION

UNIVERSITY OF PRETORIA

SUPERVISORS:

Prof. S.J. Howie

Dr. S. van Staden

August 2014

To my loving husband, Edrick

Acknowledgements

Although this study was a personal goal which I have dedicated myself to over the course of the last few years, it would not have been possible for me to have come as far as I have without the continued love and support of my family, friends and the continued encouragement provided to me by each and every one of my colleagues. The following people deserve special mention and will forever have my gratitude for their amazing contributions -

- ✧ My beloved husband, Edrick, for your continued and never ending love, support, understanding and sacrifice. Thank you for helping me realise that I have the power in me to overcome any obstacles in my path and helping me see the light when I felt beset by the dark. I love you with everything that I am.
- ✧ My parents, all four of you, a single sentence can never explain how much your encouragement and love has meant to me and it would take a document far bigger than this one to show you how much you all have impacted my life. Everything I am I owe to you.
- ✧ To Prof. Sarah Howie, who has been there for me and believed in me, even when I didn't believe in myself. There are no words to express how grateful I am for the opportunities you have given me, not to mention the enormous contributions which you have made to my life by sharing your knowledge and experience with me. You are far more than just a supervisor and a mentor to me and have helped to transform me into the person I am today.
- ✧ To Dr. Surette van Staden, a friend and mentor who was always willing to lend me her ear when I needed to talk and helped me to get through some difficult times when the pressure started to mount. Your critical eye never missed anything and I am truly thankful for the passion and commitment which you put into my study.
- ✧ Dr. Cilla Dowse whose wise comments, critical reading and love have most inspired me. I cannot express how much you have helped me and I will forever be grateful to you for always being there when I needed you. You are my rock.
- ✧ Celeste Combrinck, a friend whose amazing statistical skills were pivotal in my analysis. Thank you for always being willing to answer my questions and helping me find my way when I got off the beaten path.
- ✧ To all of my dear friends, especially Alexi, Raynard and Marcus, for never allowing me to give up and for your constant encouragement and friendship over the years. Marcus – thanks for all the cupcakes they meant more than you could know.
- ✧ This study would not have been possible without the incredible support and faith shown in me by the National Research Foundation (NRF). Thank you for the opportunity which you have given me to improve myself and to attempt to contribute to society with my study.
- ✧ Last but not by any means the least, to Dr. Andrew Graham, thank you so much for taking the time to assist with editing my dissertation and providing your insight. Your involvement and experience has been invaluable.

~ AUT INVENIUM VIAM AUT FACIAM ~

UNIVERSITY OF PRETORIA

DECLARATION OF ORIGINALITY

This document must be signed and submitted with every essay, report, project, assignment, dissertation and/or thesis.

Full names of student: Karen Roux
Student number: 26013364

Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
2. I declare that this Dissertation (eg essay, report, project, assignment, dissertation, thesis, etc) is my own original work. Where other people's work has been used (either from a printed source, internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.
3. I have not used work previously produced by another student or any other person to hand in as my own.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

SIGNATURE OF STUDENT: 

SIGNATURE OF SUPERVISOR: 



RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE

CLEARANCE NUMBER :

SM 12/02/02

DEGREE AND PROJECT

MEd

Identifying the relationship between the home environment,
parental attributes and learner achievement in reading literacy

INVESTIGATOR(S)

Karen Roux

DEPARTMENT

Science, Mathematics, and Technology Education

DATE CONSIDERED

30 July 2014

DECISION OF THE COMMITTEE

APPROVED

Please note:

For Masters applications, ethical clearance is valid for 2 years

For PhD applications, ethical clearance is valid for 3 years.

**CHAIRPERSON OF ETHICS
COMMITTEE**

Prof Liesel Ebersöhn

DATE

30 July 2014

CC

Jeannie Beukes
Liesel Ebersöhn
Dr Surette van Staden
Prof Sarah Howie

This ethical clearance certificate is issued subject to the following condition:

1. It remains the students' responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
DECLARATION OF ORIGINALITY	iii
ETHICAL CLEARANCE CERTIFICATE	iv
LIST OF FIGURES	viii
LIST OF TABLES	ix
ABSTRACT	x
LIST OF ACRONYMS	xii
CHAPTER 1 INTRODUCTION	1
1.1 INTRODUCTION.....	1
1.2 THE SOUTH AFRICAN CONTEXT	3
1.3 OVERVIEW OF PIRLS 2006 SOUTH AFRICAN ACHIEVEMENT.....	7
1.4 A BRIEF OVERVIEW OF THE HOME ENVIRONMENT AND PARENTAL ATTRIBUTES	12
1.4.1 Home Environment.....	14
1.4.2 Parental Attributes	15
1.5 PROBLEM STATEMENT AND RATIONALE	16
1.6 AIMS AND OBJECTIVES.....	18
1.7 RESEARCH QUESTIONS.....	19
1.8 RESEARCH METHODOLOGY	20
1.9 OUTLINE OF STUDY	20
CHAPTER 2 PROGRESS IN INTERNATIONAL READING LITERACY STUDY (PIRLS) 2006	22
2.1 INTRODUCTION.....	22
2.2 THE INTERNATIONAL ASSOCIATION FOR THE EVALUATION OF EDUCATIONAL ACHIEVEMENT (IEA) AND PIRLS.....	22
2.3 PIRLS 2006 ASSESSMENT FRAMEWORK AND SPECIFICATIONS	26
2.3.1 Contexts for Learning to Read	26
2.3.2 National and Community Context.....	27
2.3.3 Home Context.....	30
2.3.4 School Context	31
2.3.5 Classroom Context.....	32
2.4 ASPECTS OF PIRLS 2006 READING LITERACY.....	34
2.4.1 Purposes for Reading.....	35
2.4.2 Processes of Comprehension	36
2.4.3 Reading Literacy Behaviour and Attitudes	39
2.5 PIRLS 2006 INSTRUMENTS.....	40
2.5.1 Achievement Booklets.....	40
2.5.2 Background Questionnaires	42
2.6 PIRLS 2006 RESEARCH DESIGN	44
2.7 RESEARCH METHODS	45
2.7.1 PIRLS 2006 Sampling	45
2.8 TRANSLATION AND ADAPTATIONS OF INSTRUMENTS	48
2.9 DATA COLLECTION AND SCORING	49
2.9.1 Data Collection	49

2.9.2	Scoring and Capturing.....	51
2.10	DATA ANALYSIS	52
2.11	METHODOLOGICAL NORMS	54
2.12	RESEARCH ETHICS FOR PIRLS 2006 SOUTH AFRICA	55
2.13	CONCLUSION	55
CHAPTER 3 LITERATURE REVIEW.....		57
3.1	INTRODUCTION.....	57
3.2	DEVELOPING LITERACY AND READING LITERACY	58
3.3	THE HOME ENVIRONMENT IN THE DEVELOPMENT OF READING LITERACY	62
3.3.1	Resources at Home.....	63
3.3.2	Parental Involvement.....	65
3.3.3	Home Literacy Activities	70
3.4	PARENTAL ATTRIBUTES AND THE DEVELOPMENT OF READING LITERACY	74
3.4.1	Parent Gender	74
3.4.2	Language in the Home	77
3.4.3	Parent's Literacy and Education Level.....	79
3.4.4	Parental Occupation	82
3.4.5	Parent Attitude and Beliefs toward Literacy	84
3.5	CONCEPTUAL FRAMEWORK.....	86
3.5.1	Introduction and Rationale	86
3.5.2	Conceptual Framework for this Study	90
3.6	CONCLUSION	92
CHAPTER 4 RESEARCH DESIGN AND METHODOLOGY.....		94
4.1	INTRODUCTION.....	94
4.2	RESEARCH PARADIGM	95
4.3	RESEARCH DESIGN	97
4.4	RESEARCH QUESTIONS.....	98
4.5	RESEARCH METHODS.....	99
4.5.1	Sample for the study	100
4.5.2	Data analysis	100
4.5.3	Methodological Norms.....	113
4.5.4	Ethical Considerations.....	115
4.6	CONCLUSION	115
CHAPTER 5 HOME ENVIRONMENT AND PARENTAL ATTRIBUTES OF PIRLS 2006 GRADE 5 LEARNERS IN SOUTH AFRICA		117
5.1	INTRODUCTION.....	117
5.2	THE HOME ENVIRONMENT AND SOUTH AFRICAN GRADE 5 LEARNER ACHIEVEMENT	117
5.2.1	Home Resources.....	117
5.2.2	Early home literacy activities	121
5.3	PARENTAL ATTRIBUTES AND SOUTH AFRICAN GRADE 5 LEARNER ACHIEVEMENT	124
5.3.1	Parent Gender	124
5.3.2	Parent Language	126
5.3.3	Parent Education	128
5.3.4	Parent Employment Situations and Occupation Level.....	129
5.3.5	Parents' Attitude toward Reading.....	132
5.4	CONCLUSION	134

CHAPTER 6 HOME ENVIRONMENT AND PARENTAL ATTRIBUTES FACTORS PREDICTING LEARNER READING LITERACY ACHIEVEMENT	136
6.1 INTRODUCTION.....	136
6.2 PRINCIPAL COMPONENT ANALYSIS.....	137
6.2.1 Factors and Variables included in the Home Environment of the Conceptual Framework	137
6.2.2 Constructing Home Environment Scales from PIRLS 2006 Parent Questionnaire	140
6.3 STANDARD MULTIPLE REGRESSION ANALYSIS	146
6.3.1 Results for the Home Environment Regression Model	146
6.3.2 Results for the Parental Attributes Regression Model	149
6.3.3 Results for the Home Environment and Parental Attributes Regression Model	151
6.4 CONCLUSION	157
CHAPTER 7 CONCLUSIONS AND RECOMMENDATIONS	160
7.1 SUMMARY OF THE RESEARCH	160
7.1.1 Overview of Literature	161
7.1.2 Research Design	163
7.2 SUMMARY OF RESEARCH QUESTIONS AND RESULTS	164
7.2.1 How does the home environment affect Grade 5 learners' performance in reading literacy?	164
7.2.2 To what extent do parental attributes predict Grade 5 learners' performance in reading literacy?	166
7.2.3 How do the Home Environment and Parental Attributes predict Grade 5 learner Reading Literacy Achievement in a developing context such as, South Africa?	168
7.3 REFLECTIONS.....	170
7.3.1 Conceptual Framework of this Study	170
7.3.2 Methodological Reflection	174
7.4 CONCLUSIONS.....	176
7.5 RECOMMENDATIONS.....	182
7.5.1 Recommendations for Policy and Practice	182
7.5.2 Recommendations for Further Research	185
7.6 CONCLUDING THOUGHTS.....	187
REFERENCES.....	188



LIST OF FIGURES

<i>Figure 1.1: PIRLS 2006 Distribution of Reading Achievement with South African Grade 5 learners.....</i>	<i>9</i>
<i>Figure 2.1: Contexts for the Development of Reading Literacy.....</i>	<i>27</i>
<i>Figure 2.2: Percentage of reading assessment devoted to reading purposes and processes.....</i>	<i>40</i>
<i>Figure 3.1: Cummins' hypothesis on interdependence of languages: the Iceberg theory.....</i>	<i>61</i>
<i>Figure 3.2: Home Literacy Model [Relations among Home Literacy Experiences and Learner Outcomes].....</i>	<i>67</i>
<i>Figure 3.3: Direct and Indirect influences of parental education on students' achievement</i>	<i>89</i>
<i>Figure 3.4: Relationship between the home environment, parental attributes and learner reading achievement.....</i>	<i>91</i>
<i>Figure 4.1: PIRLS 2006 Question 14.....</i>	<i>104</i>
<i>Figure 4.2: Regression equation for the current study.....</i>	<i>110</i>
<i>Figure 4.3: Factors and constructs included in the regression analysis</i>	<i>111</i>
<i>Figure 5.1: Percentage of home resources reported by parents</i>	<i>118</i>
<i>Figure 5.2: Learner average achievement and home resources</i>	<i>120</i>
<i>Figure 5.3: Composite early home literacy activities and learner average achievement</i>	<i>121</i>
<i>Figure 5.4: Percentage of early home literacy activities</i>	<i>122</i>
<i>Figure 5.5: Learner average achievement and early home literacy activities.....</i>	<i>123</i>
<i>Figure 5.6: Learner achievement and parent gender</i>	<i>125</i>
<i>Figure 5.7: Learner achievement and extended family.....</i>	<i>126</i>
<i>Figure 5.8: Learner achievement and parent's first and most used language.....</i>	<i>127</i>
<i>Figure 5.9: Percentage of parent employment situation</i>	<i>130</i>
<i>Figure 5.10: Percentage of parents' attitude toward reading.....</i>	<i>133</i>
<i>Figure 6.1: Home Environment Scree Plot</i>	<i>139</i>
<i>Figure 6.2: Basic resources at home scree plot.....</i>	<i>141</i>
<i>Figure 6.3: Non-essential resources at home scree plot</i>	<i>143</i>
<i>Figure 6.4: Early home literacy activities scree plot.....</i>	<i>145</i>
<i>Figure 6.5: Overall regression model.....</i>	<i>152</i>
<i>Figure 7.1: Parental factors influencing reading literacy achievement (adapted from Myrberg & Rosén, 2008)</i>	<i>171</i>
<i>Figure 7.2: Adapted model based on study's findings</i>	<i>172</i>



LIST OF TABLES

<i>Table 1.1: PIRLS 2006 average scale scores of learners</i>	<i>10</i>
<i>Table 1.2: PIRLS 2006 International Benchmarks and South African learner achievement at each benchmark.....</i>	<i>11</i>
<i>Table 2.1: PIRLS 2001 & 2006 Participating Countries.....</i>	<i>25</i>
<i>Table 2.2: Contexts of Learning to Read</i>	<i>34</i>
<i>Table 2.3: Aspects of PIRLS 2006 Reading</i>	<i>34</i>
<i>Table 2.4: Matrix-Sampling Blocks for PIRLS 2006.....</i>	<i>41</i>
<i>Table 2.5: Test Booklet Design for PIRLS 2006</i>	<i>41</i>
<i>Table 2.6: South African schools monitored in PIRLS 2006.....</i>	<i>50</i>
<i>Table 2.7: Description of PIRLS 2006 International Benchmarks.....</i>	<i>53</i>
<i>Table 4.1: PIRLS 2006 Parent Variables</i>	<i>101</i>
<i>Table 4.2: Reliability Coefficients of Home Environment Items</i>	<i>104</i>
<i>Table 4.3: Reliability of Parental Attribute Items</i>	<i>105</i>
<i>Table 4.4: Pearson's R Scores and Strength of Relationship.....</i>	<i>106</i>
<i>Table 5.1: Learner achievement and parent education level.....</i>	<i>129</i>
<i>Table 5.2: Learner achievement and parent employment situation.....</i>	<i>130</i>
<i>Table 5.3: Percentage of parent occupation</i>	<i>131</i>
<i>Table 5.4: Learner average achievement and parent occupation</i>	<i>132</i>
<i>Table 5.5: Learner average achievement and parent attitude toward reading</i>	<i>134</i>
<i>Table 6.1: Factors and variables included in the home environment</i>	<i>138</i>
<i>Table 6.2: Resources at home item extraction from parent questionnaire</i>	<i>141</i>
<i>Table 6.3: Non-essential resources at home item extraction from parent questionnaire</i>	<i>142</i>
<i>Table 6.4: Early home literacy activities item extraction from parent questionnaire.....</i>	<i>144</i>
<i>Table 6.5: Model summary of home environment regression.....</i>	<i>147</i>
<i>Table 6.6: ANOVA of home environment regression model.....</i>	<i>147</i>
<i>Table 6.7: Regression coefficients of home environment regression.....</i>	<i>148</i>
<i>Table 6.8: Model summary of the parental attributes regression.....</i>	<i>149</i>
<i>Table 6.9: ANOVA of parental attributes regression model.....</i>	<i>150</i>
<i>Table 6.10: Regression Coefficients of Parental Attributes Regression.....</i>	<i>150</i>
<i>Table 6.11: Model summary of the overall regression analysis.....</i>	<i>152</i>
<i>Table 6.12: ANOVA of the overall regression model.....</i>	<i>153</i>
<i>Table 6.13: Regression Coefficients of Regression Analysis</i>	<i>153</i>



ABSTRACT

Emphasis has been placed nationally and internationally by parents, schools and communities on reading literacy skills as it is essential to be able to participate in today's society. Reading and literacy skills underpin literacy in formal schooling. However in order for children to cope in formal schooling, children should first acquire the necessary informal and formal literacy skills. These literacy skills can be developed through early literacy experiences gained within the home context. The home environment plays a vital role in the development and acquisition of children's reading and literacy skills.

It is the researcher's intention to ascertain the role that the home environment and parental attributes play in influencing the reading literacy achievement of South African Grade 5 learners by conducting a secondary analysis utilising a standard multiple regression analysis (Tabachnick & Fidell, 2007) of the Progress in International Reading Literacy (PIRLS) 2006 data. PIRLS collected data using contextualised questionnaires to gain valuable background information. This study utilised the Learning-to-Read survey (a questionnaire which was completed by the parents or caregivers) in order to study the home environment as well as parental attributes. The conceptual framework of the study comprises home environment and parental attributes which might have an influence on learner reading literacy achievement. The study adapted Myrberg & Rosén's (2008) model of direct and indirect influences of parental factors on reading achievement as there is absence of a South African model which looks at both the home environment and parent attributes.

The study hopes to provide insights through its findings, whether the home environment and parental attributes have an effect on learner reading performance. Particular focus has been placed on parental involvement since it is imperative to establish whether involvement is important for learner reading literacy. Reading literacy is an interactive process and it is clear that a learner will be able to perform at best when guidance is given in a cultural context. Parents, who actively take part in not only their children's upbringing but their children's literacy skills, can make an important contribution to their children's reading literacy. There are cases in South Africa where parents are poorly educated but it did not stop them in inculcating a

positive attitude towards reading literacy into their children. Parental involvement is therefore of great importance in children's development of reading literacy skills.

Keywords: *Reading Literacy; PIRLS; Home Environment; Parental Attributes; Reading Achievement; Cultural Capital; Parental Involvement, Parent Education, Regression Analysis, Parent Language.*



LIST OF ACRONYMS

ABET	Adult Basic Education and Training
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
BICS	Basic Interpersonal Communicative Skills
CALP	Cognitive Academic Language Proficiency
CAPS	Curriculum Assessment Policy Statements
CEA	Centre for Evaluation and Assessment
DBE	Department of Basic Education
DEECD	Department of Education and Early Childhood Development
DoE	Department of Education
DPC	Data Processing Center
ECD	Early Childhood Development
EFA	Education for All
EHLA	Early Home Literacy Activities
FET	Further Education and Training
GDP	Gross Domestic Product
GET	General Education and Training
HIV	Human Immunodeficiency Virus
HLE	Home Literacy Environment
HLM	Home Literacy Model
IDB Analyser	International Database Analyser
IEA	International Association for the Evaluation of Educational Achievement
IRT	Item Response Theory
ISC	International Study Center
ISCED	International Standard Classification of Education
KMO	Kaiser-Meyer-Olkin
LiEP	Language in Education Policy
LoLT	Language of Learning and Teaching
MDG	Millennium Development Goals
NAEP	National Assessment of Educational Progress
NAF	National Adaptation Form
NCS	National Curriculum Statement
NEEDU	National Education Evaluation and Development Unit
NEPA	National Education Policy Act
NICHD	National Institute of Child Health and Human Development
NQF	National Qualifications Framework
NRC	National Research Coordinators
NRF	National Research Foundation
NSC	National Senior Certificate
OBE	Outcomes Based Education
OECD	Organisation for Economic Co-operation and Development
PATR	Parent Attitude Toward Reading

PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PPS	Probability Proportional-to-Size
QCM	Quality Control Monitors
QDG	Questionnaire Development Group
RDG	Reading Development Group
RNCS	Revised National Curriculum Statement
SAQA	South African Qualifications Authority
SASA	South African Schools Act
SATI	South African Translators' Institute
SE	Standard Error
SES	Socio-Economic Status
SGB	School Governing Bodies
SPSS	Statistical Package for the Social Sciences
TIMSS	Trends in International Mathematics and Science Study
TOTWGT	Student Weight
UNESCO	United Nations Educational, Scientific and Cultural Organisation
ZPD	Zone of Proximal Development



CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The aim of this study is to investigate the effect of the home environment and parental attributes on reading literacy by conducting a secondary analysis of the Progress in International Reading Literacy Study (PIRLS) 2006 of South African Grade 5 learner reading literacy achievement data. Within this study the home environment is that in which parents spend time with the child while in school. Parental attributes include the characteristics of the parent which may influence their child's reading literacy.

The early learning environment lays the foundation for the development of a child's literacy skills (Topping, Dekhinet & Zeedyk, 2011), such as phonological awareness, vocabulary, and letter and print awareness, which are vital for formal schooling and operating in today's society. Literacy is conceptualised as being able to respond to written language (Bormuth, 1974) as well as to understand written language and construct meaning from it (Mullis, Kennedy, Martin & Sainsbury, 2006). Literacy development has been linked to culture (Bourdieu, 1987; 2002), personal identity and recreation (National Institute of Child Health and Human Development {NICHD}, 2000), however, there is no international standard definition which encapsulates all facets. In 1978, UNESCO conceptualised functional literacy as (UNESCO, 2005, p.30):

a person is functionally literate who can engage in all those activities in which literacy is required for effective functioning of his [sic] group and community and also for enabling him to continue to use reading, writing and calculation for his own and the community's development.

Thus, literacy as well as writing and numeracy skills are developed within an environment and may be applied in formal education and community settings in which it is valuable not only for the individual but also for the broader community (UNESCO, 2005).

However, for the purposes of this study, a distinction needs to be made between the concept of literacy and reading literacy as it draws on data from PIRLS 2006 which has a specific focus on reading literacy, defined as:

The ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers in school and everyday life, and for enjoyment (Mullis et al., 2006, p.3).

Regarding literacy as at the “core of education” (UNESCO, 2005, p.31), in order for a child to acquire literacy, then reading literacy, parents must play a role in providing a rich early childhood environment to assist in their child's literacy and language development (Weigel, Martin & Bennet, 2005; Baker, 2003). From an early age, they should provide their child with appropriate experiences (Weigel et al., 2005), as the home provides their first encounter with literacy (Bonci, 2011) and language. Parental involvement in the development of reading literacy, both in the early and later years, can make a noteworthy contribution by means of both formal and informal literacy experiences (Sénéchal, 2006).

This study, investigating the role that parents play in reading literacy development and the effect that it has on reading achievement, is introduced in this chapter 1. It begins by focussing on the South African context (Section 1.2), particularly the educational reform that took place between 1996 and 2012, and the social context in which PIRLS 2006 was conducted. It then provides an overview of the South African learner achievement emerging from PIRLS 2006 (Section 1.3), followed by a brief overview of home environment (Section 1.4.1) and parental attributes as (Section 1.4.2) they inform the study's problem statement and rationale for conducting this research (Section 1.5). The aims and objectives of the study are discussed (Section 1.6), followed by the main research question and sub-research questions (Section 1.7). The research methodology (Section 1.8) of this study is summarised before the chapter concludes with an outline of the full dissertation (Section 1.9).

1.2 THE SOUTH AFRICAN CONTEXT

South Africa is a Sub-Saharan country with 51.7 million citizens (Statistics South Africa, 2012a), already exceeding the World Bank's (2011a) estimate of 51.1 million citizens by 2015. The level of income is in the upper middle band, with a Gross Domestic Product (GDP) of \$285 billion per annum, however, the various levels per household are distributed unequally, since with a large number of people living in poverty, reported at around 23% (World Bank, 2011a). This leads to hunger and deprivation.

The definition of poverty has changed in recent years to include the incapacity to attain basic needs such as adequate food, shelter and education (Wolfensohn & Bourguignon, 2004). In the South African context, the socio-economic status (SES) and social conditions vary from very high to low. South Africa's fluctuating SES is reflected by the Gini coefficient,¹ 63.1, which was the largest in the world (World Bank, 2010), however although some domestic finances have improved, poverty still exists in terms of the disparities in education and employment (Loeb, Eide, Jelsma, ka Toni & Maart, 2008).

Hunger and poverty are not the only challenges that many South Africans have to face on a daily basis. Other common social problems, especially in rural areas, include child-headed households, in which either parents or primary caregivers are absent and the eldest child has to take on the role and responsibilities of the parent (Dieden & Gustafson, 2003). This could mean that the children drop out of school to find work, which in turn leads to a neglected education (MacLellan, 2005). In some cases, parents are absent as they work far away from the home to provide for the family. In other cases, child-headed households are increasing as a result of HIV/AIDS-related adult mortality. Life expectancy has declined from 62 years in 1990 to a low 48 years (Woolard, 2002), or the similar estimate by the World Bank of 61 years in 1990 to 52 years in 2009 (World Bank, 2011b).

Alongside the poor social conditions, significant political shifts have been noted (Lu & Treiman, 2011). In 1994 South African elections were open to universal suffrage, which led to dramatic changes throughout the education system (Van Staden &

¹ The Gini coefficient "measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution" (World Bank, 2010, p.97).

Howie, 2010). A new Constitution in 1996 (Currie & de Waal, 2007), contained a specific chapter (Chapter 2: Bill of Rights) which included sections on education, human dignity, health care and children's rights. As part of the democratic transition, legislation on education was developed and implemented, including the National Education Policy Act (NEPA) act 27 of 1996, South African Qualifications Authority (SAQA) act 58 of 1995, the South African Schools Act (SASA) act 84 of 1996, and the National Qualifications Framework (NQF) act 67 of 2008.

South Africa comprises nine provinces with 11 official languages (Department of Justice, 1996), in addition to Braille and sign language, and in accordance with this variety of languages, additional policies have been developed and implemented in the education system. The Language in Education Policy (LiEP) (DoE, 1997) underpins the language of learning in schools to support mother tongue instruction in the Foundation Phase. Another key element in LiEP is the promotion of multilingualism, with children expected to develop one first and one second language at school. However, difficulties arise when the Language of Learning and Teaching (LoLT) is not necessarily the mother tongue, and this occurrence may to some extent explain the reading literacy problem, since learners in many instances do not receive adequate teaching in their mother tongue (Pretorius, 2008).

Shortly after the new Constitution was implemented, the educational focus shifted from content-based education to outcomes-based education (OBE) and the so-called 'Curriculum 2005'. The new and reformed curriculum and its approach to learning focused on the learner, and what he or she should understand and be able to do at the end of a lesson or series of lessons (Botha, 2002). Because the curriculum was new to the public of South Africa it went through various forms of scrutiny (Jansen, 1998), soon to be revised by the Department of Education (DoE) in the form of a 'Revised National Curriculum Statement' (RNCS) in 2009. The revision was informed by a Review Committee and began with their review in 2001 (Dada, Dipholo, Hoadley, Khembo, Muller & Volmink, 2009). A report followed thorough discussion of the necessary changes to be made (see Chisholm, Hoadley & wa Kivilu, 2005). The current education curriculum is known as the National Curriculum Statement (NCS) Grades R-12, with the Curriculum and Assessment Policy Statement (CAPS) not replacing it but rather being an amendment thereof.

The National Protocol for Assessment Grades R-12 and the National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12 should be read in conjunction with the NCS and CAPS. The aim of CAPS is to provide a more useful, practical curriculum for teaching and learning in South Africa. To enhance the curriculum, changes included: (a) the instructional time was increased in the Foundation Phase; (b) instructional time for Languages was increased and split between Home Language and First Additional Language in the Intermediate Phase; (c) First Additional Language was added to the Foundation Phase; and (d) CAPS provided teachers with a week-by-week plan of teaching (Du Plessis, 2013).

The current educational system in South Africa comprises Grade R² to Grade 12, but these grades are separated into two different groups or bands. The first band, the General Education and Training Band (GET), provides compulsory education for every learner in South Africa (Laws Amendment Act, 2002) and comprises Grade R to Grade 9. Three distinct groups make up the GET band: the Foundation Phase for Grade R – 3; the Intermediate Phase for Grade 4 – 6; and the Senior Phase for Grade 7 – 9. Literacy, renamed as 'Language' in CAPS, was to be introduced to learners in the Foundation Phase as a foundation for their learning and to provide a steppingstone from learning to read to reading to learn as they approached the Intermediate Phase.

The number of curriculum changes since 1994 have been made possible by the implementation of the Constitution, which informed policymakers in addressing inequalities in education, and ensuring the development of a curriculum for all South Africans. Emerging from the changes, the South African education system is democratic in nature, forward-looking and aims to produce citizens who have the knowledge, skills and values to be able to cope in life.

The steps toward a better education for all citizens began with the promulgation of NEPA (1996) and SASA (1996), and the development of curricula to accommodate learners regardless of language, gender or race. NEPA regulates the norms and standards for education, specifically in the planning, provision, governance, monitoring and evaluation processes (OECD, 2008). However, within the educational

² Reception year in the South African educational system.

sector there are ever-increasing gaps between high SES and working class citizens (Lu & Treiman, 2011). Schools in different provinces are characterised by different problems yet those with adequate access to information and materials usually consist of the former model C-schools, which were historically white and received funding from the state. Following the end of apartheid, many parents believed that if they sent their children to them they would receive higher quality education (Battersby, 2004). In stark contrast to these well-resourced schools there are many poor, mainly township and rural schools which are generally characterised by inadequate resources, poor infrastructure and poorly qualified, incompetent teaching staff (Gardiner, 2008).

Linked to the previous unequal provision of education is the legacy of low levels of literacy, even though literacy rates for South Africa have been calculated at 86.4%, with literacy defined as the ability to read and write at a specific age, 15 and above (UNESCO, 2005). Illiteracy is regarded as an impediment to a person's life which in turn is linked to unemployment, poverty and inability to help in their child's education (Nassimbeni & Tandwa, 2008). Within South African society, education qualifications can vary from low level of educational background to a Level 8 post-doctoral degree. These levels are demarcated according to the National Qualifications Framework (NQF) levels (SAQA, 2010) which consists of three bands, General Education (Level 1), Further Education and Training (FET) (Level 4) and Higher Education (Level 8). In the General Education band, education for adults is accessible through Adult Basic Education and Training (ABET).

Literacy skills are viewed as essential to today's society. The Education for All (EFA) Global Monitoring Report of 2006 describes several benefits of literacy skills. Children who are denied access to primary education will not only be unable to contribute to society but will also be handicapped since they will not be able to cope with situations in which reading and writing is required (UNESCO, 2005). When children have access to education and are exposed to a literacy environment they build up the skills that they need to fully participate in society. Moreover, literacy enables societies to create a link between the six EFA goals. Based on UNESCO's (2005, p.34) perspective of literacy, literacy can be seen as an:

... outcome (e.g. reading, writing and numeracy), a process (e.g. taught and learned through formal schooling, non-formal programmes or informal networks) and an input (paving the way to: further cognitive skill development; participation in lifelong learning opportunities, including technical and vocational education and training, and continuing education; better education for children; and broader societal developments).

Monitoring of educational systems and monitoring of reading literacy is undertaken by international studies, such as the PILRS, Programme for International Student Assessment (PISA) and Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), and the results of these may inform improvements in the system. In 2006, South Africa, with 45 other education systems,³ participated in the PIRLS, an international comparative evaluation of Grade 4 learner reading literacy (Mullis, Martin, Kennedy & Foy, 2007). The PIRLS 2006 study, conducted by the Centre for Evaluation and Assessment (CEA) at the University of Pretoria under the auspices of the International Association for the Evaluation of Educational Achievement (IEA), consisted of reading literacy assessment instruments as well as background questionnaires administered to Grade 4 and 5⁴ learners, teachers, principals and parents (Mullis et al., 2007). This study is described and discussed in Chapter 2, however, as background information for the problem statement in Section 1.5, the learner achievement is presented in the following section.

1.3 OVERVIEW OF PIRLS 2006 SOUTH AFRICAN ACHIEVEMENT

The DoE granted permission in early 2005 to commence with the PIRLS 2006 study (Howie, Venter, van Staden, Zimmerman, Long, Scherman, & Archer, 2008). The South African context was unique among participating education systems, given that it has 11 official languages (Currie & de Waal, 2007), so accordingly the reading literacy assessment was conducted in all official languages at both Grade 4 and 5 levels.

In addition to the reading literacy assessment, background questionnaires were completed by learners, teachers, principals and parents of learners. These focused

³ PIRLS 2006 was conducted in 40 countries, including Belgium with two education systems and Canada with three provinces (Mullis et al., 2007).

⁴ Grade 5 was a national option which is later discussed in Chapter 2.

on gathering information to provide contextual indicators for learner performance in reading literacy, while the assessment instruments provided learner literacy achievement scores. The target population comprised learners in their fourth year at school, which is the transition phase from learning to read to reading to learn (Mullis et al., 2007). However, Grade 5 learners as a national option (Howie et al., 2008) were tested in addition to Grade 4 learners. The effect of English language on learner progress could be inferred, since many learners speaking African languages change LoLT from their mother tongue (DoE, 1997; Department of Basic Education {DBE}, 2010) to English during the transition from the Foundation Phase to the Intermediate Phase, except in the case of English and most Afrikaans learners, who receive mother tongue instruction from an early age and continue with this LoLT until the end of their school careers.

PIRLS 2006, conducted in 45 education systems, revealed that the top performers were the Russian Federation (565, SE=3.4), Hong Kong SAR (564, SE=2.4), Canada (Alberta) (560, SE=2.4) and Singapore (558, SE=2.9) (see Figure 1.1, below). The international mean score was fixed at 500 points, which meant that 11 educational systems, including South Africa, achieved a score below the PIRLS 2006 scale average.

South African learner reading literacy achievement was far below the international average of 500 (Kennedy, Mullis, Martin, & Trong, 2007), with Grade 4 achieving a mean score of 253 (SE=4.6). Since the South African Grade 4 learners performed poorly, the IEA requested that the South African Grade 5 data be used for the overall international report. As a result, the South African Grade 4 results were excluded from the main section on comparisons with countries in the international report, because of concerns about reliability of their performance (Howie et al., 2008), so South African comparable results are reported at Grade 5 level. The results of the South African Grade 5 learners were included in the appendix of the international report. Even though there is a 49 point difference between the Grade 4 and 5 learners (Howie et al., 2008) with Grade 5 learners achieving 302 (SE=5.6), the Grade 5 results meant that South Africa was ranked in last place on the PIRLS 2006 scale of averages (Mullis et al., 2007; Howie et al., 2008).

Source: IEA Progress in International Reading Literacy Study (PIRLS) 2006 (Mullis et al., 2007, p.37)



Figure 1.1: PIRLS 2006 Distribution of Reading Achievement with South African Grade 5 learners

The results of the South African Grade 5 learners do not compare favourably with other countries' Grade 4 learners. To give some indication of this, the mean score differences between the South African Grade 4 and 5 learners are compared with eight other educational systems (see Table 1.1, below).

Table 1.1: PIRLS 2006 average scale scores of learners

Country	PIRLS 2006 Average Score	Standard Error (SE)
Russian Federation	565	3.4
Singapore	558	2.9
United States	540	3.5
England	539	2.6
New Zealand	532	2.0
International Average	500	-
Kuwait	330	4.2
Morocco	323	5.9
South Africa Gr 5	302	5.6
South Africa Gr 4	253	4.6

To develop this comparison, reference countries were included that have specific characteristics and may make comparisons relevant to South Africa (see Table 1.1, above). For instance, the only other African country which took part in the PIRLS 2006 study was Morocco, (323, SE=5.9) which with Kuwait (330, SE=4.2) comprised the only other countries to fall within the bottom three achieved scores, far below the international average of 500. New Zealand is an interesting comparison for South Africa because its education approach and curriculum is OBE (Howie et al., 2008).

The Russian Federation was chosen as one of the reference countries for South Africa because there have been significant educational changes since 2000 (Kennedy et al., 2007), which were put into place to improve reading. Singapore has a multi-ethnic population and a diverse language environment, similar to that of the South Africa. It has four official languages and encourages bilingualism in schools (Kennedy et al., 2007). English was chosen as the second language in Singaporean schools and is the LoLT in many. With the Russian Federation (565, SE=3.4), Singapore (558, SE=2.9) made up the top two participating countries in the PIRLS 2006 study.

International benchmarks were created to represent the range of performance shown by each learner (Mullis et al., 2007) and comprise Advanced (624+ points), High (545-624), Intermediate (470-544) and Low (395-469) (see Chapter 2 for a detailed description of the PIRLS 2006 International Benchmarks). Aligned with the International Benchmarks, Table 1.2 (below) shows the percentage of South African

Grades 4 and 5 learners reaching each benchmark as compared to the international median for PIRLS 2006.

Table 1.2: PIRLS 2006 International Benchmarks and South African learner achievement at each benchmark

PIRLS 2006 International Benchmarks	Benchmark Description	International Median (%)	South African	
			Grade 4 Median (%)	Grade 5 Median (%)
Low (400) 395 – 469	Learners can recognise and locate explicitly stated information in texts. Learners can provide straightforward inferences.	94	13 (0.5)	22 (1.6)
Intermediate (475) 470 – 544	Learners can identify plots in a literal text and are able to make some inferences and connections in informational texts.	76	7 (1.1)	13 (1.4)
High (550) 545 – 624	Learners who are competent readers who can locate, retrieve and recognise important details as well as state reasons for their inferences.	41	3 (2.0)	6 (0.9)
Advanced (625+) 625 and above	Learners are able to wholly respond to reading assessments. Learners can integrate ideas, interpret figurative language and complex information.	7	1 (1.5)	2 (0.4)

Source: Compiled from Mullis et al., 2007.

As depicted in Table 1.2 (above), internationally most learners have reached at least the Low International Benchmark with an international median of 94. However, the majority of the South African Grades 4 and 5 learners did not meet the requirements for the Low International Benchmark. A mere 13% (SE=0.55) and 22% (SE=1.6%), respectively, reached the Low International Benchmark, whilst only 1% (SE=1.5%) of South African Grade 4 learners reached the Advanced International Benchmark compared to 2% (SE=0.4%) of Grade 5 learners who reached the Advanced International Benchmark.

The following conclusions about learners were drawn about South African learner literacy performance (Howie et al., 2008, p.56):

1. The South African Grade 5 learners compared unfavourably to the Grade 4 learners from 39 countries and achieved the lowest average reading achievement score.
2. Approximately three-quarters of learners did not achieve the lowest international benchmark with only a mere 2% reaching the advanced international benchmark.
3. More than 80% of Grade 5 African learners have not attained certain basic reading skills.
4. Only 18% of Grade 5 learners could be considered as competent readers. This percentage is representative of learners who were tested in Afrikaans and English.

Based on the above, it is clear that the South African Grades 4 and 5 learners did not perform well during the PIRLS 2006 assessments. There may be numerous reasons for this poor performance, therefore it is the intent of this study to explore some of the possible reasons with a particular focus on the home environment and parental background factors, and how these factors affect learner reading literacy achievement.

1.4 A BRIEF OVERVIEW OF THE HOME ENVIRONMENT AND PARENTAL ATTRIBUTES

This section focuses on the home environment of the learners who participated in the PIRLS 2006 study and their parents' background factors. Section 1.4.1 entails a discussion of the Home Environment and Section 1.4.2 discusses the Parental Attributes. The home environment is that in which the child spends time while attending school, also where parents or caregivers engage in reading literacy activities with the child, with the use of resources within the home (see Chapter 3 Section 3.3). Parental attributes are characteristics such as gender, language, education, occupation and attitudes towards reading literacy (see Chapter 3 Section 3.4). These background factors could predict the learners' reading achievement.

South Africa has a diverse societal structure in which there are rural and urban areas as well as a variation in parental and family patterns. Census data (Statistics South

Africa, 2012a) indicated that 13.6% of South Africans live in informal dwellings⁵ compared to 7.9% who live in traditional dwellings⁶ and 77.6% who live in formal dwellings⁷. There has been an increase in formal dwellings from 68.7% in 2001 and a 16.4% decrease in informal dwellings from 2001. The decrease in informal dwellings may be due to the South African government's Reconstruction and Development Programme (RDP) housing initiative, launched to redress various social and economic problems in South Africa.

The employment situation and other conditions in South African households vary from both parents who provide⁸ for the family to child-headed homes, and in urban areas the parents tend to fulfil their roles in their children's literacy development (Mahery, Jamieson & Scott, 2011; Dieden & Gustafson, 2003). South African family structures may be problematic to learners' academic achievement, as some are child-headed households⁹, others single-parent households. Although it is not the intention of this study to seek answers to the family structures it is nevertheless necessary at the very least to mention the differences in family structures commonly found in South African society across cultures.

Research (Dieden & Gustafson, 2003) has shown that in many rural areas in South Africa children perform poorly because the parents are absent and not involved in their child's literacy development. There are, however, other factors which may have an effect on the development of learner reading literacy. In some instances, when schools are located in affluent areas, the parents are more inclined to fulfil their roles in their children's literacy development. Parents of children in former model-C schools engage actively in the School Governing Body (SGB) (see Mncube, 2009). Most of the former model-C schools have access to remedial classes, school psychologists and speech therapists, which may explain why their learners perform better than their counterparts in rural areas who do not (Gardiner, 2008; De Wet & Wolhuter, 2009). It is evident from the above that South Africa still has vast disparities in terms of education, SES and family structure, and consequently

⁵ Informal dwellings are makeshift structures not erected with approved architectural plans (Statistics South Africa, 1998).

⁶ Traditional dwelling entail structures made from traditional materials such as clay, mud and thatch (Ibid.).

⁷ Formal dwellings include permanent buildings and structures (Statistics South Africa, n.d.).

⁸ Basic (physiological and safety) and physiological (belongingness and esteem) needs based on Maslow's Hierarchy of Needs (Koltko-Rivera, 2006).

⁹ Child-headed households exist where the eldest child under 18 years of age, take on the role of the parent to care for his or her younger siblings (Dieden & Gustafson, 2003).

parents demonstrate varying levels of involvement with schools and participation in their children's education.

Depicting parents as partners in the education process, SASA also envisages them as being involved in the SGB and as part of decision-making and delegation of school governance (Heystek, 2006). Sénéchal and LeFevre (2002) with Harper and Pelletier (2010), concur that parental involvement in a child's education is vital and can be related to his or her literacy development.

1.4.1 HOME ENVIRONMENT

The home environment is the prime context for children's early learning and socio-economic development (Morrison & Cooney, 2001) and it is this home literacy environment (HLE), a subset of environmental factors, that is thought to be most necessary for literacy growth (Van Steensel, 2006; Foy & Mann, 2003; Burgess, Hecht & Lonigan, 2002). The HLE is made up of various aspects, such as developing familiarity with literacy materials, observing literacy activities, investigating literate behaviours, engaging in joint reading and writing activities and benefitting from teaching strategies that family members use when engaging in joint literacy activities with their children (DeBaryshe, Binder, & Buell, 2000).

Christian, Morrison and Bryant (1998) argue that parental involvement, such as reading to children and helping with home literacy activities, is an important predictor of children's literacy development. Parental involvement refers to a range of activities between a parent or caregiver and the learner (Desforges & Abouchaar, 2003). Literacy activities which take place at home should include an array of child-parent literacy activities (Manolitsis, Georgiou & Parrila, 2011) that promote reading literacy in children, and are thus important indicators of success in reading. The activities may include helping with homework, talking to the teachers, attending school functions and taking part in school governance. In South Africa, 91.9% of adults can read and write, and are thus seen as literate (Statistics South Africa, 2012b), however only 27.4% had obtained a National Senior Certificate (NSC) in figures for 2011. A further 11.5% have obtained a tertiary qualification. The low completion rate of the NSC could be one reason why parents are unable to engage in literacy activities.

Hill, Castellino, Lansford, Nowlin, Dodge, Bates and Pettit (2004) suggest that parental involvement can be defined as parents' work with schools and with their children to benefit their children's educational achievement. Parental involvement is often seen as participating in academic-related activities at home as well as in their own teaching roles¹⁰ (Hill et al., 2004). Conversely, a negative attitude toward literacy may affect their child's reading literacy development (Sénéchal, 2006). Underestimating the contributing role of parents in the development of their child's reading literacy development may provide explanations for Grade 5 learners' under-performance reported in results for the South African PIRLS 2006 study.

1.4.2 PARENTAL ATTRIBUTES

Parental attributes are certain characteristics that are largely based on biographical background, such as behaviour and attitude, beliefs, socio-economic status and antecedents (Arnold, Zeljo, Doctoroff & Ortiz, 2008). For the purposes of this study, the focus is on gender and the language/s they speak at home, literacy and education levels, occupation and attitude.

Until recently, the trend of parental involvement in most households was that the mother would be the primary parent assisting in the child's development of reading literacy and language acquisition (Bonesrønning, 2010, Sulzby, 1986). However, Vygotsky (1987) explained that a child could only fully develop in the home environment if both parents were involved. Therefore, the father's involvement has recently been highlighted by research, since it was found that he is a valuable contributor to a child's growth (Clark, 2005). However, the level of involvement may be due to the type of relationship with either parent (Simpkins, Weiss, McCartney, Kreider & Dearing, 2006). When a solid relationship is formed between a child and the parents the learning process may be augmented.

In a multilingual country such as South Africa, the language issue is an intricate one as it is possible that parents' language may not be the same. The complexities thereof may lead to difficulties in a child's literacy development. Due to the multilingual nature of the parents, it may become difficult for the child to distinguish

¹⁰ Parent teaching roles refer to when parents teach their children to read, write or assist in any other educational matter when the school teacher is not present.

between the different languages (Pretorius, 2010), thus the parents should take extra precautions in teaching the child in more than one language. In situations when the language of each parent differs, they may choose to focus on the mother's language (NICHD, 2000). The language which the parents choose to use in the home is important and this decision assists in the development of the child's literacy skills (Myrberg & Rosén, 2008) and the acquisition of language.

One of the reasons parents do not become involved in their children's reading literacy development is their educational level (Mncube, 2009). Mncube (2009) and Van Wyk (1998) elaborate that illiterate parents cannot keep up with their children's educational demands. However, it should be noted that even though parents are illiterate they may have some primary skills, such as oral literacy (see Prinsloo & Breier, 1996) that assist them in living in their society. Van der Berg and Louw (2006) found that parents who have had a better education may rank education higher for their children and may then spend more time helping them through the development of reading literacy. A more detailed discussion of these factors is found in Chapter 3.

1.5 PROBLEM STATEMENT AND RATIONALE

Taking into account the above discussions about the PIRLS 2006 South African reading literacy achievement results, this study investigates early reading literacy development in South African homes, particularly the roles that parents play in their children's reading literacy development. Machet and Pretorius (2004) have shown that South African learners enter primary school without being equipped with the necessary literacy skills, which means that the learners' reading literacy development may be hindered and in turn this may affect their academic achievement.

Parents can make a noteworthy contribution to their child's reading literacy by means of formal and informal literacy experiences (Sénéchal, 2006). Formal literacy experiences focus solely on the written language and include parents teaching their children the pronunciation of letters and how to write their name. The focus of the activity is on the structuring and proper use of the written language (Sénéchal, LeFevre, Thomas, & Daley, 1998), as well the time that parents use to teach children about reading and writing words.

In contrast, informal literacy experiences that are predominant in communities where illiteracy exists tend to expose children to written language or messages that are to be found in the process of reading storybooks or any other reading material, with an adult or parent assisting them. Parents or caregivers will emphasise the relationship between text and the pictures in storybooks then explain it to the child (Bus, De Jong, & Van Ijzendoorn, 2007). The focus of informal literacy is on promoting language development as well as reading the text (Sénéchal, 1997). These activities are child-centred (Sonnenschein, Brody & Munsterman 1996) and include activities such as reading and storytelling, which stimulate the learner and in turn help to increase the learner's vocabulary and other reading components, such as how to identify different characters and plots (Moss & Fawcett, 1995). Children whose parents read stories aloud to them and participate in literacy activities become better at reading and are more inclined to achieve at school (Snow, Burns & Griffin, 1998).

Contributory factors of the cultured home environment include parental involvement in home literacy activities as well as resources in the home (Foy & Mann, 2003). Within the home environment, some parents actively engage in literacy activities prior to entering primary school (Howie et al., 2008), which include playing with alphabet toys, reading books and bedtime stories, telling stories and singing songs (Mullis et al., 2007). Internationally, in PIRLS 2006, a total of 54% of parents indicated high levels of parental involvement in literacy activities at home. Although some countries indicated high parental involvement this does not necessarily mean that those learners performed better (Mullis et al., 2007). For example, Hong Kong SAR indicated that a mere 26% (SE=0.9%) of parents had high involvement, but the average achievement was 578 (SE=2.6).

PIRLS 2006 reports that almost half of the parents of Grade 5 learners indicated a high involvement (48%, SE=0.9%) in home literacy activities with their children. It is nevertheless important to note that if one or both parents engage in literacy activities prior to enrolment in formal education the learner might also achieve a higher level of reading literacy achievement (Howie et al., 2008). Such findings may be the result of disadvantaged circumstances, in which parents do not come from or practice a reading culture (Machet & Pretorius, 2004), which in turn impacts on their children's reading literacy. Learners from an economically disadvantaged home environment might not have encountered books, newspapers, television or radio; held discussions

about what they have read; or learnt how to engage in literacy activities. The number of books at home could be advantageous to the development of learners' reading literacy skills (Stephenson, Parrila & Georgiou, 2008).

In the South African PIRLS 2006 study it was evident that learners did not have enough books in their home, in some cases fewer than 10 (Howie et al., 2008). This lack of books contributes to poor cultural capital in which there is little or no pre-literacy development, since the children do not have the opportunity to engage in formal or informal literacy experiences. Therefore, the literacy gained at a school level can be seen as part of a child's cultural capital (Prinsloo & Breier, 1996). However, in the South African context, learners may be part of a community which has an oral tradition, in which case the learners develop more oral than reading literacy (Pretorius, 2010). According to Prinsloo and Breier (1996), different literacies may be due to varied cultural capital, divisible into cultural resources (DiMaggio, 1991), workers' literacies (O'Connor, 1994), vernacular literacies (Street, 1993) and social literacies (Street, 1995).

Additional issues to consider are learner home background factors (Machet & Pretorius, 2004), such as education and occupation. These may explain a learner's inability to acquire and develop reading literacy skills (Botha, 2010). It is important to determine which parental attributes and home environment are vital to learner reading literacy performance. If found to be vital it is important that parents, from all types of households, become more actively involved with their children's education. Parental involvement could be supported and guided in focused support between schools and parents, including the entire household family. Moreover, this study could be of significance since it may possibly provide explanations for ways in which parents' involvement affects learners' reading literacy performance as measured by the PIRLS 2006 study.

1.6 AIMS AND OBJECTIVES

This study draws on PIRLS 2006 data and aimed at investigating how learner home background factors are associated with Grade 5 learner reading literacy performance. In order to ascertain the role between parental attributes, home

environment and learner achievement, the PIRLS 2006 Learning-to-Read Survey¹¹ was used. It is also the aim of this study to investigate the relationships between:

- home environment and learner reading literacy achievement; and
- parental attributes and learner reading literacy achievement.

In order to find an association between parental factors and the home environment and Grade 5 learner reading literacy performance, the PIRLS 2006 South African achievement data and the parental questionnaire data have been used.

1.7 RESEARCH QUESTIONS

The study addresses the following main question:

- **How do the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa?**

This study investigates whether parental attributes and home environment affect the Grade 5 learner's reading literacy performance as measured by the PIRLS 2006 achievement results and parents' responses to the parent background questionnaire. Parental involvement plays a vital role in the learner's ability to read and write (Howie et al., 2008). To further explore whether underlying factors of parental involvement play a role in the learners' literacy one may find solutions or improved strategies to ensure some quality of parental involvement, specifically in a country such as South Africa that is characterised by great learner diversity. The most basic change in parental involvement may make a difference in learners' lives so it is important to bear in mind that parental factors are closely related to the learner. However, the further away one moves from the learner the more tenuous these effects on performance and achievement become.

The study utilises data from the South African PIRLS 2006 study to answer the main question which has been supported with two sub-questions:

¹¹ The Learning-to-Read Survey will be referred to as the parent questionnaire within this study.

1. How does the home environment affect Grade 5 learners' performance in reading literacy?
2. To what extent do parental attributes predict Grade 5 learners' performance in reading literacy?

1.8 RESEARCH METHODOLOGY

For the purposes of this study, the role of parental and home factors will be scrutinised in order to ascertain the role thereof on South African Grade 5 learner reading literacy development. This study follows a secondary analysis research design to analyse the PIRLS 2006 South African survey data, with descriptive statistics, correlations, principal component analysis and standard multiple regression analysis (Tabachnick & Fidell, 2007). The use of secondary analysis allows the researcher to investigate any previously collected data in order to build on the primary research. The aim of this study was to determine whether parental and learner home factors have an effect on learner reading literacy achievement. This study's main research question investigated how the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa. See Chapter 4 for a detailed discussion of PIRLS 2006 and this study's research methodology.

1.9 OUTLINE OF STUDY

The dissertation is structured as follows:

Chapter 2 discusses the Progress in International Reading Literacy Study (PIRLS) 2006, its background and origin, the assessment framework and the aspects of reading literacy. Additionally, it describes the different background questionnaires as well as the test booklets along with the data capturing and analysis processes.

Chapter 3 provides an overview of the literature on reading literacy and parental involvement. Myrberg and Rosén's framework (2008) with reference to direct and indirect influences of parental education on learners' reading achievement is discussed. Adaptations to this framework for purposes of this study's conceptual framework, in terms of parental and home factors that may affect reading literacy

achievement, are provided. The chapter concludes with a summary of reviewed literature and conceptual framework statements.

The research design and methodology of PIRLS 2006 South Africa are discussed in detail in Chapter 4. This includes a discussion on the paradigm in which the study is reported, the research design, the sampling, as well as data collection, data analysis, methodological norms and ethical considerations.

Chapter 5 provides the results of the descriptive statistics of the secondary data analysis undertaken for this study, with reference to the use of descriptive statistics. Thereafter, Chapter 6 presents the findings based on inferential statistics (such as the principal component analysis and standard multiple regression analysis) in order to answer the main research question.

Chapter 7 relates to a summary of the research, findings, reflections, conclusions and recommendations of the study and consists of six sections. Section 7.1 summarises the dissertation's problem statement and rationale, and gives an overview of the literature and research design. Section 7.2 provides the summary of the research questions and an interpretation of findings as they relate to the literature. The conceptual framework and methodological reflections are discussed in Section 7.3. The conclusions of this study are discussed in Section 7.4 which is followed by the recommendations for future studies based on parental involvement and reading literacy achievement in Section 7.5. The concluding thoughts of this study can be found in Section 7.6.



CHAPTER 2

PROGRESS IN INTERNATIONAL READING LITERACY STUDY (PIRLS) 2006

2.1 INTRODUCTION

The Progress in International Reading Literacy Study (PIRLS) is an international comparative study in reading literacy and occurs in five-year cycles. During its 2006 cycle, the study involved 45 education systems, thus providing participants with reliable estimates of reading achievement in an international context.

Chapter 2 discusses the Progress in International Reading Literacy Study (PIRLS) 2006, what the study entails as well as how it was designed, developed and administered. The International Association for the Evaluation of Educational Achievement (IEA) is the organisation which is involved in PIRLS and it is discussed in Section 2.2. The framework underpinning the PIRLS 2006 study as well as the contexts for learning is outlined in Section 2.3. As PIRLS 2006 assesses two reading processes, these processes - reading purpose as well as process of comprehension - are discussed in Section 2.4. The instruments, which include the achievement booklets and background questionnaires, are dealt with in Section 2.5. The research design of the PIRLS 2006 study is described in Section 2.6 which is followed by the research methods which include the sampling of PIRLS 2006 (Section 2.7). In Section 2.8, the translation and adaptations of the PIRLS 2006 materials are discussed. The PIRLS 2006 data collection, scoring and capturing are discussed in Section 2.9. Section 2.10 describes the analysis as well as the PIRLS 2006 International Benchmarks. This is followed by a review of the methodological norms in Section 2.11. Thereafter, the ethics for PIRLS 2006 is discussed (Section 2.12). Lastly, the conclusion to Chapter 2 is found in Section 2.13.

2.2 THE INTERNATIONAL ASSOCIATION FOR THE EVALUATION OF EDUCATIONAL ACHIEVEMENT (IEA) AND PIRLS

The International Association for the Evaluation of Educational Achievement (IEA) is an independent international co-operative of national research institutes as well as a governmental agency which was established in 1959 with a permanent secretariat

based in the Netherlands, the Data Processing Centre located in Germany, and the International Study Centre located at Boston College, USA (Kennedy et al., 2007). Since its establishment more than 50 years ago, the IEA has conducted large-scale comparative studies of educational achievement on a wide range of topics and subjects, such as mathematics, science, civics, information technology and reading. It conducts these types of studies to obtain a greater understanding of the effects of policies and practices within and across international educational systems as well as the significance of the achievement results (Mullis et al., 2007). The IEA also offers a cross-national perspective on education systems, school organisation and teaching practices by measuring trends in learner achievement (Mullis et al., 2007, p.1). These studies have made significant contributions to increasing understanding of the educational process. Additionally, the IEA provides an opportunity to learn to understand the linkage between the intended curriculum, the implemented curriculum and the attained curriculum. In order to investigate and examine these associations, data about learner achievement is collected as well as background information from the parents (some studies), learners, teachers and principals, as well as (in some studies) the policymakers (IEA, 2011).

IEA studies are either cross-sectional or longitudinal and non-experimental. The cross-sectional studies repeat their assessments in a five-year cycle in subjects such as reading, mathematics and science. Examples of IEA studies that are conducted in a regular interval of four- and five-year cycles include the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS). The aim of TIMSS is to provide comparative information about educational achievement across all participating countries and/or educational systems to improve teaching and learning in mathematics and science (Mullis, Martin & Foy, 2008). TIMSS assesses the trends in mathematics and science achievement at Grades 4 and 8 in a 4-year cycle. The study therefore assesses learner knowledge and skills about mathematics and science which have been taught at school. The assessment asks certain questions which could offer insight into learner abilities, such as problem-solving and inquiry abilities (Mullis et al., 2008). As mentioned in the above paragraph, background information is collected to obtain a holistic view of the learner.

PIRLS, which is also a comparative study, assesses learner reading achievement in either Grade 4 or Grade 5 in most participating countries. The PIRLS 2006 study, as well as other IEA studies, makes use of UNESCO's International Standard Classification of Education (ISCED) (UNESCO, 1999) for identifying the suitable target grade:

... all learners enrolled in the grade that represents four years of schooling, counting from the first year of ISCED Level 1, providing the mean age at the time of testing at least 9.5 years. For most countries, the target grade should be the fourth grade, or its national equivalent (Mullis et al., 2007, p.36).

The PIRLS study, designed to measure trends in learner reading literacy and policies as well as practices related to reading literacy over a five-year cycle, began in 2001 to provide reliable measurement of trends in reading comprehension (Martin, Mullis & Kennedy, 2007). However, it was not the first literacy study which the IEA conducted, there having been, in 1991, the Reading Literacy Study, which served as a foundation for PIRLS, administered to nine- and 14-year old learners. The Reading Literacy Study scrutinised the learners' levels of reading literacy across countries, along with reading instruction and the relations between reading comprehension as well as factors of the home and school environment which might influence reading literacy (Wolf, 1995). It also formed a basis for the current PIRLS definition of reading literacy (Mullis et al., 2006). Meanwhile, the goal of IEA international reading assessments was to conduct "innovative and comprehensive measure of reading achievement" (Mullis, Martin, Gonzalez and Kennedy, 2003, p.16). The PIRLS 2006 study is the second cycle (Mullis et al., 2007) and was administered in 40 countries and 45 education systems (two Belgium and three Canadian provinces), providing international comparative data about the learners' reading literacy performance in mostly Grade 4, which is an important schooling year since it is the transition phase from learning to read to reading to learn (Martin et al., 2007).

The international study centres at Boston College, the Questionnaire Development Group (QDG) and the Reading Development Group (RDG) were responsible for the development and standardisation of instruments. The responsibilities of national research centres included the translation of instruments, the production thereof as

well as the collection¹² and analysis of the data (Mullis et al., 2007). The responsibilities also included the quality control of translating and adapting of materials. The IEA appointed Quality Control Monitors (QCMs) to verify the materials in each participating country (Barth, Kennedy & Trong, 2007) to ensure that standards were being met, and any changes made to the standardised instruments or procedures were documented. Meanwhile, the National Research Co-ordinators (NRCs) worked together with Boston College, the Reading Development Group, the Questionnaire Development Group and the QCMs to ensure that all national adaptations of instruments were on a par with the international requirements.

Although PIRLS is designed as a trend study (Martin et al., 2007), it allows for changes to selected background questionnaire items such as new curriculum concepts and educational priorities. Each new cycle of the assessment allows for the development and inclusion of some new passages and the release of older passages for public use. The study's design always makes provision for the retention of previously used passages in order to establish trends for those countries with repeat participation from one cycle to the next. PIRLS 2006 was built on PIRLS 2001 (Martin et al., 2006) and thus trends were established between the two studies for the participating countries, which meant that 27 countries were able to develop trends in learner achievement. Table 2.1 (below) depicts the total of participating countries and educational systems during PIRLS 2001 and 2006, with 40 countries and 45 educational systems participating in the latter.

Table 2.1: PIRLS 2001 & 2006 Participating Countries

PIRLS 2001 & 2006		PIRLS 2006 only
Bulgaria	Macedonia	Austria
Canada, Ontario	Moldova	Belgium (Flemish)
Canada, Quebec	Morocco	Belgium (French)
England	Netherlands	Canada, Alberta
France	New Zealand	Canada, British Columbia
Germany	Norway	Canada, Nova Scotia
Hong Kong SAR	Romania	Chinese Taipei
Hungary	Russian Federation	Denmark
Iceland	Scotland	Georgia
Iran	Singapore	Indonesia
Israel	Slovak Republic	Kuwait

¹² See Section 2.9 for further elaboration on quality control.

PIRLS 2001 & 2006		PIRLS 2006 only
Italy	Slovenia	Luxembourg
Latvia	Sweden	Poland
Lithuania	United States	Qatar
		South Africa
		Spain
		Trinidad & Tobago

Source: Mullis et al., 2007, p. 22

Information which is valuable for understanding the achievement results is collected from the learner, the home and school environment. Background information regarding reading behaviours and attitudes is collected from learners, their parents, teachers of learners and school principals. Additionally, the national context of each country was described in a curriculum questionnaire (completed by the National Research Co-ordinator) resulting in an encyclopaedia which describes each participating country's educational system, their reading curriculum, instructions and assessments in primary schools (Martin et al., 2007).

2.3 PIRLS 2006 ASSESSMENT FRAMEWORK AND SPECIFICATIONS

The PIRLS Assessment Framework and Specifications is an outline or plan for the IEA's assessment of reading literacy. Even though the Reading Literacy Study of 1991 formed the base for PIRLS and, by extension, the base of the framework for PIRLS, the PIRLS framework was specifically developed for PIRLS 2001 (Campbell, Kelly, Mullis, Martin & Sainsbury, 2001). The initial framework developed for PIRLS 2001 was then adapted and used in the PIRLS 2006 study. The PIRLS 2006 framework ensued from a collaborative process which involved the PIRLS Reading Development Group (RDG) as well as the representatives of the participating countries with iterations and revisions to ensure that all countries' conceptions and ideas were encapsulated (Mullis et al., 2006).

2.3.1 CONTEXTS FOR LEARNING TO READ

Learners in the primary grades acquire the necessary reading literacy skills through an assortment of literacy activities within diverse social contexts (Mullis et al., 2006). This section will briefly describe the PIRLS 2006 framework with four different

contexts of learning to read, national and community contexts, the home context, the school context and the classroom context, as indicated in Figure 2.1.

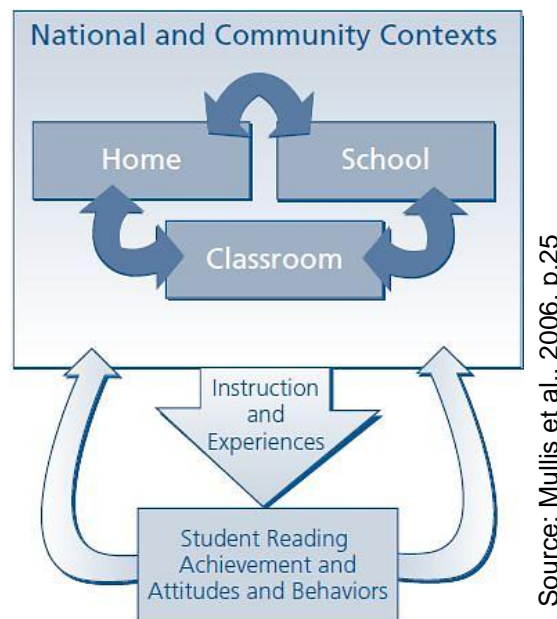


Figure 2.1: Contexts for the Development of Reading Literacy

Figure 2.1 (above) illustrates the relationship between the home, school and classroom that interact and result in learners' reading literacy development. It also indicates how the interaction between these three is positioned within the national and community contexts. It is likely that learner outcomes are a result of instruction and experiences gained in the different contexts. It shows the type of relationship between learner reading achievement and attitudes and behaviours. The abovementioned relationships are mutually supportive and build a picture of how each context has a connection with learner reading achievement. The following sections discuss the different contexts for the development of reading literacy.

2.3.2 NATIONAL AND COMMUNITY CONTEXT

Literacy development can be influenced by and is built upon a country's cultural, social, political and economic factors (Mullis et al., 2006). The decision about the importance of literacy in a country is dependent on the people's various backgrounds (Bourdieu, 1986), their beliefs (Rule & Modipa, 2012), whether or not literacy is considered crucial in or out of school. In some societies emphasis is placed on oral literacy, thus a continuum of literacy modes exist (UNESCO, 2005). In the EFA

Global Monitoring Report of 2006, UNESCO (2005, p.157) tabulates national definitions of literacy or illiteracy.

A country needs to focus on education and their citizens' literacy. However, for this goal to be successfully achieved the country should have certain educational policies and resources in place for educational development. There are four aspects based on the national and community contexts, which should be kept in mind when ensuring the success of producing a literate community:

1. emphasis on literacy
2. demographics and resources
3. governance and organisation of educational systems
4. curriculum characteristics and policies (Mullis et al., 2006).

Within the South African context, which comprises a typical societal structure that incorporates urban, sub-urban and rural areas (Wangenge-Ouma, 2010; Dieden & Gustafsson, 2002), the Education for All (EFA) and the Millennium Development Goals (MDGs) have been taken into account as part of the country's development plan to reach societal and educational goals. The MDGs aim to:

- eradicate extreme poverty and hunger
- *achieve universal primary education*
- promote gender equality and empower women
- reduce child mortality
- improve maternal health
- combat HIV/AIDS, malaria and other diseases
- ensure environment sustainability
- form a global partnership for development (UN Millennium Project, 2005).

The MDGs, largely supported by most countries, are important and the goals themselves are clear-cut and comprehensive as to what can be done to improve the lives of people. These goals offer countries the opportunity to reduce the poverty percentage. The MDGs target not only poverty but also factors leading towards it, such as disease, gender equality, education and environmental sustainability (UN

Millennium Project, 2005). The Universal Declaration of Human Rights as well as the UN Millennium Declaration explicitly state that the abovementioned factors are basic human rights.

The South African Constitution (Currie & de Waal, 2007) also affirms that basic education, including adult basic education, is a fundamental human right¹³. Aligned with this is the initiative to ensure that learners receive quality education in the primary grades. Early Childhood Development (ECD) is a broad term which underpins the process in which learners, from younger than nine years of age, grow and thrive physically, mentally, emotionally and morally. ECD informs Grade R classes in primary schools which cater for learners from age five to six. The national Department of Education (DoE) in South Africa has made provision for this grade to prepare learners entering Grade 1 to be active participants in the learning process.

The Department of Basic Education (DBE) has set out additional education goals. The Action Plan to 2014: Towards the Realisation of Schooling 2025 document has identified five priority goals:

1. to improve the access of children to ECD below Grade 1
2. to improve the professionalism, teaching skills, subject knowledge and computer literacy of teachers throughout their entire careers
3. to ensure that every learner has access to the minimum set of textbooks and workbooks required according to national policy
4. to ensure that basic annual management processes take place across all schools in the country in a way that contributes towards a functional school environment
5. to improve the frequency and quality of the monitoring and support services provided to schools by district offices, partly through better use of e-Education (DBE, 2011).

Amongst the many contributors to learner reading literacy achievement are cultural, social, political and economic factors. One of the continuing goals of an assessment such as PIRLS is to improve teaching and learning of reading in primary education (Kennedy et al., 2007). This goal links to the second MDG goal since both envision

¹³ Human rights also include nutrition, shelter, healthcare and social services.

that literacy and reading are fundamental to learner development and that emphasis should be placed on enabling and assisting learners to achieve their goals of reading literacy, and in turn universal primary education.

2.3.3 HOME CONTEXT

Various factors may have an effect on the development of learner reading literacy within the context of home, including:

- engagement in pre-school literacy activities
- language spoken at home
- books at home
- parental involvement
- attitudes and beliefs toward reading literacy (Hay & Fielding-Barnsley 2007).

Other factors might include parental education and employment, however, Mullis et al. (2003) state that parents who tend to spend more time reading with their children at home could be a factor in predicting their reading literacy achievement. Although the number of books at home is of importance it should not be considered the only literacy resource (Sénéchal & LeFevre, 2002). Other resources, which include computers, literacy toys and activities, form part of the family's cultural capital.¹⁴

Another important aspect of the home environment is parental involvement, which in literacy activities can influence the learner's reading literacy development (Levy, Gong, Hessels, Evans & Jared, 2006). The parents' and primary caregivers' involvement in early literacy development is of cardinal importance, since it assists in the acquisition of reading literacy (Mullis et al., 2009). There are various ways in which parents or primary caregivers can be actively involved in their children's lives, the most important for Hart and Risley (2003) being to read aloud to them. When learners have the opportunity to listen to their parents reading aloud to them it encourages them to begin to look at the book and the pictures or text on the inside as well as starting to read the book independently (Mullis et al., 2009).

¹⁴ Cultural capital is discussed in Chapter 3.

2.3.4 SCHOOL CONTEXT

The school context is seen as learners' central locality for formal education and learning. Even though the home environment may be a rich environment for developing reading skills, most formal education happens within the school environment (Mullis et al., 2006). The PIRLS assessment, which focuses on learners who are in their fourth year of study at school, is aimed at drawing a comparison between the intended, implemented and attained curricula. The reason for examining Grade 4 learner reading achievement is based upon the curriculum demands where a change is made from learning to read to reading to learn (Chall, 1983).

The intended curriculum is set out by the DBE in order to lay a foundation for all learners and schools at the same level, however, some schools do not always implement the intended curriculum as required (Bantwini, King-McKenzie, 2011; NEEDU, 2013) and, as a result, varying levels of the curriculum are covered in the schools. This leads to the attained curriculum which could be linked to the achievement of learners in order to gauge what has been learned.

There are various factors, such as the school policy and curriculum, as well as the school environment and resources, which can influence achievement and enable learners to perform well academically in the school context (Mullis et al., 2006). Primary education policies and curricula should help teachers in their quest to develop literacy in their learners.

Within the South African educational context, school policies and curricula have over the years been under revision, beginning with Curriculum 2005, Revised National Curriculum Statement (RNCS) 1998, National Curriculum Statement (NCS) 2006, and finally Curriculum Assessment Policy Statements (CAPS) 2011. During these curricular changes it was vital for all schools to implement the policy and curricula in order to achieve their educational goals.

The school environment is of importance since there are various factors which could impact on the learners' learning (Mullis et al., 2006). Schools should be places of safety and security in which the learners feel comfortable to study and participate in daily activities, including reading activities, which are formulated to assist learners to fully acquire the necessary reading skills and in turn can help develop other skills.

Resources at schools are vital since the development of learners' skills is dependent on them. At the very least children need stationery, for example chalk, crayon, and pencils, to start drawing the alphabet letters or writing short sentences. Resources at schools are beneficial since teachers can make use of various sources to create a learning environment for the learners (Mullis et al., 2006). Other resources, such as books, also contribute to learner reading literacy achievement (see Hay & Fielding-Barnsley, 2007; Sénéchal & LeFevre, 2002) and should be used together with reading literacy activities to aid in learner language acquisition and development.

Throughout South Africa, there is a shortage of resources at schools (Howie et al., 2008), not only at rural schools but also at suburban and urban schools. The principals of learners who participated in the PIRLS 2006 study confirmed that their educational instruction to the learners was hampered by the lack of educational resources, including instructional materials, qualified teachers, libraries and books as well as buildings in which the teachers can teach. Approximately 60% of schools indicated that they did not have a school library (Howie et al., 2008) and this lack of resources could indicate why South African learners are struggling with educational achievement.

It is important to note that there should be a home and school connection which includes activities such as parent-teacher meetings, parental involvement in their children's homework (Mullis et al., 2006; Desforges & Abouchaar, 2003) and participation in other activities such as sport or cultural days. However, the principals of South African Grades 4 and 5 learners indicated that although many parents attend parent-teacher meetings only about half could be considered as actively involved in their children's educational development (Howie et al., 2008).

2.3.5 CLASSROOM CONTEXT

Most countries, including South Africa, have made provision for schooling before entering Grade 1.¹⁵ The parents of participating learners in PIRLS 2006 indicated that approximately 80% of children attended some sort of pre-school (Mullis et al., 2007). Within the South African context, teaching and learning in the Foundation

¹⁵ See Chapter 1 Section 1.2.

Phase begins with early literacy skills (Howie et al., 2008) which might have been focused on before the learner enters the Grade 1 class, particularly as Grade R has been introduced as part of formal schooling. Most of South African learners start school at the age of seven (41%, SE=0.7%) but the PIRLS 2006 findings have revealed that those who start school at the ages of six and seven achieved higher mean scores than those who started earlier or later (Howie et al., 2008).

Although learners go to school and attend classes it does not necessarily mean that they will have a high scholastic achievement, since the time spent is “not always spent in effective productive ways” (Mullis et al., 2007, p.178). The teachers of Grade 5 learners in South Africa indicated that they spent three to four days each week on reading instruction, however, no relationship could be established between time spent on reading instruction and learner achievement (Howie et al., 2008).

Another factor related to instructional time is that of teacher activities and the size of the class. The number of learners can have an impact on the instruction, acquisition of knowledge as well as discipline with the total number of learners in a class having the potential to influence the learning process in various different ways (Ehrenberg, Brewer, Gamoran & Willms, 2001). PIRLS 2006 reports that the average number of learners in a South African Grade 5 class was 42, compared to the international average of 24 (Mullis et al., 2008). The South African PIRLS 2006 data indicated that most learners were in classes with over 31, the mean achievement of whom was 292 (SE=6.3). However, on the other hand, learners who are in classes of fewer than 21 also performed poorly, with 48 points below their peers. In another IEA study (TIMSS 1995; 1999) it was found that class size was not significant in affecting learner performance, which might lead to an assumption that other than class size socio-economic status has a larger influence on reading literacy achievement (Howie et al., 2008). Furthermore, Howie et al. (2008) hypothesised that, in South Africa, socio-economic status might play a vital role in achievement alongside the large class sizes. Hoxby (2000) concludes that teachers may like classes which are smaller since smaller classes reduce the amount of effort that is needed to teach, and even if class size is reduced it will not fulfil all the aims related to learner achievement.

Additional factors which may affect the learning process at classroom level include teacher competence, strong leadership, clear organisation of the day, experience,

teaching style, teacher qualification, and a detailed learning programme (Howie, 2005). The teaching and learning process may also be influenced by the noise level in the classroom when learners speak to each other, the different kinds of activities used, and the time schedule which the teacher follows (Ehrenberg, et al., 2001).

To summarise, Table 2.2 (below) depicts the different contexts for learning to read.

Table 2.2: Contexts of Learning to Read

National and Community Context	Home Context	School Context	Classroom Context
<ul style="list-style-type: none"> • Emphasis on Literacy • Demographics and Resources • Governance and Organisation of Education System • Curriculum Characteristics and Policies 	<ul style="list-style-type: none"> • Activities Fostering Literacy • Languages in the Home • Economic Resources • Social and Cultural Resources • Home & School Connection • Learners' out-of-school Literacy Activities 	<ul style="list-style-type: none"> • School Policy and Curriculum • School Environment and Resources 	<ul style="list-style-type: none"> • Teacher Training and Preparation • Classroom Environment and Structure • Instructional Materials and Technology • Instructional Strategies and Activities • Home and Assessment

Source: Mullis et al., 2006

2.4 ASPECTS OF PIRLS 2006 READING LITERACY

Three aspects of reading literacy are outlined in the PIRLS 2006 assessment framework, namely the purpose for reading, process of comprehension, and reading behaviours and attitudes. They are interdependent and thus interlinked, and do not function in isolation, which in turn forms the different contexts in which the learners exist in (Mullis et al., 2006). For the purpose of this section, Table 2.3 (below) illustrates the different aspects of reading literacy in the PIRLS 2006 study.

Table 2.3: Aspects of PIRLS 2006 Reading

Purposes for Reading	Processes of Comprehension	Reading Behaviours And Attitudes
<ul style="list-style-type: none"> • Reading for literary experience • Reading to acquire and use information 	<ul style="list-style-type: none"> • Focus on and retrieve explicitly stated information • Make straightforward inferences • Interpret and integrate ideas 	<ul style="list-style-type: none"> • Learner reading literacy behaviours • Positive attitudes toward reading • Learner attitudes toward

Purposes for Reading	Processes of Comprehension	Reading Behaviours And Attitudes
	and information • Examine and evaluate content, language and textual elements	learning to read • Parent, teacher and principal attitudes to reading

Source: Compiled from Mullis et al., 2006, pp. 5-6

Each of the aspects will be discussed individually in the following sections.

2.4.1 PURPOSES FOR READING

Amongst the various reasons people read are personal interest, reading for pleasure or to learn, or being part of a literary community in which they can fully participate. According to the PIRLS 2006 framework, the two types of reading in which most young readers engage are reading for literary experience and to acquire and use information (Mullis et al., 2006). Since both purposes for reading are deemed important there is an equal distribution or quantity of material assessing each purpose (Mullis et al., 2006).

Reading for literacy experience is frequently associated with fictional material, while reading to acquire and use information is more likely to be associated with informative articles and instructional texts. The types of texts used for the PIRLS 2006 assessment were fictional passages or texts for the purpose of reading for literary experience. Information texts were used in the PIRLS 2006 assessment for the purpose of reading to acquire and use information, however, the content and organisation of a text genre might have implications for the reader's approach to understanding the text (Graesser, Golding & Long, 1991) and consequently, compromise the learner.

Through reading the text the reader makes meaning of it and thus a goal is achieved. For PIRLS 2006, the reading material was classified by their main purpose (reading for literary experience and reading to acquire and use information) and then by the type (multiple choice and constructed response) of questions asked. Thus, all reading material classified as informational was accompanied by questions about the particular factual information. Moreover, the aim of each passage in each assessment booklet was to create a reading experience closely related to the

learners' own authentic reading experience in their own contexts (Mullis et al., 2006). Both of the purposes for reading are briefly described in the following sub-sections.

Reading for literary experience

The literary texts of the PIRLS 2006 assessment took the form of narrative fiction. In literary reading, the reader engages with the text to become involved in imagined events, setting, actions, consequences, atmosphere, feelings and ideas (Mullis et al., 2006). This means that young readers in Grades 4 or 5 are given the opportunity to explore situations they may have yet to encounter.

Reading to acquire and use information

Reading to acquire and use information uses informational texts which help the learner understand how the world is and has been, and why things work the way they do. Contrary to reading for literary experience, whereby the learner engages in imagined texts, in this instance he or she does not engage in an imagined world but rather with aspects of the real world. Moreover, the PIRLS 2006 texts or passages focussed not only on the acquisition of knowledge and information but also on the learners' ability to use reasoning (Mullis et al., 2006).

2.4.2 PROCESSES OF COMPREHENSION

There are various ways of constructing meaning from text. Some people or learners might focus on a specific text and retrieve specific ideas. Learners might make inferences from the text or interpret and integrate information and ideas. Another way to construct meaning from text may include examining and evaluating certain text features. These various ways of constructing meaning from text allow the reader to further examine their understanding of the text and if necessary adjust their approach to reading (Mullis et al., 2006).

The PIRLS 2006 assessment used four comprehension processes to develop the necessary comprehension questions for the reading passages, namely:

1. focus on and retrieve explicitly stated information
2. making straightforward inferences
3. interpret and integrate ideas and information

4. examine and evaluate content, language and textual elements (Mullis et al., 2006).

Various questions were asked in the assessment, each dealing with any of the four processes, which enabled the learners to demonstrate their abilities in constructing meaning from the text. These processes, discussed below, also form a hierarchy of basic reading skills, from those at a concrete level, to mastery of more advanced reading skills at a more abstract level of interpretation.

Focus and retrieve explicitly stated information

Not all readers focus on every detail but rather they pay attention to certain information which may be explicitly stated. Some aspects of text might prompt a particular focus, however, some readers focus on certain parts of the text which either confirm or contradict their views (Mullis et al., 2006) and add meaning to their reading. Readers use numerous strategies to locate and understand certain content of a text that is relevant to the question posed in the test. Mullis et al. (2006) make the point that the learner retrieves relevant information from the text or passage which means not only understanding what is stated in the text but also ascertaining how that content is related to the information sought. Examples of reading tasks of this type of text processing include:

- Identifying relevant information to the specific goal of reading
- Looking for specific ideas
- Searching for definitions of words and phrases
- Identifying the setting of a story
- Finding the main idea when explicitly stated (Mullis et al., 2006, p.13).

Make straightforward inferences

Readers make various different inferences when they construct meaning from texts, which allow the reader to move beyond the surface to fill in the gaps in meaning (Mullis et al., 2006). Some inferences might be straightforward but others need to link more ideas to understand the connection between pieces of information. Readers who are more skilled might make inferences more quickly than those who are less proficient, as they can connect several pieces of information and recognise

the relationship between them, even if not explicitly stated in the text. This type of processing of text relies on more than just sentences at phrase level meaning. Examples of this type of text processing include the following:

- Inferring that one event caused another event
- Concluding what is the main point
- Determining the referent of a pronoun
- Identifying generalisations made in the text
- Describing the relationship between two characters (Mullis et al., 2006, p.14).

Interpret and integrate information and ideas

While reading text, the reader draws inferences which may focus on local or global meanings or to details or to overall themes in a passage. In this instance, the reader is processing text beyond the sentence or phrase level (Mullis et al., 2006). The process is interpretive when readers attempt to construct a more specific understanding of the text by integrating personal knowledge and experience with meaning from it. Some reading tasks for this type of text processing are:

- Discerning the overall message or theme of a text
- Considering an alternative to actions of characters
- Comparing and contrasting text information
- Inferring a story's mood or tone
- Interpreting a real-world application of text information (Mullis et al., 2006, p.15).

Examine and evaluate content, language and textual elements

When readers examine and evaluate the content, language and elements of a particular text a shift takes place from constructing meaning to critically considering the text itself (Mullis et al., 2006). Readers then draw on their interpretations and understanding of the text against their understanding of the world. Readers should, during this particular process, draw on their knowledge of text genre and structure and on their understanding of language usage (Brinkley & Kelly, 2003). Furthermore, the reader reflects on the textual elements as well as on the author's means of

conveying meaning. The following reading tasks can be used as examples for this particular type of text processing:

- Evaluating the likelihood that the events described could really happen
- Describing how the author devised a surprise ending
- Judging the completeness or clarity of the text
- Determining an author's perspective on the main topic (Mullis et al., 2006, p.17).

2.4.3 READING LITERACY BEHAVIOUR AND ATTITUDES

Reading literacy does not only include the ability to construct meaning from various texts but also behaviours and attitudes which may support lifelong reading (Mullis et al., 2006). Positive attitudes and behaviour can also contribute to a learner's full potential within the literate world, which then adds to the concept of being a lifelong reader (Mullis, Martin, Kennedy, Trong & Sainsbury, 2009; Leppanen, Aunola & Nurmi, 2005). According to Mullis et al. (2003), learners who can read tend to show a more positive attitude than those who struggle with reading. The learners who can be seen as competent readers and who not only read for pleasure gain valuable experience in reading which develops their reading ability and results in them becoming proficient readers (Sainsbury & Schagen, 2004; Mullis et al., 2006). Sainsbury and Schagen (2004) point to previous research that has shown an association between positive attitudes, motivation, frequency of reading and reading literacy achievement, notably Baker, Scher and Mackler's (1997) study of home and family influences on motivation for reading, which found that if a learner has a positive attitude towards reading the learner will read and engage in reading activities willingly.

Drawing on PIRLS 2006 background questionnaires, valuable information regarding learner, parental, teacher and principal attitudes, behaviours and beliefs about reading could be captured and related to the learners' reading literacy performance. Van Staden (2010), in her study, found that learner responses to their contexts, backgrounds and educational settings reveal striking differences in how materials and reading resources are utilised.

2.5 PIRLS 2006 INSTRUMENTS

PIRLS 2006 was designed as a survey (Mullis et al., 2007), and since being established in 2001 reliable measurement of trends in learner reading literacy in a five-year cycle has been provided to participating countries (Martin et al., 2007). The PIRLS 2006 study made use of two types of instruments, namely the achievement booklets and the background questionnaires, both of which are discussed below.

2.5.1 ACHIEVEMENT BOOKLETS

As explained above (see Section 2.4.1), three aspects of a learner's reading literacy were measured by PIRLS 2006, namely, processes of comprehension, purposes for reading, and reading behaviour and attitude (Mullis et al., 2006). However, only the first two underpinned the PIRLS 2006 assessment of reading comprehension, with the four processes of comprehension being assessed within each purpose for reading (Mullis et al., 2006). Figure 2.2 (below) depicts the total percentages devoted to the process and purpose of reading assessment by PIRLS 2006.

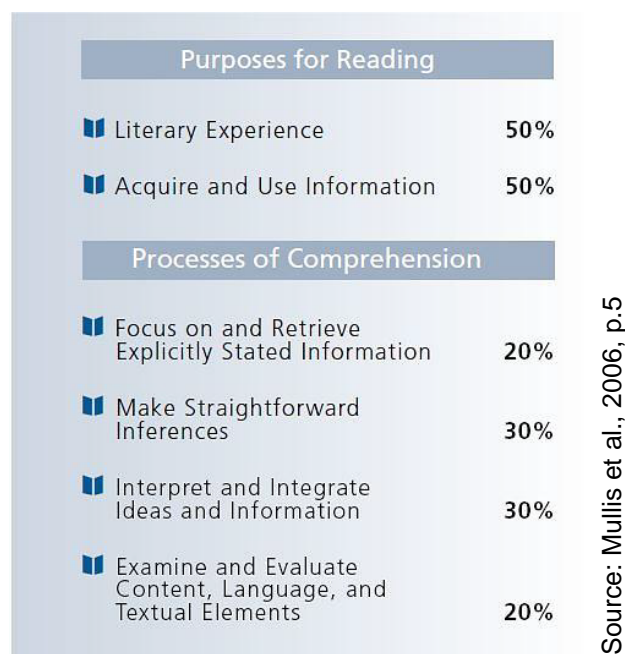


Figure 2.2: Percentage of reading assessment devoted to reading purposes and processes

In total, there were 12 test booklets with the Reader as Booklet 13. The Reader was printed in colour with questions being in a separate booklet as it was intended to be

left at schools. The purpose was not only to create a sense of ownership for the learner who received it but also to allow it to be used as a resource at the school. The PIRLS 2006 test booklets made use of a matrix design technique in which the passages and questions were divided into groups or blocks (Mullis et al., 2006). The blocks of passages and questions labelled L1 – L5 were for literary passages and those labelled I1 – I5 for informational texts. Of these blocks of passages and questions, individual booklets were made up using the matrix sampling, as indicated by Table 2.5 (below).

Table 2.4: Matrix-Sampling Blocks for PIRLS 2006

Purpose for Reading	Block				
Literary Experience	L1	L2	L3	L4	L5
Acquire and Use Information	I1	I2	I3	I4	I5

Source: Mullis et al., 2006, p. 39

Certain types of passage were allocated to each booklet (see Table 2.6, below). Only booklet 13 (the Reader) used the texts L5 and I5. Each booklet administered contained only two reading passages and each child only answered one of the 13 booklets. Four of the ten blocks comprised the trend passages from PIRLS 2001 so that trends in reading achievement could be followed and measured over a five-year cycle (Mullis et al., 2006). Although different children were tested across cycles, the same cohort was tested, thereby making trends possible.

Table 2.5: Test Booklet Design for PIRLS 2006

Booklet Number	Passage 1	Passage 2
1	L 1*	L 2*
2	L 2	L 3
3	L 3	L 4
4	L 4	I 1*
5	I 1	I 2*
6	I 2	I 3
7	I 3	I 4
8	I 4	L 1
9	L 1	I 1
10	I 2	L 2
11	L 3	I 3
12	I 4	L 4
13 (Reader)	L 5	I 5

Source: Mullis et al., 2006, p. 40

* Indicates passages from PIRLS 2001

Key:

L: Literary text

I: Informational text

The items in the PIRLS 2006 booklets consisted of two types of questions, namely, constructed response and multiple choice questions. Passages were accompanied by roughly 12 questions, half of which were multiple choice and the other half constructed response items (Mullis et al., 2006).

The multiple choice questions consisted of four responses, only one of which was correct. All had a maximum score of one point and the constructed response questions had scores which ranged from one to three points. The items were used to assess any of the comprehension processes but did not allow learners to explain their answers or statements, so were less suitable for assessing the learner's capability to make more multifaceted interpretations (Mullis et al., 2006).

In contrast, constructed response items in the PIRLS 2006 assessment required the learners to write a written response to each question for a maximum of three points. Such items can be used to assess all of the four comprehension processes and are suited for assessing aspects of comprehension that require the learner to provide support for their answers or interpret the question which is dependent on the learner's background knowledge and experience (Mullis et al., 2006). The allocation of the maximum score for the constructed response items depended on the depth of understanding required.

2.5.2 BACKGROUND QUESTIONNAIRES

Mullis et al. (2006) state that one of the main reasons for conducting PIRLS is to study the various home and school factors related to learner reading literacy. To be able to study these factors a number of background questionnaires were used in PIRLS 2006. These included the Learner, Learning-to-Read Survey (or parent questionnaire), teacher and school questionnaires and were administered to the learner, parents of the participating learners, teachers and principals of schools of Grade 4 learners respectively. A curriculum questionnaire was completed by the National Research Co-ordinators (NRC) of each country (Mullis et al., 2006).

Learner questionnaire

All the learners who participated in the PIRLS 2006 study were required to complete a learner questionnaire aimed at retrieving background information regarding the learners' home and school environments as well as ascertaining their self-concept and attitudes toward reading (Martin et al., 2007). It also sought information regarding the learner's reading habits outside school, the amount of time using computers and other literacy resources, and some demographic information (Mullis et al., 2006). This particular questionnaire was expected to take approximately 15 to 30 minutes to complete.

In South Africa, however, the learner completion time was often exceeded since the learners did not understand the questions. In such cases, they were helped by the fieldworkers to complete the questionnaire. This occurrence serves as an indication of the learners' literacy levels and to some extent their exposure to reading.

Learning-to-read survey (parent questionnaire)

The Learning-to-Read Survey (parent questionnaire) was administered to the parents or primary caregivers of learners who participated in the study. The questionnaire asked the parents about their demographics followed by the preparations they made for their children to enter formal schooling (Martin et al., 2007). Thereafter, questions were asked regarding the current activities with their children. Some questions were asked about how the parents perceived their children's schools, followed by ones on the home environment, reading within the home and enjoyment thereof (Mullis et al., 2006). This particular questionnaire inspects the child-parent literacy interactions and provides an holistic picture of the learning to read context (Mullis et al., 2006). The questionnaire was designed to be completed in 10 to 15 minutes and was completed by the parents at home.

Teacher questionnaire

The teacher questionnaire specifically investigated reading activities and materials used for reading instruction during class time (Martin et al., 2007). It focused on the classroom context for developing reading literacy and also asked for information on the type of instruction the teacher used during teaching as well as certain characteristics of the class. These included class size, reading level as judged by the

teacher, resources available, type of literacy activities used, as well as promoting the learners' development of reading literacy (Mullis et al., 2006). It asked whether the teacher received opportunities for professional development and whether they were currently engaged in educational development. Teachers spent approximately 30 minutes completing it.

School questionnaire (principal)

The school questionnaire was completed by each of the sampled school's principals (Martin et al., 2007), and included questions about the reading curriculum, school demographics, availability and accessibility of resources, and socio-economic information of the school (Mullis et al., 2006). In accordance with the teacher questionnaire, questions about staff development were posed as well as issues surrounding school climate. It was designed to take approximately 30 minutes to complete.

Curriculum questionnaire

The curriculum questionnaire sought to provide information regarding the goals or objectives of reading instruction in schools. It included information about the policy for reading and literacy, goals and standards for reading instruction, time allocated for such tasks as well as availability and accessibility of literacy resources (Mullis et al., 2006). The NRC for each country was responsible for answering the curriculum questionnaire.

2.6 PIRLS 2006 RESEARCH DESIGN

Reading literacy underpins learning across different subjects but is also vital for individual growth, recreation and communication. Therefore, reading literacy provides learners with the ability to participate in and contribute to society (Mullis et al., 2006). PIRLS 2006, as with PIRLS 2011, was a study conducted at regular intervals in order to assess learner reading literacy and to illuminate possible associated factors which might influence the learners' development and acquisition thereof (Mullis et al., 2006). PIRLS 2006 was a cross-sectional survey which collected data at one point in time. A major advantage of a cross-sectional survey is

that it allows for measurement of current attitudes or practices, and provides information in a short time (Creswell, 2008).

Reading literacy achievement booklets included Grade 4 level stories and informational texts sourced from different countries that participated in the PIRLS 2006 study (Mullis et al., 2006). The learners who participated in the study were expected to engage in different reading strategies. To complement the reading literacy assessment, the survey gathered background information about important factors related to the learners' home and school environments (Martin et al., 2007). Questionnaires are used during survey research to be statistically analysed to describe trends (Creswell, 2008), therefore, the PIRLS 2006 study made use of background questionnaires which were administered to the learners, the parents or primary caregivers of the learners, the teachers and the school principals.

2.7 RESEARCH METHODS

In this section, the research methods for the South African PIRLS 2006 study are discussed, beginning with the sample design in Section 2.7.1. As the sample design was complex in nature it is divided into three distinct sampling stages, namely first-stage sampling, second-stage sampling and third-stage sampling. The exclusion status and participant rate are also discussed in Section 2.7.1.

2.7.1 PIRLS 2006 SAMPLING

Joncas (2007, p.35) explains that the "sample design is intended to ensure that the PIRLS 2006 survey data provide accurate estimates of national learner populations". The one for PIRLS 2006 also accommodates another aim, that is, to show changes in the learner achievement from 2001 to 2006. During PIRLS 2006, all participating countries followed the uniform sampling approach which assured high quality standards during the study (Martin et al., 2007). By conducting a large scale assessment within different countries there would thus be uniformity between the samples in which there is an elimination of possible bias.

The IEA makes use of UNESCO's International Standard Classification of Education (ISCED) to identify a suitable target population of learners who have received at

least four years of schooling (Martin et al., 2007). The target population for the PIRLS 2006 study included learners at a transition phase from learning to read to reading to learn (Martin et al., 2007). As a result, all participating countries had to define their national desired population and, in the South African context, the above requirement led to the participation of Grade 4 learners in compliance with the IEA prescribed target population. However, a second population in South Africa was chosen (see Chapter 1 Section 1.3).

In the South African PIRLS 2006 study, the first population comprised Grade 4 learners across the country with Grade 5 learners being included as a national option and a second population (Howie et al., 2008). This second population were to determine whether the transition phase from Grade 4 to 5 was successful, as well as to examine the progression in learner reading knowledge and skill (Howie et al., 2008). A total of 16,073 Grade 4 and 14,657 Grade 5 learners were included in the sample and consisted of 429 and 397 schools respectively.

A three-stage stratified cluster sampling design was used in the PIRLS 2006 study (Martin et al., 2007), divided firstly into schools sampled proportional to size of the school. The second stage consisted of randomly sampled classrooms from the sampled schools and, lastly, the third stage consisted of the learners within the sampled classrooms.

The *first stage of sampling* was applied to the schools selected with probabilities proportional to size. This method is a classic approach, known as the probability proportional-to-size (PPS) technique (Martin et al., 2007). As Foy and Joncas (2003) explain, the school size entailed the number of learners enrolled in the target grade. Each NRC had to provide important information about the schools within the sample (Martin et al., 2007), including the measure of size, expected number of sampled learners per class and variables used for describing school characteristics. Internationally, as well as in South Africa, up to two replacement schools were available for each school in the sample for PIRLS 2006. These make provision for sampled schools that withdraw or refuse participation and were identified during the sampling process (Martin et al., 2007). The South African non-participating sampled schools comprised schools which were either non-functional or no longer existed (Van Staden, 2010).

At the *second-stage of sampling* the focus was on the random sampled classrooms from the sampled schools. A systematic random sampling was used (Foy & Joncas, 2003; Martin et al., 2007), which means that all the classes in a particular school, at a specific grade level had an equal probability of selection. All the classes in Grade 4 and, in the South African context, Grade 5, were listed and one or two classes were sampled (Martin et al., 2007).

The *third-stage sampling* in the PIRLS 2006 study involved the learners within the sampled classrooms. PIRLS 2006 envisaged having a desired population of learners who were aged nine at the time of testing (Foy & Joncas, 2003). However, in the South African context there were two samples, one of which was at Grade 4 level and the other at Grade 5 level.

All participating countries were expected to include all the learners in the target grade (Grade 4) of the population, however, it was not always possible. Each country's national desired target population excluded a few learners grounded on certain geographic or linguistic limitations.

The IEA ensured that provisions were made for *exclusions* in PIRLS 2006 (Foy & Joncas, 2003), reasons including increased survey costs and difficult testing conditions (Foy & Joncas, 2003). However, the exclusions were more intricate since there were three levels which each National Research Centre had to consider. Those applied in the PIRLS 2006 study were at national level, school level and within schools.¹⁶ Exclusions applied to some schools which were very small or remote, and also to learners who suffered from a disability (Martin et al., 2007).

At school level, four categories of exclusions were established. If the schools were geographically remote, had very few learners, or the curriculum was different from mainstream education systems, and if schools were specifically for learners with special needs, then exclusions were determined. Within school, exclusions involved the population of learners to be tested in PIRLS 2006 (Martin et al., 2007). Any learner who was intellectually disabled, functionally disabled and/or a non-native language speaker was excluded from the population of tested learners.

¹⁶ Where certain learners or classrooms were excluded.

The South African sample was stratified according to province (nine) and language (11) to yield a nationally representative sample of Grades 4 and 5 learners. A single sample of schools was selected, which meant that where a school was sampled for Grade 4 participation, Grade 5 learners in that same school were included for participation in the study. Furthermore, the above exclusions were applied to the South African study, which led to 429 (98.5%) and 397 (96.5%) of Grades 4 and 5 schools, respectively, being included in the study (Howie et al., 2008).

2.8 TRANSLATION AND ADAPTATIONS OF INSTRUMENTS

The adaptations and translations of the instruments were of cardinal importance to the success of PIRLS 2006, thus all translated materials had to undergo several rounds of translation (Malak & Trong, 2007; Kelly & Malak, 2001). Each participating country was required to use professional translators who were responsible for not only reviewing the translation of the instruments but also paying attention to the readability of the various texts and passages for the target population (Malak & Trong, 2007).

Adaptations were acceptable if the learners were unacquainted with certain terms or vocabulary, thus impairing the learners' ability to read the informational texts. This meant that the meaning and difficulty of these terms should remain unaffected (Malak & Trong, 2007). The TIMSS and PIRLS Study Centre in Boston College provided participants with a set of guidelines for translating appropriate conversions to standardise the adaptations made across the countries. Adaptions made to the passages and questionnaires were recorded on the National Adaptation Forms (NAFs) and were the responsibility of the NRCs.

All PIRLS 2006 assessment instruments, such as the test booklets and questionnaires, together with the procedural manuals, were developed in English (Martin et al., 2007). The participating countries, including South Africa, had to translate these documents into the relevant language(s) of their country. Internationally, the PIRLS 2006 instruments were translated into 44 languages (Malak & Trong, 2007). The International Study Centre (ISC) stipulated specific translation procedures in order to ensure that the assessment instruments and manuals were valid and comparisons could be made (Martin et al., 2007). It is

notable here that the manuals were not translated, only available in English and included guidelines for the translation and adaptations of the materials. The verification process of the translations was thorough and the goal was to check whether the translated and adapted materials, such as the assessment instruments, were an equivalent version of the international version (Malak & Trong, 2007). Prior to the field testing and data collection of each country, translated and adapted materials were submitted to the IEA secretariat for translation verification.

In South Africa, the assessment instruments had to be translated into 10 of the 11 official languages. The English assessment instruments were contextualised in relation to the USA, after which the English assessment instruments were contextualised to UK English. The CEA made use of professional translators, most of whom were registered with the South African Translators' Institute (SATI) to ensure that all translated materials were of a high standard (Howie et al., 2008). The parent questionnaire was a bilingual instrument and available in two of the test languages, for instance English and the test language of the school. The teacher and school questionnaires were not translated into the other nine official languages since the assumption was that most teachers and school principals were sufficiently able to understand, speak and write in English or Afrikaans, as required of their teacher training qualifications (Howie et al., 2008).

2.9 DATA COLLECTION AND SCORING

The PIRLS 2006 was an international large-scale study, and as such the preparation, printing and packing of assessment booklets and questionnaires were monitored for quality assurance. They were distributed across South Africa's nine provinces in the respective languages. The data collection of the South African PIRLS 2006 is discussed in Section 2.9.1. The scoring of the instruments and capturing of the data can be found in Section 2.9.2.

2.9.1 DATA COLLECTION

PIRLS 2006 was a large-scale international survey study which required quality assurance to ensure that valid comparisons could be made of learner reading

achievement (Martin et al., 2007). All the materials had to be standardised and procedures during data collection were to be followed. At the time, the PIRLS 2006 South African study was the most intricate internationally comparative study undertaken in the country, as it was conducted in the 11 official languages with a large sample design across the diverse regions (Howie et al., 2008).

The instruments were prepared by the IEA in English and distributed to all participating countries, each responsible for the process of quality assurance during the data collection phase of the PIRLS 2006 study. This meticulous process included designing, editing, translating, printing, labelling and packing the instruments and questionnaires in boxes along with tracking forms (Martin et al., 2007). Time and care was taken to ensure that all instruments and questionnaires were correctly prepared prior to being sent out to schools. The South African study faced many logistical challenges with the sampled schools being widely located in the nine provinces, including many sampled schools situated in remote areas. However, of value to the country is that the study was the first to provide assessment data for South African Grades 4 and 5 learners in all 11 languages.

Data collection guidelines were created to ensure compliance in test administration across all participating countries. Each country had to appoint an international QCM, the role of which was to be an objective observer in each country at a selection of school sites where testing was to take place. The appointment of a quality control monitor was the sole responsibility of the NRC in each country. Approximately 8% of schools were monitored during the South African PIRLS 2006 study (Howie et al., 2008).

Table 2.4 (below) depicts the total number of schools in each province as well as the total number of school monitored in each province for the PIRLS 2006 study.

Table 2.6: South African schools monitored in PIRLS 2006

South African provinces	Total number of schools per province	Total number of schools monitored
Eastern Cape	50	2
Free State	32	4
Gauteng	40	3
KwaZulu-Natal	48	4

South African provinces	Total number of schools per province	Total number of schools monitored
Limpopo	74	2
Mpumalanga	73	6
Northern Cape	23	4
North West	29	8
Western Cape	28	1
Total	397	34

Source: compiled from Van Staden, 2010, p, 115 and PIRLS data.

Data collection for South African PIRLS 2006 took place from October 2005 and was concluded by January 2006. The CEA outsourced the data collection to a market research company whose fieldworkers were trained in accordance with the standardised procedures for data collection stipulated by the IEA (Howie et al., 2008). These procedures were detailed in training manuals and data collection guidelines, created by the IEA which explained the relevant procedures for distributing and receiving of the instruments and questionnaires. The training manuals also described the fieldworkers' role, in terms of procedures for the handing out of test booklets, the amount of time allowed for completing the assessment, how to answer questions (if necessary) and how to receive the booklets, after the test session (Mullis, Martin, Gonzalez & Kennedy, 2003). The training session for the fieldworkers was of paramount importance since the fieldworkers had to ensure that the correct booklet was assigned to the correct learner in each class (Mullis et al., 2003) and that stipulated processes were followed.

2.9.2 SCORING AND CAPTURING

The reliability of the scoring of PIRLS 2006 instruments was also of extreme importance since this scoring directly impacted on the quality of the results (Barth, Kennedy & Trong, 2007). The NRCs of each participating country were provided with guidelines as to organising staff and materials, as well as selecting and training of scorers to record accurately and reliably (Barth, Kennedy & Trong, 2007). Another way of ensuring reliability was by means of a cross-country verification scoring in order to establish consistency across the participating countries. The Canadian province of Ontario, England, New Zealand, Scotland, Singapore, South Africa, and the USA were used in the cross-country scoring reliability process because the

responses were exchanged among participants who administered the PIRLS 2006 assessments in English (Martin et al., 2007).

The data collection in South Africa began in October 2005 and was completed by January 2006. Once the data collection was completed in South Africa, the test booklets and questionnaires were delivered to the CEA, unpacked and scored. This was done with the assistance of the University of Pretoria's undergraduate education students who were recruited and trained for scoring based on their ability to adequately communicate, read and understand any of the 11 official languages in which scoring had to take place. Due to the nature of the PIRLS 2006 assessment which consisted of both multiple choice and constructed response items, as described in Section 2.7, consistency and reliability had to be ensured across the participating countries (Van Staden, 2010).

Through the use of the IEA data capturing programme (WinDEM), data was successfully captured, cleaned and verified against National Adaptation forms. The IEA required a 5% verification rate but the South African data was fully verified according to the IEA requirements (Howie et al., 2008). The international variables were recorded and submitted to the Data Processing Centre (DPC).

2.10 DATA ANALYSIS

In order to report the PIRLS 2006 overall achievement results, Item Response Theory (IRT) was used. An item statistics review was conducted before IRT scaling was performed (Mullis et al., 2006), to ensure that the achievement data of PIRLS 2006 was of quality and to identify and remedy any poor performing items which might be present in the assessment.

The PIRLS 2006 dichotomous items can be classified into two- and three-parameter IRT models and partial credit models for items worth two or three points (Foy, Galia & Li, 2007). These were preferred since the learners responded to different items, depending on which test booklet they received (Mullis et al., 2003). PIRLS 2006 made use of IRT scaling, in order for NRC's and researchers to combine learner

answers and to provide plausible values¹⁷ of reading achievement of each participating country and to acquire proficiency scores in reading for all learners (Foy et al., 2007). For reporting overall achievement results, the international average was set at 500, with a standard deviation of 100.

As reported in Chapter 1, Grade 5 South African learners performed poorly in comparison to other countries. The learners' achievements from across all the participating countries were scrutinised in order to be scaled into the different benchmarks. A four-point scale was developed by the IEA to be used as international benchmarks (Mullis et al., 2006) of what performance is expected by learners. It is cumulative and builds on the previous benchmark, which means that when a learner reaches the advanced or high benchmarks, he or she displays the necessary set of knowledge and skills for the lower benchmarks (Mullis et al., 2006; Howie et al., 2008). Table 2.7 (below) shows the PIRLS 2006 international benchmark levels with their approach descriptions.

Table 2.7: Description of PIRLS 2006 International Benchmarks

PIRLS 2006 International Benchmarks	Benchmark Description
Low (400)	Learners can recognise and locate explicitly stated information in texts. Learners can provide straightforward inferences.
Intermediate (475)	Learners can identify plots in a literal text and are able to make some inferences and connections in informational texts.
High (550)	Learners who are competent readers who can locate, retrieve and recognise important details as well as state reasons for their inferences.
Advanced (625+)	Learners are able to wholly respond to reading assessments. Learners can integrate ideas, interpret figurative language and complex information.

Source: Compiled from Mullis et al., 2007.

Each scale provides a description of what is expected from learners during the PIRLS 2006 assessments, in terms of the passages they read and subsequent questions answered (Mullis et al., 2006).

¹⁷ Plausible values are not test scores for each learner but are imputed values that were used to estimate population characteristics correctly (Foy et al., 2007).

The PIRLS 2006 results were made available at an international press release on 28 November 2007 at Boston College in the USA with the South African PIRLS 2006 results being released at a national press conference on 29 November 2007. The international results are reported in the *PIRLS 2006 International Report* while the South Africa results are reported in the *PIRLS 2006 Summary Report: South African Children's Reading Literacy Achievement*.

2.11 METHODOLOGICAL NORMS

The validity and reliability of the PIRLS 2006 study has already been established since it is a five-year trend study which began in 2001 under the auspices of the IEA. Quality assurance in large-scale international surveys such as PIRLS is very important for making valid comparisons of student achievement across many countries. In order to ensure the quality of the PIRLS data, considerable effort was made in developing standardised materials and survey operation procedures (Mullis et al., 2007). In particular, PIRLS 2006 aspects of validity that are valid for this study include content and construct validity.

Content validity can be described as the items in a test or questionnaire which are representative of what they should cover (Wilson & MacLean, 2011; Wiersma, 2000). Content validity was assured in the PIRLS 2006 questionnaires and booklets because each item was checked thoroughly by each country's quality assurance team. The Item Development Task Force also reviewed the items for coherence and consistency, with all inconsistent responses addressed with the use of documentation available in order to make a cognisant decision (Mullis et al., 2007). A further aspect of content validity to consider was the statistical establishment of validity to ensure that items that were supposed to form a scale indeed did so. Construct validity involves the theoretical construct being measured (Wiersma, 2000) or the extent to which the test measures the construct that it is intended to. In this case, PIRLS 2006 intended to measure Grade 4 learner reading literacy with the use of assessment booklets (see Section 2.5). The assessment booklets were specifically developed to focus on reading literacy skills using literary and informational texts.

Reliability of research addresses the replicability and the consistency of data collection instruments (Wiersma, 2000). The reliability of PIRLS 2006 was quality assured in terms of its internal reliability such as the data collection, analysis and interpretations and how consistent they were under the same conditions due to the study being conducted in cycles. The reliability coefficients of items were generated, analysed and included in the PIRLS 2006 assessment through the use of Cronbach's Alpha Coefficient. In order to demonstrate the quality of the PIRLS 2006 data, it was important to document the reliability of the scoring process within countries, over time, and across countries. To measure the reliability of the scoring process *over time* (trend scoring), PIRLS 2006 took steps to document that the constructed-response questions that were carried over from PIRLS 2001 had been scored in the same way in both assessments (see the PIRLS 2006 Technical Report). For this purpose, following the PIRLS 2001 data collection, countries that participated in this assessment sent samples of their administered and scored test booklets to the IEA DPC.

2.12 RESEARCH ETHICS FOR PIRLS 2006 SOUTH AFRICA

The then Minister of Education, Naledi Pandor, gave her consent to conduct the PIRLS 2006 study in South African schools, after which the Ethics Committee of the University of Pretoria approved the study and informed consent could be sought from other stakeholders. The learners, teachers and schools gave informed consent and assent for participation in PIRLS 2006 prior to the data collection. However, the parents were required to give their individual consent for their children's participation in the study. The learners' names were kept confidential and linked with unique identification numbers (learner IDs) which provided anonymity for them and the school in the national and international database.

2.13 CONCLUSION

PIRLS 2006 was presented in this chapter with a detailed description of the IEA's history and how PIRLS was developed. This chapter provided a definition of reading literacy and how the term is conceptualised by the IEA, basing the PIRLS 2006 reading literacy definition on that of the PIRLS 2001 study. The chapter outlined the

PIRLS 2006 assessment framework, as well as describing aspects of reading literacy, purposes for reading and process of comprehension. In addition, different contexts in which reading takes place were outlined.

The research design and methods (including assessment instruments, translations and adaptations of instruments, data collection, scoring, data analysis) as well as methodological norms and ethics comprised this chapter. As part of this the test instruments and questionnaire design, based on the definition of reading literacy, was also described.

The aim of this chapter was to distinguish between PIRLS 2006 and its methodology. This study's methodology is discussed in Chapter 4.



CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

The purpose of this study is to explore and establish the extent of the effect of the home environment and parental attributes on Grade 5 learner reading literacy achievement using the PIRLS 2006 South African data. This chapter focuses on reviewing the literature regarding the home environment and parental attributes in an attempt to understand how they affect learner achievement of reading literacy. However, for the purposes of this study, the focus is placed on the variables used in the study's model. These background factors, briefly mentioned in Chapter 1, comprise two main phenomena, namely the home literacy environment and parental attributes.

This chapter reviews the literature surrounding the development of reading literacy, the home environment and parental attributes related to learners' reading attainment. To provide the necessary background for the chapter, a section is included which distinguishes between the development of literacy and reading literacy (Section 3.2). Thereafter, the first aspect of this study, namely the home environment, is discussed in Section 3.3. This section entails different factors which contribute to the home environment: resources at home (3.3.1), parental involvement (3.3.2) and home literacy activities (3.3.3). Subsequently, the second aspect, namely parental attributes, is discussed in Section 3.4 which consists of the gender of the parents (3.4.1), language in the home (3.4.2), literacy and education (3.4.3), occupation and employment (3.4.4) and lastly, the parents' attitude towards reading (3.4.5).

Since it is vital to connect the literature with the model on which the study is based, the conceptual framework developed is discussed in Section 3.5. The section is divided into two sub-sections, namely the introduction (3.5.1), which consists of a detailed discussion about Bourdieu's theory of cultural capital, Vygotsky's development theory and the rationale for adapting and using the original conceptual framework from Myrberg and Rosén (2008); and the conceptual framework

developed for this study (3.5.2). The conclusion to the chapter can be found in Section 3.6.

3.2 DEVELOPING LITERACY AND READING LITERACY

This section distinguishes between the concept of literacy and that of reading literacy in order to clarify the difference as well as to show the link between the two concepts. Keefe and Copeland (2011, p.92) ask the question “what is literacy?”, however, before it can be answered it is important to note that illiteracy still plays a dominant role in society, particularly in developing countries. Sen (2003) relates illiteracy to insecurity, particularly if a person is unable to read or write, as communication on many levels becomes almost impossible. Conversely, literacy can be interpreted as a factor of wellbeing and as an objective of human development (Maddox, 2008), thus it is important for life, community, individual development (Wickens & Sandlin, 2007) and for the continuation of working in a developed world context. Literacy is a human right, although the way in which individuals or groups perceive it is greatly influenced by exposure to a variety of forms of literacy (Elley, 1992; Keefe & Copeland, 2011; UNESCO, 2008), such as family or social (see Prinsloo & Breier, 1996), financial, functional and technological.

Various definitions of literacy have been identified but although there is no generally accepted one it is important to note that “definitions of literacy shape our perceptions of individuals who fall on either side of the standard and thus in a deep way affect both the substance and style of educational programs” (Scribner, 1984, p.6). One definition is: “A person is literate who can with understanding both read and write a short simple statement on his (her) everyday life” (UNESCO, 1958, p.93). Literacy is no longer seen as an ability formed and developed by schooling but as an arsenal of skills and knowledge which should help persons in their daily lives at home, work or in the community (Kirsch, 2001). Although people may be deemed illiterate they make use of different skills and practices related to literacy. Scribner and Cole (1976) researched the Vai in Liberia, identifying three different types of literacy: (i) the use by the Vai of an Arabic literacy in religious settings positioned on the Koran; (ii) an English literacy developed in Western schools; and (iii) their indigenous Vai script which they use in everyday life. The researchers found that even though the

Vai were not literate in the Western sense of the word they did possess skills which enabled them to cope with everyday life within their own community.

Later, a new term was introduced to define literacy, that of lifelong learning, the importance of which was acknowledged (Agee, 2005). Over time, UNESCO (2005) has reviewed their definition to incorporate such new notions of literacy, a revised definition of which was that any person, seen as literate, should have the capability to identify, understand, interpret, create, communicate and compute printed and written materials in different contexts of life. UNESCO (2005) added that literacy includes lifelong learning and development of knowledge as well as being a fully functional individual who can participate in the world context. In summary, “literacy is using printed and written information to function in society, to achieve one’s goals and to develop one’s knowledge and potential” (Kirsch, 2001, p.6).

At this point it is necessary to distinguish between literacy and reading literacy, although one might argue that these concepts go hand-in-hand, with the one feeding into the other, since reading literacy is one form of literacy. The Programme for International Student Assessment (PISA) defines reading literacy as “understanding, using, reflecting on and engaging with written texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society” (OECD, 2010, p.37). In order to fully understand the different views of how reading literacy is understood, a variety of definitions are offered. The National Assessment of Educational Progress (NAEP) states their definition of reading literacy as “not intended to imply only basic or functional literacy. Rather the term connotes a broader sense of reading, including knowing when to read, how to read, and how to reflect on what has been read” (Brinkley & Kelly, 2003, p.5).

An alternative definition for reading literacy was developed for the PIRLS study. The IEA, as with PISA and NAEP, linked the terms ‘literacy’ and ‘reading’ to form ‘reading literacy’, since literacy includes the learner’s ability to reflect on what is read and reading is a tool to gain certain personal goals (Mullis et al., 2003). The PIRLS 2001/2006 definition was provided in Chapter 1. Brinkley and Kelly (2003) noted that the NAEP 2002 and PIRLS 2001 definitions overlapped, thus showing that there is a constructive and interactive process between the reader and what he or she is reading. It is further noted that both definitions attempt to illuminate how readers

construct meaning from the text as well as the type of abilities used to construct meaning (Brinkley & Kelly, 2003). There is, however, a slight difference between these two definitions in that the PIRLS framework not only investigates how learners construct meaning using effective approaches to reading (Mullis et al., 2006), but the PIRLS learner questionnaire also incorporates learners' attitudes and beliefs about reading literacy. Usually, if the learner is a capable reader, he or she might develop a positive attitude toward reading which, in turn, results in attaining a better scholastic achievement. Research has shown that learners who are better readers enjoy reading, therefore the learner will then not only read to acquire information but also read for recreation and pleasure (Mullis et al., 2006). It may be concluded that learners who enjoy reading may inevitably be better readers.

Gee (2008) explains that the disparities in literacy and reading originate in the disparities in learners' home environment, seen by Cummins' research on language acquisition as distinguishing between Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) (Cummins, 1979; 1981, 2000). Cummins' theory highlights the steps that children need to work through in order to become fluent in the language, firstly to communicate then to use for learning. He explains that learners will first acquire BICS, thus conversational fluency develops socially through interaction with parents or adults from birth (Cummins, 2008). Thereafter, they are able to acquire CALP in their mother tongue, usually in a formal schooling context. CALP includes a learner's "ability to understand and express, in both oral and written modes, concepts and ideas that are relevant to success in school" (Cummins, 2008, p.71). Cummins uses the term 'academic' to explain the language developed at school level, "the extent to which an individual has access to and command of the oral and written academic register of schooling" (Cummins, 2000, p.67). CALP becomes differentiated from BICS during the early stages of schooling to reflect primarily the language that children acquire in school and which they need to use effectively if they are to progress successfully through the grades. CALP is specific to the social context of schooling (Cummins, 2008). The author further states that it is important that learners be educated in their mother tongue, a view taken by Heugh (2009). After the learner has sufficient knowledge and skills for both BICS and CALP in their mother tongue, they will be able to transfer these skills to their second language.

However, South Africa is a multilingual country, with 11 official languages, so learners may have a mother tongue different from the LoLT of the school. This may make the BICS in their second language and CALP in their mother tongue difficult to attain, as many schools shift to English language in Grade 4. This scenario relates to Cummins' (1979) 'iceberg' theory (see Figure 3.1).

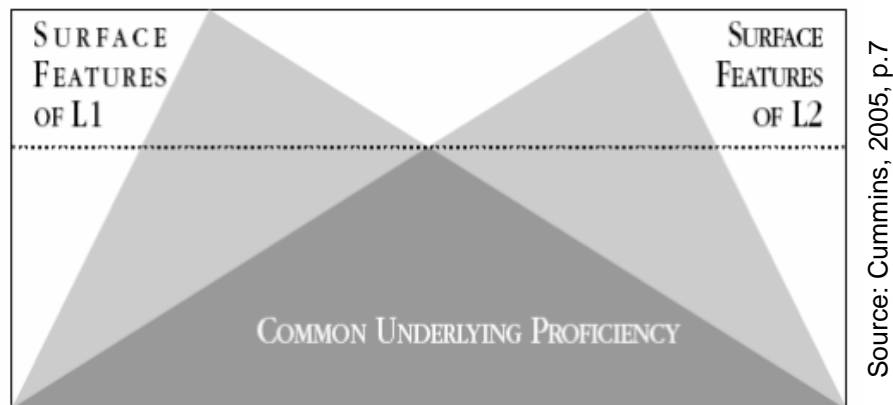


Figure 3.1: Cummins' hypothesis on interdependence of languages: the Iceberg theory

The iceberg theory posits that if a learner's first and second language are developing separately they may develop in conjunction with each other. As South African learners experience different languages at the home and at school it may become clear that these languages share common ground, although a learner should develop BICS and CALP in his or her mother tongue before attempting to develop BICS and CALP in the second language. However, as there is a scarcity of reading and literacy materials available in African languages, parents often revert to English as a second language, in which literacy resources and materials are more readily available. As a result, children are exposed to their second language before they have mastered their mother tongue and in turn cannot transfer their reading proficiency to their second language (Pretorius, 2002; Weideman, 2013). Children continue to read poorly throughout their schooling years as they have not developed their mother tongue beyond oral capability, with detrimental effects on their academic language capabilities (Pretorius, 2002).

The above discussion of reading literacy leads to the notion that the term 'literacy' is all-encompassing and thus feeds into reading literacy. The latter is a social activity which is used for interpersonal communication and as a psycholinguistic activity that is dependent on motivation, attention, imagination, memory, comprehension and language (Frost, Madsbjerg, Niedersøe, Olofsson & Sørensen, 2005). Developing literacy then reading literacy begins early in a child's life in the home environment with the involvement of parents and other family members within a social context.

3.3 THE HOME ENVIRONMENT IN THE DEVELOPMENT OF READING LITERACY

Bonci argues that "parents are the first teachers and role models for their children, and therefore have a strong influence on their learning" (2011, p.2). Thus, parents and other family members play a vital role in a child's reading literacy development and consequently on their reading achievement (Lynch, 2002). For the purpose of this study, the 'home environment' is defined as the environment in which the child spends the bulk of time while attending school. Reading literacy is fundamental to the development of an individual, serving as a foundation for learning throughout a learner's school years, not only widening their knowledge and skills but also enabling them to participate in various social and other activities outside of school (Van Staden, 2010).

The creation of knowledge is a process that takes place in a dialogue between parents and children, which is developed by the child's grasp of language through familiarity and initial interaction with others (Purcell-Gates, 1996). Parents and other family members are thus seen as the prime educators and as a result, literacy development and achievement is dependent on their input in the early years (Fuchs & Woessmann, 2004) within the home environment.

However, cultural capital, the umbrella term for resources which form part of social class and which may enable future generations with capital credit or advances (Bourdieu, 1984) needs to be taken into account. McLaren (1999, p.219) defines 'cultural capital' as a way of "talking, acting, and socialising, as well as language practices, values, and types of dress and behaviour". Thus, parental involvement is dependent on three forms, namely the *embodied*, inherent characteristics such as

language or 'linguistic capital'; the *objectified*, cultural resources such as books; and the *institutionalised*, recognition such as qualifications (Bourdieu & Passeron, 1964, 2000). The degree of cultural capital found in the home environment could determine the amount of parental involvement.

The home environment has been identified as critical to the development of reading literacy (Mullis et al., 2003), with Hay and Fielding-Barnsley (2007) having identified factors crucial to the development of a child's reading literacy. These include speaking in a particular language to encourage the acquisition of language and the development of communication skills during the time spent playing and reading with the child. Parents become engaged with the child's early literacy activities to assist in the child's acquisition and development of reading literacy. During active involvement, parents utilise a variety of educational resources and aids, and whether in a literacy activity at home or incidental literacy development the parent and child continue to develop a positive attitude towards reading.

Each aspect of home environment are discussed in the following sub-sections.

3.3.1 RESOURCES AT HOME

Home resources that may play a role in developing reading literacy include books at home and educational aids such as picture and storybooks, *Lego*[®] blocks, and other educational toys, games, puzzles, computers and newspapers, which are used in day-to-day activities, including educational activities and shared book reading. The objectified cultural capital (cultural resources such as books) found in the home is vital for the development of reading literacy (see Bourdieu, 2002).

Bourdieu (2002) highlights the importance of resources at home which assist in the development of reading literacy because they are considered to be part of cultural capital, which explains the varied literacy achievement of children from different backgrounds by means of relating literacy achievement to the distribution of cultural capital (Bourdieu, 2002). Park (2008) argues that cultural capital theory has extended understanding of the ways in which cultural resources at home enhance children's educational achievement.

Parents who are privileged with a high level of cultural resources can transfer these to their children. Cultural capital may be a reason for wide differences in literacy achievement between children. The greater the access to cultural capital that will allow them to master any other skill, the higher the chances they will achieve literacy (Kalmijn & Kraaykamp, 1996). However, because of differences in transferral of resources, educational discrepancies between all learners emerge (Park, 2008). When the parents have resources available such as books, these could be used not only by the parents but also the children, which in turn may assist and nurture the child's reading literacy development. The child benefits from the cultural capital of the parents, as argued in Sénéchal and LeFerve's (2002) study of parental involvement, when middle-class parents indicated they had greater regularity of home reading literacy activities as they had resources which enabled them to engage in literacy activities.

For example, the number of books available in the home for both the parent and the child is known to be associated with learners' reading literacy achievement (Elley, 1992; Christian et al., 1998; Sénéchal & LeFevre, 2002; Mullis et al., 2003; Hay & Fielding-Barnsley, 2007). However, note needs to be taken of how these books are used. The PIRLS International report revealed that most countries had two thirds of learners at the medium SES level, which included at least 25 books and 25 children's books, and more than two educational aids. Cultural capital theory has been widely used to explain why some school children are better equipped with a foundation of literacy (Bourdieu & Passeron, 1964, 2000), particularly so in the South African context where learners seem to struggle with reading in their mother tongue (Van Staden & Howie, 2008).

As mentioned in Chapter 1, the South African context is diverse, not only in terms of rural and urban economic dispositions but also in the gravity of multilingualism, since there are 11 official languages. In most rural and even in urban areas in South Africa, educational resources are scarce in a typical household or school. Fewer resources could lead to less direct interaction between the parent and the child, which would have an effect on literacy development. In many cases, children find themselves in a 'print-poor' context with few educational resources available in the

African or home language (Pretorius, 2008). This has a major effect on the development of their reading literacy.

Parents may use different resources to help the child with the development of reading literacy. All resources at home are a valuable asset to a child's development and progress in reading literacy, whether children's books or educational toys (alphabet toys, board games, *Lego*[®], *LeapFrog*[®], *Hot Dots*[®], musical instruments, science kits, or drawing and painting sets), and educational aids (desk, computer, stationary, and Internet access to reading literacy interactive websites). These toys and aids help the parent and child engaging in literacy activities to acquire skills and to become aware of the different aspects of reading, such as phonological awareness and receptive language. Ross and Postlethwaite (1994) concur with the above, arguing that children cannot learn to read fluently if they do not have the correct resources, especially books to read.

Linked to the number of books in the home and the way they are used aligns itself with Pretorius's (2008) argument that reading literacy resources should be used properly by the parents or they will add little or no value to the child's reading literacy development. Therefore, parents should first have a good understanding of what they are trying to achieve with each activity and should gauge when to place emphasis on certain parts of the activity to indicate to the child the importance of a particular section. Engaging in such activities will develop the child's awareness of the importance of reading (Pretorius, 2008) and by means of a positive attitude, develop a culture of reading.

Lack of resources at home may hinder the development of cognitive and motor skills (Blomeyer, Coneus, Laucht & Pfeiffer, 2009). Scarcity will affect the type of home literacy activities engaged in and the amount of time spent during these activities, thus impairing non-cognitive abilities.

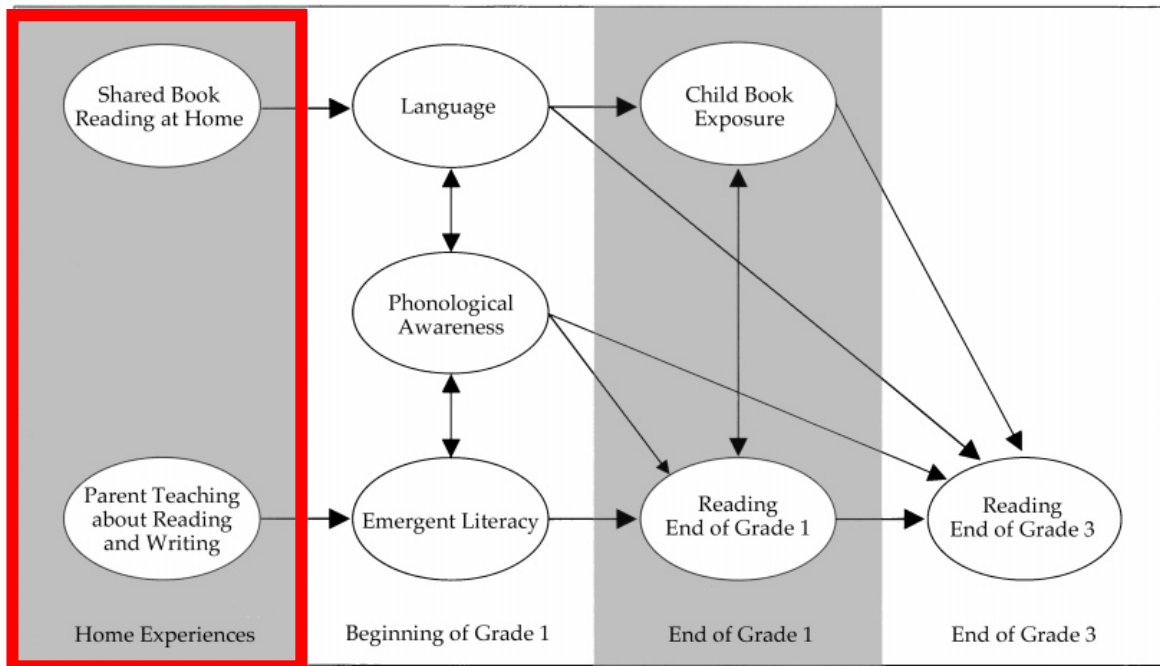
3.3.2 PARENTAL INVOLVEMENT

In light of the conceptualisation of reading literacy as an interactive process it is clear that a learner will be able to develop reading literacy once guidance is given within his or her cultural context. The learner is the key role player while the parent can be

seen as the mediator between the learner and the content. Parental involvement, both by mother and father at a very early stage in the child's life, is pivotal to learners' academic achievement and may include a collaborative relationship of learning and teaching (Schlee, Mullis & Shriner, 2009).

Although a child's set of skills and abilities are continuously developed through the experience of formal education (Sénéchal & LeFevre, 2002), the process begins at home through early literacy activities conducted by parents at home. Children learn to speak in most stable home environments in which the parents are actively involved, by means of playtime with different toys or activities, explaining what he or she is doing, asking questions or reading to the child. Children learn to speak at a very young age and around two years begin developing very short sentences. At the age of three the child should be able to develop sentences more easily and carry on a conversation with less confusion of pronouns (NIDCD, 2013).

A study conducted by Rashid, Morris and Sevcik (2005) of the relationship between home literacy environments and reading achievement concluded that joint home literacy may be significantly related to the children's reading skill. 'Joint home literacy' refers to parents and learners engaging in activities in order to build on a child's literacy development. Parents' active involvement in their child's literacy development is vital in early literacy development (Rashid et al., 2005; Machet & Pretorius, 2004). Parents who develop a culture of reading have the ability to teach their child literacy skills and play a key role in the development of reading ability, therefore, this is dependent on parental factors, as illustrated in Sénéchal and LeFevre's Home Literacy Model (HLM) (2002) (see Figure 3.2 below).



Source: Sénéchal & LeFevre, 2002, p.456

Figure 3.2: Home Literacy Model [Relations among Home Literacy Experiences and Learner Outcomes]

The Home Literacy Model is central to this study as it highlights the role of the home experiences and the involvement of parents in early literacy activities. It illustrates the development of reading literacy, with the framed section showing the home experiences and focussing on the integral role that parents play within the context of home in the development of early literacy skills through exposure to shared book reading and the teaching of reading and writing. The vital role that parents play in exposing their children to early literacy experiences (Sénéchal, 2006) is reinforced in this model.

Of importance is storybook exposure with shared reading experiences and the teaching of literacy which feeds into the development of speaking and thus language. If a parent is absent during the early childhood development (ECD) phase there might be an impediment or barrier to literacy development. Bonci (2011) argues that the earlier parents take interest and become actively involved in the development of their child’s reading literacy the more profound the results would be. Research evidence suggests that parental involvement in their child’s educational development is a major factor in educational achievement (Fan & Chen, 2001; Kim & Rohner, 2002). Research by Bonci (2011) found that parents are fundamental to a

child's attainment, particularly taking into account the value of the home environment and putting into place early reading literacy activities. Flouri and Buchanan (2004) also argue that parental involvement is a stronger force in literacy and educational success than other background variables, such as social class and the level of parents' education.

A child's early literacy experience does not start with formal reading and writing at school level but when the parent engages with their child in literacy activities at home, such as using language in rhyming games, nursery rhymes, counting songs or reading aloud from a wide variety of picture and storybooks (Sénéchal, 2006). The benefits of storybook reading include the acquisition of letters and words; increased vocabulary and understanding of syntax; and mindfulness of letters, words and their meaning (Sénéchal et al., 1998). If parents frequently spend time reading at home with their child it could be seen as a key aspect in predicting the child's literacy achievement at a later stage (Mullis, et al., 2003). The amount of time spent reading to a child and engaging with the text, and the number of books accessed, might also have an influence on a child's reading literacy performance, reinforcing the argument that the parent-child relationship during the first three years is the basis of their child's growth and development in language (Topping et al., 2011).

In order to learn how to read, the parent teaches the child how to draw on prior knowledge and experience of letters, words and sentences (Sénéchal et al., 1998). Home literacy experiences include both formal literacy activities, in which the parent and child focus on print, and informal literacy activity, which consists of the message contained in print (Sénéchal et al., 1998). The former place emphasise on written language, such as the child learning to write his or her own name, and informal literacy experiences in which the child looks at the message behind the written language and links it to pictures in the book (Bus et al., 2007).

Parental involvement in 'shared book reading' can facilitate the child's reading development (Hay & Fielding-Barnsley, 2007), helping in learning and acquisition of reading skills and the continuous building of vocabulary (Hood, Conlon & Andrews, 2008; Ewers & Brownson, 1999). It also serves as entertainment and enjoyment (Sonneschein, Baker, Serpell & Schmidt, 2000; Lee, 2010), developing a love of reading. Parents should draw their child's attention to reading books since it is not a

natural activity to which every child will automatically pay attention. The child may perceive that if the parent enjoys reading he or she will also deem it enjoyable. When reading storybooks children may observe, listen, participate and question, which in turn assists in their acquisition and development of reading literacy. These activities should be a continuing process in the home environment to allow children to enjoy them on a regular basis. Some parents are unaware of the impact that time spent reading can make on a child's development (Heath, 1982). Reading stories to the child at bedtime is an additional way to interact with text, forming part of a culture of reading in everyday life that may lead to a more positive attitude towards reading (Heath, 1982). The storybook reading and bedtime stories may set up an anxiety-free environment in which the child will encounter positive experiences (Lee, 2010) and build rapport with the child.

In his article, Pellegrini (1991, p.380) refers to shared book reading as the "literacy event par excellence", and assists in receptive language development (Hinchley & Levy, 1988; Sénéchal & LeFerve, 2002). The child may focus on different aspects of the written text which could lead the parent to interact with it fully by asking the child direct questions about the story, such as what it was about, what the child thought about it and other content-related questions (Myrberg & Rosén, 2009). Continued exposure to books during shared book reading activities may help the child to read fluently and develop reading literacy (Sénéchal & LeFerve, 2002).

Shared book reading and parents teaching about reading goes hand-in-hand. When the parents are actively involved in it they teach by means of indicating and correcting what mistakes have occurred during the reading activity and assisting the child where he or she struggles to pronounce the words. Research has shown that when the parents take on a formal teaching role and engage in formal literacy activities the child's own reading literacy skills develop naturally (Hood et al., 2008). An association between parents who taught their child literacy skills and the child's vocabulary development has been highlighted (Haney & Hill, 2004). However, other research has found diverse results in terms of the association between parental teaching and their child's reading literacy skills, but no direct link between parental teaching and phonological awareness or receptive language has been found (Evans, Shaw & Bell, 2000; Sénéchal & LeFerve, 2002; Foy & Mann, 2003).

Researchers (Sénéchal, 2006; Myrberg & Rosén, 2009) agree that the amount of time parents spend reading with their child is encouraging and thus supports the claim that continuous co-operation between parent and child can facilitate a child's language development and reading literacy. It is important to note that the home environment is crucial and may serve as a great influence, particularly when parents are involved in supporting their child's reading literacy development and consequently their reading achievement (Clark, 2005, 2010; Bonci, 2011).

3.3.3 HOME LITERACY ACTIVITIES

The acquisition and development of cognitive and linguistic skills are essential factors in early literacy development which should take place within the home environment (Saracho, 1997a), comprising parents or caregivers to assist the child with acquiring cognitive, linguistic and other skills through literacy activities. Thus, through socialising in a constructive manner, a child is scaffolded through the zone of proximal development (ZPD) (Vygotsky, 1978) in acquiring knowledge, and developing comprehension and skills.

Developing the ability to recognise and understand the meaning of letters, words, sounds, syntax and phoneme awareness is key to becoming a good reader, which in turn may assist in improving the child's literacy proficiency and scholastic achievement. Learning to read in itself is complex by nature, therefore parents become the primary teachers of reading literacy in the home environment (Bonci, 2011). In some cases, parents are not fully aware of the importance of their role as the primary teacher or the importance of using resources to assist in the child's reading literacy attainment. However, there is a growing recognition of the importance of parental involvement in literacy development around the world (DEECD, 2008) as well as in using educational resources as a means to instruct children about literacy (Baker et al., 1997).

The use of the resources by the parent can be seen as participation in literacy activities in the home (Leseman & de Jong, 1998), which may include exposure to print material (books and newspapers) as well as frequency of reading. Activities which are child-centred, such as reading, playing with educational toys and storytelling, stimulate the child and help to increase vocabulary and other reading

components, such as identifying the various characters and plots in a story (Sonnenschein et al., 1996; Moss & Fawcett, 1995). Some examples of the variety of literacy activities are reading with the child, teaching and singing songs, painting and drawing, using numbers and letters in an activity, teaching the alphabet and visiting the library (Bonci, 2011). These and other developmental activities could be called 'pre-emptive' factors since regular participation by both child and parent develops reading literacy and reduces the possibility of developing special needs (Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2004).

Hofferth and Sandberg (2001) have found that the time a parent spends with a child engaged in literacy activities has a positive relationship with higher achievement in educational settings. Parents who are involved in their children's reading literacy may influence not only the development of literacy and scholastic achievement but also improve and strengthen interest in reading. The activities which take place in the home are more important to the child's early reading literacy development than other settings in which the child only plays outside (Gonzalez-DeHass, Willems & Holbein, 2005). It should be noted that creating an environment in which these reading literacy activities take place may prove to be difficult because of the varying levels of SES (Orr, 2003).

In PIRLS 2006, parents or primary caregivers were asked to identify the type of home literacy activities in which they engaged with their child. Internationally, parents indicated that they mostly used the following activities: reading books, telling stories, playing with alphabet toys and word games, and reading signs and labels aloud with the child (Mullis et al., 2007). With the use of certain resources at home, such as books and educational equipment, the home literacy activities could become more stimulating not only for the learner but also for the parents. It is possible for parents to find other resources to use in literacy activities, such as a cereal box on which are printed snippets of information, stories or games, which could stimulate the child during breakfast. However, in the South African context many children who are located in a township or any rural area only receive breakfast at school, which means they do not see any cereal boxes.

Parents who tell stories make the child aware of the words, syntax, tone and storyline of the story, which may excite the child to start reading more often. During

storytelling, the parent could make use of alphabet blocks (or other resources) as well as authentic examples to make the story more exciting and relevant. Snow et al. (1998) report that children whose parents regularly read stories aloud to them and participate in literacy activities become better readers and ultimately perform better in school. Thus, empirical evidence aligns with the outcomes of parental involvement, whereby researchers argue that parental involvement is a key aspect of children's achievement and performance (Desforges & Abouchar, 2003; Harris & Goodall, 2008). Parental involvement also includes incidental development of reading literacy, for example, the child could be asked to read signs or labels in a supermarket or billboard and explain what they mean. Other forms of parental involvement include singing songs, reciting nursery rhymes, drawing pictures, painting and talking about topics viewed on the television or seen in the news.

Parents' skills, attitude and confidence may be sharpened by continuing interaction of teaching the child (Harris & Goodall, 2008), seen as a positive beginning and encouragement for parents to be more active and constructive in their involvement. Constant engagement in the child's life and encouragement to participate in reading literacy activities may stimulate and nurture the relationship between the parents and their child, however, in some instances parents transfer the responsibility to the teachers at school. Manolitsis et al. (2011) report that some parents have the perception that reading literacy is developed in a formal schooling context, not acknowledging that reading literacy begins with early literacy exposure in the home environment.

There are a number of factors that might interfere with the implementation of literacy activities at home, for instance television viewing (Rashid et al., 2005). Conversely, some children's programmes on television are aimed at developing literacy and numeracy skills, as well as cognition, for example programmes such as *Dora the Explorer*, *Barney and Friends*, *Takalani Sesame*, and the BBC channel *CBeebies*. When children are engaged in television activities they are not only entertained by what they are seeing and hearing but their development in areas such as literacy, and social and technological skills are stimulated. In South Africa, various steps have been taken to make viewing television more educational by means of programmes such as those listed above.

In the 2011 Census, 74.5% of South African households had access to a television (Statistics South Africa, 2012b), with Barnett (2002) having reported that educational shows on television had developed a wide audience with the show entitled *Yizo-Yizo* raising educational issues in post-apartheid South Africa. Supposedly educational programmes can be valuable to South African children if there is a clear motivation and the lesson is relevant to the context of the child. Saracho (1999, 2002) argues that they can assist children in developing skills such as literacy, numeracy and social skills if they ask children questions which they can answer with or without discussion with their parents, and if resources are available, parents should utilise a variety of resources and activities to boost the child's literacy development in the day-to-day life experiences.

In a developed context, Sénéchal et al. (1998) found that middle- and upper middle-class English speaking parents became actively involved in the development of their children's reading literacy from an early age. In contrast, in a developing context, such as poorer South Africa parents, particularly those from an African culture, the focus is on oral literacy traditions whereby parents make use of activities such as telling stories and singing songs with the child. Many live in a print-poor environment and have limited access to texts (Pretorius, 2010). Based on Census 2011 data, the average annual income for South Africa was R103,204, marking a steady increase from R48,385 recorded in Census 2001. However, in some provinces, such as Limpopo, the average annual income was R56,844 (Statistics South Africa, 2012a), significantly lower than the national annual income. A total of 29.8% of South Africans were unemployed, 13.6% living in informal dwellings (Statistics South Africa, 2012a). Therefore, it may be said that a large number of South African children come from low SES families and communities, which is not the only determinant of low scholastic achievement but can create a barrier or hindrance to their learning how to read. Nevertheless, parents from low SES environments who place value on reading literacy and have high expectations of their children to perform may influence their higher reading achievement (Purcell-Gates, 1996).

From the above discussion, it is evident that the home environment plays a vital role in the development of a child's reading literacy abilities. Parents can make significant contributions to a child's reading literacy development if actively involved in a variety

of reading literacy activities. Although this might not always be a feasible goal in South Africa, since the SES levels of parents vary greatly from affluent to underprivileged households, it is nonetheless a goal to strive for. In addition to the home environment, parental factors also play a role in the development of a child's reading literacy development, such as gender, language, literacy, education, occupation and attitudes towards reading, as discussed in the next section.

3.4 PARENTAL ATTRIBUTES AND THE DEVELOPMENT OF READING LITERACY

In this dissertation the term 'attribute' is considered in two ways: as an inherent characteristic or antecedent (gender, language and attitude) and as "an object associated with a belonging to a person, object or office" (Merriam-Webster, 2014, para. 2), such as education, literacy levels and occupation. 'Parental attributes' is an inclusive term used to group together the characteristics of parents or caregivers who participate in the development of their children's reading literacy. They comprise gender (discussed in Section 3.4.1) and the language spoken by the parents to the child in the home (see Section 3.4.2). Of importance to the development of reading literacy are the parents' education and literacy levels (Section 3.4.3), occupations (Section 3.4.4) and attitude to literacy (Section 3.4.5).

3.4.1 PARENT GENDER

The gender of a parent is not necessarily a predictor of whether a child will be literate yet it may play a role in a child's development (Bonesrønning, 2010). Research investigating the link between parents' gender and their child's achievement has mostly focused on maternal involvement. From research in this area it is evident that the mother is usually situated as the mediator between the child and the acquisition and development of literacy and language (Hassim, 2003; Sulzby, 1986). An important aspect of being able to teach a child about reading literacy is the attachment relationship between it and the mother (Van Ijzendoorn, 1995). The attachment theory was conceptualised by John Bowlby in the mid-1950s, however, due to the complex nature of this theory, Bowlby collaborated with Mary Ainsworth, leading to a shift in the foci of how society viewed the importance of the mother-child

relationship in cognitive development (Pittman, Keiley, Kerpelman & Vaughn, 2011). Bowlby's theory of attachment defines it as the child's "disposition to seek proximity to and contact with a specific figure and to do so in certain situations, notably when he or she is frightened, tired, or ill" (1969, p.371).

The relationship with the mother (or female caregiver) thus serves as an important aspect in the acquisition and development of the child's reading ability and skills development, thus the mother creates a ZPD in which the child will learn and grow. She may utilise the attachment relationship and ZPD to benefit the child's development in reading literacy, in which case the child accepts her assistance in learning how to read. However, some mothers believe that they do not have the necessary skills to make a difference in their child's reading literacy development and this could lead to a stressful learning environment for both (Van Ijzendoorn, 1995). Reasons for this belief may include living in a low SES environment with the mother having either little or no education. Yet in their research, Deci and Ryan (1997) noted that the interaction between the mother and child should be of a warm and loving nature, with little conflict, as this is critical to the child's motivation to start to learn how to read, feeding into the child's reading literacy development and ultimately into their scholastic achievement (Simpkins et al., 2006).

Previously the role of the father was not considered as important when compared to that of the mother because it is usually she who is more involved in the child's early development from birth (Korat, 2004). However, in recent years focus has been placed on the role of the fathers or male caregivers in a child's literacy achievement (Clark, 2005). Vygotsky's (1987) theory of the ZPD includes the entire home environment of the child, thus both mother and father should be active role-players in its development. However, if the father is involved in the child's literacy and reading a careful eye should be cast on the quality of time spent since it may be possible that a large amount is made available but effective use is not made of that time (Conner, Knight & Cross, 1997). A father and his child need to interact constructively during parent-child playtime, and responding to the child's initiative during activities helps with the child's cognitive development (Biller & Kimpton, 1997) as well as its self-esteem in interpersonal relationships (Clark, 2005).

When a father is a constructive participant during the child's literacy development it may in turn reflect positively upon the child's emotional development (Flouri & Buchanan, 2004) as well as scholastic achievement (Clark, 2005). Additionally, when the father becomes actively involved with his child then the mother is also involved (Amato, 1994), thus all children from such families benefit from having two involved parents, with the consequent diversity of stimulation and increase in social-capital (Coleman, 1988¹⁸). In a grounded co-parental relation, the father is more likely to be involved (Flouri & Buchanan, 2003; Coiro & Emery, 1998), thus families in which not only the mother but also the father is actively involved will develop a positive family context, which is an important factor relating to the child's achievement (Kelly, 2000).

In most families, however, it is usually the mother who takes responsibility for nurturing and helping in the development of skills such as reading literacy (Fletcher & Silberberg, 2006). Therefore, fathers are usually not the primary parent who assists in the child's development of skills, with reasons for their lack of involvement including their culture, work ethic and the time available after working hours. These may negatively affect the child's reading literacy attainment as well as their scholastic achievement (Tamis-LeMonda, Shannon, Cabrera & Lamb, 2004). Some research has found that even if the mother has a full time job it does not necessarily mean that the parents will divide the time spent with the child equally (Lamb, 1997), perhaps due to the parents' views, which are culturally informed, that parenthood and the responsibilities are allocated to each gender. In most cases, mothers usually take care of and nurture the child whilst the fathers are considered the primary breadwinners.

Research indicates that fathers are more inclined to take part in parent-child activities which are dubbed by society as 'manly' or 'fatherly', and outdoor, such as assisting in football and cricket, rather than teaching their child how to read and write (Fletcher & Silberberg, 2006). When a child, either boy or girl, is close to the father it is found that it creates a positive relationship with educational development (Flouri & Buchanan, 2003; Amato, 1994). A parent or the primary caregiver responds to the child's needs within a certain context (Morris, Silk, Steinberg, Myers & Robinson, 2007; Maclver & Epstein, 1993). In some communities, a parent will seem to be

¹⁸ The reference is slightly dated but is nevertheless important to use since the authors are still viewed as a primary source about cultural capital.

more restrictive with the daughter, in terms of leisure time and school work, and more encouraging towards their son. This scenario occurs when the parent believes that the son will need more encouragement since he will become the primary breadwinner of his own family, whilst the daughter will become a wife and mother. However, the perception is changing in terms of women's rights and gender equality between men and women, albeit in the South African context a man or father is still seen as the breadwinner, earning on average more (R128,329 per annum) in than women (R6,330 per annum) (Leholha, 2002; Statistics South Africa, 2012a). This leads back to the belief that a father should work and become the primary source of funding for the family. Nevertheless, Garfinkel and McLanahan (1986) found a link between the father's presence in a family household and a son's logical development, as well as cases of the mother with a solid education background tending to pay more attention to her son and his development. Also, when the father is involved it raises the scholastic achievement of the child (NICHD, 2000), therefore, the fathers' role in the child's reading literacy development is seen as crucial for further development and achievement.

Simpkins et al. (2006) state that parental involvement in a child's literacy development rests on the emotional climate of the relationship. The mother-child relationship should be a low conflict-level one, as this is important for the child's motivation for learning. This relationship may increase the child's reading values, skills as well as the time spent reading (Eccles & Harold, 1996; Frome & Eccles, 1998), but the opposite might happen and if the relationship between the parent and the child is strained it might have a harmful effect on the child's literacy development (Simpkins et al., 2006).

3.4.2 LANGUAGE IN THE HOME

In multilingual countries it is expected that the child also becomes multilingual, perhaps with different mother tongue, LoLT and language of context, in order that they may cope in society. Children who are exposed to multilingualism not only have access to other communities but also have the ability to make a contribution to society and become valuable individuals on the social and economic front (Cummins, 2001). In most families, the parents' focus is on the child developing the

mother tongue since she is more involved with the child from an early age and during his or her development (NICHD, 2000). The language situation at home in countries such as South Africa, Spain and Singapore, where there is more than one official language, becomes complex due to the multilingual nature. In many South African families the parents of a child might not have the same mother tongue, in which case the child grows up with a 'mother tongue' and a 'father tongue'.¹⁹

In addition, it should be noted that when a child enters a pre-primary or primary school in the South African context, the LoLT at the school may not be the same as the mother tongue, in which case, it becomes the child's first additional language. Pretorius (2010) states that although the LoLT of a school is not the only determinant of poor scholastic achievement in South Africa it is a contributory factor. The author further explains that learning a language often proves to be difficult but the acquisition of another language will prove to be even more difficult (see earlier discussion on BICS and CALP). The multilingual context may directly influence the child's reading literacy performance. If the child is struggling to grasp the mother tongue it may in turn impair the child's acquisition and development of reading literacy in the mother tongue as well as reading literacy in the LoLT.

Nevertheless, the parents' language may help with the development of their child's phonological awareness as well as their orthographic processing skills (Myrberg & Rosén, 2009), yet, a child needs oral language to feed into the code skills, such as phonological awareness (Storch & Whitehurst, 2002). Consequently, if the child has difficulties with his or her home language²⁰ it may become a hindrance to the child's development as a proficient reader. This idea is argued by other researcher, such as Catts, Fey, Zhang and Tomblin (1999), who believe that oral language and code skills function independently from each other but may still have an influence on the child's reading literacy development. Therefore, parents should take care of the way in which they teach their child the home language, albeit mother or father tongue, since it may have an influence on reading literacy development.

Moreover, when parents teach their child to talk and read in their home language, the child's vocabulary continues to grow. When the parents include the father tongue

¹⁹ Whilst not yet found in the literature, this study refers to 'father tongue' as the language used by the father at home.

²⁰ When referring to the term 'home language' of the child, it refers to the language used by the parents when they engage with the child. Often the 'home language' of a child is his or her mother's first language.

the vocabulary may increase but it may also become difficult for the child to grasp the differences between the two languages (Pretorius, 2010). In a bilingual household the child may develop both languages only if both parents take time to teach the child the mother and father tongue. When learners are exposed to two languages some children are able to develop phonetic categories for both (Topping et al., 2011). These authors argue that learners who are exposed to two languages in the home environment tend to have a smaller vocabulary and a different vocabulary in each. It must be noted that if there is more than one language spoken and used in the home it is difficult for a child to develop each one fully. When there is one language spoken in the home and another as the LoLT it may add to the complexity of the child's language acquisition.

Another important aspect of literacy is vocabulary development (Sénéchal, 2006). Developing a child's reading literacy not only entails phonological awareness and decoding skills of a language but also includes vocabulary development. A parent's vocabulary and their ability to teach a child how to read, speak and write is based on their own literacy skills as well as their level of education. The next section examines parents' literacy and educational levels and the ways in which it may affect the child's reading literacy development.

3.4.3 PARENT'S LITERACY AND EDUCATION LEVEL

Since parents are deemed by society as a child's first or primary teacher it is crucial to examine their own literacy and education levels. The development of reading literacy is influenced by parental level of literacy and their education. According to Saracho (1997b), the parent's literacy level is a major characteristic of the home environment and is related to the child's literacy development. A child whose parents have a strong literacy and educational background (Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford & Taggard, 2008) and have obtained certain educational qualifications tend to perform better academically (Schlee et al., 2009). What Bourdieu (2002) refers to as 'cultural capital' or 'institutionalised cultural capital', including the parent's academic qualification, is seen to be of great significance. This belief is supported by Tamis-LeMonda et al. (2004), who report that parents, who are educated and economically sound tend to engage in constructive interactions with

their child. Bonci (2011) found that there is a link between parents' education and their child's literacy achievement. In most instances, when parents are literate and have an education it may directly feed into their child's language and reading skills (Eccles, 2005).

As a literate individual, the parent is able to contribute to society and has the responsibility to care for and spend time with their child, in addition to facilitating its emotional, intellectual and physical growth. This interaction, together with the parents' own literacy and educational experiences, may assist in the child's reading literacy development. Parents' education is important in the development of their own literacy as well as their child's reading literacy skills. The amount of time spent as well as the type of educational activities played with a child might make a difference in its reading literacy, especially when the parent, as an educated literate individual, emphasises the importance of reading and writing.

Dronkers (1994) confirmed that parents' education underpins learners' academic achievement. Additionally, Roberts, Bornstein, Slater and Barrett (1999) concur with the above author, stating that there is a positive relationship between the parents' educational level and the cognitive development of children. In another study conducted by George, Hansen and Schoon (2007), the authors found that children, whose parents have obtained an educational qualification were about one educational year ahead of those peers whose parents had little or no education qualification.

Parents, who take responsibility to be role models for their children regarding academic achievement will interact and socialise with their child to promote a clear understanding about placing value on achievement (Scott, 2004). Mullis, Rathge and Mullis (2003) add that parents who assist their child while learning new skills might have a strong influence on its views of education and literacy achievement. In order for parents to assist in the acquisition and development of their child's reading literacy they must have a good understanding of reading literacy as well as the value of spending time with the child. This should be used effectively since some parents have either full-time or part-time employment, based on their educational level. The time available for each parent may vary and may also create additional work-related responsibilities, which in turn could mean less time spent with the child. However, it

may be possible that due to the parents' educational level, he or she might obtain better employment which allows the parent to buy resources that they may use during parent-child play.

In contrast, research conducted by Parsons and Bynner (2008) illustrates that parents with a low literacy level might be less likely to assist their child in their literacy development and would be less likely have a child who would read for enjoyment. Parents who have low literacy levels might feel inadequate and thus less confident in assisting their child in their literacy development (Williams, Clemens, Oleinikova & Tarvin, 2003). These parents might have a child who is struggling to grasp concepts and have difficulty acquiring literacy skills (De Coulon, Meschi & Vignoles, 2008).

Parents with low literacy levels realise that reading literacy is important for success at school but often lack the experience to be competent reading literacy teachers for their children (Zeece, 2005). Low literate parents may not have the knowledge, skills or abilities to read words and sentences, to construct meaning from the text, to extend or shorten a story to best fit the context of the child, or to estimate when the teaching session is not beneficial for the child. However, low literate parents tend to have unrealistic expectations of their children with regards to reading literacy or the ways in which it should be taught (Zeece, 2005). Parents with low literacy levels have various beliefs about how to teach a child to become competent in reading literacy, believing that simply by listening the child will develop reading literacy skills, or by filling in simplistic worksheets the child's vocabulary will expand (Zeece, 2005).

However, a good supply of resources which are relevant to the child's age and abilities, if used effectively, are considered important in assisting parents in developing literacy. Park (2008) found that even though there is a strong relationship between parental education and the home literacy environment, poorly educated parents who do engage in literacy activities with their child might have books at home as well as positive attitudes towards literacy, with a positive influence on the development of their child's reading literacy.

3.4.4 PARENTAL OCCUPATION

In the previous section, parents' education in relation to the child's reading literacy was discussed, however, it is important to further investigate other parental attributes, in particular their work occupation, in order to understand their role in the child's reading literacy performance. The link between parental education and occupation may expose a child to different levels of cultural capital (Eccles, 2005) and so influence its acquisition and development of reading literacy and their later scholastic achievement.

Marks (2005) found a relationship between learner achievement in reading literacy and parental occupation, whilst McIntosh and Vignoles (2001) identified a link between learner achievement and unemployment, the status of the parents' occupation and their remuneration. Such findings led to an investigation of the different types of socio-economic inequalities that affect the parent and the child:

- Economic development or modernisation, when the industrialisation and globalisation of countries create more open societies in which SES should become less important. Hypothetically, every person should have been able to find a job anywhere. The economic development of countries may have influenced the upbringing of the child in terms of the home environment's SES level.
- Socio-economic inequalities in education exist in countries in which the disparities in education are vast due to historical and political actions. It is thus difficult to give each child equal education, especially in rural areas where educational resources are lacking.
- School factors include the use of resources to educate the learners. In some communities the parents are asked to assist in the school's growth as well as in their child's educational growth. This means that parents might have to help raise funds for the school through fairs or selling raffle tickets to help the child with homework. Raising funds for the school will inevitably assist in the type of resources the school can afford, though this additional time used may become difficult to accommodate if the parent is in full-time employment (Marks, 2005, pp.484-485).

If the parent has a stressful job it may have detrimental effects on their mental health, making it difficult for the parent to assist the child with the development of reading literacy (Eccles, 2005). Additionally, it could be argued that the type of occupation influences the parent's expectations for their children's educational growth (Chevalier, Harmon, O'Sullivan & Walker, 2013), consequently affecting the parents' behaviour and attitudes (Kohn & Schooler, 1969²¹) and their ability to provide the child with a stable and supportive home environment (Eccles, 2005). The type of occupation may have an influence on the time spent with the child, which then affects its development, either positively or negatively. In some instances, parents who are in a professional occupation may strive to enable their child to participate in various educational and literacy activities in order to build on their skills (Kohn & Schooler, 1969; Bradley & Corwyn, 2002), however, if the same parent has to work long hours due to workload, it may have a detrimental effect since the parent is rarely at home. Parents who have a professional career tend to stress the importance of stimulating and thought-provoking activities at home during which the child acquires and develops reading literacy as well as other skills (Marks, 2005). However, it does not necessarily mean that parents who are not professionals spend less time with the child in terms of development.

Another occupational factor which may influence a child's reading literacy development is time, for example with parents who work part time compared to full time. When mothers are employed part time, the parents and the child, as a family, seem to experience higher levels of involvement in reading literacy activities (Muller, 1995), especially in the early years. This occurrence enables parents to take the child to extramural activities outside the home environment to assist in other areas which can be developed, such as fine motor skills. However, parental involvement levels may differ according to the parents' occupational level because of time and other constraints. Therefore, the parent should make use of the resources and leisure time to assist in reading literacy development. Seemingly, it is beneficial for a child if the parents are in a less stressful job or have a part-time job as the amount of pressure during the day may influence the parents' mood, behaviour and attitude,

²¹ Kohn and Schooler is a dated reference but is regarded as important since the authors' views are still used as a foundation for parents' occupation and expectations of their children.

and have an effect on the time spent helping in the child's development of reading literacy and consequently the scholastic achievement.

The next section investigates the parent's attitude and beliefs towards literacy and reading to explore how and why parents experience differences when trying to develop their child's reading literacy.

3.4.5 PARENT ATTITUDE AND BELIEFS TOWARD LITERACY

Evans, Fox, Cremaso and McKinnon (2004, p.131) note that beliefs comprise "knowledge or ideas accepted by an individual as true or as probable answers to questions of fact". With the above in mind, it is clear why Sigel and McGillicuddy-De Lisi (2002) argue that parents' beliefs are the foundation for all experiences which the parent and child encounter. Parents' beliefs, attitudes and behaviour are constructed from their own cultural context, such as norms and standards (Sigel & McGillicuddy-De Lisi, 2002), and are vital for a child's literacy and educational achievement (Bonci, 2011). Those toward literacy and educational growth might influence their child's achievement and its perception of literacy. For instance, if the parents indicate that they have a positive perspective of reading, and their attitude conveys the same message to the child, it might then develop a culture of reading as well, thus reading not only for educational purposes also for leisure.

It is possible that parents' attitudes and beliefs towards reading literacy may influence their choice(s) of the type of activities in which the parents engage with the children (Lynch, Anderson, Anderson & Shapiro, 2006). Parents' beliefs may have been influenced by their own experiences of reading literacy as children, and further educational development. Parents who have a high level of literacy and educational qualifications tend to have a more positive, holistic approach to a child's reading literacy acquisition and development than less literate parents who view reading literacy as important but choose a more rigid approach with clear rules, guidance and boundaries (Fitzgerald, Spiegel & Cunningham, 1991). Therefore, parents with different levels of literacy may view reading literacy as important; however their steps toward developing their child's reading literacy may differ because of their own beliefs in terms of more *laissez faire* vs. clear rules and boundaries.

Therefore, well-educated parents try to make use of a greater variety of ways to teach their child about reading literacy than uneducated parents, who believe that a direct approach, such as using flashcards and workbooks, is the best way to teach a child how to read (Lynch et al., 2006). Also, well-educated parents share their positive beliefs and attitudes about reading with their child in the hope that it might subscribe to the same perspective as theirs. In some households it is possible for a child to follow the example set by the parents in terms of reading. If the parents are readers then it may be that the child starts to follow the example by modelling what the parents are doing. Well-educated parents with a less structured approach to teaching the child about reading literacy also tend to be more encouraging with the child's development and see the activities as a source of entertainment and enjoyment (Lynch et al., 2006). Therefore, parents who deem reading as entertainment might make the child think that reading literacy is not only valuable but also more pleasant (Baker & Scher, 2002).

The way in which a parent views literacy may influence a child's literacy performance (Mullis et al., 2006). The children of parents who enjoy reading and have a positive attitude toward literacy and reading may attain higher achievement in literacy (Howie, 2010). According to Epstein (1991), parents add value to their children's development by placing value on education and reading, conveying a positive belief towards literacy and encouraging their children's language development and comprehension through reading (Epstein, 1991). However, in some cases parents do not like to read and as a result a negative attitude towards literacy is created. Parents may develop a negative attitude towards reading if they have not been sufficiently exposed to reading in their early childhood years (Hassim, 2003), perhaps due to lack of parental involvement in the development of reading literacy or due to the socio-economic environment, especially if there was a lack of educational resources in the home.

Korat and Levin (2001) have identified two main types of parental beliefs, those of low SES and high SES, but see no significant differences between mothers in either. However, those from the former group significantly expressed more negative comments about their child as a learner than the latter. The authors also indicate that

there is no pedagogical difference between the mothers from either group, as both still value reading and literacy as important aspects of their child's future.

In summary, parents' beliefs about literacy and reading play a role in their child's development. If the parent bears a more positive attitude towards reading, because of their own experiences and understanding thereof, the child may come to the same conclusion and also view reading as part of becoming a literate person. The child could also perhaps view reading as a source of entertainment and enjoyment, which in turn assists in their reading literacy skills. Even if the parents are from a low or higher SES, in most cases the parents may still believe in the value of being literate and educated. However, in some cases the parent may display a negative attitude towards literacy and reading for various reasons, such as illiteracy, frustration at teaching the child, or having a highly stressful job.

Taking into account the above discussion of the current literature and taking cognisance of Myrberg and Rosén's (2008) original framework (see Figure 3.3, below) of direct and indirect influences of parental education on students' achievement, a conceptual framework to suit the study's research problem has been developed, to be discussed in the following section.

3.5 CONCEPTUAL FRAMEWORK

The conceptual framework developed for this study is informed by Vygotsky's theory of social development as well as Bourdieu's theory of cultural capital in the context of the home environment and parental attributes. In addition, the current study adapted Myrberg and Rosén's (2008) original framework (see Figure 3.3, below) of direct and indirect influences of parental education on students' achievement. The rationale for the use of the framework is discussed in Section 3.5.1 and the development of the conceptual framework itself is discussed in Section 3.5.2.

3.5.1 INTRODUCTION AND RATIONALE

According to Vygotsky's theory of social development (Vygotsky, 1978), social interaction is a vital element in cognitive development. Human beings flourish when in groups and when interacting with one and other. Similarly, learners flourish when

they have the opportunity to study content with another person. Vygotsky (1978, p.57) argues that “every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people and then inside the child”.

Vygotsky’s theory of social development can be linked to social and cultural capital since these concepts each look at the individual, albeit from different perspectives. In *The Forms of Capital* (1985, p.248), Bourdieu defines social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition”. Portes (1998) regards Bourdieu’s perspective of social capital as pivotal since it emphasises the individual’s journey in becoming part of a group or community. It looks at the economic and cultural resources of individuals through the means of networks, which focus not only on the parents or family in the community but also on other entities, such as teachers and institutions (Bourdieu, 1996) which lead to and form part of cultural capital. These networks have a foundation of values and should continuously be built upon by forming trust between family and community (Putnam, 2000).

Bourdieu equated success of learners with their cultural norms and standards, those from middle- or higher-class home backgrounds having more social and cultural capital (Lareau, 2002). Bourdieu’s definition can be divided into two parts, the access and retrieval of social relationship (resources), and the quality and quantity of those particular resources (Portes, 1998, 2000). Any person can gain social capital through the means of economic and cultural resources, however, this network of resources depends on investment in both economic and cultural resources (Portes, 1998).

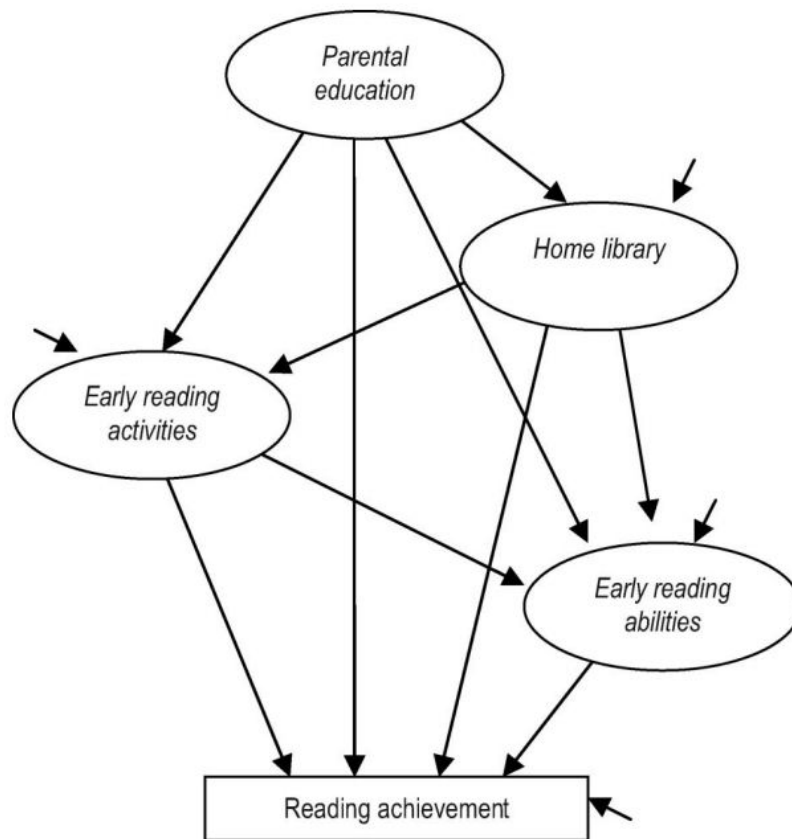
Conversely, Loury (1977) argues that the theories of social capital are too individualistic since the focal point is the individual’s human capital. Loury (1977) provides an example of parents of poor stature which will continue with their descendants, and in turn lead to poor networking in the economic market. Loury’s work formed a foundation for Coleman’s perspective of social capital (1988), which theorised that the interaction between the parent and the learner is the source of human capital and that family background and parental involvement are crucial for learner attainment at school. Freeman and Condrón (2011) agree that the parent-

learner relationship assists in learner academic attainment, since the parent becomes more involved in the home or school activities. Moreover, the discrepancies at home usually come forth at school and in turn influence learners' academic attainment (Freemand & Condrón, 2011), whereas the school itself has little or no influence on learner attainment that is independent on the home environment (Coleman, 1988).

From the above description it is clear that a learner does not function in isolation but rather in interaction with their surrounding environment. Specifically, home environment factors affect development as well as daily lives and can be linked to educational interactions such as literacy development which would influence literacy achievement. For the purposes of this study, it is important to take into consideration the home environment and investigate which home factors play a vital role in learner performance. Sénéchal and LeFevre's (2002) home literacy model (see Figure 3.2, above) can help in discovering how and why certain parental background factors play a role in a learner's ability to achieve reading literacy.

Manolitsis et al. (2011) introduces the idea that home literacy environment is an umbrella concept which encapsulates an assortment of child-parent literacy activities. A child needs a set of skills and abilities to learn how to read (Sénéchal & LeFevre, 2002) and this is where the parent should intervene. Parents form part of a home environment which can influence the achievement of learners, explained through the home literacy model.

Another model related to Sénéchal and LeFevre's home literacy model, is Myrberg and Rosén's (2008) model of direct and indirect influences of parental education on learners' achievement, depicted below:



Source: Myrberg & Rosén, 2008, p. 512

Figure 3.3: Direct and Indirect influences of parental education on students' achievement

According to Myrberg and Rosén (2008), parental education is, firstly, a determinant of the books at home, early reading activities, early reading abilities and reading achievement. Secondly, books at home (within the home library) affect early reading activities, early reading abilities and reading achievement. Thirdly, early reading activities may be seen as a determinant of early reading abilities and reading achievement, and, lastly, early reading abilities may determine reading achievement. Sénéchal (2006) states that home literacy activities have an influence on a learner's reading literacy performance and home literacy can be influenced by the number of children's books at home, which in turn might influence the learner's reading ability. Parental education might have a significant influence on a learner's reading performance. Furthermore, Myrberg and Rosén (2008) explain that reading abilities include recognition of letters together with reading of words and sentences.

The parental education and home background factors, which may influence a child's reading literacy development, are depicted in Figure 3.3 (above) as conceptualised

by Myrberg and Rosén. These variables might have direct and indirect pathways to the reading literacy achievement of learners, however, the indirect pathways are more intricate, such as the number of books available at home which may be seen as a mediating factor of parental education.

For the current study, focus is only placed on the relationship between the home environment, parental attributes and learner reading literacy achievement. Drawing from Myrberg and Rosen's (2008) model, factors such as parent education, books at home and early reading activities were included for the conceptual framework. Each selected and added variable is described in Section 3.3 under issues surrounding reading literacy.

3.5.2 CONCEPTUAL FRAMEWORK FOR THIS STUDY

In cognisance of the arguments presented in Section 3.5.1, the Myrberg and Rosén's model (2008) was adapted for this study, informed by the theories of Vygotsky and Bourdieu. Additional variables were included, such as parent gender and language, occupation, attitude toward literacy as well as resources other than books at home. The inclusion of additional variables was to create a model which encapsulates and tries to explain the direct influences of learner home background factors (home environment and parental attributes) in a developing context, since there are no current models in South Africa which deal with these background factors in relation to learner achievement. Possible indirect associations may emerge, however this study does not attempt to find answers for indirect influences as it focuses on the direct influences between the home environment, parental attributes and South African Grade 5 reading literacy achievement. In Figure 3.4 (below), the model for this study, based on Myrberg and Rosén's model of direct and indirect influences of parental factors on reading achievement, is schematically shown.

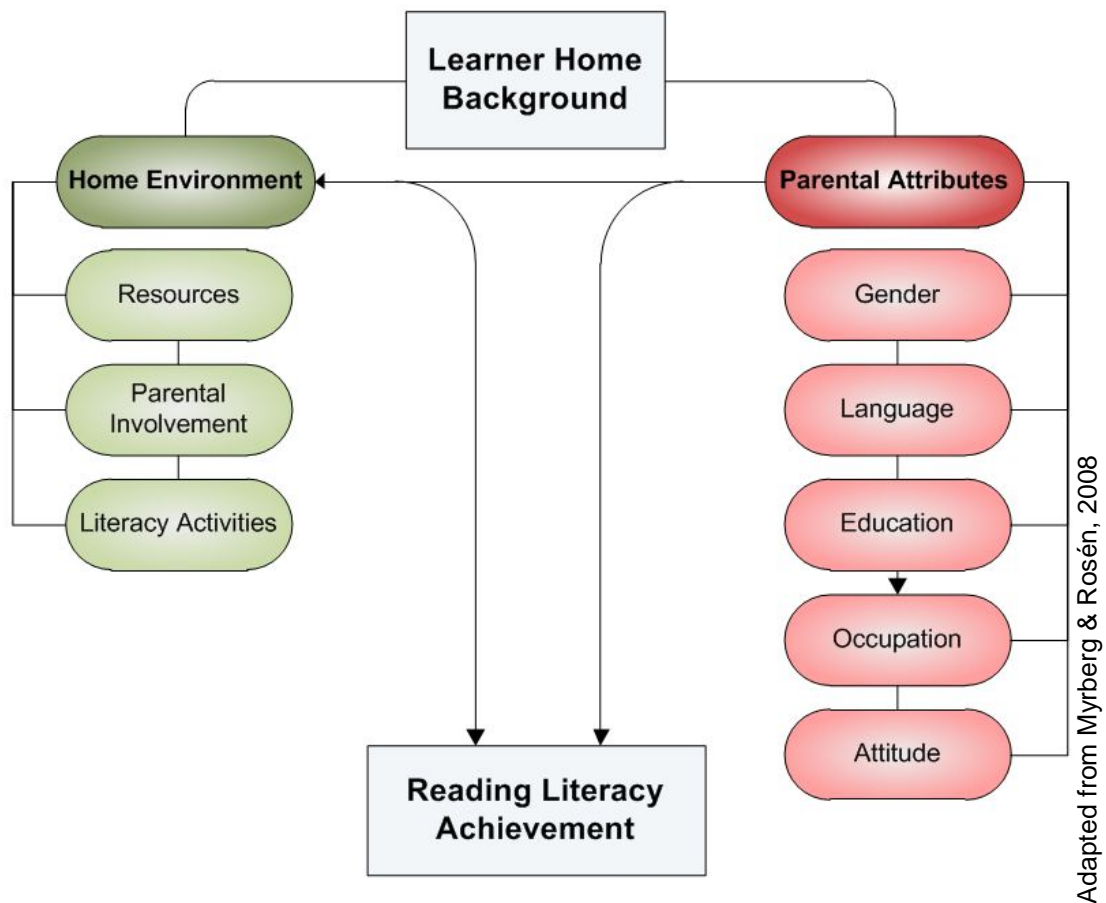


Figure 3.4: Relationship between the home environment, parental attributes and learner reading achievement

This model was further developed for the current study since there are no simpler ones currently available which investigate direct influences of parental background factors on reading literacy achievement. Additional contextual variables were selected as they are contextually important in South Africa and may assist in indicating possible factors that influence learner reading literacy achievement. The additional variables were informed by Vygotsky’s and Bourdieu’s theories.

Learner home background factors were divided into two aspects, the first of which deals with the Home Environment that includes resources at home, parental involvement and literacy activities. The second aspect of the model refers to the Parental Attributes, which consist of the parents’ gender, language, education, occupation as well as their attitude towards reading. At the base of the model, the Reading Literacy Achievement block represents the dependant variable. Since there is a paucity of models which look at the direct influences of parental background

factors based on the South African context, the current study's model of possible direct influences of parental background factors may explain the following aspects indicate:

- a) malleable²² factors such as the social and cultural capital as indicated by the SES levels of households, parental involvement and the home literacy activities; and
- b) parental antecedents and family patterns such as gender, language, education, occupation and attitude towards reading.

The model is devised in such a way that it looks at the cultural capital of the parents as well as the role of social development within the family. The social capital of the parent and their home environment is measured by the resources at home and their educational and occupational levels. It is thought that if a parent has an educational qualification and stable employment it may increase the resources at home which can be linked to the social capital of the household, as explained in Section 3.5.1.

3.6 CONCLUSION

Based on the literature, parental background factors play a vital role in the development of learners' reading literacy as well as their achievement thereof. Parental factors are divided in two aspects, namely the home environment and parental attributes, and how they might influence learner's reading achievement. As part of the home environment, cultural capital per family may be linked with other parental factors that in turn affect child reading literacy development. If children do not receive the necessary literary exposure at home they might face more difficulties in the future, such as learning difficulties. Parents who actively take part in both their children's upbringing and development of their literacy skills make an important contribution to their children's wellbeing. Parents, though poorly educated, still have a positive attitude towards literacy and the capacity to influence their children in placing value on reading literacy. However, there are cases of parents being absent or not involved and the children developing their educational and literacy skills at school. Parental involvement is crucial to a learner's development of skills,

²² Contained within this study, malleable means able to change.

particularly that of the development of reading literacy as it affects all aspects of education.



CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This study takes the form of a quantitative secondary analysis of the South African PIRLS 2006 survey data with a specific focus on the parents' responses to the parent questionnaire. The main research question asks how the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa.

The process of secondary analysis allows the researcher to investigate previously collected data and to build on previous primary research. In order to gain an understanding of the South African Grade 5 learners reading literacy achievement in the PIRLS 2006 assessments, this study focused on parental involvement in developing reading literacy and as such applied an adapted version of Myrberg and Rosén's (2008) model of Direct and Indirect Influences of Parental Education (see Chapter 3). The foci of the model were parents' education and activities done with the child, the home environment and other parental attributes aspects. In this secondary analysis, the aim is to investigate the effect of the home environment and parental attributes on learner reading literacy achievement in order to reveal any direct associations between each aspect.

In isolating parental factors, evidence may be provided to illustrate the important role parents or primary caregivers play, specifically in a developing context such as South Africa, in which the effects of the home environment are often underestimated in both very affluent and very poor home conditions. A limitation of this study is that a secondary analysis limits the research to the data collected for the study's primary purpose. A further limitation is that indirect associations may occur between variables. However, this is not the prime purpose of the study as it aims only to analyse and report on the possible direct associations of the home environment, parental attributes and learner reading literacy achievement.

In this chapter, in contrast to the methodology followed for PIRLS 2006, the methodology of this study is discussed. The chapter is divided into five sections. The

first section looks at the research paradigm which underpins this study (Section 4.2) and is followed by a discussion on the research design (Section 4.3) and research questions (Section 4.4) which guide this study. The methods used to conduct the research are discussed in Section 4.5 which consists of two sub-sections: the first section focuses on the sample (Section 4.5.1), while the following, explains how the data were analysed (Section 4.5.2). Thereafter, the methodological norms (Section 4.5.3) applied to the study and ethics considered in this of this study (4.5.4). The concluding comments can be found in Section 4.6.

4.2 RESEARCH PARADIGM

Within social sciences are numerous paradigms within which a researcher can position a study. In this study, the research is positioned within post-positivism, which identifies and assesses possible causes of the outcomes (Creswell, 2008). Therefore, in this context, examining problems will assist in identifying possible influences in order to construct informative meanings of research (Henderson, 2011). However, it is necessary to explain the difference between positivism and post-positivism. Auguste Comte pioneered the term 'positivism' throughout the twentieth century (Alvesson & Sköldbberg, 2010), and with other positivists discarded the idea of metaphysics (Trochim & Donnelly, 2006), believing that only through science could one get to the truth of a phenomenon and that the world was confined within strict structures (Clegg, 2008) which cannot be changed.

Positivists believe in what can be observed and measured, single-mindedly only considering facts. The view of the world when looking at it from a positivist perspective is narrow in that only information which is factual, measurable and observable is true. Therefore, positivists would only consider investigating or examining physical or social phenomena they consider 'factual', to test, manipulate and use to predict outcomes or behaviours. Nietzsche (1907) disagreed, seeing so-called 'facts' as only interpretations. Later, in agreement with Nietzsche, Feyerabend (1981, p.16) added that positivism is "any interpretation of science which applies an assumption equivalent to" our experience.

Positivism underwent major scrutiny, resulting in post-positivism. Ryan (2006) explains that the features of post-positivism places focus on the meaning and

construction of knowledge of use in changing the way people see the world. It is broad and allows theory and practice to merge in order for people to be aware that there is more than one correct way to collect and analyse data.

Creswell (2008) elaborates on the views of Ryan (2006):

Postpositivists hold a deterministic philosophy in which causes probably determine effects or outcomes. Thus, the problems studied by post-positivists reflect the need to identify and assess the causes that influence outcomes, such as found in experiments. It is also reductionistic in that the intent is to reduce the ideas into a small, discrete set of ideas to test, such as the variables that comprise hypotheses and research questions (p.7).

Knowledge accumulation from a post-positivist perspective is based on an objective reality, namely that the world that exists and the observation and measurement of this reality (Creswell, 2008, p.7). However, post-positivism suggests that social sciences are fragmented and knowledge socially constructed (Henderson, 2011). Applying a post-positive viewpoint to social sciences enables researchers to be reflexive about their position related to their specific research topic (Dupuis, 1999), allowing post-positivistic research to be conducted around “humanistic affairs” (Connelly & Anderson, 2007, p.215). It allows researchers to broaden the way they look at and examine authentic problems, whilst also scrutinising how phenomena are understood and in what manner these dissimilar understandings play out (Henderson, 2011).

This study fits into the post-positivist paradigm because it explains past events, concepts and values, and has the ability to offer rich accounts of research (Hajer & Wagenaar, 2003). Post-positivism analyses and criticises events and concepts, placing a focus on what can be learned or gained from them (Sharp, McDondald, Sim, Knamiller, Sefton & Wong, 2010). The flexibility of post-positivism is crucial for research in the social sciences because it deals with the behaviour of people. Therefore, the PIRLS 2006 study finds itself embedded in a post-positivism paradigm that not only focuses on the learners’ reading literacy but also on the background questionnaires. The latter are aimed at uncovering behaviour, attitudes and experiences as well as how principals, teachers, parents and learners construct their realities. Therefore, considering the parameters of this study, post-positivism allows

the researcher to effectively conduct the study with an ability to choose between a variety of statistical techniques, depending on the conceptual framework. However, this does not exempt the researcher from making use of additional data or changing the original data, since a secondary analysis requires the researcher to utilise the data which is available.

4.3 RESEARCH DESIGN

For the purpose of this study, a secondary analysis of the PIRLS 2006 South African data was conducted. Secondary analysis is an empirical re-analysis of data gathered in a previous study (Payne & Payne, 2004), carried out when a researcher wishes to address a new research question based on already collected data. It allows the researcher to conduct further analysis which in turn offers an in-depth discussion either about a broader or more particular aspect. A compelling advantage of secondary analysis is that it creates an opportunity for researchers to dig deeper and reuse data of primary studies (Payne & Payne, 2004). Secondary research enables the researcher to avoid certain data collection problems and is also very appropriate for researchers who have limited resources and time. In addition, conducting secondary analysis can be useful when elaboration is needed on a certain research topic (Krecott & Nathan, 1985).

Limitations to secondary analysis include the availability of data (Vartanian, 2011), the quality thereof (Krecott & Nathan, 1985) and the time it takes to clean the data in order to start with the analysis. The PIRLS 2006 data is accessible with permission from the South African NRC, having already been cleaned and made ready for use in statistical analysis. Based on the PIRLS 2006 Technical Report, the data is of good quality for the outlined requirements (see Martin et al., 2007), however, this type of analysis includes the inhibition of researchers' originality. Researchers use the same dataset and variables repeatedly, which means that the scientific process of research is somewhat impeded. In addition, secondary analysis can limit the scope of social science research (Krecott & Nathan, 1985) since the researcher does not have control over the construction of the items in the questionnaires (Vartanian, 2011). However, one aspect that should be taken into account is that secondary

analysis should be viewed as complementing the primary research (Stewart & Kamins, 1993).

The design of the research takes the form of a secondary analysis carried out on PIRLS 2006 data, specifically investigating the findings from the questionnaire completed by parents of the Grade 5 learners. This focused on the parents' characteristics, cultural capital and views of reading literacy, to determine whether parental background factors had an influence on learner reading literacy achievement. The study investigates the learner home background factors from two perspectives, namely the Home Environment and Parental Attributes (as explained in Chapter 3), to determine any additional associations or relationships.

4.4 RESEARCH QUESTIONS

In the Coleman Report (1966),²³ it was made clear that the home background plays a pivotal role in learners' educational achievement. Bonci (2011, p.2) refers to this report by stating that "parents are the first teachers and role models for their children, and therefore have a strong influence on their learning". Parents can then be seen as playing a crucial role in their children's literacy upbringing.

This study made use of data from the PIRLS 2006 South African database, in an attempt to answer the main question:

- ***How do the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa?***

Using the parent questionnaire this study investigated parental background factors to ascertain the effect on Grade 5 learner's reading literacy performance as measured by the PIRLS 2006 achievement results. Responses to the parent background questionnaire highlighted parental involvement which plays a vital role in developing the learner's ability to read and write (Howie et al., 2008). To further explore whether underlying factors of parental involvement play a role in the development of learners' literacy, one may find ways to improve the quality of parental involvement,

²³ The Coleman Report is an old reference but is confirmed by Bonci (2011) as a valuable source of information based on social and cultural capital.

specifically in a country such as South Africa that is characterised by great learner diversity in which the most basic change in parental involvement may make a difference to learners' lives.

In order to answer sub-questions 1 and 2, a number of statistical methods were used. The following sections present the sub-questions then describe each of statistical methods used in order to derive answers.

The first sub-question: *How does the home environment affect Grade 5 learners' performance in reading literacy?* relates to the first aspect of the study's conceptual framework, namely the Home Environment. It investigates resources at home, parental involvement and home literacy activities. A standard multiple regression analysis method was used to ascertain the relationship between the home environment and learner reading literacy achievement.

The second sub-question: *To what extent do parental attributes predict Grade 5 learners' performance in reading literacy?* forms part of the second aspect of the study's conceptual framework, namely Parental Attributes. These are measured by parent gender, language, education, occupation and attitude. This study used a correlational design to analyse the PIRLS 2006 data, specifically standard multiple regression analysis, to ascertain which parental attributes had an influence on learner reading literacy achievement.

In order to establish possible answers for the study's research questions, the use of the overall plausible values was pivotal in determining correct estimates of learners' reading literacy achievement. An international mean of 500 was used as a fixed international average as derived from the Item Response analysis. Plausible values consist of imputed values that were used during PIRLS to estimate population characteristics accurately (Foy et al., 2007).

4.5 RESEARCH METHODS

This section presents the research methods used in this study, outlining the sample for the current study (4.5.1) then giving an in-depth description of the analysis of the data (4.5.2). The methodological norms of this study are discussed in Section 4.5.3 which is followed by the ethical considerations in Section 4.5.4.

4.5.1 SAMPLE FOR THE STUDY

The international procedures explained in Chapter 2 provided the techniques and criteria for drawing the South African sample. The PIRLS 2006 South African study sample included learners who had at least educational instruction up to Grade 4. In addition to the assessment of Grade 4 learners for purposes of participation in the international study, a second population was included, namely the Grade 5 learners (Howie et al., 2008). The PIRLS 2006 overall sample consisted of 16,073 Grade 4 and 14,657 Grade 5 learners, and schools were sampled according to province and language with a total of 62 explicit strata. Only one intact classroom per school was sampled, resulting in a total of 429 schools sampled for Grade 4. Within this sample, a total of 397 schools had Grade 5 classes which were included in the sample, ensuring that a separate sample was not drawn for purposes of testing Grade 5 learners (Martin et al., 2007). One parent per child received the Learning-to-Read survey (parent questionnaire), with an approximately 78.7% return rate.

In the PIRLS 2006 South African study, Grade 4 data was not used for the main comparison since the achievement estimates were poor and thus not reported in PIRLS 2006 International Report for comparative purposes (see Mullis et al., 2007). In this study, the Grade 5 data ($n = 14\ 657$; 397 schools) was used and included the parent questionnaire items as well as the achievement data of all the Grade 5 learners.

4.5.2 DATA ANALYSIS

Data analysis for this study consisted of analysing the achievement data gathered in the form of achievement booklets and parent questionnaires. These assessment instruments tested the learner's reading literacy through a repertoire of reading strategies (Howie et al., 2008) which consisted of making simple inferences and more complicated conclusions as well as examining texts. The instruments further tested the learners' literacy abilities and proficiency as well as determining whether they had moved from learning to read to reading to learn. The texts were followed by multiple-choice and constructed response questions based on the text provided (Mullis et al., 2006).

Although four background questionnaires were administered in the PIRLS 2006 South African study, with the aim of collecting data about the different contexts for reading literacy in each participating country, for this study focus is placed on the parent questionnaire and the information provided by parents or caregivers on literacy activities and resources at home, as well as their perceptions of literacy (Martin et al., 2007) and identifying attitudes toward reading literacy. The PIRLS 2006 achievement data and the PIRLS 2006 parent questionnaire data sets were merged in order to conduct the different analyses.

4.5.2.1 Data used in this study

The parental variables, taken from the PIRLS 2006 parent questionnaire, were divided into the two aspects of the study's conceptual framework (see Chapter 3 Section 3.5). The variables range from malleable factors, such as resources in the home and parental involvement in early home literacy activities, and antecedents such as parent gender and language, as well as parental education, occupation and their attitudes to reading (see Table 4.1).

Table 4.1: PIRLS 2006 Parent Variables

Conceptual Framework Factors	PIRLS Variable Name	Variable Description	Response Scale	Level of Measurement
Home Environment	<i>ASBHZ 037-053</i>	Resources at home	Dichotomous	Nominal
	asbhha 01-11	Activities at home	Likert	Ordinal
	asbhaib 1-5;	Child abilities	Likert	Ordinal
	asbhdot 1-6;	Learner activities in	Likert	Ordinal
	<i>ASBHZ 019-022</i>	Grade 4		
	asbhtsoh	Time spent on home work	Non-dichotomous	Interval
	asbhbook	Number of books at home	Non-dichotomous	Interval
	asbhchbk	Children books	Non-dichotomous	Interval
Parental Attributes	asbhcp1 1-3	Completed by parent	Dichotomous	Nominal
	<i>ASBHZ001</i>	Relationship to child	Non-dichotomous	Nominal
	asbhahl;	Language of activities	Non-dichotomous	Nominal
	<i>ASBHZ002</i>			
	<i>ASBHZ003</i>	Parent language	Non-dichotomous	Nominal
	asbhlbs 1-6;	Child language	Non-	Nominal

Conceptual Framework Factors	PIRLS Variable Name	Variable Description	Response Scale	Level of Measurement
	ASBHZ 004 - 015	before school	dichotomous	
	asbhactl	Language of activities	Non-dichotomous	Nominal
	asbhtac 1-4	Parent think of child's school	Likert	Ordinal
	asbhread	Reading for self	Non-dichotomous	Interval
	asbhrre	Reading for enjoyment	Non-dichotomous	Interval
	asbhstm 1-5	Statements about reading	Likert	Ordinal
	Asbhlahf; asbhlahm	Language most used by parents when talking to child	Non-dichotomous	Nominal
	Asbhemdf; asbhledm	Parent education completed	Non-dichotomous	Nominal
	Asbhempf; asbhempm	Parent current employment situation	Non-dichotomous	Nominal
	Asbhmjf; asbhmjm	Parent's type of work	Non-dichotomous	Nominal

The above variables were selected from the parent questionnaire based on the study's conceptual framework, however, some items were eliminated from further analysis. This was done through reliability analysis (see Section 4.5.2.3) of the items. In the case where reliability analysis could not be conducted some items were omitted for non-significance, or they did not entirely fit into the study's research problem.

The following section discusses the data analysis process followed in this study, particularly as with a secondary analysis various statistical methods were used. Firstly, the statistical programmes used for this study are discussed in Section 4.5.2.2, followed by a discussion of the reliability analysis (Section 4.5.2.3). An overview of the descriptive statistics as well as the inferential statistics can be found in Section 4.5.2.4.

4.5.2.2 Statistical programme used for study

The Statistical Package for the Social Sciences (SPSS), with a plug-in statistical programme especially designed for IEA's large scale assessments, namely the

International Database Analyser-analyser (IDB-analyser), was used in analysis of the data. The IDB-analyser was developed by the IEA Data Processing and Research Centre and allows the data files from large scale studies to be combined and analysed. They are able to handle multiple plausible values which enable the researcher to test hypotheses between datasets with using any programming code (Neuschmidt, 2007). The IDB-analyser comprises two modules, namely, the merge module and the analysis module. The former allows for the combination of data from different countries (or datasets within a country) into one dataset, which afterwards can be used for further analysis with a statistical programme such as IDB-analyser. It also allows the merging of the learner, home, teacher and school information which can be analysed through the latter module of IDB-analyser, which consists of various procedures for analysis, such as background means, plausible value means, background and regression. The IDB-analyser thus makes allowance for the complex sample design and sample stratification of PIRLS data. The rationale for making use of the IDB-analyser is that it allows the researcher to obtain more accurate estimates of the PIRLS 2006 data when compared to other statistical programmes, such as SPSS, by taking into consideration stratified sampling techniques.

4.5.2.3 Reliability analysis

Reliability analysis was conducted in order to determine which items of the PIRLS 2006 parent questionnaire should be retained for further analysis. Fischer (2009) explains that reliability is envisaged as a statistical model of inter-item correlations which provides an output of correlation coefficients for those items. Previously, measurement has relied on Cronbach's alpha (α), utilising this technique as evidence that an item or instrument is reliable.

During the reliability analysis it was crucial to recode items in order to measure attitudes in one direction. For statistical analysis, all the items in the study should be worded in the same direction, for example, in a case in which the direction of a question measures the opposite it should be recoded. Figure 4.1 (below) shows an example from Item 14 from the parent questionnaire.

Please indicate how much you agree with the following statements about reading.

Fill in **one** circle for each line.

Agree a lot
Agree a little
Disagree a little
Disagree a lot

a) I read only if I have to -----

b) I like talking about books with other people -----

c) I like to spend my spare time reading -----

d) I read only if I need information -----

e) Reading is an important activity in my home -----

Figure 4.1: PIRLS 2006 Question 14

In the next sub-sections, the reliability of items selected for the Home Environment are discussed, followed by a discussion on the reliability of Parental Attributes items.

Home Environment

Items selected for the Home Environment, as described in the conceptual framework, included the resources at home, activities at home, child abilities as well as the total number of books at home. Table 4.2 (below) depicts the above information with relevant reliability scores.

Table 4.2: Reliability Coefficients of Home Environment Items

PIRLS Variable Name	Number of Items	Variable Description	Cronbach Alpha
ASBHZ 037-053	17	Resources at home	.81
asbhha 01-11	11	Activities at home	.73
asbhaib 1-5	5	Child abilities	.79
asbhdot 1-6; ASBHZ 019-022	10	Learner activities in Grade 4	.78

Based on the above table, the only scale to have obtained a Cronbach's alpha above .8 is *resources at home*. Nevertheless, the *activities at home*, *child abilities* and *learner activities in Grade 4* all have coefficients above .7. All of the items selected for Home Environment could be seen as reliable since each of these items had a reliability higher than the general acceptance of Cronbach's alpha of 0.5 (Field,

2011, George & Mallery, 2003). Since all the selected variables of the Home Environment are reliable, the items were used in the principal component analysis to determine possible components for further use in regression analysis.

Parental Attributes

Parental Attributes form the second aspect of the conceptual framework. Variables selected from the parent questionnaire include the parent or caretaker gender, language of activities, language of parent, learner language, parents' reading for self and enjoyment, parent attitude towards reading, parent language most used, parent education, employment situation as well as their type of occupation. In Table 4.3 (below), the Cronbach's alpha of each item is shown.

Table 4.3: Reliability of Parental Attribute Items

PIRLS Variable Name	Number of Items	Variable Description	Cronbach Alpha
ASBHZ 004 - 015	12	Child language before school	.53
asbhstm 1-5	5	Statements about reading	.49

The variable *Statements about reading* did not reach the cut-off point of .5, thus the IEA's index of *Parent Attitude Toward Reading* (PATR) was used in the regression analysis. The rationale for first testing *Statements about reading* was to determine whether the variable was reliable. It is notable that parent gender, language, education, employment and occupation were not part of the reliability analysis as each variable contained two or fewer items.

Due to the above description of acceptable item reliabilities, some items from the parent questionnaire did not indicate sufficient reliability, as shown in Tables 4.2 and 4.3, and so were omitted from further analysis. Some remaining items, which were deemed reliable, were used in more advanced statistical techniques, such as correlations, principal component analysis and standard multiple regression to determine relationships between South African Grade 5 learners' reading literacy achievement and parental background factors. It is notable that *Child abilities*, *Learner activities in Grade 4* as well as *Child language before school* were omitted

from any further analysis, even though each variable had sufficient reliability, as they did not relate to this study's focus of the home environment or parental attributes.

4.5.2.4 Overview of statistics used in this study

Descriptive statistics (see Appendix 1) were used to ascertain potential answers to the research sub-questions (see Section 4.4) and to indicate any overall variation between the South African Grade 5 learners' reading literacy achievement. In conjunction with the descriptive statistics, correlations were used to establish relationships and the strength thereof (see Appendix 2). The study made use of descriptive analysis such as means, median, standard errors to determine the percentage of parents who answered certain items with the category selected for those items (see Chapter 5). Pearson product correlation was used in the study to compute a correlation coefficient which would then indicate any relationship between parental background factors and learner reading achievement. One important reason for applying Pearson *r* in the study was that correlations can demonstrate whether two or more variables have a systemic relationship (Thorndike, Cunningham, Thorndike & Hagen, 1991). Correlations were computed to establish relationships between two variables (Hittleman & Simon, 2002). The Pearson correlation was analysed as it specifically looks at the linear relationships between the variables (Wilson & MacLean, 2011) where the correlation(s) have been found. If the correlation shows that the variables correlate, this may be seen as a reason to continue with another form of analysis. In this case, this provides the motivation to continue with a standard multiple regression analysis.

Table 4.4 (below) presents a summary of Pearson *r* scores and gives an indication of the correlation as well as the strength of that relationship between the variables.

Table 4.4: Pearson's R Scores and Strength of Relationship

	Strong relationship	Moderate relationship	No or Weak relationship
Correlation	±.70 – 1.00	±.30 - .69	±.00 - .29
Inverse Correlation	±.70 – 1.00	±.30 - .69	±.00 - .29

Based on Field, 2011

In this study, once the strength of the relationships between the predictor variables and outcome were established through the use of correlations, regression analyses determined the extent to which the predictor variables are able to adequately predict the South African Grade 5 learners' reading literacy achievement as outcome variable. It is notable that even though correlations indicate the magnitude of the strength of a relationship, either positive or negative (inverse), they do not indicate causality between the two variables.

Inferential statistics were applied in two ways, that of principal component analysis and standard multiple regression analysis. In this study, the former was conducted prior to the regression analysis in order to determine if the relevant variables taken from the parent questionnaire, for example, *resources*, provided evidence of substantial factor loadings. Once factor loadings were established for selected variables as per construct identified by the conceptual framework, the choice of standard multiple regression analysis to establish the predictive value of these factors to learner achievement was justified.

Principal Component Analysis

Only the variables selected from the PIRLS 2006 parent questionnaire which proved to be reliable were used in the analysis (see Appendix 3). Each variable formed part of the conceptual framework of this study. Principal component analysis was used in the study to detect a single underlying principal within a set of variables (Tabachnick & Fidell, 2007). This was pivotal in determining if the variables used for the study were driven by measuring the same underlying construct.

In this study, a principal component analysis was used to identify meaningful clusters of variables driven by the same underlying principal. As this study's sample consisted of more than 300, the criteria for factor loadings are .162 (see Field, 2011, p.644). Careful consideration was given to factor loading in order to determine whether the loading(s) were clear, understandable and meaningful. They were checked for multicollinearity with the use of the correlation matrix. Additionally, the sampling adequacy was tested through the use of the Kaiser-Meyer-Olkin (KMO) measure. This study's sample is over 300, thus the KMO is greater than 0.5. Together with KMO, the Bartlett's Test of sphericity indicates whether or not the

correlation matrix is different to the identity matrix (Field, 2011). In the study's Bartlett's Test of each principal component analysis, the value of the significance was less than .5. The type of oblique rotation used is the promax rotation since the study makes use of a large sample.

During the principal component analyses in this study the following options were selected:

- missing values to be replaced by the mean²⁴ where appropriate
- eigenvalue²⁵ of one,
- promax²⁶ rotation with Kaiser normalisation
- component scores were saved as regression variables for use in the multiple regression analysis.

This study made use of oblique rotation²⁷ since correlation between variables is expected and is computationally quicker than direct oblimin²⁸ rotation (Field, 2011). To determine how many components should be extracted during the analysis, one has to examine the Extraction column in the Communalities table. For this study, for communalities with a value of .4 (Stevens, 2002) and higher, if with eigenvalue greater than one, the components were retained. When eigenvalues are linked to a factor it indicates the significance thereof. Additionally, the scree plot was used to see a visual representation of the components which explained the most variance. When interpreting the scree plot, Cattell (1966) explained that the limit for selecting components depends on the inflexion of the line. The inflexion of the scree plot is where the slope of the line deviates radically (Field, 2011).

After the completion of the principal component analysis, some factors were retained to use as an index during the multiple regression analysis. The retained factors were then studied to determine whether the factor could be split in order to explain more variance. For example, in this study, home resources could be used as a whole to explain social capital of the parents, or could be split into basic and luxury home resources. Thereafter, each factor was recoded to give different categories; for

²⁴ Missing data was replaced with mean in order to determine if analysis may yield significant results (see Field, 2011).

²⁵ "Eigenvalues show how evenly (or otherwise) the variances of the matrix are distributed" (Field, 2011, p.243).

²⁶ Promax rotation is one form of oblique rotation that is typically used for large data sets as it is computes data faster (Field, 2011).

²⁷ A particular method of rotation within principal component analysis which correlates the underlying factors (Field, 2011).

²⁸ A method of oblique rotation method which is used if correlations are expected between factors (Field, 2011).

example, 0 = Low, 1 = Moderate and 2 = High. The factor loadings were then saved as regression coefficients to be used in the regression analysis. When the factors were categorised the factors were used during the standard multiple regression analysis.

Standard Multiple Regression Analysis

The IEA's index, PATR²⁹ (see Section 4.5.2.2), together with the components identified during the principal component analyses, were used in the regression analysis. In this study, standard multiple regression analysis (see Appendix 6) was used to establish the predictive value of the predictor variables from the outcome variable (Field, 2011). There are three types of multiple regression analysis namely, standard multiple regression, hierarchical regression and stepwise regression (Field, 2011; Tabachnick & Fidell, 2007). Each of the regression types is designed to answer different types of research questions. Standard multiple regression analysis was used as it allows all independent variables to be entered into the regression at once into the model (Tabachnick & Fidell, 2007) and explore the variables.

Essentially, the regression analysis attempts to fit a statistical model to the data in order to predict the values of the outcome variable from the predictor variable (Tabachnick & Fidell, 2007; Mendenhall & Sincich, 2003). As the model of a regression analysis is linear, the researcher employed the method of least squares by looking at the residuals³⁰ between the model and the data. However, another route could be to assess the goodness of the fit, a technique that makes use of the sum of squares, R and R^2 ³¹ to prove or determine whether the line of best fit is the best possible line for the data. Consequently, the line should then be compared to a basic model, determined through an equation that calculates the fit of the most basic model as well as the best model. Following the goodness of fit, it is possible to determine whether the best model is better than the basic one (Tabachnick & Fidell, 2007). The analysis of variance (ANOVA) of the regression analysis indicates the model's fit of dependent variable (Field, 2011). The fit of the regression model is

²⁹ See also the PIRLS International Report, page 131.

³⁰ In regression analysis, the term residuals are used. Residuals in other analysis are called deviations, in regression residuals refer to the error.

³¹ R^2 explains how much variance is explained by the statistical model when it is compared to the how much variance there is to explain.

indicated by the model summary and ANOVA. The R^2 depicts the variance explained by the regression model. The significance thereof can be checked in the Sig. F Change column. If the value is less than .05 then the R^2 is significant (Field, 2011).

This study makes use of one outcome variable, Grade 5 learner reading literacy achievement, which composed of five plausible values. Since the data comprised five plausible values, the plug-in IDB analyser was used since SPSS cannot make use of all five plausible values. This study made use of multiple predictor factors. Emerging from the above analyses, these factors include home resources, early home literacy activities, parent gender, language, education, occupation and parent attitude towards reading, and were used in the standard multiple regression analysis as depicted in Figure 4.2 (below):

Reading Literacy Achievement_i

$$\begin{aligned} &= (b_0 + b_1Resources_i + b_2HomeLiteracyActivities_i + b_3ParentGender_i \\ &+ b_4ParentLanguage_i + b_5ParentEducation_i + b_6ParentOccupation_i \\ &+ b_7ParentAttitude_i) + \varepsilon_i \end{aligned}$$

Figure 4.2: Regression equation for the current study

The standard multiple regression equation above only takes into consideration variables or factors which are deemed reliable through the means of reliability testing. Some variables were not part of the equation since they did not correlate with learner achievement during the descriptive phase. Figure 4.3 (below) illustrates the variables selected for the multiple regression analysis:

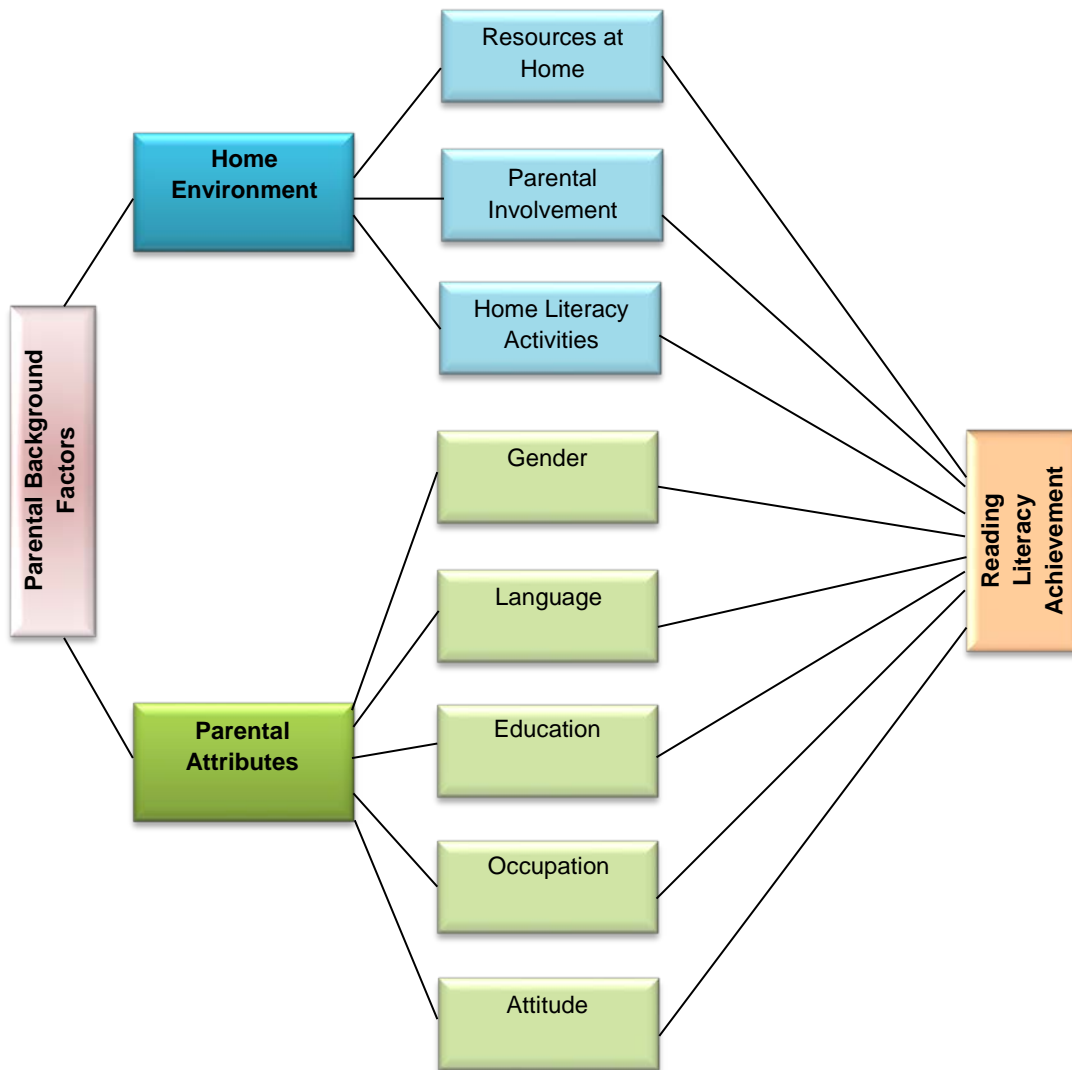


Figure 4.3: Factors and constructs included in the regression analysis

The above model shows the different predictor variables which were selected, scrutinised and used in the regression. It should be noted that *Resources at Home* was divided into two categories namely *Basic Resources at Home* and *Non-essential Resources at Home*. The answer to the research questions are presented in Chapter 6. The statistical package used for purposes of performing the principal component analysis is the SPSS with a plug-in IEA programme, the IDB-analyser, used to obtain descriptive statistics and perform the standard multiple regression analyses.

When using the IDB analyser to conduct regression analysis, the first step is to select the appropriate weight. During the study's regression analysis, the weight

selected was the total student weight (TOTWGT³²). The dependent variable for this study is the overall reading achievement score (ASRREA01-05) of the South African Grade 5 learners and several predictor variables (see Figure 4.2, above) were selected. As for any regression, the predictor variables selected were previously recoded to begin at zero. In any regression analysis in IDB analyser, the programme is able to produce the following output tables:

Table	Description	Output
Table 1	Descriptive statistics	The descriptive statistics table include the sample, the mean as well as the standard deviation for each variable
Table 2	ANOVA statistics	IDB analyser only gives the Sum of Squares statistics therefore the degrees of freedom, mean of squares, f-ratio and significance were calculated in excel with the use of standard equations. The ANOVA output table reports the overall significance of the model. The significance level is at the 95% confidence interval ($p < 0.05$). Only R^2 and adjusted R^2 are present along with the standard error for each. The adjusted R^2 value explains the total percent variance of the model.
Table 3	Model statistics	This includes the constant, all predictor variables as well as the regression coefficients, standard errors and t-values of each predictor variable. The regression coefficients, along with the t-value thereof, are used to determine whether or not the predictor variable(s) are significantly related to the overall mean scores of the South African Grade 5 learners. The coefficient may be seen as significant at a 95% confidence interval when the t-value is higher than 1.96 and if the t-value is higher than 2.58, the coefficient is significant at a 99% confidence interval (A. Sandoval-Hernandez, personal communication, October 17, 2013).
Table 4	Regression coefficient output	

The next section presents the methodological norms for the study. Issues such as the validity and reliability of the study will be explained. The section will also discuss the limitations of the current study and how the researcher dealt with them.

³² The student sampling weight was calculated through the use of the first, second and third stage weights which included the non-participating adjustments (see PIRLS 2006 Technical Report, Chapter 9 pages 110-123).

4.5.3 METHODOLOGICAL NORMS

In order to conduct the study some methodological norms had to be considered. For this study, the validity of the study is explained in Section 4.5.3.1. Thereafter, the reliability of the study is discussed in Section 4.5.3.2. Response bias is described in Section 4.5.3.3. Section 4.5.3.4 presents the study's limitations and how the limitations were addressed before conducting analysis.

4.5.3.1 Validity

Within this study, the PIRLS 2006 data was used and can be seen as valid since it is a trend study with a five-year cycle, first conducted under the auspices of the IEA in 2001 (Martin et al., 2007). The validity of the PIRLS 2006, discussed in Chapter 2, included content and construct validity, obtained respectively through thorough checking of each item by each participating country's quality assurance team, and by means of pilot testing, thus ensuring that what the items should be measuring was in fact being measured. The validity of the original study has been accepted for the purposes of this study since the instruments (questionnaires and achievement booklets) were developed in English and a translation verification process was conducted (Martin et al., 2007).

For the purposes of this study, the construct validity was ensured as the items selected from the PIRLS 2006 data sufficiently tested the study's theoretical constructs. Therefore, the PIRLS 2006 variables measure what the study seeks to answer. The content validity of the study was also ensured as the items were scrutinised and quality controlled by the primary study's quality assurance team.

4.5.3.2 Reliability

PIRLS, as an international study, draws its reliability from the use of Cronbach's Alpha coefficient as a reliability estimate. The current study made use of the alpha to ensure that each item selected for the standard multiple regression was indeed reliable and, where necessary, recoded in order to ensure that it measured attitudes and behaviour in the same direction (see Section 4.5.2.2). For the original PIRLS 2006 study, the reliability of the items was obtained through the use of Cronbach's

Alpha as well as by means of cross-country scoring between countries that tested in the same language, such as English (Martin et al., 2007).

4.5.3.3 Response bias

It is, however, necessary to keep in mind that, in social research, researchers rely on the truthfulness from their respondents to draw meaningful conclusions (Van de Mortel, 2008). Results obtained from questionnaires could be influenced by response bias and social desirability (Van de Mortel, 2008), occurring respectively when the respondents' answer the questions in the way they think the questioner wants them to, thus not conveying their true perceptions, or when they present favourable images of themselves. Questionnaires depend on respondents' subjective views and their interpretations of the questions, but responses could differ from the envisioned meaning of the question. PIRLS 2006 dealt with response bias through triangulation across and within the questionnaires.

4.5.3.4 Limitations

As the study is a secondary analysis, the data collected limits the possible research. There are certain limitations to this particular study which should be noted:

- The quality of the data. The PIRLS 2006 Technical Report explains thoroughly the steps taken to ensure good quality data (see Martin et al., 2007).
- Indirect associations may occur between variables, however, it is not the purpose of the study to examine the possible indirect associations as it aims only to analyse and report on the possible direct associations of the home environment, and parental attributes on learner reading literacy achievement.
- In the absence of a South African parental background factor model, Myrberg and Rosén's (2008) model of Direct and Indirect Influences of Parental Education (see Chapter 3 Section 3.5) was adapted. This was adapted to suit the South African context. Some additional variables were added to ensure all aspects were included in the study's model.

4.5.4 ETHICAL CONSIDERATIONS

In order to conduct the PIRLS 2006 South African study, the then Minister of Education, Naledi Pandor, granted the University of Pretoria permission to conduct the study. Thereafter, the CEA received ethical clearance from the University to conduct the PIRLS 2006 study. For this study, the CEA gave the researcher permission to use the PIRLS 2006 data for a secondary analysis. Ethical clearance was received from the Ethics Committee of the Faculty of Education at the University of Pretoria (SM 12/02/02). All data was used and reported in a true manner, without any changes or deletions, to avoid bias towards the proposed study.

Anonymity and confidentiality of the participants of the primary study was ensured as it is not possible to access individual names. The NRC of South Africa maintains the confidentiality of the sample. During the writing of the dissertation, no individual or school could be reported on. All documents and data related to this study shall be stored electronically for 15 years, encrypted and password-protected in a secure place. The primary data, including that of South Africa, is stored by the IEA indefinitely.

4.6 CONCLUSION

This chapter aimed to inform the reader on the methodologies used in order to perform the analysis of the PIRLS 2006 data based on the study's research questions. It should be read in conjunction with Chapter 2 to gain a more holistic view between the PIRLS 2006 study and the current study undertaken by the researcher. The study consists of a secondary data analysis of PIRLS 2006. The aim of secondary analysis is to build on previous research, however, due to the nature of secondary analysis the researcher was not allowed to collect additional data to suit the study's aims and objectives. The study is embedded in a post-positivist paradigm which allowed the researcher to utilise various statistical techniques to attempt to answer the study's research questions.

This chapter explained how the research was conducted in order to attempt to answer the research questions. Only the parent questionnaire data was used in conjunction with the South African Grade 5 learner reading literacy achievement.

The sample of the study consisted out of 14,657 Grade 5 learners. Data collection was carried out prior to the study during PIRLS 2006. During the data analysis process it was necessary to make use of multiple statistical techniques. In attempting to answer the research questions posed by this study, items were selected and scrutinised through the use of descriptive statistics, after which a reliability analysis was conducted in order to determine the reliability of the retained items. The items with good reliabilities were selected and used during principal component analysis to establish possible scales to be used as indices in the regression analysis.



CHAPTER 5

HOME ENVIRONMENT AND PARENTAL ATTRIBUTES OF PIRLS 2006 GRADE 5 LEARNERS IN SOUTH AFRICA

5.1 INTRODUCTION

This chapter presents some of the findings for the secondary analysis of the PIRLS 2006 parent questionnaire data which was completed by the parents or primary caregivers of participating South African Grade 5 learners. It will describe the variables used to answer the study's research question as posed in Chapter 1. In order to answer the main question it is first important to describe the home environment and parental attributes in preparation for elaboration in Chapter 6. Section 5.2 presents the Home Environment in which the resources at home (Section 5.2.1) and early home literacy activities (Section 5.2.2) are described. Section 5.3 outlines the Parental Attributes of the Grade 5 learners' parents. This section deals with attributes such as parent gender (Section 5.3.1), language (Section 5.3.2), education (Section 5.3.3), occupation (Section 5.3.4) as well as their attitude toward reading (Section 5.3.5). The conclusion of this chapter is discussed in Section 5.4.

5.2 THE HOME ENVIRONMENT AND SOUTH AFRICAN GRADE 5 LEARNER ACHIEVEMENT

The variables for this analysis were based upon the aspects identified during the design of the conceptual framework. For the purposes of this study, the analysis will be guided by the components of the conceptual framework as depicted in Chapter 3. The following section on the Home Environment is discussed in two parts, namely Home Resources (Section 5.2.1) and Early Home Literacy Activities (Section 5.2.2).

5.2.1 HOME RESOURCES

In his theory, Bourdieu (2002) explains that a child's development may be positively affected by the cultural capital of the home environment, with that of the learner embodied by its resources at home. In this study, home resources were measured in

the PIRLS 2006 parent questionnaires in terms of SES items in the home. Figure 5.1 (below) presents the 17 items selected from the PIRLS 2006 parent questionnaire to measure the home resources. Parents of Grade 5 learners were asked whether or not they had the item(s) at home.

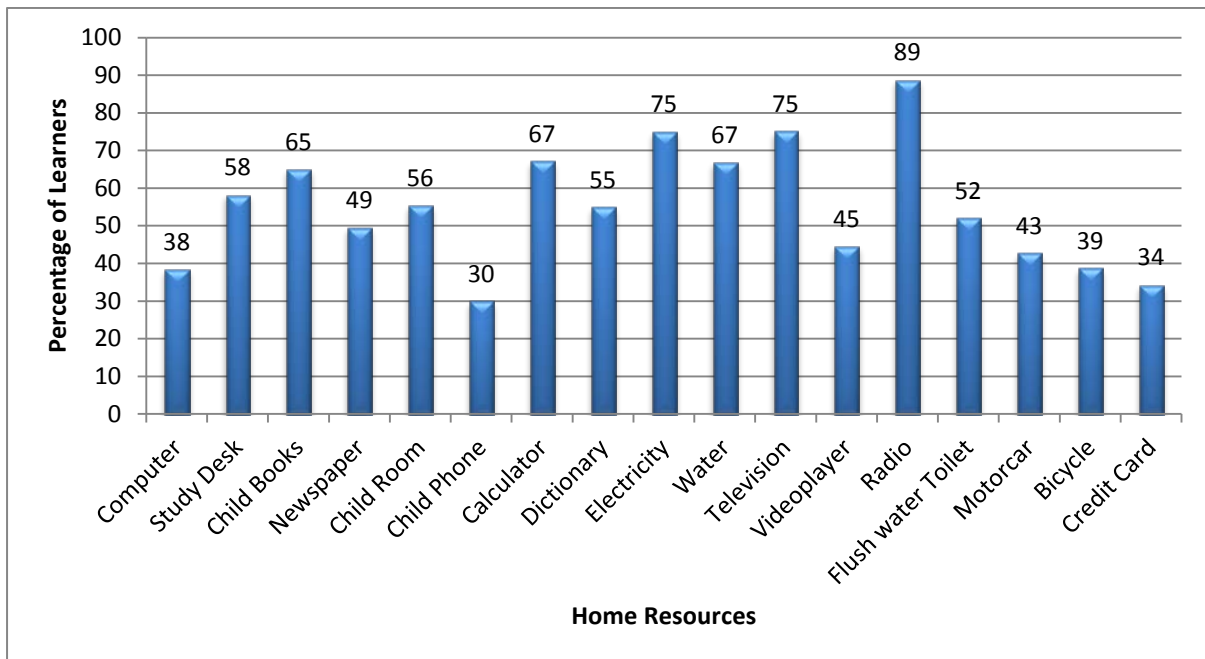


Figure 5.1: Percentage of home resources reported by parents

About half of the South African Grade 5 learners tested in PIRLS 2006 had access to basic infrastructure such as electricity, running water, flush water toilets, and common communication such as television and radio. On the other hand, approximately one out of four learners did not have access to electricity at home, and so might have had to make use of other means to create light for homework or other household chores. Only half had access to flush water toilets although almost two-thirds had access to running water. As such, half of the households may have to make use of communal toilets.

Internationally, most countries indicated that approximately 70% to 90% of households were at the middle income level, based on the resources at home (see Mullis et al., 2006). At the time of testing South Africa was categorised as a middle income country (Mullis et al., 2006), however 26% (SE=1.1%) of South African parents indicated that they were at the low income level (Mullis et al., 2006). South

African Grade 5 learner results varied greatly between high, middle and low levels of home resources.

In the average South African household, as tested in PIRLS 2006, more than half of the parents of Grade 5 learners indicated that they had some educational aids. Internationally, on average, 11% of households had high educational resources at home, compared to South Africa which had 3% (SE=0.5%). Only about one out of two learners had their own rooms with almost two-thirds of parents of Grade 5 learners indicating that they had a study desk. That most learners did not have their own room or study desk suggests that they shared their room and as such did not have enough privacy to complete their homework.

The parents of the Grade 5 learners also indicated that most households had between zero and eight children's books at home. Most countries who participated in PIRLS 2006 had between 26 and 100 books at home and from three to four educational aids. In South Africa, educational aids which are usually found in households include dictionaries (55%, SE=4.23%) and calculators (67.2%, SE=4.29%).

Only one-third of learners' parents indicated that they owned or had access to credit cards, and so might also lack other expensive resources as they could not afford them. Fewer than half of the parents of the Grade 5 learners indicated that they had their own motorcar (42.7%, SE=4.48%), and most parents and learners probably made use of public transport to work and school. However, in rural communities it may prove difficult for children to go to school as they do not have the funds to make use of minibus taxis, which may result in using bicycles or walking to school, though a mere 38.7% (SE=4.70%) of learners had their own bicycle. Figure 5.2 (below) shows the average learner performance when compared to the resources at home.

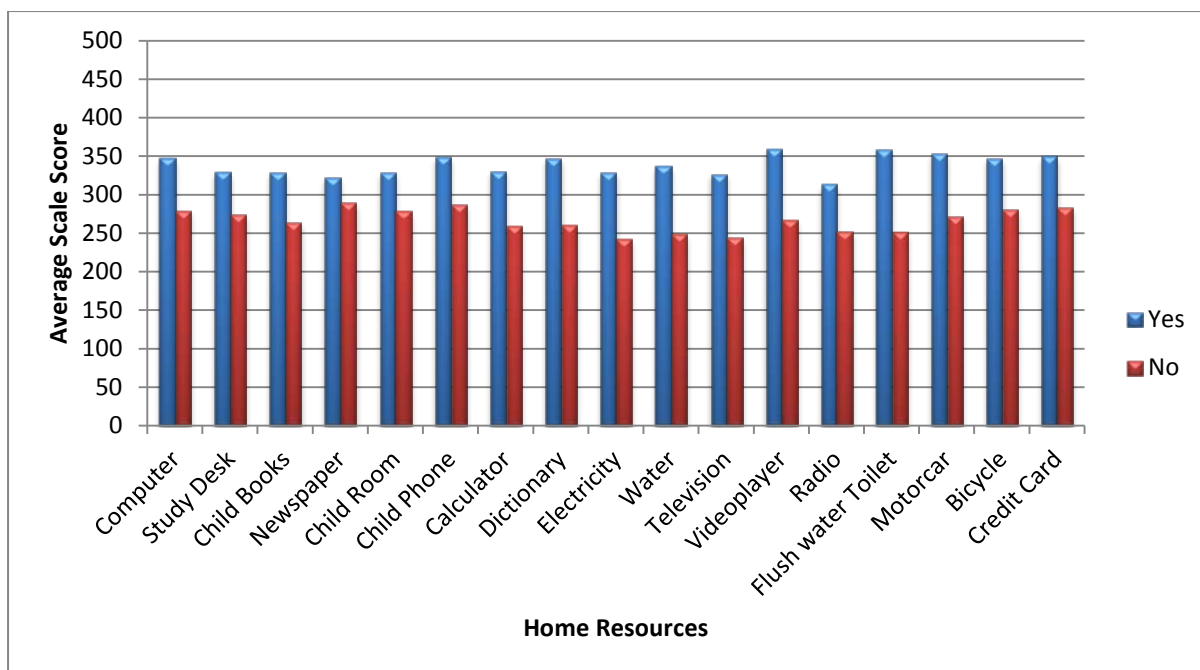


Figure 5.2: Learner average achievement and home resources

Learners who have access to basic infrastructure seem to perform better than their peers who do not. Based on the above average scale scores, there is seemingly a relationship between conducive conditions, such as electricity, water and water flush toilets, and learning at home and learner reading literacy achievement.

For instance, there is more than a 100-point difference when learners have access to flush water toilets. This is more than two and a half years of schooling. It is notable that the difference in achievement may relate to Bourdieu's theory of cultural capital, which posits that if persons have higher levels of objectified capital they are exposed to more resources and as such may improve the conditions in which learners are taught and learn.

When educational aids, such as a dictionary and calculator, are available at home it proves to be valuable since the learners' average score can be expected to be higher. If a learner has access to a dictionary within the home his or her reading literacy average may reach 348 (SE=8.29). Conversely, when learners do not have access to a dictionary their reading achievement tends to be lower (261, SE=4.01), which results in an 87-point difference, equal to approximately two years of schooling. Based on the above discussion, one can conclude that a dictionary is valuable for learners as it may assist in their vocabulary growth.

Regarding the method of transportation, learners whose parents own motorcars score 354 points (SE=10.46) compared to their peers (273, SE=3.66) whose parents make use of secondary methods of transport, such as minibus taxis, buses and trains. It is apparent from Figure 5.2 that at a descriptive level the Grade 5 learners' achievement can be associated with the resources at home. Therefore, the SES levels of households in South Africa could play a significant role not only in the development of learner reading literacy but also in future academic development (OECD, 2010).

5.2.2 EARLY HOME LITERACY ACTIVITIES

The SES of South African households based on resources at home could play a role in the literacy activities parents engage in with their children. Of researchers who have examined parents' or caregivers' role in their children's literacy development (see Taylor & Dorsey-Gaines, 1988; Anderson & Morrison, 2011; McLachlan, Nicholson, Fielding-Barnsley, Mercer & Ohi, 2013), some argue that family structure is pivotal to a child's literacy acquisition and development (Anderson & Morrison, 2011). Parents or caregivers are the ones who should, at home, participate in varied literacy activities with their children. Figure 5.3 (below) depicts the overall average scale score of learner reading literacy achievement compared to their parents' indication of frequency of early home literacy activities.

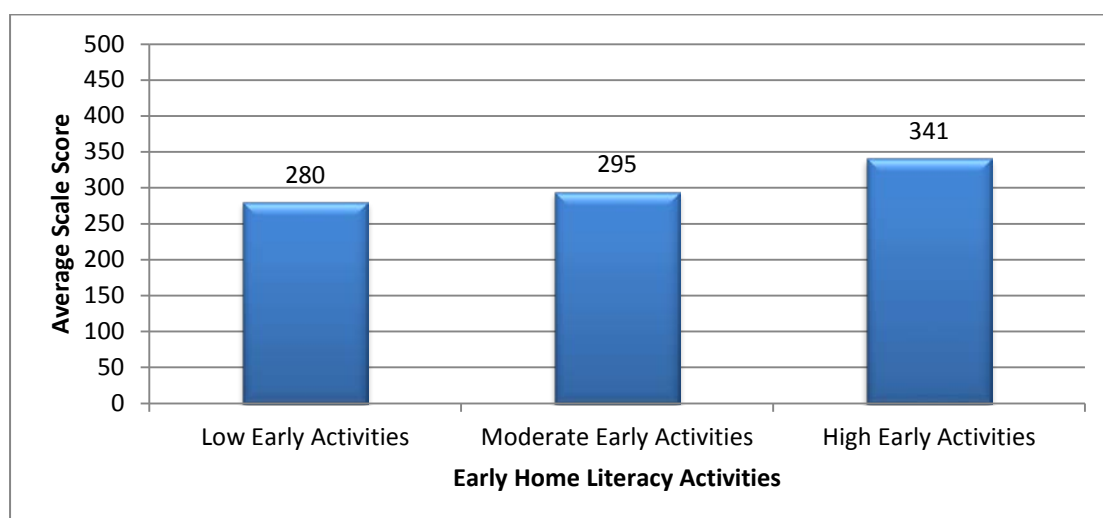


Figure 5.3: Composite early home literacy activities and learner average achievement

Based on the graph, learners' whose parents engage regularly in early home literacy activities (341, SE=10.70) performed better than their peers whose parents indicated that they had a low frequency (280, SE=5.64) of these activities. There is a 61-point difference between the learners' reading literacy achievement from low to high frequency of early literacy activities. The point difference is significant, however the effect size is small ($r = .14$) (see Appendix 4). Nevertheless, this difference indicates that when parents are active participants in the reading literacy development of their child it is beneficial to them.

It is important to see in which early home literacy activities South African parents are more likely to participate. The percentage per early home literacy activity engaged with at home is indicated in Figure 5.4 (below).

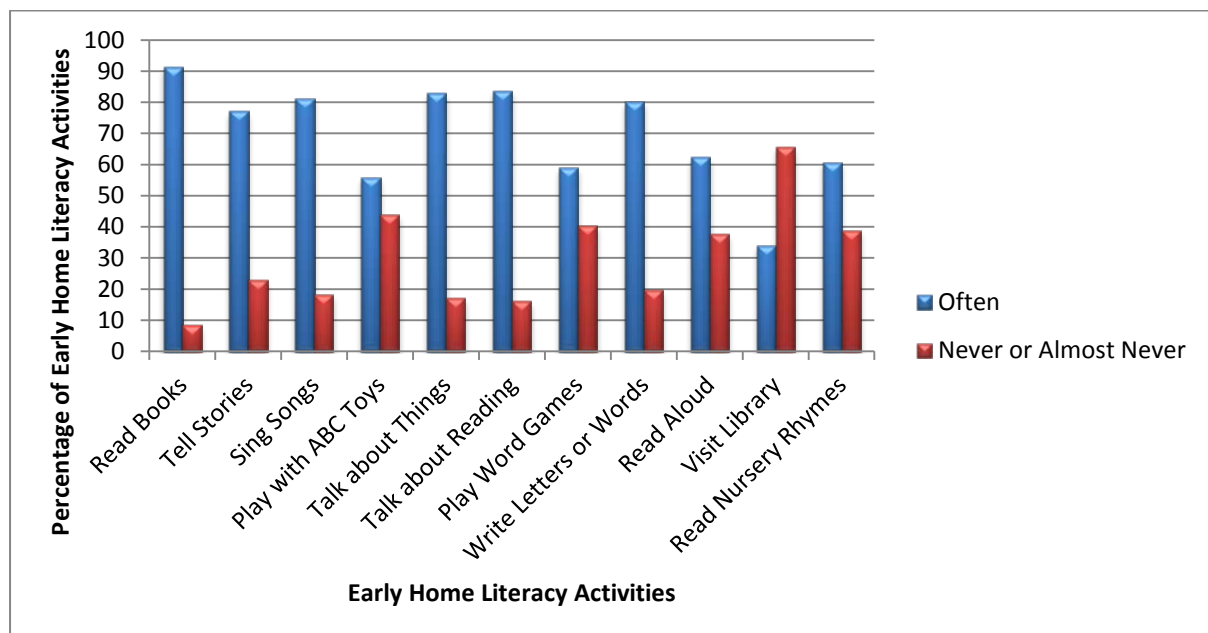


Figure 5.4: Percentage of early home literacy activities

Eleven variables comprise the scale *Early Home Literacy Activities*. The figure shows that most parents or caregivers believed that they had often done literacy activities with their child, as identified in the parent questionnaire. The data was categorical, therefore rarely represented with a zero and usually with a one.

A total of 92% (SE=0.62%) of parents indicated that they *almost always* read books with their child. In contrast, 66% (SE=1.00%) stated that they *never or almost never* took their child to a library. In each case, more than three-quarters told stories, sang

songs and talked about daily activities with their child. Usually, parents read nursery rhymes with their child. They tried to be involved in shared activities with the child, with just over half indicating that they made use of educational toys to form part of the early home literacy activities. It would therefore be expected that if parents more actively participated in their children’s development the children should be attaining higher educational achievement (McLachlan et al., 2013).

Early home literacy activities engaged in and the Grade 5 learners’ reading literacy achievement show associations with one another. When parents are involved regularly in early literacy activities it seems to be valuable for the learner. The opposite is also true, that when parents are *never or almost never* involved in their child’s reading literacy development the learner tends to perform poorly compared to their peers. Figure 5.5 (below) shows the average scores for the Grade 5 learners for the type of early home literacy activities.

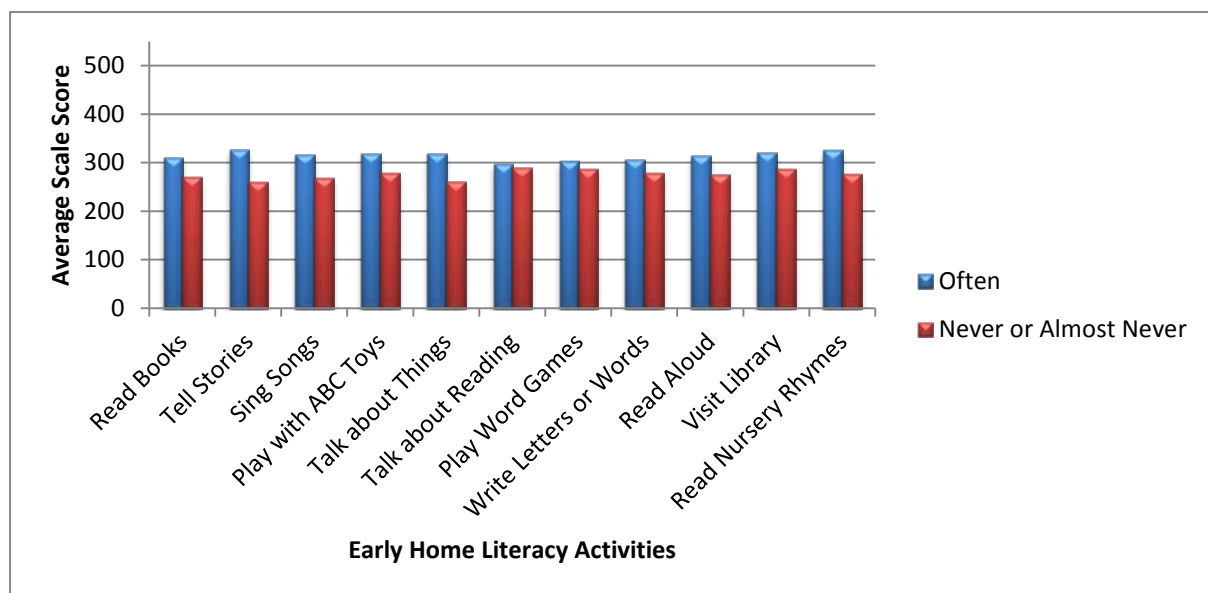


Figure 5.5: Learner average achievement and early home literacy activities

Based on the descriptive output, learners seem to benefit when parents frequently engage with them in early home literacy activities. It assists in the learners’ reading and literacy acquisition and development, however, when the average score per early home activity is compared to the percentage of parental involvement, questions could be raised as to the possible reasons learners are not performing better when more time is spent on certain activities.

One such activity, reading books with the child, is problematic since over 90% (SE=0.62%) of parents indicated that they read books with their child. However, the Grade 5 learner results indicate that although most parents read books with the child the performance was not higher than the other activities in which not all parents participated. This scenario may be due to language used by the parents for the activity and because they selected the responses in order to create a false impression, known as the social desirability effect. Also, this pattern may be considered as response bias, known as the Dunning-Kruger³³ effect. Other possible reasons include the way in which parents utilise the books during reading time with the child, for example, ineffectively due to their own low literacy skills. When parents engage in activities such as telling stories, talking about things and reading nursery rhymes, learners achieve higher average scores than when parents do not engage in such activities. This could be explained by the orality of some communities in which oral literacy is prominent (see Prinsloo & Breier, 1996), as there is a paucity of African language publications within 'print-poor' communities (Pretorius, 2008).

5.3 PARENTAL ATTRIBUTES AND SOUTH AFRICAN GRADE 5 LEARNER ACHIEVEMENT

Parental attributes in this study consists of Parent Gender (Section 5.3.1), Parent Language (Section 5.3.2), Parent Education (Section 5.3.3), Parent Attitude (Section 5.3.4) and Parent Employment and Occupation Status (Section 5.3.5). The following sections discuss the descriptive statistics for each attribute and how they are linked to the Grade 5 learners' reading literacy attainment during PIRLS 2006.

5.3.1 PARENT GENDER

In the study the terms 'mother' and 'father' are used to describe the person who completed the questionnaire. The former includes the mother or the female guardian of the child, the latter the father or male guardian. Of those who completed the parent questionnaire, 64% (SE=.004%) were female parents.

³³ The Dunning-Kruger effect explains that when people perform a task, that there is a deficiency in their meta-cognitive ability to correctly assess their performance (Kruger & Dunning, 1999).

When comparing achievement and gender of the parent, the learners who were supported by the mother scored a higher average scale score (306, SE=6.23) compared to their peers (278, SE=4.83) who were taken care of by their fathers (see Figure 5.6, below).

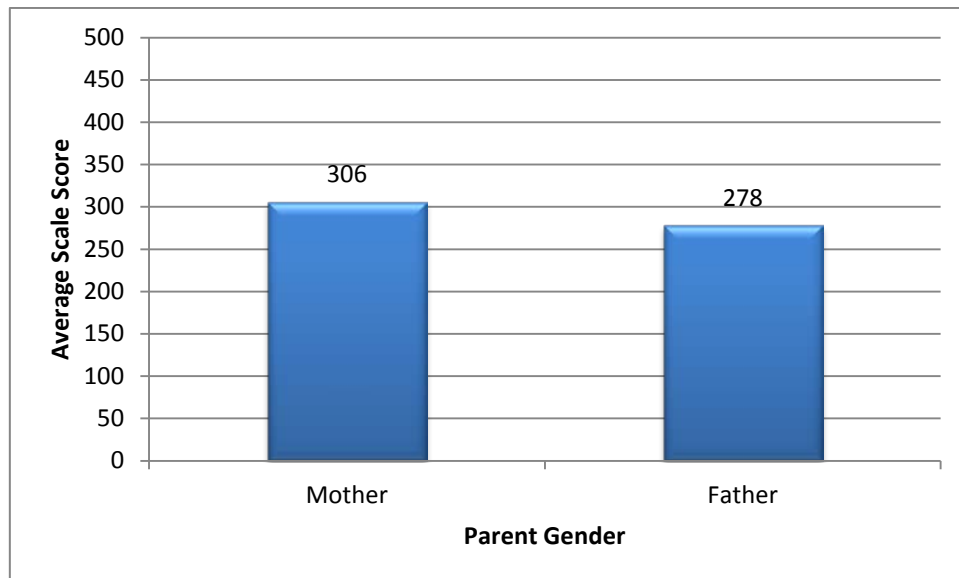


Figure 5.6: Learner achievement and parent gender

There is in total a 28 average scale score difference in learner achievement between female and male parents. Based on the results of the t-test, this is significant due to the large sample, but based on effect size ($r=0.08$) there is no effect (see Appendix 4).

In South Africa, households may differ in terms of who is the primary caregiver of the learner. Since South African households are diverse, differences in learner achievement compared to the extended family's role were analysed. Figure 5.7 (below) presents the comparisons of learner average scale score when cared for by other family members or friends.

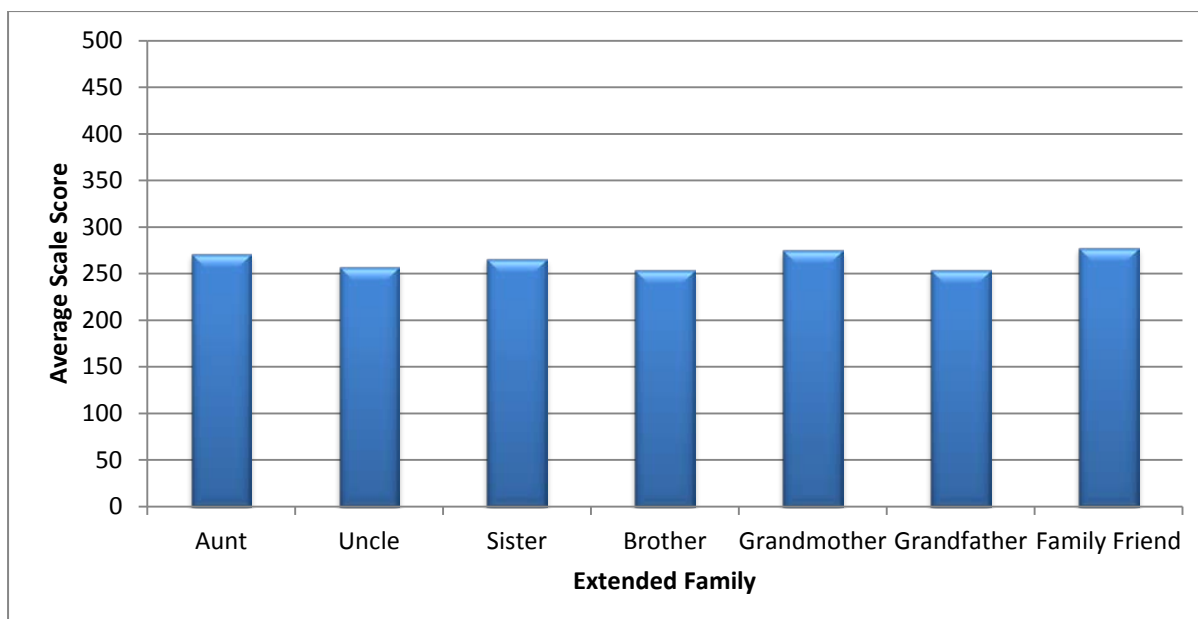


Figure 5.7: Learner achievement and extended family

Learner average scale scores reach 271 (SE=5.71) when looked after by the aunt compared to the uncle (257, SE=7.21) as primary caregiver, making a 14-point difference. This is significant, however the effect size is negligible ($r = .06$). Learners achieve 13 additional points when they live with their sister, however the effect size is negligible ($r = .06$) (see Appendix 4). Evidently, Grade 5 learners perform better academically when a mother takes responsibility for the learner, evident not only in the South African context but also internationally, as the mother is usually more involved in the developmental stages of the child (Korat, 2004). As well as gender, parents' language also plays a role in learner reading literacy development.

5.3.2 PARENT LANGUAGE

In South Africa, as with many other multilingual countries, the language of the child is dependent on that of the mother and father. However, the first language of the mother and father may not be the same, and the language policies of formal education state that schools have a LoLT which in some cases may not be the home language of the child but rather the second or third. As discussed in Chapter 3, when children are exposed to additional languages before they have mastered their mother tongue, the learners may not be able to cope with second language acquisition (Weideman, 2013).

Only about three-quarters of learners had either one or both parents who spoke the language in which the learner was tested during PIRLS 2006. As many as 21% (SE=1.4%) of Grade 5 learners' parents did not speak the language of the test (Howie et al., 2008). Figure 5.8 (below) indicates the learners' average scale score when compared to the parents' first language and most used languages.

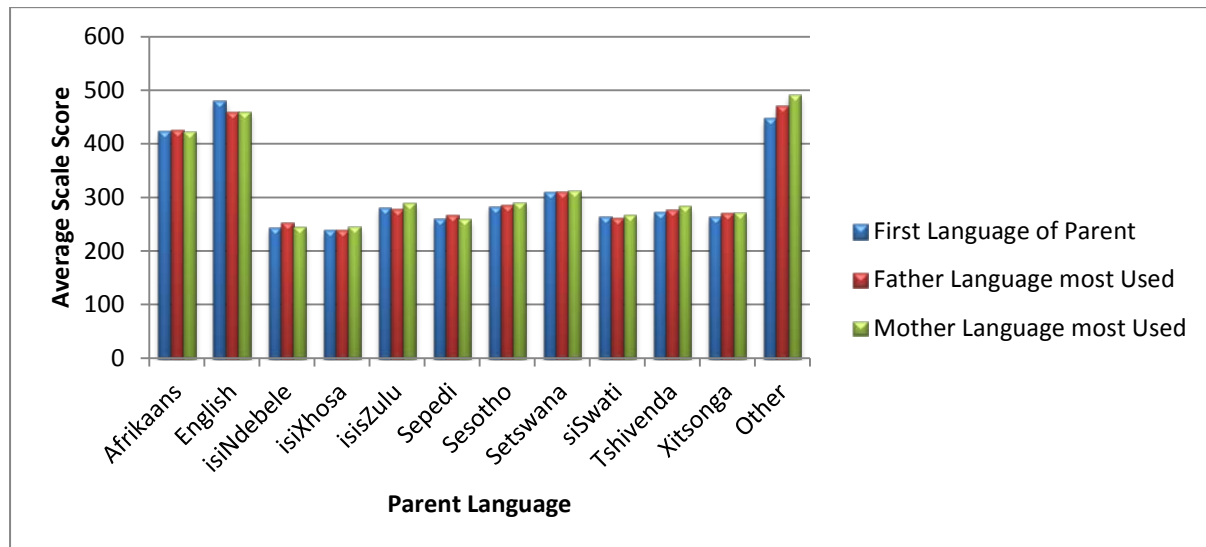


Figure 5.8: Learner achievement and parent's first and most used language

In Figure 5.8 the first language of the parent was derived from Question 3.b which required the person who completed the questionnaire to indicate their first language. The language most used by the mother and father refers to Question 17 which asked when parents talk to their child, what language does the father and mother use most often. There is very little difference in the average scale score for learners' whose parents' mother tongue were used more often than learners' reading literacy achievement. This finding confirms that of Howie et al. (2008), on a descriptive level, that parent language does not contribute to learners' achievement. However, learners whose parents' mother tongue is English perform slightly better than their peers. This result may be due to the materials available in English which have been used in early literacy home activities. It is significant that Afrikaans-speaking parents and the parents who most often use Afrikaans seem to have the same influence on learner reading literacy achievement. In both English and Afrikaans households, the parents' education level may contribute to their children's reading proficiency. Based on significance testing, the differences in average scores between learners are significant due to the sample size. The effect size of English and Afrikaans parents'

influence may explain roughly 1% ($r = .11$) of the variance (see Appendix 4). The next section presents the parents educational level percentages and in comparison with Grade 5 learner reading literacy achievement.

5.3.3 PARENT EDUCATION

Parents are a child's first teacher, therefore it is vital to examine their own education levels to determine if it is important for a child's reading literacy achievement. Some research has indicated that the level of parental education has a relationship with learner achievement (Tamis-LeMonda et al., 2004; Schlee et al., 2009).

Based on the PIRLS 2006 assessment, more than a quarter of the parents of Grade 5 learners had not passed or completed the basic school exit level qualification, which in the South Africa education system is Grade 9. A total of 15% (SE=0.7%) of parents had completed their basic exit level qualification while 35% (SE=0.9%) had completed their matriculation qualification. The remaining 24% of the parents had completed a tertiary qualification and, of these, 7% (SE=0.4%) had completed a non-bachelor qualification, and 17% (SE=1.4%) had completed a university level qualification. It is notable that 26% (SE=1.24%) of parents had reportedly only completed primary school.

It is evident that learners' whose parents had advantageous educational backgrounds achieved higher average score points when compared to their peers whose parents did not have the same educational background. A 190-point difference existed between learners' whose parents had a university degree and those whose parents had only received primary education. This difference is significant and represents a large-sized effect $r=0.57$ (see Appendix 4), which accounts for approximately 25% of the variance (Cohen, 1988). In the PIRLS assessment, 42 points represent a single year of schooling (Rosén & Strietholt, 2010), thus the difference in the average score for parent's education level translates into more than a year's difference for learners whose parents have matric exit level qualification or higher. This is illustrated in Table 5.1 (below), which depicts parents' educational level compared to learners' performance during the PIRLS 2006 assessment.

Table 5.1: Learner achievement and parent education level

Parent Education Level	Mean Score	Standard Error (SE)
Primary Education Qualification	260	5.16
Basic Exit Level Qualification	277	4.84
Matric Exit Level Qualification	315	5.37
College or Technicon Qualification	366	10.64
University Qualification	450	14.27

The table suggests that every time a parent obtains the next level in education their child's reading literacy attainment can be expected to be higher than when the parent does not have those qualifications. George et al. (2007) found similar results in that when parents obtain certain levels of education it positively affects learner achievement. The descriptive result of parents' education is supported by Bonci (2011), who found a relationship between the level of parents' education and learner reading literacy achievement. The type of qualification obtained by the parent may be a determinant of parental employment and occupational situations.

5.3.4 PARENT EMPLOYMENT SITUATIONS AND OCCUPATION LEVEL

Parents of Grade 5 learners who participated in the PIRLS 2006 assessment had also to indicate their employment status and occupational level. It is important to note the difference between parent education and occupation as they may directly influence learner exposure to cultural capital (Eccles, 2005). This study therefore also analysed the parents' employment situation, as an indication of the time spent working during a normal work week, divided into full-time, part-time or other for either parent, with parent occupation referring to the type of job engaged in. The parent questionnaire divided this section into 11 categories in an attempt to cover all types of occupation, namely *never worked outside home, fishery worker, trade worker, sales worker, labourer, operator, clerical, technician, business owner, professional, and senior officer*.

A third of mothers of Grade 5 learners worked full time, compared to 21% (SE=0.65%) of mothers who worked on a part-time basis. This means that half of the mothers were not employed at the time of the testing (see Figure 5.9, below).

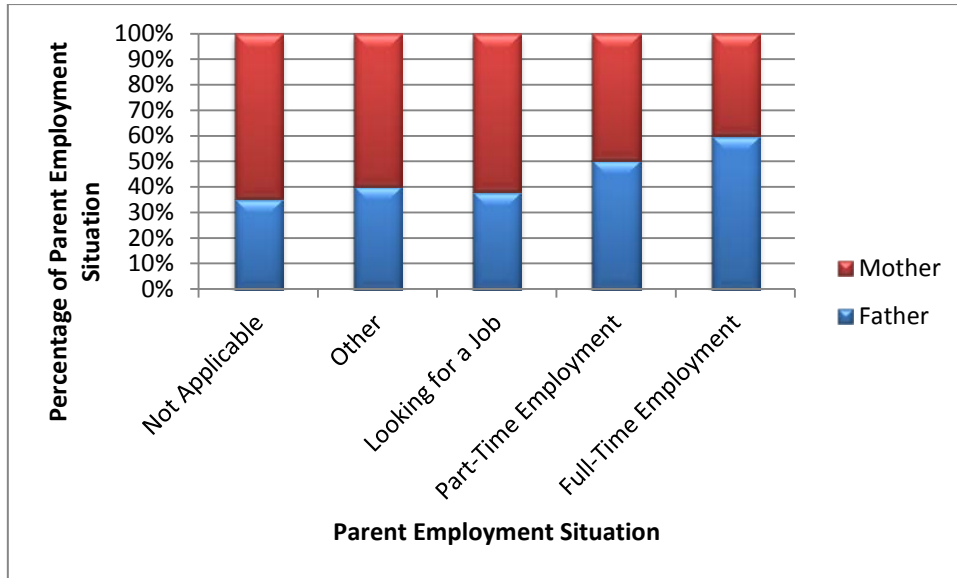


Figure 5.9: Percentage of parent employment situation

On the other hand, more than half of the fathers indicated that they enjoyed full-time employment. A difference of 18 percentage points exists between mothers and fathers who are employed on a full-time basis, yet the same percentage of mothers and fathers were reportedly looking for employment. Only 13% (SE=.64%) of fathers were looking for a job compared to 22% (SE=.85%) of mothers. The Grade 5 learner reading literacy score was compared to the parents' employment situation in Table 5.2 (below).

Table 5.2: Learner achievement and parent employment situation

Employment Status	Father Employment Status		Mother Employment Status	
	Mean Score	Standard Error	Mean Score	Standard Error
Not Applicable	276.05	8.27	300.3	8.73
Other	350.73	12.4	366.9	16.75
Looking for a Job	271.16	6.84	285.9	4.71
Part-Time Employment	269.42	5.12	304.8	8.44
Full-Time Employment	380.86	9.99	387.6	9.65

It is apparent that learners' whose parents both worked full time performed better in the PIRLS 2006 assessments compared to their peers whose parents either worked full time or both worked part time. Previous research has established a link between

the parents' employment status, ranging from unemployed to working full time, and learner achievement. In their research, McIntosh and Vignoles (2001) found that the parents' remuneration also had an effect on learner achievement. These results infer that when parents are in full-time employment they place emphasis on becoming literate. Also, the parents' employment may be linked to their type of occupation. As mentioned above, there are 11 occupation areas to which the Grade 5 learners' parents' could have responded. Table 5.3 (below) indicates percentage of type of occupation for both mother and father.

Table 5.3: Percentage of parent occupation

Type of Occupation	Father Occupation	SE %	Mother Occupation	SE %
Never worked outside home	10.74	0.83	19.23	1.06
Fishery Worker	4.4	0.4	1.89	0.2
Trade Worker	9.55	0.45	2.57	0.24
Sales Worker	6.86	0.46	9.15	0.43
Labourer	9.74	0.79	11.74	0.79
Operator	7.9	0.46	2.09	0.27
Clerical	4.46	0.38	9.33	0.67
Technician	3.13	0.36	1.67	0.2
Business Owner	10.27	0.67	8.65	0.56
Professional	7.11	0.6	9.24	0.85
Senior Officer	14.11	1.15	9.09	1.01

More fathers were employed as workers than mothers. As many as 19% (SE=1.1%) of mothers and 10.7% (SE=.83%) of fathers had never worked outside of their homes, and more mothers (9%, SE=0.9%) than fathers (7%, SE=0.6%) were professionals. However, more fathers were owners of businesses and senior officers, with a total percentage of 10% (SE=0.7%) and 14% (SE=1.1%) respectively. A total of 9% (SE=0.7%) of mothers worked as clerks. Based on the above table, Table 5.4 (below) depicts learner reading literacy achievement in relation to father's and mother's occupation.

Table 5.4: Learner average achievement and parent occupation

Type of Occupation	Father Occupation		Mother Occupation	
	Mean Score	Standard Error	Mean Score	Standard Error
Never worked outside home	256.91	8.22	272.65	5.90
Fishery Worker	295.18	25.44	259.97	17.50
Trade Worker	343.40	9.05	279.16	20.61
Sales Worker	328.92	9.40	328.08	8.50
Labourer	290.11	8.16	292.67	8.45
Operator	312.01	9.10	314.83	17.73
Clerical	337.04	12.3	419.91	14.26
Technician	468.70	21.81	440.25	23.72
Business Owner	403.65	16.74	366.14	15.79
Professional	465.66	14.44	467.24	13.99
Senior Officer	362.83	13.53	322.28	13.56

Learners whose parents were working professionals, technicians and business owners performed better overall in the assessment than their peers. The average mean of learners whose fathers and mothers were professionals scored 465 (SE=14.4) and 467 (SE=13.9) respectively. Learners whose fathers were business owners or technicians also reached over 400 points. There is a statistically significant difference between learners whose parents were professionals and those whose parents were business owners, which has a medium effect spread ($r = .22$) and accounts for approximately 9% of the variance (Cohen, 1988) (see Appendix 4). Reasons for learners performing higher when the parents were professionals, technicians or business owners may be that the parents had sufficient earnings to buy educational aids and other sources to help the child in his or her reading literacy development. The parent might also effectively use the time available to assist in the learner's reading literacy development. Based on the above descriptive level, it can be concluded that a relationship between learner achievement and parent occupation exists.

5.3.5 PARENTS' ATTITUDE TOWARD READING

Parents' attitude forms a large part of a child's educational growth (Sigel & McGillicuddy-De Lisi, 2002). Their attitudes, beliefs and behaviours are constructed

from their own past experiences as well as through their cultural context, all of which are vital to learner's perception of literacy and reading (Sigel & McGillicuddy-De Lisi, 2002; Bonci, 2011). When the parents have a positive attitude towards reading literacy they might advocate reading as part of entertainment (Baker & Scher, 2002), which may in turn encourage learners to read for enjoyment. Figure 5.10 (below) shows that parents reportedly have largely positive attitudes towards reading.

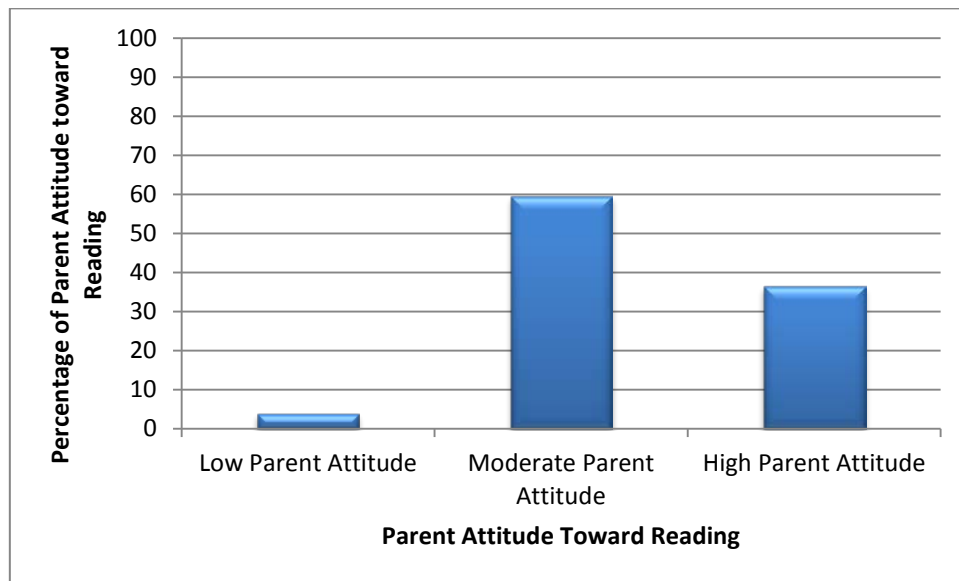


Figure 5.10: Percentage of parents' attitude toward reading

Two thirds of Grade 5 learners' parents (60%, SE=1.1%) indicated they had a moderate attitude towards reading, with only 36% (SE=1.1%) saying they had a highly positive attitude towards reading, and learners of these parents scored 82 points higher than learners with parents having moderate to low attitudes toward reading (see Table 5.5, below). Very few parents indicated that they had low attitude towards reading. These percentages suggest that almost all parents want to be seen to have to some degree a positive attitude toward reading.

The Grade 5 learners with parents who reported moderate attitude towards reading performed poorest with 276 (SE=4.21) scale score points (see Table 5.5 below).

Table 5.5: Learner average achievement and parent attitude toward reading

Parent Attitude toward Reading	Mean Score	Standard Error
Low Parent Attitude	291	11.6
Moderate Parent Attitude	276	4.21
High Parent Attitude	358	9.07

There is a significant difference between learners' performance when the parents have a high positive attitude and those with a moderate attitude towards reading. A moderate effect size ($r = .27$) is found, which equals to almost 9% of the variance explained (Cohen, 1988). A total difference of 67 points in achievement is observed between learners whose parents have low and high positive attitudes towards reading. The point difference between low and high positive attitudes is statistically significant and has a medium effect size of $r = .35$ (see Appendix 4). The effect size accounts for over 9% of the variance (Cohen, 1988).

Based on the above discussion, it may be said that the attitudes and beliefs of parents towards literacy and reading may be positively related to their child's reading literacy achievement. The descriptive result of parent attitude towards reading has also been found in other research (see Sigel & McGillicuddy-De Lisi, 2002; Howie, 2010; Bonci, 2011). Parents who perceive reading as part not only of enjoyment but also of everyday life, and who have a positive attitude toward reading, may portray this to their child and in turn encourage him or her to become literate (Epstein, 1991). Therefore, the parents' attitudes and beliefs about literacy and reading may play a vital role in their child's reading literacy development.

5.4 CONCLUSION

Based on the descriptive statistics in the selected variables for the Home Environment, it is evident that most South African learners tested in PIRLS 2006 have basic resources in their home. Most parents believe that they are actively involved in their child's reading literacy development. The Grade 5 learners' average achievement can be expected to be higher when more cultural capital is evident in the home. Almost all parents indicated that they read books with their child everyday but the frequency of reading books seems not to correlate with learner average

performance. However, when parents and children tell each other stories, the learner's average performance is higher than all of the other activities.

On average, more mothers or female caregivers are taking responsibility for the child's personal and educational development than fathers or male caregivers. However, there is little or no difference in learner achievement based on the parents' mother tongue. From the descriptive statistics, the level of education does make a difference in learner achievement. When parents have completed tertiary education, a learner average scale score of 450 points can be expected, which is just below the international mean of 500. On a descriptive level, parent education level may be an indicator of the type of occupation the parent will consider. Also, when parents are in a professional occupation their children perform better. When parents have higher education and occupation levels they tend to utilise the time they spend with their child constructively towards its development.

In conclusion, overall, most parents try to assist their child in reading literacy development but this may be hindered by the parents' own characteristics, such as education, occupation and employment. The learners' SES levels may also help to explain their poor performance in PIRLS 2006. There are disparities in the households' cultural capital and, specifically, the objectified capital and empirical evidence (see Kalmijn & Kraaykamp, 1996; Bourdieu, 2002) has shown that learners need resources to assist in the acquisition and development of reading literacy.



CHAPTER 6

HOME ENVIRONMENT AND PARENTAL ATTRIBUTES FACTORS PREDICTING LEARNER READING LITERACY ACHIEVEMENT

6.1 INTRODUCTION

This study aims to investigate the relationship between the home environment, parental attributes and the South African Grade 5 learner reading literacy achievement. In this chapter the inferential findings data based on the variables selected in the descriptive analysis process (see Chapter 5). It addresses the subsequent sub-research questions investigating the aspects of the home environment and the parental attributes which may have affected the Grade 5 learners' reading literacy performance. The main research question of this study was: *How does the Home Environment and Parental Attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa?*

As argued in Chapter 4, it is important to note that IDB analyser (Neuschmidt, 2007) was used for the descriptive statistics and for the final analysis, namely the standard multiple regression analysis. However, the statistical programme, SPSS, was used for the reliability analysis and the principal component analysis. The student weight (TOTWGT) was used in the inferential analysis to ensure that the weighted sample corresponds to the actual sample size and population (Foy & Kennedy, 2008) for South African data.

Principal component analysis in this study was undertaken to identify possible components to be used in the regression analysis (Section 6.2). Section 6.2.1 presents the factors and variables included in the Home Environment of this study. The construction of Home Environment scales from the PIRLS 2006 parent questionnaire is discussed in Section 6.2.2. The regression analyses results, depicted in Section 6.3, include the results of the first and second sub-research questions in Sections 6.3.1 and 6.3.2 respectively. ANOVA statistical method was used in order to establish the regression models' significance. Additionally, in Section 6.3.3 the results of the study's main research question can be found. The

conclusions drawn from the study's results in Section 6.4 provide the foundation for Chapter 7.

6.2 PRINCIPAL COMPONENT ANALYSIS

Principal component analysis was undertaken in order to identify components to be used in the standard multiple regression analysis since principal component analysis focuses on ascertaining which "particular linear components exist within the data and how a particular variable might contribute to that component" (Field, 2011, p. 638) (see Chapter 4). Principal component analyses were conducted to determine whether the variables identified during the reliability analysis (Chapter 4 Section 4.5.2.2) selected from the PIRLS 2006 parent questionnaire would serve as valid components for inclusion in the standard multiple regression analysis. As explained in Chapter 4, it is important to ascertain whether the selected items measure the same underlying construct. The components established during the analysis were scrutinised to determine which of the component loadings explained the most variance of the specific construct. The principal component analyses were informed by the theoretical perspectives of this study's conceptual framework presented in Chapter 3 Section 3.5.

6.2.1 FACTORS AND VARIABLES INCLUDED IN THE HOME ENVIRONMENT OF THE CONCEPTUAL FRAMEWORK

Principal component analyses were conducted on several items from the Home Environment aspect of the study's conceptual framework. A total of 28 items based on the Home Environment were used in the analysis. Table 6.1 (below) depicts the factors based on this study's conceptual framework as well as the variables taken from the parent questionnaire which are related to this study's conceptual framework.

Table 6.1: Factors and variables included in the home environment

Factor	Variable Name	Variable Name Recoded	Variable Description
Home Resources	ASBHZ037	Item_Computer	Computer at Home
	ASBHZ038	Item_StudyDesk	Study Desk at Home
	ASBHZ039	Item_ChildBooks	Child books at home
	ASBHZ040	Item_Newspaper	Newspaper at home
	ASBHZ041	Item_ChildRoom	Child room at home
	ASBHZ042	tem_ChildPhone	Child cell phone at home
	ASBHZ043	Item_Calculator	Calculator at home
	ASBHZ044	Item_Dictionary	Dictionary at home
	ASBHZ045	Item_Electricity	Electricity at home
	ASBHZ046	Item_Water	Running water at home
	ASBHZ047	Item_Television	Television at home
	ASBHZ048	Item_VideoPlayer	Video player at home
	ASBHZ049	Item_Radio	Radio at home
	ASBHZ050	Item_Toilet	Flushed toilet at home
	ASBHZ051	Item_MotorCar	Motor car at home
ASBHZ052	Item_Bicycle	Bicycle at home	
ASBHZ053	Item_CreditCard	Credit card at home	
Early Home Literacy Activities	asbhha01	Early_Act_Read_Books	Read Books
	asbhha02	Early_Act_Tell_Stories	Tell Stories
	asbhha03	Early_Act_Sing_Songs	Sing Songs
	asbhha04	Early_Act_Play_ABC_Toys	Play with ABC Toys
	asbhha05	Early_Act_Talk_Things	Talk About Things
	asbhha06	Early_Act_Talk_Reading	Talk about Reading
	asbhha07	Early_Act_Word_Games	Play Word Games
	asbhha08	Early_Act_Write_Letter_Word	Write Letters or Words
	asbhha09	Early_Act_Read_Aloud	Read Aloud
	asbhha10	Early_Act_Visit_Library	Visit Library
	asbhha11	Early_Act_Nursery_Rhymes	Reading Nursery Rhymes

A total of 28 eigenvectors³⁴ were identified, equal to the number of items included in the analysis. As the cut-off for eigenvalue was set at one (Kaiser, 1960), six components were identified, however only two were retained, based on the component matrix table which indicated two clusters, namely resources at home and early home literacy activities. The factor loading for these components are 3.43 and 2.88 respectively. The factor loadings³⁵ for the retained components may be seen as statistically meaningful as each of these factor loadings are above the recommended

³⁴ "Eigenvectors are lines measuring the length and height of the ellipse that surrounds the scatterplot of data for those variables" (Field, 2011, p.243).

³⁵ Note that there is not a significance test in SPSS for factor loadings; however, the significance can be calculated by squaring the factor loading (Field, 2011). This results in the total percent of variance explained by the factor. Stevens (2002) explains that the value of the squared factor loading should be above 0.4 to be seen as meaningful.

level of .162 (Stevens, 2002; Field, 2011). Moreover, the KMO statistic was .883 which is considered as *great*³⁶ (Hutcheson & Sofroniou, 1999, pp.224-225). The high KMO indicate that the relationship between the sample and the variables are good and as such the sample size is adequate for principal component analysis (Field, 2011).

As the preliminary principal component analysis identified two components, additional principal component analyses were conducted in order to create possible scales. The additional analyses resulted in Resources at Home and Early Home Literacy Activities. Together with the above table, a scree plot of the preliminary analysis indicated inflexions that warrant components one and two to be retained. Figure 6.1 (below) shows these inflexions.

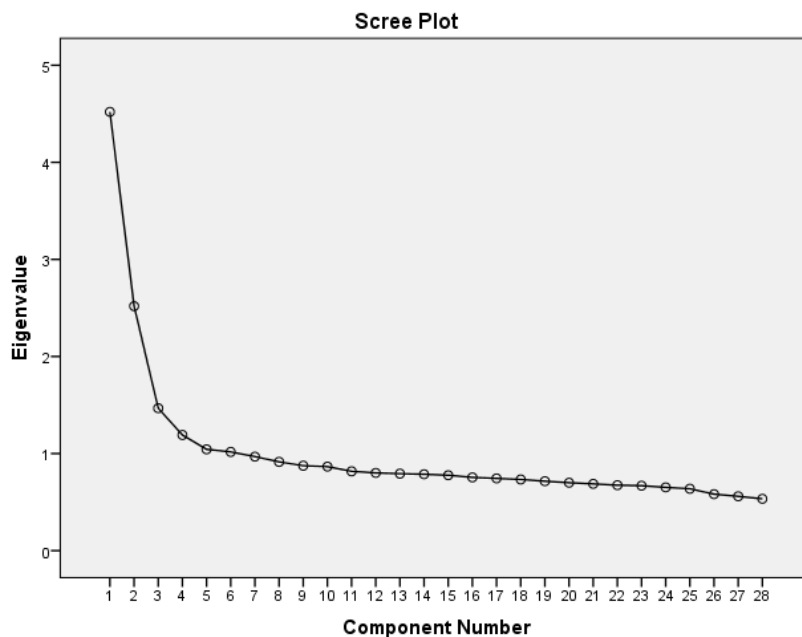


Figure 6.1: Home Environment Scree Plot

Based on the inflexions, components one and two each measure only one underlying construct and these were interpreted as Resources at Home and Early Home Literacy Activities and are discussed in Section 6.2.3.

³⁶ If the value of KMO statistic is close to one, the principal component analysis should yield reliable factors (see Field, 2011).

6.2.2 CONSTRUCTING HOME ENVIRONMENT SCALES FROM PIRLS 2006 PARENT QUESTIONNAIRE

The individual items from the PIRLS 2006 parent questionnaire (see Table 6.1, above) had to be re-assembled into scales in order to be used in the standard multiple regression analysis for this study. Oblique rotation, specifically Promax rotation was used for the principal component analyses, as it was suspected that some underlying factors could possibly be associated in “theoretical terms” (Field, 2011). The outputs of the newly created scales were saved as regression values to be used in the regression analyses (see Chapter 4 Section 4.5.2.4). This principal component analysis comprises all the variables which describe the resources within the home. Bartlett’s test of Sphericity was significant ($p < .001$) and the KMO statistic was at .881, therefore the sample was *great* (Hutcheson & Sofroniou, 1999, pp.224-225) for conducting the analysis. A total of four components were extracted; however, based on the communalities and component matrix tables, two components were identified which measures different types of home resources.

The items selected for the additional principal component analyses had reached the acceptable KMO limit (.5) and the Bartlett’s Test of sphericity indicated that the correlations between items were *sufficiently large* ($p < .001$) (Field, 2011, p.671). The KMO and Bartlett’s Test of sphericity (see Chapter 4 Section 4.5.2.4 for explanation of terms) for the components previously identified were sufficient in order to continue with the principal component analyses. Items selected were part of the Resources at Home, as well as part of the Home Environment aspect of the study’s framework. The factor Resources at Home was divided into two categories, namely Basic Resources at Home and Non-essential Resources at Home. The division was done in order to distinguish between resources which can be found in most homes and resources can only be found in more affluent homes.

Basic Resources at Home

As Resources at Home was divided into two factors, this particular section discusses the Basic Resources at Home. Before the extraction, five eigenvectors were identified for basic home resources. Both components one and two are statistically meaningful as both these factor loadings were above .162 (Stevens, 2002; Field, 2011). The KMO statistic of basic resources at home was at .672, which is

acceptable as it is above the threshold of .5 (Field, 2011). Table 6.2 (below) depicts the selected items which were used in the principal component analysis after extraction.

Table 6.2: Basic resources at home item extraction from parent questionnaire

Conceptual Framework Factor	Variable Name	Variable description	Component Score
Basic Resources at Home	Item_Electricity	Electricity at home	.700
	Item_Water	Running water at home	.664
	Item_Television	Television at home	.721
	Item_Radio	Radio at home	.409
	Item_Toilet	Flushed toilet at home	.621

Items such as electricity, running water, toilet, television and radio comprise Basic Resources at Home. These resources are basic infrastructure and communication devices found in most homes in South Africa. The principal component analysis' component matrix table revealed that these basic resources group together and as such explain one underlying construct namely Basic Resources at Home. Additionally, the scree plot of basic home resources showed inflexions that warrant that components one and two may be retained.

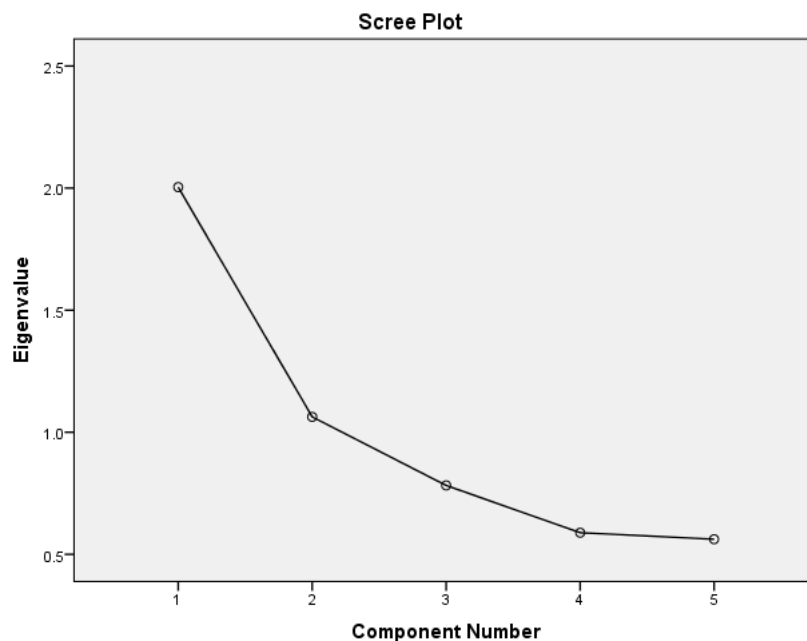


Figure 6.2: Basic resources at home scree plot

For the purpose of further analysis, only component one with an eigenvalue of two, was retained for further analysis as it explains 40% of the variance. Note that as two components were identified and met the criteria of at least one eigenvalue (Kaiser, 1960) and the total variance explained was above 16% (Stevens, 2002; Field, 2011), only component one was retained as all of the items clustered together in component one whereas in component two some items did not group together. As such, only component one was retained for further use in the regression analysis.

Non-Essential Resources at Home

As mentioned above, Resources at Home was divided into two factors. This section discusses the Non-essential Resources at Home factor. A principal component analysis was conducted on the non-essential resources within the home. As a result, Bartlett's Test of Sphericity was significant ($p < .001$) and the KMO statistic was at .846. Two components were extracted based on the variables selected for this analysis.

Table 6.3: Non-essential resources at home item extraction from parent questionnaire

Conceptual Framework Factor	Variable Name	Variable description	Component Score
Non-essential Resources at Home	Item_Computer	Computer at Home	.613
	Item_ChildBooks	Child books at home	.384
	Item_ChildPhone	Child cell phone at home	.576
	Item_Calculator	Calculator at home	.442
	Item_Dictionary	Dictionary at home	.559
	Item_VideoPlayer	Video player at home	.664
	Item_MotorCar	Motor car at home	.628
	Item_Bicycle	Bicycle at home	.600
	Item_CreditCard	Credit card at home	.551

Table 6.3 (above) presents the items chosen to be used in the principal component analysis after extraction. Component scores from most of the items are above the .4 criteria (Field, 2011); only one item, *Item_ChildBooks*, had a component score of .384. Even though this particular item score was below the .4 threshold, it was decided to retain it as it forms part of the theoretical model of this study. The items selected for the non-essential resources factor comprise those which are found in more affluent homes, as parents may have adequate objectified cultural capital

within the home or are able to afford them. Non-essential resources range from books at home to ownership of a motor car. Figure 6.3 (below) shows a scree plot of the factor Non-essential Resources at Home. The inflexion warrants for component one to be retained. Components one and two met the criteria of at least one eigenvalue and together explained 43% of the total variance. However, for the purposes of further analysis, only component one was retained, based on high construct validity. Component one explains a total of 32% of the variance of the items.

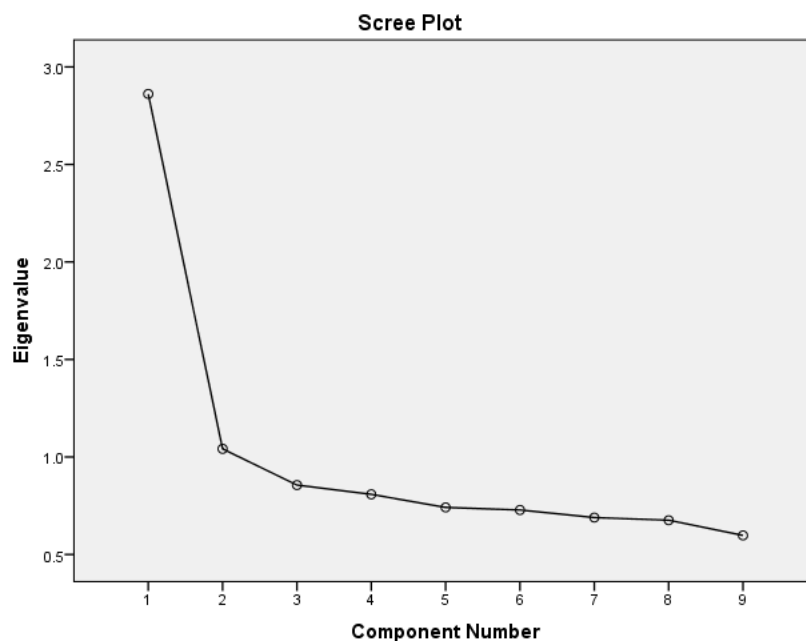


Figure 6.3: Non-essential resources at home scree plot

The factor loading of component one is 2.69 and is deemed sufficient to be used in further analysis. The component matrix indicated that the items in component one are clustered together when compared to component two. Additionally, the communalities output showed that the selected items for Non-essential Resources at Home scored between .3 and .5 after the extraction. Consequently, the items selected measure an underlying construct, namely Non-essential Resources at Home.

Early Home Literacy Activities

Along with Basic and Non-essential Resources at Home, the study also conducted a principal component analysis to determine whether the early home literacy activities could be used as a scale in further regression analyses. A total of 11 items were part of the analysis. The KMO statistic was at .971 and only one component was extracted. Table 6.4 (below) depicts the Early Home Literacy Activities items used in the principal component analysis after extraction.

Table 6.4: Early home literacy activities item extraction from parent questionnaire

Conceptual Framework Factor	PIRLS 2006 Variable Name	Variable description	Component Score
Early Home Literacy Activities	Early_Act_Read_Books	Read Books	.432
	Early_Act_Tell_Stories	Tell Stories	.587
	Early_Act_Sing_Songs	Sing Songs	.576
	Early_Act_Play_ABC_Toys	Play with ABC Toys	.691
	Early_Act_Talk_Things	Talk About Things	.704
	Early_Act_Talk_Reading	Talk about Reading	.731
	Early_Act_Word_Games	Play Word Games	.730
	Early_Act_Write_Letter_Word	Write Letters or Words	.726
	Early_Act_Read_Aloud	Read Aloud	.745
	Early_Act_Visit_Library	Visit Library	.746
	Early_Act_Nursery_Rhymes	Reading Nursery Rhymes	.742

The sample adequacy along with Bartlett's Test of sphericity for the principal component analysis conducted based on the early home literacy activities items is above .9, which can be seen as *superb* (Hutcheson & Sofroniou, 1999, pp.224-225) sampling adequacy. The Bartlett's Test of sphericity also indicated that the item correlations were large enough for principal component analysis. However, due to the total number of items and communalities, only one component could be extracted. Based on the above description the items selected from the parent questionnaire grouped together and only measures the underlying construct namely the Early Home Literacy Activities. It is notable that the component had an eigenvalue of over one. Figure 6.4 (below) shows the scree plot for the Early Home Literacy Activities factor.

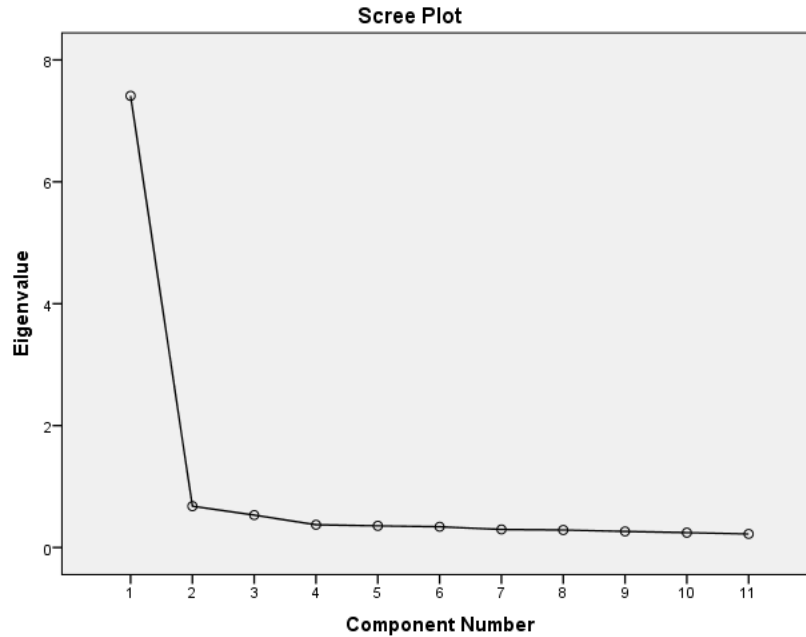


Figure 6.4: Early home literacy activities scree plot

A total of 67% of variance is explained by component one. The other ten components did not have an eigenvalue of at least one, thus only component one is extracted for further use in the standard multiple regression analyses. Based on the component matrix, all of the early home literacy activities items cluster together, which indicates that the 11 items measure the same underlying construct. Additionally, the communalities indicated that the items selected for this principal component analysis are between the range of .4 and .75 (see Table 6.4, above).

Based on the principal component analyses conducted on Basic and Non-essential Home Resources as well as Early Home Literacy Activities, the components extracted from each may be used in the standard multiple regression analyses to answer the study's research questions. In order to use the components in the regression analysis, the factor scores were saved as regression values. In other words, the factor loadings take the initial correlations between the variables into account, which means that the variance of each variable is stabilised (Field, 2011, p.634). The following section presents the standard multiple regression analyses undertaken by the researcher for this study.

6.3 STANDARD MULTIPLE REGRESSION ANALYSIS

Standard multiple regression analysis was conducted to answer the study's main research question: *How do the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa?*

In attempt to answer it, and based on the main question, two sub-research questions were identified:

1. *How does the home environment affect Grade 5 learners' performance in reading literacy?*
2. *To what extent do parental attributes predict Grade 5 learners' performance in reading literacy?*

In order to answer the above questions, a regression model was built. During the standard multiple regression analyses, several iterations of the model were conducted until one was identified which was significant, and explained sufficient variance (R and R^2) for a large sample. Along with the latter, careful consideration was given to scrutinising whether or not the regression coefficients were significant, based on t-values for each predictor variable in the model.

The following sections present the results of the study's research questions. Section 6.3.1 presents the results of the first sub-research question regarding the Home Environment. This is followed by the results of the second sub-research question which analysed the Parental Attributes (Section 6.3.2). Section 6.3.3 presents the results of the study's main research question. Conclusions are drawn in Section 6.4. Each of the above sections discusses of the model statistics, the ANOVA statistics as well as the regression coefficient statistics.

6.3.1 RESULTS FOR THE HOME ENVIRONMENT REGRESSION MODEL

A total of three components were used to conduct the regression model for the Home Environment aspect of this study's conceptual framework. These components were identified during the principal component analysis. This model is used in order to answer the study's first sub-research question:

How does the home environment affect Grade 5 learners' performance in reading literacy?

The null model of this regression is as follows:

$$H_0: \beta_1 + \beta_2 + \beta_3 = 0$$

β_1 is the coefficient of the first predictor (*Early Home Literacy Activities*), β_2 is the coefficient of the second predictor (*Basic Resources at Home*) and β_3 is the coefficient of the third and final predictor (*Non-essential Resources at Home*) of this model. Tables 6.5 and 6.6 (below) depicts the model summary and ANOVA statistics of the Home Environment regression model (see Appendix 6 and 7).

Table 6.5: Model summary of home environment regression

Model	R	R Square	Adjusted R Square	Std. Error	R Square Change	F Change	Df1	Df2	Sig. F Change
1	.44	.19	.19	.02	.19	1136.556	3	14653	.000

a. Predictors: (Constant), Early Home Literacy Activities Final, Basic Resources at Home Final, Non-essential Resources at Home Final

Based on Table 6.5, the model accounts for only 19% of the total variance in the South African Grade 5 learner reading literacy achievement. Therefore the Home Environment accounts for 19% of the South African Grade 5 learner reading literacy achievement. As such, approximately one fifth of South African Grade 5 learners', who participated in PIRLS 2006, results can be explained by the Home Environment.

Table 6.6: ANOVA of home environment regression model

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2355699212.60	3	785233070.867	1136.556	.000 ^b
Residual	10123585006.91	14653	690888.214		
Total	12479284219.51	14656			

a. Dependent Variable: Plausible Value: Overall Reading PV1

b. Predictors: (Constant), Early Home Literacy Activities Final, Basic Resources at Home Final, Non-essential Resources at Home Final

Table 6.6 (above) indicates that the regression model for the Home Environment may be seen as statistically significant as the F-ratio is 1136.56, $p < .001$. The

following table shows the regression coefficients of the Home Environment regression model.

Table 6.7: Regression coefficients of home environment regression

Model	Variable	Beta	SE	t-value
1	(Constant)	182.01	8.01	22.73
	Early_Home_Lit_Activity	11.6	2.97	3.91
	Resources_Basic_Item	39.09	3.16	12.37
	Resources_NonEssential_Item	57.28	6.64	8.63

Dependent Variable: Plausible Value: Overall Reading PV1

Upon closer inspection, the Home Environment model's predictors revealed that all three predictors are strong predictors of the South African Grade 5 learner reading literacy achievement (see Appendix 8). *Non-essential resources at Home*, $\beta = 57.28$, $p < .001$, is significant and learner reading literacy achievement may be higher by 57.28 points. *Basic resources at Home* has a β of 39.09, $p < .001$ and *Early Home Literacy Activities* has a β of 11.60, $p > .001$. Both of these factors mean that learner reading literacy achievement could be higher by 39.09 points and 11.60 points, respectively. Therefore, the null hypothesis is rejected as the above indicates that all three predictors are statistically significant that the 99% confidence interval level thus the predictor variables are strong predictors of the South African Grade 5 learner reading literacy achievement.

As a result, for every non-essential resource which is added to the child's home environment, a contribution of additional 57.28 points may be added to his or her achievement (see discussion on cultural capital in Chapter 3 Section 3.3). *Early Home Literacy Activities* is a strong predictor of learner reading achievement, however the total of points per each activity is lower than expected when compared to resources at home. The latter may be due to activities not carried out at home but rather at school or in other settings. The number of resources, both *basic* and *non-essential*, at home is a strong predictor of reading literacy achievement of the South African Grade 5 learners and may be because learners need certain educational aids and books in order to become more successful in educational attainment. The next section deals with the Parental Attributes regression model in order to answer the second sub research question.

6.3.2 RESULTS FOR THE PARENTAL ATTRIBUTES REGRESSION MODEL

For this regression model, five components met the criteria for inclusion, namely parent language, parent education, parent occupation and parent attitude towards reading. The IEA's PATR index was used in this regression analysis as the original items were not reliable enough to be used in the principal component analysis. This model is used in order to answer the study's second sub-research question:

To what extent do parental attributes predict Grade 5 learners' performance in reading literacy?

The null model of this regression is as follows:

$$H_0: \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 = 0$$

β_1 is the coefficient of the first predictor (*Parent First Language*), β_2 is the coefficient of the second predictor (*Parent Education*), β_3 is the coefficient of *Mother Occupation*, β_4 is the coefficient of *Father Occupation* and the last predictor, β_5 , is the coefficient of *Parent Attitude towards Reading* of this particular model. The following tables (below) indicate the model summary and ANOVA statistics, respectively, of the Parental attributes regression model (see Appendix 6 and 7).

Table 6.8: Model summary of the parental attributes regression

Model	R	R Square	Adjusted R Square	Std. Error	R Square Change	F Change	Df1	Df2	Sig. F Change
1	.71	.51	.51	.03	.51	3110.406	5	146541	.000

Predictors: (Constant), Parent Attitude towards Reading Final, Mother Occupation Final, First Language of Parent Final, Father Occupation Final, Parent Education Level Final

Table 6.8 (above) shows the R^2 of the regression model. The model explains 51% of the total variance of the South African Grade 5 learner reading literacy achievement. The total variance explained within this particular regression model suggests that Parental Attributes explain half of the South African Grade 5 learner reading literacy achievement during PIRLS 2006.

Table 6.9: ANOVA of parental attributes regression model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2333275960.05	5	466655192.01	3110.406	.000 ^b
	Residual	2198094350.19	14651	150030.33		
	Total	4531370310.24	14656			

a. Dependent Variable: Plausible Value: Overall Reading PV1

b. Predictors: (Constant), Parent Attitude towards Reading Final, Mother Occupation Final, First Language of Parent Final, Father Occupation Final, Parent Education Level Final

Based on Table 6.9 (above), the Parental Attributes model may be seen as statistically significant ($F = 3110.50$, $p < .001$). The regression coefficients of this model are depicted in Table 6.10 (below).

Table 6.10: Regression Coefficients of Parental Attributes Regression

Model	Variable	Beta	SE	t-value
1	(Constant)	169.97	10.91	15.57
	Parent_First_Language	59.28	4.17	14.23
	Parent_Education	28.56	3.45	8.28
	Father_Occupation	16.34	2.96	5.51
	Mother_Occupation	12.07	2.81	4.30
	Parent_Attitude	25.54	4.65	5.49

Dependent Variable: Plausible Value: Overall Reading PV1

The Parental Attributes regression model's regression coefficients revealed that all predictors are statistically significant based on the t-values of each predictor (see Appendix 8). *Parent First Language* has a β of 59.28, $p < .001$, which is the strongest predictor within the model, and is equal to more than one year of schooling (Rosén & Strietholt, 2010). *Parent Education* and *Parent Attitude* have β 28.56, β 25.54 $p < .001$, respectively. Both predictors are strong indicators of the South African Grade 5 learner reading literacy achievement. The null hypothesis is rejected since all of the predictor factors are significant predictors of Grade 5 learner reading literacy achievement in South Africa.

Therefore, it may be inferred that the language of the parent may assist in learner reading literacy achievement being higher by 59 points. This occurrence may be due to the theory of mother tongue education whereby learners should be proficient in

their first language before attempting to develop a second language (see discussion of BICS and CALP in Chapter 3 Section 3.2). When the parents use their first language to communicate and engage in activities with the child it develops the language of the parent. It may be inferred that when a child is tested in the language of the parent it may score higher than when tested in a language other than that of the parents. Language may be linked to other SES indicators, such as the parents' education level and type of occupation.

Moreover, for every education level the parent has achieved, Grade 5 learner reading literacy achievement may be higher by 28.56 points. When the parents have positive attitude towards reading the Grade 5 learner reading literacy achievement may be higher by 25.54 points. Both of these predictors indicate that for every increase in of either parental education or more positive attitude toward reading, learner reading literacy achievement may be higher by over a half a year's worth of schooling. This may be because well-educated parents place a stronger emphasis on reading and literacy. The following section addresses the overall model for this study, which encompasses the Home Environment and Parental Attributes.

6.3.3 RESULTS FOR THE HOME ENVIRONMENT AND PARENTAL ATTRIBUTES REGRESSION MODEL

The final model of the standard multiple regression analysis for this study is discussed in this section. The model is based on the Home Environment and the Parental Attributes models previously discussed in Sections 6.3.2 and 6.3.3, respectively. This regression model includes the following predictors variables based on previous regression models: *Basic Resources at Home*, *Non-essential Resources at Home*, *Early Home Literacy Activities*, *Parent First Language*, *Parent Education*, *Father* and *Mother Occupation* as well as *Parent Attitude towards Reading*. Figure 6.5 (below) shows the equation of the overall standard multiple regression model.

Reading Literacy Achievement_i

$$= (b_0 + b_1BasicResources_i + b_2NonEssentialResources_i + b_3EarlyHomeLiteracyActivities_i + b_4ParentLanguage_i + b_5ParentEducation_i + \beta_6FatherOccupation_i + \beta_7MotherOccupation_i + \beta_8ParentAttitude_i) + \varepsilon_i$$

Figure 6.5: Overall regression model

The regression model above includes both aspects, namely the Home Environment and Parental Attributes, of the study’s conceptual framework (see Chapter 3, Section 3.5.2). The overall standard multiple regression analysis was conducted in order to attempt to answer the main research question of this study: *How do the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as South Africa?*

The null model of the overall regression is as follows:

$$H_0: \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 = 0$$

Predictors β_1 (*Basic Resources at Home*), β_2 (*Non-essential Resources at Home*) and β_3 (*Early Home Literacy Activities*) form the first part of the conceptual framework, namely the Home Environment. The last five predictors β_4 (*Parent Language*), β_5 (*Parent Education*), β_6 (*Father Occupation*), β_7 (*Mother Occupation*) and β_8 (*Parent Attitude towards Reading*) are the coefficients of the Parental Attributes aspect of the conceptual framework.

Tables 6.11 and 6.12 (below) depict the summary of the overall model and the ANOVA thereof (see Appendix 6 and 7).

Table 6.11: Model summary of the overall regression analysis

Model	R	R Square	Adjusted R Square	Std. Error	R Square Change	F Change	Df1	Df2	Sig. F Change
1	.75	.56	.56	.03	.56	2363.31	8	14648	.000

Predictors: (Constant), Parent Attitude towards Reading Final, Mother Occupation Final, Early Home Literacy Activities Final, Basic Resources at Home Final, First Language of Parent Final, Father Occupation Final, Parent Education Level Final, Non-essential Resources at Home Final

Table 6.11 show that the overall regression model accounts for 56%of the variance in the Grade 5 South African learner reading literacy achievement. Combined, the Home Environment and Parental Attributes explain just over half of the South African Grade 5 learner reading literacy achievement, which means that both aspects are crucial to a child’s acquisition and development of reading literacy.

Table 6.12: ANOVA of the overall regression model

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2472436090.500	8	309054511.313	2363.31	.000
Residual	1915545376.500	14648	130771.803		
Total	4387981467.000	14656			

a. Dependent Variable: Plausible Value: Overall Reading PV1

b. Predictors: (Constant), Parent Attitude towards Reading Final, Mother Occupation Final, Early Home Literacy Activities Final, Basic Resources at Home Final, First Language of Parent Final, Father Occupation Final, Parent Education Level Final, Non-essential Resources at Home Final

The overall model can be considered as statistically significant with an F ratio value of 2363.31 ($p < .001$) (see Table 6.12, above). The following table presents the regression coefficients of the overall multiple regression analysis along with the t-values to indicate the significance thereof.

Table 6.13: Regression Coefficients of Regression Analysis

Model	Variable	Beta	SE	t-value
1	(Constant)	123.81	12.91	9.59
	Early_Home_Lit_Activity	11.21	4.93	2.27
	Parent_First_Language	44.98	4.25	10.59
	Resources_Basic_Item	28.13	5.94	4.74
	Resources_NonEssential_Item	39.66	6.11	6.50
	Parent_Education	21.41	3.57	5.99
	Father_Occupation	11.59	3.24	3.57
	Mother_Occupation	7.33	2.86	2.56
	Parent_Attitude	18.95	4.54	4.17

Dependent Variable: Plausible Value: Overall Reading PV1

The overall regression model’s regression coefficients for individual predictors revealed that all predictors were statistically significant (see Appendix 8). The t-values for the following predictors were above 2.58 (99% confidence interval): *Parent First Language, Basic Resources at Home, Non-essential Resources at Home,*

Parent Education, Father Occupation and Parent Attitude towards Reading. Only *Early Home Literacy Activities* and *Mother Occupation* had t-values above 1.96 (95% confidence interval). The model indicates that *Parent First Language* is the strongest predictor ($\beta = 44.98$, $p < .001$) of learner reading literacy achievement within this model. The regression coefficients indicated that *Non-essential Resources at Home* ($\beta = 39.66$, $p < .001$), *Basic Resources at Home* ($\beta = 28.13$, $p < .001$), *Parent Education* ($\beta = 21.41$, $p < .001$), *Father Occupation* ($\beta = 11.59$, $p < .001$), *Parent Attitude towards Reading* ($\beta = 18.95$, $p < .001$), *Early Home Literacy Activities* ($\beta = 11.21$, $p < .001$) and *Mother Occupation* ($\beta = 7.33$, $p < .001$) are significant predictors of the South African Grade 5 learner reading literacy achievement.

Discussion of the Home Environment and Parental Attributes Regression Results

Parent First Language equals a full year of formal schooling (44.98 points) within this model. This occurrence could be interpreted as a learner who wrote the PIRLS 2006 test in the language of the parent having achieved a higher mean score than learners who wrote the test in a different language. South Africa is a multilingual country in which the mother tongue of learners can vary between the 11 official languages as well as others. Through language a child can become an active learner within the school, as well as a citizen in the community (Cummins, 2001). However, if a child is not proficient in his or her first language at home (mother tongue) it may prove an impediment for acquisition and development of reading literacy. Based on the results of the regression analysis, it is evident that when parents engage with learners in day-to-day activities in their first language it not only encourages the child to participate in activities but also assists in developing their vocabulary.

The outcome of the language of the parent could also be interpreted in conjunction with the SES levels of the parents, for instance for each increase in *Basic* and *Non-essential Resources at Home*, Grade 5 learner reading literacy achievement may be higher by 28.13 and 39.66 points respectively. The resources utilised at home may include educational aids and educational toys. Educational aids include storybooks and *Lego*[®] blocks and educational toys include puzzles and games. Both educational aids and toys can be used in daily literacy activities to assist in the child's acquisition and development of reading literacy. In his work, Bourdieu (2002) accentuates the

importance of the objectified cultural capital for a child's development, specifically development of reading literacy. The disparities in the distribution of resources at home, as part of cultural capital, may explain the poor performance of South African Grade 5 learner reading literacy achievement. Hence, when a child comes from a more affluent home, with a higher level of objectified cultural capital, he or she may master reading literacy and as a result achieve a higher mean score (Kalmijn & Kraaykamp, 1996). The level of objectified cultural capital at home could be used by the parents as well as the children. A previous study into parents' involvement in their child's literacy development was linked to their SES, whereby middle-class parents with moderate cultural capital indicated that they often engage in home reading literacy activities (Sénéchal & LeFerve, 2002). Thus, the level of cultural capital within the home could to some extent, determine the type of home literacy activities the parents engage in with their child.

Parent Attitude towards Reading is also related to learner reading literacy achievement. For every additional positive increase of parent attitude towards reading, Grade 5 learner achievement may be higher by 18.95 points, thus instilling a more positive attitude towards reading in children. Parents are vital in their child's reading literacy development (Bonci, 2011), and when they become involved in it they may have a strong influence on their child's perception and beliefs of becoming literate (Mullis et al., 2003). The parents' own beliefs and attitude towards reading are constructed from their own personal experiences and are essential for all activities engaged in with the child (Sigel & McGillicuddy-De Lisi, 2002). Moreover, parents' own beliefs and attitudes toward reading and literacy may influence their child's attitude towards literacy and as such their acquisition and development of reading literacy. As a result, the parents' attitude toward reading may influence their child's achievement in reading literacy (Mullis et al., 2006; Howie, 2010). Therefore it may be said that when parents view reading literacy as important they might express their positive attitude toward reading to their child and, in turn, encourage their child to become a proficient reader.

The educational qualifications of a parent, based on the regression coefficient, are vital for learner reading literacy achievement as they account for half a formal schooling year (21.41 points). Parents are a child's first teacher in many aspects, including speaking, reading and writing. This study confirms findings of Melhuish et

al. (2008) and Schlee et al. (2009), that when parents have a certain level of education their children tend to achieve higher mean scores. Moreover, when parents have higher levels of education the parents tend to focus on the importance of reading and literacy. Parents also seem to give constructive feedback to their children if they themselves are well-educated (Tamis-LeMonda et al., 2004). As such, the institutionalised cultural capital (Bourdieu, 2002), specifically parents' education level, is important to a child's reading development. Furthermore, parents who are actively involved in their child's reading literacy development may use certain types of home literacy activities to teach reading literacy.

This study reveals that parents' occupation is a significant predictor of learner reading achievement within South Africa. *Mother* and *Father occupation* can be linked to education levels as well as cultural capital of the household. Previous research has found a link between the education levels of the parent and their occupation (Eccles, 2005). The link between education and occupation of the parent may indicate the level of the parents' cultural capital and as a result expose the child to their level of cultural capital. The child's exposure to cultural capital may have an influence on his or her reading literacy development. Other research has also indicated the relationship between learner reading literacy achievement and parents' occupation (see Marks, 2005), and remuneration (see McIntosh & Vignoles, 2001). This study confirms that parents' occupation is important for learner reading literacy achievement as it provides the child with cultural capital that can be used to develop the child's reading literacy skills. Parents' occupation may to some extent influence the parents' expectations of their child's academic growth (Chevalier et al., 2013). The type of occupation of the parent may influence the time spent with the child due to work-time constraints, as the parents are not at home for sufficient time to engage with the child. The parents' workload may increase their stress levels, and in turn influence their mood and attitude. Therefore, it may be beneficial for the child if the parent has a less stressful and time-consuming occupation. Parents who are in a professional career tend to engage in challenging home literacy activities with their child (Marks, 2005).

The home environment provides both parent and child with a context in which they can actively engage in home literacy activities. Within it, the child's cognitive and linguistic skills are being developed through participation in activities with the parents

(Saracho, 1997a). When parents engage with their child in day-to-day activities in a constructive manner, the child acquires new knowledge and skills within the ZDP (Vygotsky, 1978). The type of literacy activities at home may also play a vital role in a child's life. Every additional type of *Early Home Literacy Activity* engaged in at home resulted in Grade 5 learner reading literacy achievement being higher with 11.21 points.

Parents, who engage in home literacy activities with the child help the child master reading literacy skills, such as phoneme awareness, syntax, forming and understanding letters, words and sounds. Households in which the parents can provide adequate cultural capital may expose the child's resources such as children's books and educational toys, which can be used during home literacy activities (Leseman & de Jong, 1998) to stimulate acquisition and development of reading literacy. The active involvement in a child's reading literacy through the use of home literacy activities may also help vocabulary growth. When parents engage with the child during home literacy activities, especially during storytelling or reading books, they could make these activities more exciting for the child by using different tones to encourage the child to read. It has been reported that when parents often engage with the child with activities such as reading storybooks, it becomes a better reader (Snow et al., 1998). As such, this study confirms that parental involvement during home literacy activities is essential to a child's reading literacy development and by extent the achievement thereof (Harris & Goodall, 2008).

Based on the above results of the overall regression model, the null hypothesis is rejected. All of the predictors in the overall regression model contribute significantly to the South African Grade 5 learner reading literacy achievement.

6.4 CONCLUSION

This chapter has discussed the inferential statistics of this study. Reliability analyses were conducted in order to determine which items were reliable in order for them to be used in further inferential analysis. Cronbach's Alpha of .5 was used as the criterion during the reliability analysis. Based on the exploratory outputs, all of the items from the Home Environment aspect were reliable, though only half of the Parental Attributes aspect was considered sufficiently reliable to be used in further

analysis. The reliable items were used in the principal component analyses to determine valid construct components.

The principal component analyses were conducted in order to determine whether the items measured the same underlying construct. A preliminary principal component analysis was conducted prior to the final principal component analyses. After the preliminary principal component analysis was conducted, two components were retained which then resulted in two additional principal component analyses. During the principal component analyses certain aspects were considered, such as the multicollinearity and sampling adequacy of each. For all of the analyses, multicollinearity was not seen as an issue and the analyses also had sufficient sampling adequacy. The principal component analyses could therefore continue to determine the number of eigenvectors as well as the total components to be extracted. Only components with high construct validity were retained and used in the regression analysis.

This study had several iterations of the regression analysis. Firstly, it addressed the sub-research questions then answered the main research question. The first sub-research question indicated that the factor *Non-essential Resources at Home* was the strongest predictor of the Home Environment. The other two predictors, *Basic Resources at Home* and *Early Reading Literacy Activities* were also statistically significant. The second sub-research question dealt with Parental Attributes. All of the predictors within this model were statistically significant. Based on the regression coefficients of the Parental Attributes model, *Parent Language* was the strongest predictor followed by *Parent Education* and their attitude towards reading. In both cases, the null hypotheses were rejected as the f-ratio was above 1 and t-values for each of the predictors were at the 99% confidence interval level. This provided justification for conducting the overall regression analysis.

The overall regression analysis comprised eight predictor variables, namely, *Basic Resources at Home*, *Non-essential Resources at Home*, *Early Home Literacy Activities*, *Parent First Language*, *Parent Education*, *Mother and Father Occupation* as well as *Parent Attitude Towards Reading*. These predictors were found to be significant predictors of the South African Grade 5 learner reading literacy achievement. The ANOVA and model summary also concluded that the overall

regression model was statistically significant and explains 56% of the variance in South African Grade 5 learner reading literacy achievement. The null hypothesis was thus rejected. Only *Parent First Language* predictor had a regression coefficient of above 40 points which is equal to one school year. *Non-essential Resources at Home* was the second best predictor at 39.66 points which equal almost a full year of formal schooling. The other predictors' regression coefficients varied between 7 and 29 points. It should be noted that even though *Early Home Literacy Activities* and *Mother Occupation* was at the 95% confidence interval, it is still statistically significant. Based on the above statements it is clear that the Home Environment and Parental Attributes are vital for the South African Grade 5 learner reading literacy achievement.



CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

This study aimed to identify the relationships between the Home Environment, Parental Attributes and South African Grade 5 learner reading literacy achievement, with focus on these factors in relation to learner reading literacy achievement in South Africa. It utilised secondary analysis of the South African PIRLS 2006 learner achievement data as well as contextual data from the parent questionnaire. The data gathered in the original study was nationally representative of South Africa, using a sample of 14 657 Grade 5 learners and the 11 official languages. Chapter 4 described the methods used to perform the analyses, followed by descriptive results in Chapter 5. The results and discussion of the regression analyses were presented in Chapter 6.

This final chapter provides a summary of the study which includes the conceptualisation thereof as well as the research methodology (Section 7.1). The summary of the results in relation to the research questions is located in Section 7.2. Reflections based on this study are described in Section 7.3. Within this section, the conceptual framework reflections (Section 7.3.1) and methodological reflections (Section 7.3.2) are discussed. The main conclusions of this study are discussed in Section 7.4. This is followed by recommendations for further research, practice and policymaking (Section 7.5). Concluding thoughts regarding this study are given in Section 7.6.

7.1 SUMMARY OF THE RESEARCH

As discussed in Chapter 1, South Africa underwent radical political and educational reforms in order to accommodate the social and educational needs of the South African people. The educational reforms include new policies and legislation to provide access to quality education for all. Even though changes were made to education in South Africa, the Grade 5 learners still performed poorly in the Progress in International Reading Literacy (PIRLS) 2006 study, the lowest from all 40 participating countries. Chapter 1 presented the South African context as well as the

importance of parents in learner development and acquisition of reading literacy. PIRLS 2006 required learners who had at least four years of formal schooling to participate in the study, which resulted in Grade 4 learners for most countries participating. However, South African Grade 5 learners also completed an assessment based on their reading literacy skills as a national option.

Research has shown over the years that parental background factors play a vital role in a child's acquisition and development of reading literacy skills (see Chapter 3) as well as their educational growth. This study was aimed at investigating early reading literacy development in South African homes, particularly the roles of parents. Learner background factors comprised the Home Environment and Parental Attributes, and the study made use of the PIRLS 2006 data, in particular, the parent questionnaire. This section summarises the research undertaken in this study in terms of the literature as well as the design in preparation for the results.

7.1.1 OVERVIEW OF LITERATURE

The early childhood environment serves as a foundation on which children learn literacy skills (Topping et al., 2011), crucial in building a bridge to formal schooling. A distinction between literacy and reading literacy was made, the former perceived by the Western world as not only an indicator of wellbeing (Maddox, 2008) but also as an objective for development (Wickens & Sandlin, 2007). However, cultures and societies have different perceptions of literacy, even though it is a human right (Elly, 1992; UNESCO, 2008; Keefe & Copeland, 2011). The skill of literacy is an individual's ability to understand what is read (Mullis et al., 2007), to respond to the written language (Bormuth, 1974) and to construct meaning thereof (Mullis et al., 2006). This study performed a secondary analysis of PIRLS 2006, and so made use of the PIRLS 2006 definition of literacy which incorporates the term reading (see Chapter 1).

This study focused on the effects of the Home Environment and Parental Attributes on learner reading literacy achievement, the former being the prime context in which children's reading literacy is developed (Morrison & Cooney, 2001). The environment in which the child learns could be seen as the most important for reading literacy acquisition and development (Van Steensel, 2006; Foy & Mann, 2003; Burgess et

al., 2002), consisting of different resources, reading literacy activities such as joint reading, and strategies to aid in the development of literacy (DeBaryshe et al., 2000).

The second aspect of this study's framework consists of Parental Attributes, an umbrella term for parental antecedents, such as gender and language, their attitudes and SES indicators (Arnold et al., 2008). This study particularly concentrated on parents' gender, first language, education, occupation and their attitudes towards reading.

Parental involvement is crucial to a child's development, especially in the development of reading and literacy skills (Baker, 2003; Weigel et al., 2005). When parents are actively involved they could contribute significantly to their child's literacy experiences (Weigel et al., 2005; Sénéchal, 2006). In South Africa, most learners enter formal schooling without the necessary reading and literacy skills (Machet & Pretorius, 2004) and as such they do not have the necessary cultural capital (Bourdieu, 1987; 2002) to be able to achieve in a formal education environment.

It should be noted that the societal structures within South Africa are diverse in nature and there are various family patterns. Some households do not have adult supervision but the eldest child becomes responsible for the younger siblings. Other households are run by family members such as the aunts, uncles and grandparents. However, this study does not investigate family structures per se but rather the differences between family structures found in South African society.

Research has shown that parents in urban areas invariably fulfil their roles in assisting their child's reading literacy development (Dieden & Gustafson, 2003; Mahery et al, 2011). Other research has indicated that parents within rural areas are less involved and so do not spend time assisting in their child's reading literacy development (Dieden & Gustafson, 2003). The absenteeism of these parents may be explained by the migrant labour fluctuations as parents seek work in other areas. Additionally, these parents may be less involved as they have low literacy and educational levels (Mncube, 2009). To be taken into account in the South African context is that many people living in rural areas have low levels of literacy and little access to print material, particularly in their own African languages, and focus primarily on developing oral literacies in order to operate within that society. This

leaves the children without an early reading literacy foundation on which to support their transition into a formal education setting.

7.1.2 RESEARCH DESIGN

This study draws on the PIRLS 2006 South African data, on which a secondary analysis was conducted to tap into the richness thereof and broaden an understanding of the learner reading literacy achievement results. As described in Chapter 4, there are certain advantages and disadvantages of conducting secondary analysis, it being appealing to researchers who have limited resources or time. However, it should not be conducted without caution and the availability (Vartanian, 2011) and quality of data (Krecott & Nathan, 1985) is not guaranteed.

Secondary analysis purposely investigated the parent background factors as indicated in the parent questionnaire, focussing on the parental background factors and their influences on children's reading literacy. This study investigated the Home Environment and Parental Attributes of the South African Grade 5 learners' parents, situated in a post-positivistic paradigm as it explained past events and offers valuable accounts (Hajer & Wagenaar, 2003), and allowed the researcher to focus on what can be learned from those past events (Sharp et al., 2010).

This study made use of principal component analysis to determine whether the selected variables from the parent questionnaire gave sufficient factor loadings. After the factor loadings were established, the decision to conduct standard multiple regression analysis to determine the predictive value of these factors on the learner reading literacy achievement was warranted. The retained factors were used to create scales for the multiple regression analyses. The factor loadings were saved as regression coefficients which were used in the regression analyses.

The aim of the analyses was to establish a relationship between the South African Grade 5 learner reading literacy achievement and learner background factors in the form of the Home Environment and Parental Attributes. The study theorised a new conceptual model on which the analyses were based, adapted from Myrberg and Rosén's (2008) model as discussed in detail in Chapter 3.

During the standard multiple regression analyses, learner reading literacy achievement was selected as the outcome variable. The predictor variables included *Basic Resources at Home*, *Non-Essential Resources at Home*, *Early Home Literacy Activities*, *Parent First Language*, *Parent Education*, *Father* and *Mother Occupation* as well as *Parent Attitude towards Reading*. The findings are discussed at length in Chapter 6 Section 6.3 and are briefly summarised below in Section 7.2.

7.2 SUMMARY OF RESEARCH QUESTIONS AND RESULTS

This study investigated the effect of the home environment and parental attributes on South African Grade 5 reading literacy by conducting a secondary analysis of the PIRLS 2006 South African achievement data. The main research question which guided this study was: *How do the home environment and parental attributes predict Grade 5 learner reading literacy achievement in a developing context such as, South Africa?*

To fully explore the main research question, it was divided into two sub-questions, which are elaborated in Section 7.2.1 and 7.2.2 respectively. The main research question's findings are briefly summarised in Section 7.2.3. The results obtained from the regression analyses were discussed critically in relation to the literature as discussed in Chapter 3.

7.2.1 HOW DOES THE HOME ENVIRONMENT AFFECT GRADE 5 LEARNERS' PERFORMANCE IN READING LITERACY?

With the South African Grade 5 learner reading literacy achievement in mind, the first sub research question intended to examine the home environment. The home environment comprised non-essential and basic resources at home, parental involvement and home literacy activities. The Home Environment predictor variables consisted *Non-Essential Resources at home*, *Basic Resources at home* and *Early Home Literacy Activities*³⁷.

Almost one fifth ($R^2=19\%$) of the South African Grade 5 learner reading literacy achievement is explained by the Home Environment. In particular, the *Non-essential*

³⁷ Early Home Literacy Activities index is used as a proxy for parental involvement in this study.

Resources at Home predictor was the strongest predictor within this model and accounted for 57.28 (SE=6.64) points. Therefore, for every additional non-essential resource added to the home's objectified cultural capital, the learner's reading literacy achievement may be higher by up to 57.28 points and as such equal to approximately one year and half of formal schooling (Rosén & Strietholt, 2010). In comparison, the predictor *Basic Resources at Home* accounts for 39.09 (SE=3.16), which equals almost one year of formal schooling. This study concurs with Kalmijn and Kraaykamp (1996), who explained that the differences in learner achievement may be due to the discrepancies in cultural capital. Moreover, this study confirms Bourdieu's (1984, 2002) theory of cultural capital and how it is crucial to a child's reading literacy development, enabling parents to engage in home literacy activities with the child as resources are available.

The predictor *Early Home Literacy Activities* may contribute a further 11.60 (SE=2.97) points to learner reading literacy achievement. There is a 45.68 point difference between *Early Home Literacy Activities* and *Non-essential Resources at Home*. The former is unexpected as research has indicated that home literacy activities are important to a child's literacy development (see Sonnenschein et al., 1996; Hofferth & Sandberg, 2001; Sylva et al., 2004; Bonci, 2011). One such study, by Rashid et al. (2005), found a link between a child's acquisition and development of reading literacy and joint home literacy activities. In a more recent study, activities such as reading with the child, singing songs and visiting the library are essential for the child's reading literacy skills (see Bonci, 2011).

This study confirms that home literacy activities are important for learner reading literacy achievement but, when accounting for resources at home, *Early Home Literacy Activities* is not as strong a predictor as expected. An argument could be made that the parental involvement may be lower in most households in South Africa because of factors such as poverty, unemployment, as well as literacy and education levels of parents that may hinder the involvement process. The poverty rates among the African communities are dangerously high, thus creating high rates of unemployment (Statistics South Africa, 2012a).

Of the many possible reasons parents become less involved in their child's development, one is that they are less involved in their child's development because

of their unemployment status, another that migrant labour practices compel them to work further away from home. Some children are in the care of other family members or even child-headed households. *Early Home Literacy Activities* is not as strong a predictor of reading literacy achievement as originally expected, because the factors relating to SES were controlled for in this study. Thus, when SES is controlled for, *Early Home Literacy Activities* cannot predict more.

When the parents are absent or less involved in their child's reading literacy development, the schools may take over the role of the parents in providing and engaging with the child in literacy activities. For instance, children who are in a school without sufficient resources it can provide more for the child's development than the parents in rural areas. Education is seen as a tool which enables a person to become more productive (Hanushek & Wößmann, 2007) and feed back into the community. When parents are absent or less involved in their child's development, the school may step in, as a reflection of quality schooling. These schools smoothen the progression of a child's knowledge and understanding of information (Benhabib & Spiegel, 2005), in particular its reading literacy development.

7.2.2 TO WHAT EXTENT DO PARENTAL ATTRIBUTES PREDICT GRADE 5 LEARNERS' PERFORMANCE IN READING LITERACY?

The second sub research question deals with the parental attributes aspect of this study's conceptual framework. However, based on previous reliability analysis, *Parent Gender* was removed from the principal component and regression analysis due to poor reliability and percentage of missing observations. As disclosed in Chapter 6 Section 6.3.3, the IEA's index *Parent Attitude Toward Reading* (PATR) was used during the regression analysis together with *Parent First Language*, *Parent Education* as well as *Mother* and *Father Occupation* variables.

The total variance explained within this regression model is 51%, leaving half of the South African learner reading literacy achievement to be explained by the parents' attributes such as language, education, occupation as well as their attitudes toward reading. The predictor *Parent First Language* is the strongest predictor within this model and accounts for 59.28 (SE=4.17). In other words, during PIRLS 2006, when the learner took the assessment in the language of his or her parent, the reading

literacy achievement may be higher by 59.28 points than for a learner tested in a language different from that of their parents. Previous research has indicated that the language used by the parents is essential to a child's acquisition and development of reading literacy. This study's findings agree with Sénéchal (2006), who found that French-Canadian parents' language is essential to the child's own language development. Her study was a follow up of a 2002 study conducted by Sénéchal and LeFevre into the home literacy model within English Canadian communities. The current study also appear to agree with one conducted in Sweden by Myrberg and Rosén (2009), which focused on mediating factors that may affect learner reading literacy performance. The authors found that parents' language assisted with the acquisition and development of the child's language.

Both predictors *Parent Education* and *Parent Attitude toward Reading* account for over half a year of schooling. Parent Education accounts for 28.56 (SE=3.45) points, so that for every additional level of education learner reading literacy achievement may be higher with a total of 28.56 points. Based on the regression coefficient for parent attitude toward reading, when the parent has a more positive attitude it may contribute 25.54 points to the learner reading literacy achievement. Both *Parent Education* and *Parent Attitude toward Reading* equal to over a half a year's formal schooling (Rosén & Strietholt, 2010).

When parents have higher levels of education and more positive attitudes toward reading it seems to be beneficial for learner reading literacy development and in turn their achievement. Prinsloo (2011) explains that when parents have a good background education it may boost their views and beliefs about reading literacy, which in turn may help in explaining why some parents are not assisting their children's literacy or educational development as they themselves have low levels of education.

7.2.3 HOW DO THE HOME ENVIRONMENT AND PARENTAL ATTRIBUTES PREDICT GRADE 5 LEARNER READING LITERACY ACHIEVEMENT IN A DEVELOPING CONTEXT SUCH AS, SOUTH AFRICA?

To answer the main research question, all of the predictor variables were used in the final regression model to determine the extent to which the Home Environment and Parental Attributes predict the Grade 5 learner reading literacy achievement.

The overall regression model explains 56% of the total variance of learner reading literacy achievement during PIRLS 2006. More than half of the learners' achievement during PIRLS 2006 can be explained by factors within the Home Environment and Parental Attribute factors. Based on the standard multiple regression analysis results, almost all the predictors from the Home Environment and Parental Attributes are statistically significant predictors at the 99% confidence interval. Only *Early Home Literacy Activities* and *Mother Occupation* were statistically significant at the 95% confidence interval.

As with sub question 2, *Parent First Language* is the strongest predictor within the model and comprises a 44.98 (SE=4.25) point difference, followed by *Non-essential Resources at Home* which accounts for 39.66 (SE=6.11) points difference and *Basic Resources at Home* with a total of 28.13 (SE=5.94) points. The predictor *Parent Education* accounted for a difference of 21.41 (SE=3.57) points.

With regard to the *Parent First Language*, even when the Home Environment factors are included in the regression analysis it is the strongest predictor of South African Grade 5 learners who participated in PIRLS 2006. This occurrence indicates that, similar to sub question 2, a learner who wrote the PIRLS 2006 assessment in the language of their parent may achieve higher mean scores than their peers who wrote the test in a language different from that which the parents speak at home. Given these results it would appear that language is the prerequisite for a child to become an active learner within the school (Cummins, 2001). This study confirms that the language used by the parent is crucial when engaging with the child in day-to-day activities or in more educational activities (Catts et al., 1999) and that it affects learning and reading (Pretorius, 2010; Weideman, 2013).

Based on the output of the regression analysis, non-essential and basic items at home may assist in learners' reading literacy development and in turn their performance thereof. As stated in Chapter 6 Section 6.3.4, *Non-essential Resources at Home* could be viewed as a proxy for household SES levels as it accounts for more mean score points when compared to *Basic Resources at Home*. There is an 11.53 point difference between these two predictors. Type of non-essential resources includes items such as a computer, dictionary and credit cards, while basic resources include items such as electricity, running water and basic communications such as a television and radio. This study supports the theory that objectified cultural capital (Bourdieu, 2002) is important for a child's acquisition and development of reading literacy and language. The inherent inequality prevalent in South Africa, which in turn leads to large variations in cultural capital, specifically objectified cultural capital, may partially explain the South African learners' reading literacy performance during PIRLS 2006 (also see sub question 1). Learners are exposed to different levels of SES, which to some extent may determine the activities in which parents engage with their child. A five-year longitudinal study in Ottawa, Ontario and Canada with upper- and middle-class English children, by Sénéchal and LeFerve's (2002), found that middle-class parents who have moderate levels of cultural capital tend to engage in home reading literacy activities.

Parents may be reluctant to become engaged with a child during reading literacy activities due to their own education level. Some may feel that they do not have the skills to teach their child about reading literacy, whereas others may not have the time available due to their job requirements and stress levels (see Eccles, 2005). Also, there may be some parents who do not have a positive attitude toward reading based on their education level or their own contextual experiences (see Williams et al., 2003), and as such become less involved with their child's acquisition and development of reading literacy.

This study highlights the importance of the Home Environment and Parental Attributes as defined by this study and indicates that these aspects are pivotal to South African learners' early literacy development in order to perform well in their reading literacy achievement and in their further educational growth.

7.3 REFLECTIONS

The purpose of this section is to reflect on this study's conceptual framework and the methodological decisions made within the progress of this study. The reflection is divided into two sub-sections, the conceptual framework (Section 7.3.1) and the methodological (Section 7.3.2).

7.3.1 CONCEPTUAL FRAMEWORK OF THIS STUDY

This study adapted and added variables to Myrberg and Rosén's model (2008) as there is no South African model which investigates parental background factors (See Chapter 3 Section 3.5.2). In the absence of existing South African context-bound theories, this study's framework is informed by both Vygotsky theory of social development and Bourdieu's theory of cultural capital. Vygotsky (1978) explained that the social interaction between child and adult is crucial to the child's cognitive development. Therefore, it may be said that a child is dependent on his or her surrounding environment to acquire and develop reading literacy skills.

Parents can engage in activities to assist the child in literacy development with the aim of becoming a good reader (Sénéchal & LeFevre, 2002). The parents are crucial to the development of the child's skill and form part of the home environment in which it acquires and develops skills. It is therefore important to explore and examine the roles of parental background factors in learner achievement. This study added additional variables to Myrberg and Rosén's (2008) model (see Chapter 3 Section 3.5.2). The additional variables created a model which explains the possible direct relationships of learner background factors in South Africa. It focused on the two aspects of learner background factors, namely the Home Environment and Parental Attributes (see Figure 7.1), each of which takes into account different variables. The model, based on the literature, investigates the possible direct relationships between learner background factors as predictors of reading literacy achievement. The Home Environment consisted of resources at home, parental involvement and home literacy activities. The second aspect of the model identifies the Parental Attributes which comprise parent gender, language, education, occupation and attitude towards reading. At the base of the model, the block Reading Literacy Achievement represents the outcome variable.

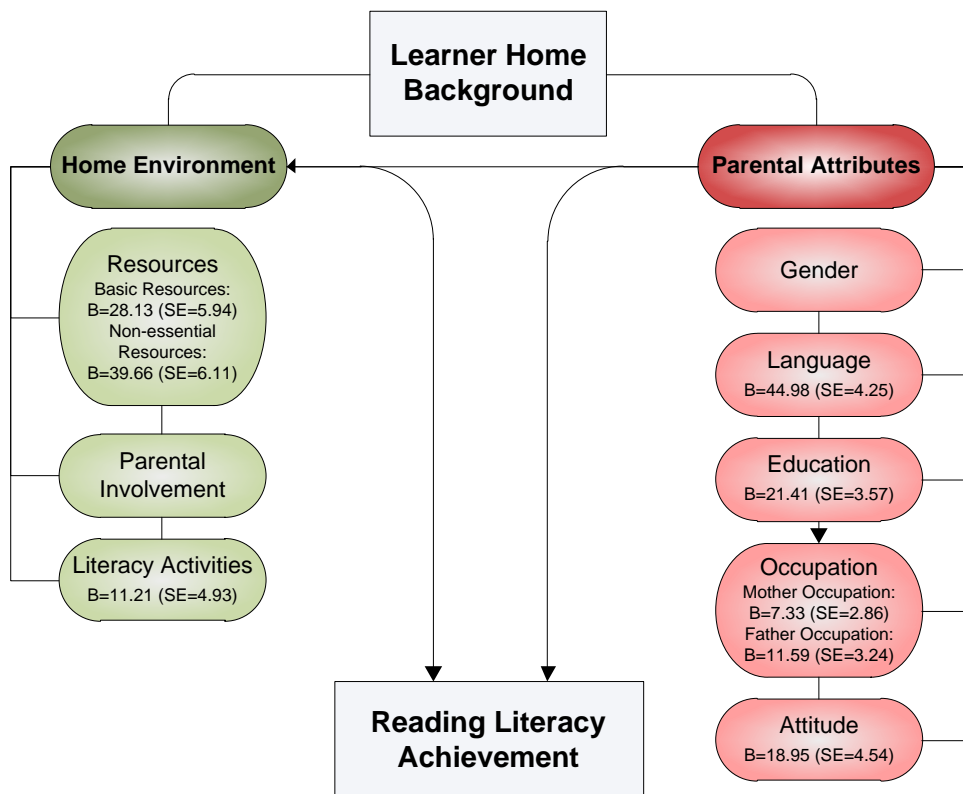


Figure 7.1: Parental factors influencing reading literacy achievement (adapted from Myrberg & Rosén, 2008)

The above model (Figure 7.1) represents the direct relationships that might have an effect on learner reading literacy achievement and aims to explain the possible direct effects of parental background factors. The model firstly indicates possible malleable factors, such as cultural capital, and secondly parental antecedents and factors, such as education, occupation and attitudes. The aforementioned is thought to have direct links, for example, if the parent has a certain educational qualification and occupation it may help increase the cultural capital of the household.

Based on the review of the literature, various factors have an influence on a child's early reading literacy development. Of prime importance is the context created by the parents. The home environment fosters the child's literacy and reading skills which are developed by the active involvement of parents in early home literacy activities. It is seen as the context in which a child acquires and develops reading literacy skills that are valuable for both educational and social success (Van Staden, 2010), and is created by the parents. In it, the parent-child relationship is developed,

in turn helping in the development of literacy and reading through various forms of engagement in activities (Purcell-Gates, 1996).

Based on the regression results, non-essential resources, basic resources and early home literacy activities are fundamental for learner reading literacy development and the achievement thereof (see Section 7.2.3). The study's conceptual model could exclude the aspect parental involvement as early home literacy activities served as a proxy for parental involvement and there was no other item that could be used. The model could further be refined to immediately distinguish between the different types of resources, e.g., non-essential and basic resources in order to use the former as a proxy for SES levels in South African homes. Figure 7.2 (below) is a schematic representation of this study's conceptual framework adapted to reflect its findings.

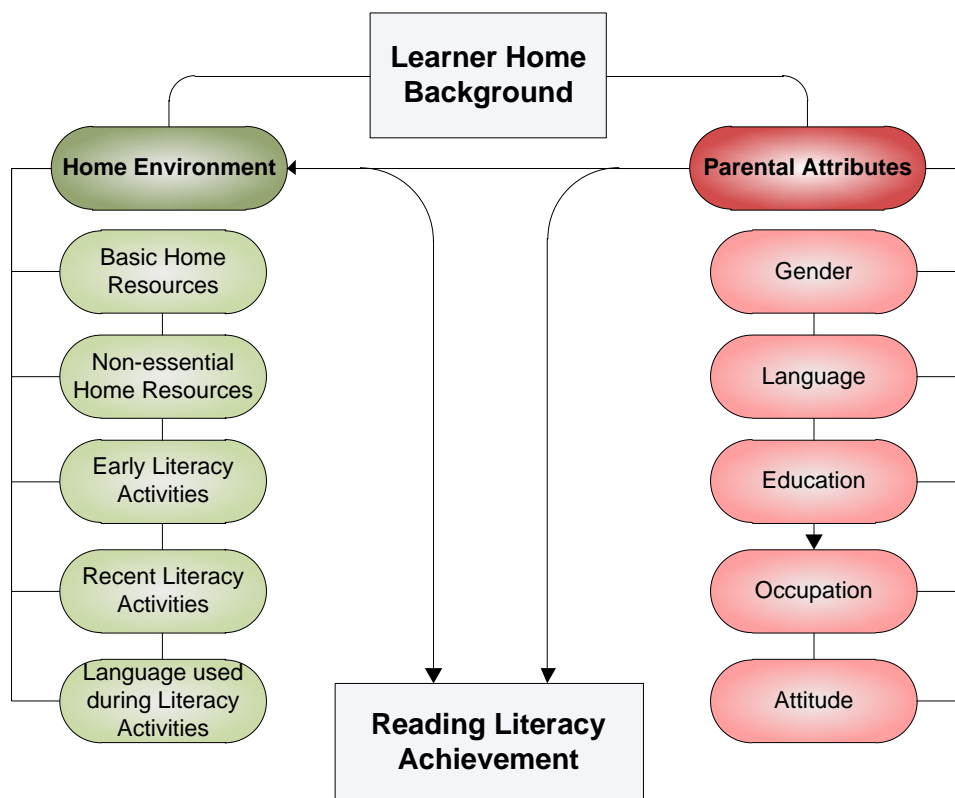


Figure 7.2: Adapted model based on study's findings

Recent home literacy activities should be added to the Home Environment aspect of the conceptual model since it currently only focuses on early home literacy activities. Recent home activities include those activities engaged with the learner at Grade 1,

whereas early home literacy activities only look at activities performed before it enters Grade 1. The inclusion of recent home activities in conjunction with early home literacy activities may paint a different picture of the level of parental involvement when the child is still at home and when it enters Grade 1.

Parents play a vital role in their child's development. When they have a positive attitude towards reading it may create a certain culture of reading at home and in turn influence the child's perception of reading. The culture of reading may be enforced by the type of activities engaged in (Lynch et al., 2006). Parents who are literate and well qualified have a more positive attitude towards reading and as a result have a positive approach to assist in their child's acquisition and development of literacy and reading skills (Fitzgerald et al., 1991).

The variable *Parent First Language*, namely parent language, within the conceptual framework was the strongest predictor of learner reading literacy achievement during PIRLS 2006. It may prove vital to include the second language used by the parents, which in some households may be the father tongue. In this study, only the first language of a parent was taken into consideration and not all or both the languages of the mother and the father. If the model were to take into account the multilingual nature of the South African language context it would create a more holistic view of the child's exposure to language. Exposure to more than one language can assist in development, however some research indicated that when a child is taught in two languages at home it may have difficulty in understanding the complexities of the two languages (Pretorius, 2010) and so develop different sets of vocabulary for each (Topping et al., 2011). In a multilingual country such as South Africa, with its 11 official languages, it seems beneficial if the parents expose their child to more than one language and so enable it to more fully become part of a multilingual community (Cummins, 2001). However, Cummins (1979; 1981) cautions that a child must first acquire and develop BICS and CALP in his or her first language before attempting to learn a second language (see discussion on BICS and CALP in Chapter 3 Section 3.2).

Based on the results obtained from the regression analysis, the conceptual framework should be reviewed as one particular aspect, gender, was not included due to the nature of the variable in the data. Overall, the regression model indicated

that the conceptual framework explains more than half of the variance in Grade 5 South African learner reading literacy achievement. In future, the gender variable should be included in order to analyse the results according to gender of the parent, caregiver/s or other family members, to assist in finding possible disparities in learner reading literacy achievement.

Overall, the study's conceptual model confirms that there are direct relationships between learner reading literacy achievement, the home environment as well as parental attributes (excluding gender). In the absence of a South African contextual model, which focuses on learner background factors, this study's model brings together two broad aspects which have, to some extent, an effect on learner reading performance. The study's model highlights the importance of learner background factors, divided into the home environment and parental attributes. These two aspects only provide a glimpse into reasons South African learners performed poorly on the PIRLS 2006 study. The study's model allows two separate perceptions into one model as the child's development can be influenced by several factors.

7.3.2 METHODOLOGICAL REFLECTION

This study draws on the PIRLS 2006 South African data with the use of a secondary analysis. The PIRLS 2006 assessment instruments consisted of one informational and one literary text with accompanying questions in the form of constructed response or multiple choice questions. PIRLS 2006 also gathered contextual data through questionnaires completed by the learners, parents, teachers and principals. This study made use of the parent questionnaire, available to parents in English and in the language in which the children wrote the test.

Upon closer inspection of some of the items (see Chapter 5), the layout or type of items may have been unfamiliar, especially for parents living in rural areas as they might have had low levels of literacy or had not previously completed a questionnaire. As with all questionnaire data, social desirability had to be kept in mind in that questionnaire data can only be seen as a proxy. Some items in the parent questionnaire asked parents to make judgements on their child's reading literacy abilities before entering school. It is possible that some parents felt that they had to give answers which were not true but what the researchers wanted, and so

they could have provided socially acceptable answers to some questions. In addition to social desirability, some parents might have completed the questionnaire to the best of their ability, taking into account the time lapse between when the study occurred and when they had engaged in certain activities with their child. Some parents proceeded to complete the questionnaire irrespective of their inability to recall the type of activity engaged in with the child prior to the study. In light of these possible limitations it would follow logically that when a significant amount of time has lapsed it would prove difficult for the parent to complete the questionnaire accurately.

The aim of this study was to investigate the extent to which the home environment and parental attributes predict reading literacy by conducting a secondary analysis of the PIRLS 2006 South African Grade 5 learner reading literacy achievement data. The study was underpinned by Vygotsky's theory of social development and Bourdieu's theory of cultural capital within the context of the home environment, and Myrberg and Rosén's (2008) adapted model for direct and indirect influences of parental education on learners' reading achievement. These informed the development of this study's conceptual framework (see Chapter 3 Section 3.5.2) which became the lens for viewing the findings of this study.

The research questions (see Chapter 1 Section 1.7) were investigated through the use of principal component and standard multiple regression analysis. The use of principal component analysis was justified as it establishes which linear components may be used in the standard multiple regression analysis. During the principal component analysis, certain aspects needed to be examined, such as whether each component only underpinned one construct. (See Chapter 4 Section 4.5.2.4 for further detail regarding principal component analysis). Only reliable items (based on the reliability analysis, Chapter 4 Section 4.5.2.2) were used in the principal component analysis. After components were identified (see Chapter 6 Section 6.2.2), they were saved as regression coefficients to be used in the regression analysis.

The regression analysis was conducted with IDB analyser, in order to identify which factors best predict the South African Grade 5 learner reading literacy achievement. The IDB analyser was used for the regression analyses as it was developed by the IEA Data Processing and Research Centre, to combine achievement data with

contextual data along with the relevant weights of the data (Neuschmidt, 2007). The rationale for using regression analysis in this study was that it is a suitable technique to determine and assess relationships between predictor and several outcome variables. Other statistical methods, such as Hierarchical Linear Modelling or Structural Equation Modelling, could have been used however the decision to make use of regression analysis was justified as it could take into account the complexity of the data as well as the ability to use all five of the Plausible Values as the outcome variable (learner achievement). Also, the study utilised the IDB analyser as it made use of single level data acquired from the parent questionnaire to conduct the regression analysis (see Chapter 4).

A few limitations of this study should be noted. As indicated in Chapter 1, it only made use of the parent questionnaire in order to access information about parental background factors. It may have proved useful also to look at the Learner Questionnaire to gain a more complete perspective of the home context. A second limitation was that no additional data was gathered to add to the richness of the study. A third limitation is that the PIRLS 2006 data is representative of learners and not parents, thus the results speak to the represented sample. However, currently there is no other parent data of this nature available in South Africa. Lastly, this study makes use of PIRLS 2006 data. With PIRLS 2011 results already available, a comparison of both sets of data in terms of the parental background factors could be conducted, to determine whether there have been any changes in the Grade 5 learner reading literacy achievement.

7.4 CONCLUSIONS

Cultural capital appears to have a significant role in learner reading literacy performance in a developing context.

Based on the findings of this study, it appears that cultural capital has an important role on South African learner reading literacy performance, which confirms Bourdieu's theory on cultural capital. Cultural capital can be seen as a way of "talking, acting, and socialising, as well as language practices, values, and types of dress and behaviour" (McLaren, 1999, p219). The cultural capital related to the child may include aspects outside of the immediate home environment such as access to

specific types of schools (Prinsloo & Breier, 1996) and, as such, the literacy levels of the child may be a result of the exposure to different cultural capital (DiMaggio, 1991).

The cultural capital of South African households may be related to the SES of the parents but it is not the same as SES. The latter refers to the wealth situation whereas former is multifaceted. For example, average income households in South Africa may still have high cultural capital and affluent income households could still have low cultural capital (see Chapter 3). This is made clear by South Africa's Gini coefficient of 63.1, indicating that there is a large spread of SES (World Bank, 2010). However despite the SES inequalities parents can still make use of cultural capital to assist in their child's reading literacy development.

Bourdieu explained that access and utilisation of cultural capital enables future generations to develop their literacy skills (Bourdieu, 1987, 2002). The objectified cultural capital is essential for the development of reading literacy (Bourdieu, 2002). Therefore parents could use cultural capital to assist in the development of their child's reading literacy. Within this study, cultural capital was measured by basic- and non-essential resources within the home which included items ranging from water and electricity at home to owning a computer.

Above and beyond the availability of cultural capital at home, the most significant predictor of learner achievement is the home language of the learner's parents.

These aspects are discussed in greater detail below. The study has drawn three main conclusions, as follows:

- 1. Access to cultural capital at home appears to be crucial to learner acquisition and development of language and reading literacy skills**

Resources at home, as proxy for SES, are crucial to learner acquisition and development of language and reading literacy skills. For purposes of this study, resources in the home were measured in terms of basic and non-essential resources. Learners create knowledge and understanding with the involvement of their parents (Purcell-Gates, 1996) within the home environment. Based on the regression results of this study, both *Basic Resources at Home* (28.13, SE = 5.94)

and *Non-essential Resources at Home* (39.66, SE = 6.11) were strong predictors of South African Grade 5 learner reading literacy achievement. It is notable that basic resources account for just over half a year of formal education whilst non-essential resources account for one year of formal education. The results of the regression thus indicated that the objectified cultural capital within a home is important for the development of learner reading literacy. This confirms Bourdieu and Passeron's (1964; 2000) theory of cultural capital as it takes the form of objectified capital, which includes the resources at home. The total availability of the resources within the home environment could influence learner reading literacy achievement. Therefore, non-essential resources could be seen as a proxy for SES levels within households as they account for a greater mean score points difference than do basic resources. Higher levels of cultural capital may be associated with more parental involvement in activities with their child.

When parents have resources they can use these to teach their child language and reading literacy, and in turn the parent becomes actively involved in the child's acquisition and development of reading literacy. Parents may use different kinds of educational resources, toys and aids, therefore the different resources used within the home environment may assist in the child's reading literacy development (Bourdieu, 2002). Research has indicated that cultural capital, especially objectified capital, may possibly explain the disparities in achievement between children (Kalmijn & Kraaykamp, 1996; Park, 2008). As such, when a child has access to objectified capital it may assist in its reading literacy development.

However, it is important to note that in South Africa some educational resources such as books may be difficult to find in all of the 11 official languages. As mentioned in Chapter 3 Section (3.3.1), some children are in 'print-poor' environments in which educational resources such as books are not found in all of the 11 official languages (Pretorius, 2008). In such circumstances the parents should make use of other resources.

Parent education can also be seen as a part of cultural capital, specifically institutionalised capital (see Bourdieu & Passeron, 1964, 2000), as it may indirectly assist in elevating the parents' SES levels and thus provide the home with sufficient resources to assist in the child's acquisition and development of reading literacy.

This study found that parent education is also a significant predictor of South African Grade 5 learner reading literacy achievement. Based on the results, a child's reading literacy achievement may be up to 21.41 points higher for each increase in the parents' education level. This study confirms previous research which has indicated that the education level of parents may influence a child's reading literacy development (Saracho, 1997b).

In the Census report (Statistics South Africa, 2012a), there has been an increase in persons enrolled at an educational institution from 1996 to 2011. A significant increase in attendance at schools from ages five to seven was indicated as more parents enrol their child in schools. The increase of enrolment at schools may indicate that, South Africans are expected to become educated as access is now available and this is made possible as there are no-fee public schools. The Census report (Statistics South Africa, 2012a) indicated that there has been a significant increase in the level of adult education since 1996. The total percentage for adults obtaining Grade 12 in 1996 was 26,3% compared to 28,9% in 2011. Also, adults completing tertiary qualifications in 1996 was at 7,1%, which in 2011 stood at 11,8%. These percentages indicate that there have been steady increases in adult education over these years.

Some arguments have been made that when a parent has a good educational background, including qualifications (Melhuish et al., 2008), their children tend to perform better (Schlee et al., 2009). This study aligns itself with these arguments, as the parents' educational level accounts for just over six months of formal education. This is a similar finding to that of George et al. (2007), who explained that children's parents who had a higher educational level and qualifications tended to be approximately one formal school year ahead of their peers. Therefore, it may be said that the parents' educational background is crucial to a child's acquisition and development of reading literacy. In her work, Bonci (2011) has found similar results and a link between a child's reading literacy achievement and parental education levels.

However, parents with low levels of literacy and education are divided into two groups. The first group, with little or no literacy and education may not become involved in their child's acquisition and development of language and reading literacy

as they feel inadequate or less confident (Williams et al., 2003). The other group, of either little or no literacy and education, still regard reading literacy as important to success at school and in life (Zeece, 2005). Parents who are not well-educated can still engage in early home activities with their child in order to impart in it reading literacy skills (Park, 2008).

2. Parents' first language is of prime importance of South African Grade 5 learner reading literacy achievement

Within the regression model, the parents' first language was the strongest predictor (44.98 points) of South African Grade 5 learner reading literacy achievement. Therefore, the language used by the parents at home may have a strong impact on the learner's reading literacy development as it may account for approximately a full year of formal schooling.

South Africa is a multilingual country in which the majority of parents speak one or more of these languages at home. As such, when learners are exposed to various languages they have the ability to become part of more than one community (Cummins, 2001). The parents' language/s is/are indeed of great importance when teaching the child about early reading and literacy skills (see Pretorius 2010; Weideman, 2013).

If the learner struggles with the language/s used at home it may cause difficulty in understanding the language used at the school. Cummins (1979; 1981) found a difference in being capable in BICS and in CALP. A learner should first become fluent in their first language (or mother tongue) before attempting to become fluent in their CALP in their first language (see Chapter 3 Section 3.2). Therefore, the study's finding confirms that mother tongue education, especially in primary school, is important for the acquisition and development of learner language and reading literacy skills.

Therefore, the language/s used by the parent/s at home is/are crucial when teaching their child to talk and read. Usually parents decide to make use of the mother's first language as the language in which they teach their child. The language/s used by the parent/s enable/s the child to become good speakers before entering formal

education. Moreover the language used by the parents creates the foundation upon which the learner will gain CALP to be able to cope within the school environment.

3. Early home literacy activities are less influential to South African learner reading literacy performance

The predictor *Early Home Literacy Activities* only account for a few months of formal education and was lower than expected. One of the reasons *Early Home Literacy Activities* was not a stronger predictor may be because it was a large model which looked at both the home environment and parental attributes. For instance, parent language and resources at home were the strongest predictors which may in itself explain that if there were sufficient resources to use the parents might have used the resources at home. As such, the type of activities may be linked to resources at home and to the SES levels of the household (see Orr, 2003). Evidently, when cultural capital and language of the parent are controlled for, early home literacy activities do not predict as accurately as originally anticipated. Nevertheless, it remains an important predictor of learner reading development. Parents may not be able to engage in literacy activities with their child as they do not have adequate cultural capital available and so become somewhat less involved with their child.

The low point prediction of the predictor *Early Home Literacy Activities* may also be due to the time parents are available to engage in such activities with their child. When parents have little or no time due to job pressure, learners may have engaged in literacy activities away from home, for example, at a crèche, school or with other family members. Therefore, gender and relationship of the parent or caregiver should be taken into consideration in further research.

Early Home Literacy Activities are important since they constitute a statistically significant predictor of Grade 5 learner reading literacy achievement in PIRLS 2006. Parental involvement is fundamental to a learner's success in developing reading literacy skills (Desforges & Abouchaar, 2003; Harris & Goodall, 2008). Parents may use other methods to teach their child reading literacy, such as television viewing (Rashid et al., 2005), in which the parent is not always directly involved (Saracho, 2002) but still ensures that the child is being taught in a fun yet educational way.

Within the home environment, parents engage in various early home activities to assist in their child's development of linguistic skills (Saracho, 1997a). When a child is engaged socially or constructively with his or her parents, the child is scaffolded through the zone of proximal development (ZDP) (Vygotsky, 1978). Therefore, in order for a child to become literate it needs to encounter and participate in social or constructive activities. As discussed in Chapter 3 Section 3.3.3, learning to read is a complex process and parents as the child's first teacher should teach the child how to read (Bonci, 2011) through various activities within the ZDP.

7.5 RECOMMENDATIONS

This section make recommendations based on the main conclusions drawn from this study. Section 7.5.1 depicts the recommendations for policy and practice whereas Section 7.5.2 presents recommendations for further research.

7.5.1 RECOMMENDATIONS FOR POLICY AND PRACTICE

There are several recommendations for policy and practice.

1. Create and develop multilingual awareness

As stated in Chapter 1, South Africa has more than one official language and the total number of official languages directly influences the LoLT of schools. When a child enters a school its LoLT and mother tongue may differ, which could lead to difficulty for the child in adjusting. As stated in Chapter 3, the acquisition and development of a language is difficult, nevertheless, the LiEP policy urges schools to develop African languages and accommodate learners in their mother tongue.

Debates on whether mother tongue should be used for all learners throughout all the grades are continuous, therefore the multilingual nature of the country should be embraced and the implementation thereof should materialise. This integration could happen through the SGB, since parents and other school members are part of this particular board, and the decision of the LoLT lies with the different parties. Parents are responsible for choosing the LoLT of the school and this should reflect the school's demographics. The current SASA policy should be scrutinised as to its

influence on the SGB's decision of the school's LoLT, in accordance with the Bill of Rights.

2. Strengthen parental involvement at home and school level

Research has showed that parental involvement is pivotal to a child's educational growth (see Chapter 3), therefore there is a need for both parental involvement at home and school levels to assist in literacy development and achievement. According to the Nal'ibali (2013, para.1) organisation, "children who are immersed in great and well-told stories – and in the language they understand – become inspired and are motivated to learn to read for themselves". Accordingly, parents should read aloud to and with the child, discuss what was read, tell stories and discuss the lessons learned after each reading literacy session. Parents may also become more involved in literacy activities with the child. The Nal'ibali organisation (2013) further suggests that parents join a library, create a book chain, use tongue twisters, make up stories, write stories, cook with children and create song posters.

On the other hand, some parents are inclined to cede their responsibilities to the school. Consequently, a strong parent-teacher relationship should be encouraged in order for parents to understand the goals of education and in turn help their child reach those educational goals. When the parents understand the goals of education and the needs of the child they may be open to a more sustainable relationship with the teacher and school. The Department of Education (DoE, 2001) has insisted on minimum parental involvement between the child, parent and school, yet most parents do not partake in literacy and educational activities. The lack of parental involvement at school level is explained by Christenson and Sheridan (2001, p.18): "there is still more rhetoric than reality about family and school working together as genuine partners". Therefore, parents should become active participants at school level.

Some schools try to incorporate parents into their daily school activities, however the level of involvement between the home and school is concerning. During the analysis of this study, anecdotal evidence suggests that some parents are unwilling to become actively involved in the child's education at school level. This may be due to extenuating circumstances such as the parents not wanting to face teachers as

they have low literacy levels and struggle to assist the child themselves. Another reason may be that the parents cannot afford to pay school fees and thus avoid the school. There are some parents who do participate in SGB roles or in facilitating their child's educational growth, and these should be encouraged for all parents in order to assist the learning processes in the home as well as in the school environment.

Other stakeholders are funding projects in order to assist in learner development as well as in educator development. The READ Education Trust is actively involved in helping learners become competent readers at the school level. READ helps in training educationalists the balanced language approach in order to teach literacy to children. The READ trust has funded multiple projects which not only aim to equip teachers with the necessary skills to teach literacy but also to equip school principals, managers and department officials with adequate managerial skills as to effectively manage school aspects such as the intended, implemented and attained curriculum (READ Education Trust, 2010). Other reading organisations, such as Room to Read, African Storybook Project and the Molteno Project aim to assist children in their reading development through the use of short storybooks and reading centres. In India, *Pratham Books* is assisting children to become readers with the hopes to create a culture of reading. All of these organisations try to deliver books in the children's mother tongue at a very low cost. The stories are created by volunteers and translated into the various languages. Individuals are allowed to review the stories and make alterations when deemed necessary.

3. Develop a culture of reading at home level

Most families and communities do not have a culture of reading in South Africa. For some African parents and children, reading is not perceived as something one does solely for enjoyment or pleasure but only as a means to be able to cope in an educational or a work scenario (see Chapter 3 Section 3.3.3). Most African cultures rely on oral traditions, thus fostering the idea of a culture of talking. It seems that most young South Africans are not exposed to reading since there are other factors that affect the parents' abilities to ensure a culture of reading at home, such as parents' own literacy and educational levels, time available, cultural capital and availability of resources in mother tongue (see Chapter 3).

Although most learners live in a print-poor environment, literacy should still be addressed. It could be taught through more ways than just reading a book. The Nal'ibali website hosts a vast collection not only of multilingual stories but also creative ways of introducing reading literacy to children. These include visiting libraries or bookshops to see what is interesting for the child. Parents should strive to expose their children to more than just books to instil a culture of reading. Reading is beneficial to all persons since it enables them to perform in both the education and occupation settings.

7.5.2 RECOMMENDATIONS FOR FURTHER RESEARCH

Further research is required in the following areas.

1. Identify additional indicators of parental background factors

Although the PIRLS 2006 parent questionnaire is designed to gain valuable information regarding the parents' background in relation to reading literacy, it is necessary to acquire more detailed information from them. Additional case studies or focus groups may prove useful in obtaining qualitative and descriptive information to substantiate or refute the findings for this study. Additional indicators surrounding the South African parents' background factors are necessary in order to get a more comprehensive understanding of the parents and the reasons current parental involvement is lacking.

2. Explore parental involvement based on language and education

An exploratory approach may be beneficial in identifying and examining the levels of parental involvement at the home and school level based on the parents' language and education. This study has found that parents' education is a significant predictor of learner reading literacy achievement, however, an exploratory study may seek to explain how both language and education of parents may contribute to the South African reading literacy landscape. This approach may aid in determining how parents and the community can create a culture of reading together with a culture of talking to enable children to succeed in their educational growth.

3. Investigate parent attitude towards reading

As stated in Chapter 3, parental attitude towards reading may be pivotal in the home environment. The attitude of parents to reading and literacy does not go unnoticed by the child, who sees parents as role models and as such copies the attitudes and may become encouraged to read. However, not all parents have positive attitudes towards reading. In order to extrapolate why South African parents have conflicting and or negative attitudes towards reading, additional research should be conducted. Thereafter, possible solutions can be created in order to assist in the parents' growth and understanding of how attitudes and reading are co-dependent.

4. Further confirmation of learner background factors

In the absence of a learner background factor model in South Africa, the study's conceptual framework was based on a European model created by Myrberg and Rosén (2008) (see Chapter 3), adapted from literature surrounding parental background factors and the influences thereof on learner reading achievement. The original model focused on parent education, books at home (resources), activities at home as well as the child's abilities. However, for the purposes of this study, the adapted model focused on parental background factors which include the Home Environment and Parental Attributes. Since some variables were omitted from analysis, additional research should be conducted in order to obtain a broader picture of why South African learners are performing poorly in PIRLS assessments. The additional items may explain more substance of the South African parents' backgrounds, which in turn could lead to understanding the vast disparities in South African homes and how they affect the children's educational growth.

5. Further investigation of home literacy activities

Early home literacy activities was found to be a significant predictor of learner reading literacy achievement, however it did not predict as much as expected from the literature (see Section 7.2). Further exploration of home literacy activities should be conducted to determine whether recent home reading literacy activities could assist in explaining the importance of home literacy activities on a child's acquisition and development of reading literacy. It may prove vital to add additional home literacy items to gain a fuller holistic picture of the child's reading literacy

development, as it was found in literature to help in a child's linguistic and reading literacy development (see Sylva et al., 2004).

7.6 CONCLUDING THOUGHTS

This dissertation presented arguments regarding the importance of parental background factors and how these influence South African Grade 5 learner reading literacy achievement. The study emphasises the importance of the Home Environment and the role that it plays in cultivating and developing learner reading literacy skills. In conjunction with the home environment, the parents' own characteristics also play a vital role in developing cultural capital and assisting children with their early literacy development. The study's findings accentuate and confirm that both aspects are cardinal in building a foundation of early literacy which in turn supports the child when moving into formal schooling and ultimately in reading literacy achievement.

However, the onus lies with the parents to ensure that their children are adequately engaged in a variety of early home literacy activities that may foster a positive attitude towards reading and literacy. Parents in rural or low income areas whose children are not exposed to early literacy activities (Pretorius, 2010) should welcome the support of NGOs, such as the African Storybook Project, to assist in creating a culture of reading within the community. Other NGOs, such as the Molteno Project, READ and Room to Read, assist in learner reading development where there is a deficiency of resources in specific schools. Parents, schools and communities, together with NGOs, may help in the preparation of children for formal schooling and thus in attaining the UN Millennium Development Goal which aims to achieve universal primary education. Parents can also encourage their children to become proficient readers through reading literacy activities, which include visits to local libraries when there is a lack of books within the home. In conclusion, one should take note that

Literacy unlocks the door to learning throughout life, is essential to development and health, and opens the way for democratic participation and active citizenship

(Kofi Annan, previous United Nations Secretary-General, 2003, para.2).

REFERENCES

- Agee, J. (2005). Literacy, aliteracy, and lifelong learning. *New Library World*, 106(5), 244-252.
- Alvesson, A., & Sköldbberg, K. (2010). *Reflexive Methodology: New Vistas for Qualitative Research* (2 ed.). London: Sage Publications.
- Amato, P. R. (1994). Father-child relations, mother-child relations, and offspring psychological wellbeing in early adulthood. *Journal of Marriage and the Family*, 20, 75-84.
- Anderson, J., & Morrison, F. (2011). Learning from/with immigrant and refugee families in a family literacy program. In A. Lazar & P. Schmidt (Eds.), *Practicing What We Teach: How Culturally Responsive Literacy Classrooms Make a Difference* (pp. 30-38). New York: Teachers College Press.
- Arnold, D.H., Zeljo, A., Doctoroff, G.L., & Oritz, C. (2008). Parent involvement in preschool: Predictors and the relation of involvement to preliteracy development. *School Psychology*, 37, 74-90.
- Attribute. (2013) In *Merriam-Webster.com*. Retrieved April 17, 2013, from <http://www.merriam-webster.com/dictionary/attribute>
- Baker, L. (2003). The role of parents in motivating struggling readers. *Reading & Writing Quarterly*, 19, 87-106.
- Baker, L., & Scher, D. (2002). Beginning reader's motivation for reading in relation to parental beliefs and home reading experiences. *Reading Psychology*, 23(4), 239-269.
- Baker, L., Scher, D., & Mackler, K. (1997). Home and Family Influences on Motivations for Reading. *Educational Psychologist*, 32(2), 69-82.
- Bantwini, B.D., & King-McKenzie, E.L. (2011). District Officials' Assumptions about Teacher Learning and Change: Hindering Factors to Curriculum Reform Implementation in South Africa. *International Journal of Education*, 3(1), 1-25.
- Barnett, C. (2002). More than just TV: Educational broadcasting and popular culture in South Africa. In C. von Feilitzen & U. Carlsson (Eds.), *Children, Young People, and Media Globalisation* (pp. 95-110). Sweden: UNESCO.
- Barth, J., Kennedy, A.M., & Trong, K.L. (2007). PIRLS Survey Operations Procedures. In M.O. Martin, I.V.S. Mullis & A.M. Kennedy (Eds.), *PIRLS 2006 Technical Report*. Chestnut Hill: Boston College.
- Battersby, J. (2004). Cape Town's Model C Schools: Desegregated and Desegregating Spaces? *Urban Forum*, 15(3), 279-291.

- Benhabib, J., & Spiegel, M.M. (2005). Human capital and technology diffusion. In P. Aghion and S.N. Durlauf (Eds.), *Handbook of Economic Growth* (p935-966). Amsterdam: North Holland.
- Biller, H.B., & Kimpton, J.L. (1997). The father and the school-aged child. In M.E. Lamb (Ed.), *The role of the father in child development*. New York: Wiley.
- Blomeyer, D., Coneus, K., Laucht, M., & Pfeiffer, F. (2009). Initial Risk Matrix, Home Resources, Ability Development, and Children's Achievement. *Journal of the European Economic Association*, 7(2), 638-648.
- Bonci, A. (2011). *A research review: the importance of families and the home environment*. London: National Literacy Trust.
- Bonesrønning, H. (2010). Are parental effort allocations biased by gender? *Education Economics*, 18(3), 253-268.
- Bormuth, J.R. (1974). Reading Literacy: Its Definition and Assessment. *Reading Research Quarterly*, 9(1), 7-66.
- Botha, F. (2010). The impact of educational attainment on household poverty in South Africa. *Acta Academica*, 42(4), 122-147.
- Botha, R.J. (2002). Outcomes-Based Education and Educational Reform in South Africa. *International Journal of Leadership in Education*, 5(4), 361-371.
- Bourdieu, P. (1984). *Distinction: A social critique on the judgement of taste*. Cambridge, MA: Harvard University Press.
- Bourdieu, P. (1985). The forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood.
- Bourdieu, P. (1987). What makes a social class? On the theoretical and practical existence of groups. *Berkeley Journal of Sociology*, 32, 1-17.
- Bourdieu, P. (1996). *The State Nobility: Elite Schools in the Field of Power*. Stanford, CA: Stanford University Press.
- Bourdieu, P. (2002). The forms of Capital. In A.H. Halsey, H. Lauder, V. Brown & A.S. Wells (Eds.), *Education - culture economy society*. Oxford: Oxford University Press.
- Bourdieu, P., & Passeron, J. (1964). *Les Héritiers*. Paris: Editions de Minuit.
- Bourdieu, P., & Passeron, J. (2000). *Reproduction in Education, Society and Culture*. (2 Ed.). Great Brittan: Sage.
- Bowlby, J. (1969). *Attachment and Loss: Volume 1: Attachment*. New York: Basic Books.

- Bradley, R.H., & Corwyn, R.F. (2002). Socioeconomic Status and Child Development. *Annual Review of Psychology*, 53(371-399).
- Brinkley, M., & Kelly, D.L. (2003). *A Comparison of the NAEP and PIRLS fourth grade reading assessments, NCES 2003-10*. Washington DC: U.S. Department of Education. Retrieved 23 September 2011 from <http://nces.ed.gov/pubs2003/200310.pdf>
- Burgess, S.R., Hecht, S.A., & Lonigan, C.J. (2002). Relations of the home literacy environment (HLE) to the development of reading-related abilities: A one-year longitudinal study. *Reading Research Quarterly*, 37, 408-426.
- Bus, A.G., de Jong, M.T., & Van Ijzendoorn, M.H. (2007). Social Aspects in language and literacy learning: Progress, problems and interventions. In O.N. Saracho & B. Spodek (Eds.), *Contemporary perspectives on social learning in early childhood education*. Greenwich, CT: Information Age.
- Cattell, R.B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245–276.
- Catts, H.W., Fey, M.E., Zhang, X., & Tomblin, J.R. (1999). Language basis of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3, 331-361.
- Chevalier, A., Harmon, C., O'Sullivan, V., & Walker, I. (2013). The impact of parental income and education on schooling of their children. *IZA Journal of Labor Economics*, 2(8), 1-22.
- Chisholm, L., Hoadley, U., & wa Kivilu, M. (2005). *Educator Workload in South Africa. Final report prepared for the Education Labour Relations Council*. Cape Town: Human Sciences Research Council.
- Christenson, S.L., & Sheridan, S.M. (2001). *Schools and Families: Creating essential connections for learning*. New York: Guilford Press.
- Christian, K., Morrison, F.J., & Bryant, F.B. (1998). Predicting Kindergarten Academic Skills: Interactions Among Child Care, Maternal Education and Family Literacy Environments. *Early Childhood Research Quarterly*, 13(3), 501-521.
- Clark, C. (2005). Father involvement and children's literacy outcomes. *Literacy Today*, 14-15.
- Clark, D. (2010). Selective schools and academic achievement. *The BE Journal of Economic Analysis & Policy*, 10(1).
- Clegg, S. (2008). Positivism and Post-Positivism. In R. Thorpe, & R. Holt (Eds.), *The SAGE Dictionary of Qualitative Management Research*. (pp.156-58). London,

United Kingdom: SAGE Publications. Retrieved 16 January 2013 from <http://srmo.sagepub.com/view/the-sage-dictionary-of-qualitative-management-research/n73.xml>

- Coiro, M.J., & Emery, R.E. (1998). Do marriage problems affect fathering more than mothering? A quantitative and qualitative review. *Clinical Child and Family Psychology Review*, 1, 23-40.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.
- Coleman, J.S., Campbell, E.Q., Hobson, C.J., McPartland, J., Mood, A.M., Weinfeld, F.D., & York, R.L. (1966). *Equality of Educational Opportunity*. Washington, D.C: Government Printing Office.
- Connelly, S., & Anderson, C. (2007). Studying water: reflections on the problems and possibilities of interdisciplinary working Interdisciplinary. *Science Reviews*, 32, 213-232.
- Conner, D.B., Knight, D.K., & Cross, D.R. (1997). Mothers' and fathers' scaffolding of their two year-olds during problem-solving and literacy interactions. *Journal of Developmental Psychology*, 15, 323-338.
- Creswell, J.W. (2008). *Educational Research: Planning, conducting, and evaluating quantitative and qualitative research* (3 ed.). New Jersey: Pearson Education.
- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism*, 19, 121-129.
- Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In C. S. D. o. Education (Ed.), *Schooling and Language Minority Students: A Theoretical Framework* Los Angeles: Evaluation, Dissemination and Assessment Center California State University.
- Cummins, J. (2000). *Language, power and pedagogy: bilingual children in the crossfire*. Buffalo, N.Y.: Clevedon.
- Cummins, J. (2001). Bilingual Children's Mother Tongue: Why is it important for education. *Sprogforum*, 19, 15-20.
- Cummins, J. (2005). *Teaching for Cross-Language Transfer in Dual Language Education: Possibilities and Pitfalls*. TESOL Symposium on Dual Language Education, Bogazici University, Istanbul, Turkey, 23 September 2005.
- Cummins, J. (2008). BICS and CALP: Empirical and Theoretical Status of the Distinction. In B. H. Street, N.H. (Ed.), *Encyclopaedia of Language and*

- Education, 2nd Edition, Volume 2: Literacy* (pp. 71-83). New York: Springer Science.
- Currie, I., & de Waal, J. (2007). *The Bill of Rights Handbook* (5 ed.). Wetton: Juta.
- Dada, F., Dipholo, T., Hoadley, U., Khembo, E., Muller, S., & Volmink, J. 2009. *Report of the Task Team for the Review of the Implementation of the National Curriculum Statement*. South Africa.
- De Coulon, A., Meschi, E., & Vignoles, A. (2008). *Parents' basic skills and children's cognitive outcomes*. London.
- De Wet, C., & Wolhuter, C. (2009). A transitiological study of some South African educational issues. *S. Afr. j. educ.*, 29(3), pp. 359-376.
- DeBaryshe, B.D., Binder, J.C., & Buell, M.J. (2000). Mothers' implicit theories of early literacy instruction: Implications for children's reading and writing. *Early Child Development and Care*, 160, 119-131.
- Department of Basic Education. (2010). *The Status of the Language of Learning and Teaching (LOLT) in schools: A Quantitative Overview*. Pretoria: DBE.
- Department of Basic Education. (2011). *Action Plan to 2014: Towards the Realisation of Schooling 2025*. Pretoria: Department of Education.
- Department of Education and Early Childhood Development. (2008). *Blueprint for early childhood development and school reform: A school reform discussion paper*. Melbourne: DEECD.
- Department of Education. (1997). *Language in Education Policy*. Retrieved 19 April 2011 from http://uscdn.creamermedia.co.za/assets/articles/attachments/04391_language_in_education.pdf
- Department of Education. (2001). *Educational White Paper 6: Special needs education, building an inclusive education and training system*. Pretoria: Department of Education.
- Department of Education. (2003). *Revised National Curriculum Statement Grade R - 9 Policy*. Pretoria: Tirisano.
- Department of Justice. (1996). *Constitution Chapter 1: Founding Provisions*. Retrieved 2 March 2011 from <http://www.gov.za/documents/constitution/1996/96cons1.htm>
- Desforges, C., & Abouchaar, A. (2003). *The Impact of Parental Involvement, Parental Support and Family Education on Pupil Achievement and Adjustment: a Literature Review*. Queen's Printer.

- Dieden, S., & Gustafson, B. (2003). Child poverty in South Africa: an Assessment based on micro data for 1995. *International Journal of Social Welfare*, 12, 326-338.
- DiMaggio, P. 1991. Social Structure, Institutions and Cultural Goods: The Case of the United States. In P. Bourdieu and J. Coleman (Eds). *Social Theory for a Changing Society*. Boulder, Colorado: Westview Press.
- Dronkers, J. (1994). The changing effects of lone parent families on the educational attainment of their children in a European welfare state. *Sociology*, 28, 171-197.
- Du Plessis, E. (2013). *Introduction to CAPS*. Pretoria: UNISA.
- Dupuis, S.L. (1999). Naked truths: Toward a reflexive methodology in leisure research. *Leisure Sciences*, 21, 43-64.
- Eccles, J.S. (2005). Influences of parent's education on their children's educational attainments: the role of parent and child perceptions. *London Review of Education*, 3(3), 191-204.
- Eccles, J.S., & Harold, R.D. (1996). Family Involvement in Children's and Adolescents' Schooling. In A. Booth & J. Dunn (Eds.), *Family-School Links: How Do They Affect Educational Outcomes?* Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Ehrenberg, R.G., Brewer, D.J., Gamoran, A., & Willms, J.D. (2001). Class Size and Student Achievement. *Psychological Science in the Public Interest*, 2(1), 1-30.
- Elley, W.B. (1992). *How in the world do students read? IEA Study of Reading Literacy*. The Hague: IEA.
- Epstein, J.L. (1991). Effects on student achievement of teachers' practices of parental involvement. *Language Research*, 5, 261-276.
- Evans, M.A., Fox, M., Cremaso, L., & McKinnon, L. (2004). Beginning reading: The views of parents and teachers of young children. *Journal of Educational Psychology*, 96(1), 130-141.
- Evans, M.A., Shaw, D., & Bell, M. (2000). Home Literacy Activities and their Influence on Early Literacy Skills. *Canadian Journal of Experimental Psychology*, 54, 65-75.
- Ewers, C.A., & Brownson, S.M. (1999). Kindergartners' Vocabulary Acquisition as a Function of Active vs. Passive Storybook Reading, Prior Vocabulary, and Working Memory. *Reading Psychology*, 20, 11-20.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic

- achievement: A meta-analysis. *Educational Psychology Review*, 13(1), 1-22.
- Feyerabend, P.K. (1981). *Realism, Rationalism and Scientific Method: Philosophical papers* (Vol. 1). United States of America: Cambridge University Press.
- Field, A. (2011). *Discovering Statistics using SPSS* (3 ed.). London: SAGE Publications.
- Fitzgerald, J., Spiegel, D., & Cunningham, J. (1991). The relationship between parental literacy level and perceptions of emergent literacy. *Journal of Reading Behavior*, 23, 191-213.
- Fletcher, R., & Silberberg, S. (2006). Involvement of fathers in primary school activities. *Australian Journal of Education*, 50(1), 29-39.
- Flouri, E., & Buchanan, A. (2003). What predicts fathers' involvement with their children? A prospective study of intact families. *British Journal of Educational Psychology*, 21(81-98).
- Flouri, E., & Buchanan, A. (2004). Early father's and mother's involvement and child's later educational outcomes. *British Journal of Educational Psychology*, 74, 141-153.
- Foy, J.G., & Mann, V. (2003). Home literacy environment and phonological awareness in preschool children: Differential effects for rhyme and phoneme awareness. *Applied Psycholinguistics*, 24, 59-88.
- Foy, P., & Joncas, M. (2003). *Progress in International Reading Literacy Study 2006: School sampling manual*. IEA: Statistics Canada.
- Foy, P., & Kennedy, A.M. (2008). *PIRLS 2006 User Guide for the International Database*. Lynch School of Education, Boston College: TIMSS and PIRLS International Study Center.
- Foy, P., Galia, J., & Li. (2007). Scaling the PIRLS 2006 reading assessment data. In M.O. Martin, Mullis, I.V.S., & Kennedy, A.M (Ed.), *PIRLS 2006 technical report*. Chestnut Hill: Boston College.
- Freeman, K.J., & Condrón, D.J. (2011). Schmoozing in Elementary School: The Importance of Social Capital to First Graders *Sociological Perspectives*, 54(4), 521-546.
- Frome, P.M., & Eccles, J.S. (1998). Parents' influence on children's achievement-related perceptions. *Journal of personality and social psychology*, 74(2), 435-452.
- Frost, J., Madsbjerg, S., Niedersøe, J., Olofssons, A., & Sørensen, M.P. (2005). Semantic and phonological skills in predicting reading development: From 3 - 6

- years of age. *Dyslexia*, 11, 79-92.
- Fuchs, T., & Woessmann, L. (2004). *What accounts for international differences in student performance? A re-examination using PISA data.*
- Gardiner, M. (2008). *Education in Rural Areas. Issues in Education Policy: Number 4.* Centre for Education Policy Development (CEPD), Johannesburg.
- Garfinkel, I., & McLanahan, S.S. (1986). *Single mothers and their children.* Washington: Urban Institute.
- Gee, J.P. (2008). *Social Linguistics and Literacies: Ideology in Discourses* (3rd Ed.). New York: Routledge.
- George, A., Hansen, K., & Schoon, I. (2007). Child development. In K. Hansen & H. Joshi (Eds.), *Millennium Cohort Study. Second Survey. A User's Guide to Initial Findings.* London: Institute of Education, Centre for Longitudinal Studies.
- George, D., & Mallery, P. (2003). *SPSS for windows step by step: A simple guide and reference 11.0 update.* (4 ed.). Boston, MA: Allyn and Bacon.
- Gonzalez-DeHass, A.R., Willems, P.P., & Holbein, M.F.D. (2005). Examining the relationship between parental involvement and student motivation. *Educational Psychology Review*, 17(2), 99-123.
- Graesser, A.C., Golding, J.M., & Long, D.L. (1991). Narrative representation and comprehension. In R. Barr, M.L. Kamil, P. Mosenthal & P.D. Pearson (Eds.), *Handbook of Reading Research.* London: Longman.
- Hajer, M., & Wagenaar, H. (2003). Introduction In J. Hajer & H. Wagenaar (Eds.), *Deliberative policy analysis Cambridge* (pp. 1-32). Cambridge University Press.
- Haney, M., & Hill, J. (2004). Relationships between parent-teaching activities and emergent literacy in preschool children. *Early Child Development & Care*, 174(3), 215-228.
- Hanushek, E.A., & Wößmann, L. (2007). The Role of Education Quality in Economic Growth (Working Paper 4122). Retrieved from World Bank website: <http://econ.worldbank.org>
- Harper, S.N., & Pelletier, J. (2010). Parental involvement in early childhood: a comparison of English language learners and English first language families. *International Journal of Early Years Education*, 18(2), 123-141.
- Harris, A., & Goodall, J. (2008). Do parents know they matter? Engaging all parents in learning. *Educational Research*, 50(3), 277-289.
- Hart, B., & Risley, T.R. (2003). The early catastrophe: The 30 million word gap. *American Educator*, 27(1), 4-9.

- Hassim, S. (2003). The Gender Pact and Democratic Consolidation: Institutionalising Gender Equalities in the South African State. *Feminist Studies*, 29(3), 505-528.
- Hay, I., & Fielding-Barnsley, R. (2007). Facilitating children's emergent literacy using shared reading: A comparison of two models. *Australian Journal of Language and Literacy*, 30(3), 191-202.
- Heath, S.B. (1982). What no bedtime story means: Narrative skills at home and school. *Language in Society*, 11, 49-76.
- Henderson, K.A. (2011). Post-Positivism and the Pragmatics of Leisure Research. *Leisure Sciences*, 33, 341-346.
- Heugh, K. (2009). Post-Positivism and the Pragmatics of Leisure Research. *Leisure Sciences: An Interdisciplinary Journal*, 33(4), 341-346.
- Heystek, J. (2006). School Governing Bodies in South Africa: Relationships between Principals and Parent Governors - A Question of Trust. *Educational Management Administration & Leadership*, 34(4), 473-486.
- Hill, N.E., Castellino, D.R., Lansford, J.E., Nowlin, P., Dodge, K.A., Bates, J.E., & Pettit, G.S. (2004). Parent Academic Involvement as Related to School Behavior, Achievement and Aspirations: Demographic Variations Across Adolescence. *Child Development*, 75(5), 1491-1509.
- Hinchley, J., & Levy, B. (1988). Developmental and individual differences in reading comprehension. *Cognition and Instruction*, 5, 3-47.
- Hittleman, D.R., & Simon, A.J. (2002). *Interpreting Educational Research: An introduction for consumers of research* (3 ed.). New Jersey: Merrill Prentice Hall.
- Hofferth, S.L., & Sandberg, J.F. (2001). How American children spend their time. *Journal of Marriage and Family*, 63(2), 295-308.
- Hood, M., Conlon, E., & Andrews, G. (2008). Preschool Home Literacy Practices and Children's Literacy Development: A Longitudinal Analysis. *Journal of Educational Psychology*, 100(2), 252-271.
- Howie, S. (2010). *The relationship between early childhood backgrounds and reading achievement in low and high achieving countries in PIRLS 2006*. Retrieved 9 November 2012 from http://www.ieairc.org/fileadmin/IRC_2010_papers/PIRLS/Howie.pdf
- Howie, S.J. (2005). Contextual Factors at the School and Classroom Level Related to Pupils' Performance in Mathematics in South Africa. *Educational Research and Evaluation*, 11(2), 123-140.

- Howie, S.J., Venter, E., van Staden, S., Zimmerman, L., Long, C., Scherman, V., & Archer, E. (2008). *PIRLS 2006 Summary Report: South African children's reading literacy achievement*. Pretoria: Centre for Evaluation and Assessment.
- Hoxby, C.M. (2000). The effects of class size on student achievement: New evidence from population variation. *The Quarterly Journal of Economics*, 1239-1285.
- IEA. (2011). *IEA Studies*. Retrieved 28 March 2013 from <http://www.iea.nl/studies.html>
- Jansen, J.D. (1998). Curriculum Reform in South Africa: A Critical Analysis of Outcomes-Based Education. *Cambridge Journal of Education*, 28(3), 321-331.
- Joncas, M. (2007). PIRLS 2006 Sample design. In M. O. Martin, I. V. S. Mullis & A. M. Kennedy (Eds.), *PIRLS 2006 Technical Report*. Chestnut Hill: Boston College.
- Kaiser, H.F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151.
- Kalmijn, M., & Kraaykamp, G. (1996). Race, cultural capital, and schooling: An analysis of trends in the United States. *Sociology of Education*, 22-34.
- Keefe, E.B., & Copeland, S.R. (2011). What is Literacy? The Power of a Definition. *Research & Practice for Persons with Severe Disabilities*, 3(4), 92-99.
- Kelly, D.L., & Malak, B. (2001). Translating the PIRLS Reading Assessment and Questionnaires. In M.O. Martin, I.V.S. Mullis & A.M. Kennedy (Eds.), *PIRLS 2001 Technical Report*. Boston College: Chestnut Hill.
- Kelly, J. (2000). Children's adjustment in conflicted marriage and divorce: A decade review of research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 963-997.
- Kennedy, A.M., Mullis, I.V.S., Martin, M.O., & Trong, K. (2007). *PIRLS 2006 Encyclopedia: A Guide to Reading Education in the Forty PIRLS 2006 Countries*. Chestnut Hill: Boston College.
- Kim, K., & Rohner, R.P. (2002). Parental warmth, control, and involvement in schooling predicting academic achievement among Korean American adolescents. *Journal of Cross-Cultural Psychology*, 33(2), 127-140.
- Kirsch, I.S. (2001). *The International Adult Literacy Survey (IALS): Understanding what was measured*. Princeton, NJ: Educational Testing Services.
- Kohn, M.L., & Schooler, C. (1969). Class, Occupation and Orientation. *American Sociological Review*, 34(5), 659-678.

- Koltko-Rivera, M.E. (2006). Rediscovering the Later Version of Maslow's Hierarchy of Needs: Self-Transcendence and Opportunities for Theory, Research, and Unification. *Review of General Psychology*, 10(4), 302-317.
- Korat, O. (2004). Mothers' and teachers' attributions of the academic functioning of Israeli second graders: A comparison between social groups. *Early Childhood Research Quarterly*, 19, 485-501.
- Korat, O., & Levin, I. (2001). Maternal beliefs, mother-child interaction, and child's literacy: Comparison of independent and collaborative text writing between two social groups. *Applied Developmental Psychology*, 22, 397-420.
- Krecott, K.J., & Nathan, L.E. (1985). *Secondary Analysis of Survey Data*. USA: Sage Publications.
- Kruger, J., & Dunning, D. (1999). Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.
- Lamb, M.E. (1997). *The role of the father in child development* (3 ed.). New York: John Wiley & Sons.
- Lareau, A. (2002). Invisible Inequality: Social Class and Childrearing in Black Families and White Families. *American Sociological Review*, 67(5), 747-776.
- Lee, Y. (2010). Investigating Toddlers' and Parents' Storybook Reading during Morning Transition. *Early Childhood Education Journal*, 38, 213-221.
- Leholha, P. (2002). Women and Men in South Africa: Five years on. Pretoria.
- Leppanen, U., Aunola, K., & Nurmi, J.E. (2005). Beginning reader's reading performance and reading habits. *Journal of Research in Reading*, 28(4), 383-399.
- Leseman, P.P., & De Jong, P.F. (2001). Lasting effects of home literacy on reading achievement in school. *Journal of School Psychology*, 39(5), 389-414.
- Levy, B.A., Gong, Z., Hessels, S., Evans, M.A., & Jared, D. (2006). Understanding print: Early reading development and the contributions of home literacy experiences. *Journal of Experimental Child Psychology*, 93, 63-93.
- Loeb, M., Eide, A. H., Jelsma, J., Toni, M., & Maart, S. (2008). Poverty in Eastern and Western Cape Provinces, South Africa. *Disability & Society*, 23(4), 311-321.
- Loury, G.C. (1977). A dynamic theory of racial income differences. In P.A. Wallace & A.M.L. Mond (Eds.), *Women, Minorities and Employment Discrimination*. Lexington, MA: Heath.

- Lu, Y., & Treiman, D.J. (2011). Migration, Remittances and Educational Stratification among Blacks in Apartheid and Post-Apartheid. *Social Forces*, 89(4), 1119-1144.
- Lynch, J. (2002). Parents' self-efficacy beliefs, parents' gender, children's reader self-perceptions, reading achievement and gender. *Journal of Research in Reading*, 25(1), 54-67.
- Lynch, J., Anderson, J., Anderson, A., & Shapiro, J. (2006). Parents' beliefs about young children's literacy development and parents literacy behaviors. *Reading Psychology*, 27, 1-20.
- MacIver, D.J., & Epstein, J.L. (1993). Middle grades research: Not yet mature, but no longer a child. *Elementary School Journal*, 93, 519-534.
- Machet, M., & Pretorius, E.J. (2004). Family Literacy: A project to get parents involved. *South African Journal of Library and Information Science*, 70(1), 39-46.
- MacLellan, M. (2005). *Child Headed Households: Dilemmas of Definition and Livelihood Rights*. Paper presented at the 4th World Congress on Family Law and Children's Rights, Cape Town.
<http://www.childjustice.org/docs/maclellan2005.pdf#search=%22childheaded%20households%22>
- Maddox, B. (2008). What Good is Literacy? Insights and Implications of the Capabilities Approach. *Journal of Human Development*, 9(2), 185-206.
- Mahery, P., Jamieson, L., & Scott, K. (2011). *Children's act guide for child and youth care workers*. Cape Town: Children's Institute, University of Cape Town and National Association of Child and Youth Care Workers.
- Malak, B., & Trong, K.L. (2007). Translation and Translation Verification of the PIRLS Reading Assessment and Questionnaires. In M.O. Martin, I.V.S. Mullis & A.M. Kennedy (Eds.), *PIRLS 2006 Technical Report*. Chestnut Hill: Boston College.
- Manolitsis, G., Georgiou, G.K., & Parrila, R. (2011). Revisiting the home literacy model of reading development in an orthographically consistent language. *Learning and Instruction*, 21, 496-505.
- Marks, G.N. (2005). Cross-national differences and accounting for social class inequalities in education. *International Sociology*, 20(4), 483-505.
- Martin, M.O., Mullis, I.V.S., & Kennedy, A.M. (2007). *PIRLS 2006 Technical Report*. Chestnut Hill: Boston College.
- McIntosh, S., & Vignoles, A. (2001). Measuring and assessing the impact of basic

- skills on labour market outcomes. *Oxford Economic Papers*, 53, 453-481.
- McLachlan, C., Nicholson, T., Fielding-Barnsley, R., Mercer, L., & Ohi, S. (2013). *Literacy in Early Childhood and Primary Education: Issues, Challenges, Solutions*. United States of America: Cambridge University Press.
- McLaren, P. (1999). *Schooling as a ritual performance: Towards a political economy of educational symbols and gestures*. Lanham, MD: Rowman & Littlefield.
- Melhuish, E.C., Phan, M.B., Sylva, K., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2008). Effects of the Home Learning Environment and Preschool Center Experience upon Literacy and Numeracy Development in Early Primary School. *Journal of Social Issues*, 64(1), 95-114.
- Mendenhall, W., & Sincich, T. (2003). *A second course in statistics: regression analysis* (6 ed.). USA: Pearson Prentice Hall.
- Mncube, V. (2009). The perceptions parents of their role in the democratic governance of schools in South Africa: Are they on board? *South African Journal of Education*, 29, 83-103.
- Morris, A.S., Silk, J.S., Steinberg, L., Myers, S.S., & Robinson, L.R. (2007). The role of the family context in the development of emotion regulation. *Social development*, 16(2), 361-388.
- Morrison, F.J., & Cooney, R.R. (2001). Parenting and academic achievement: Multiple paths to early literacy. In J.G. Borkowski, S.L. Ramey & M. Bristol-Power (Eds.), *Parenting and the child's world: Influences on academic, intellectual, and socioemotional development*. Mahwah, NJ: Lawrence Erlbaum.
- Moss, B., & Fawcett, G. (1995). Bringing the Curriculum of the World of the Home to the School. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, 11, 247-256.
- Muller, C. (1995). Maternal Employment, Parent Involvement, and Mathematics Achievement among Adolescents. *Journal of Marriage and Family*, 57(1), 85-100.
- Mullis, I.V.S., Kennedy, A.M., Martin, M.O., & Sainsbury, M. (2006). *PIRLS 2006 Assessment Framework and Specifications* (2nd ed.). Chestnut Hill: Boston College.
- Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., & Kennedy, A.M. (2003). *PIRLS 2001 International Report*. Chestnut Hill: Boston College.
- Mullis, I.V.S., Martin, M.O., Kennedy, A.M., & Foy, P. (2007). *PIRLS 2006 International Report*. Chestnut Hill: Boston College.

- Mullis, I.V.S., Martin, M.O., Kennedy, A.M., Trong, K.I., & Sainsbury, M. (2009). *PIRLS 2011 Assessment Framework*. TIMSS & PIRLS International Study Center, Lynch School of Education: Boston College.
- Mullis, R.L., Rathge, R., & Mullis, A.K. (2003). Predictors of academic performance during early adolescence: A contextual view. *International Journal of Behavioral Development, 27*, 541-548.
- Myrberg, E., & Rosén, M. (2008). A path model with mediating factors of parents' education on students' reading achievement in seven countries. *Educational Research and Evaluation, 14*(6), 507-520.
- Myrberg, E., & Rosén, M. (2009). Direct and indirect effects of parents' education on reading achievement among third graders in Sweden. *British Journal of Educational Psychology, 79*, 695-711.
- Nal'ibali. (2013). *Nal'ibali: Children's Literacy Resources*. Retrieved 1 November 2013 from <http://nalibali.org/>
- Nassimbeni, M., & Tandwa, N. (2008). Adult education in two public libraries in Cape Town: a Case study. *Journal of Library and Informational Science, 74*(1), 83-92.
- NEEDU. (2013). *National Report 2012: The State of Literacy Teaching and Learning in the Foundation Phase*. Pretoria
<http://www.education.gov.za/LinkClick.aspx?fileticket=rnEmFMiZKU8%3d&tabid=860>.
- Neuschmidt, O. (2007). *International Data Base (IDB) Analyzer Demonstration*. Baku.
- NICHD. (2000). Factors associated with fathers' caregiving activities and sensitivity with young children. *Journal of Family Psychology, 14*(2), 200-219.
- Nietzsche, F.W. (1907). *Nietzsches Werke (Grossoktavausgabe)*. Leipzig: C.G. Naumann.
- O'Connor, P. 1994. *Thinking Work 1: Theoretical Perspectives on Workers' Literacies*. Sydney: ALBSAC.
- OECD. (2008). *Reviews of National Policies for Education: South Africa*. France: OECD Publications.
- OECD. (2010). *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Vol. 1)*. PISA, OECD Publishing.
- Orr, A.J. (2003). Black-white differences in achievement: The importance of wealth. *Sociology of Education, 281*-304.

- Park, H. (2008). Home literacy environments and children's reading performance: A comparative study of 25 countries. *Educational Research and Evaluation*, 14(6), 489-505.
- Parsons, S., & Bynner, J. (2008). *Illuminating disadvantage: Profiling the experiences of adults with Entry level literacy or numeracy over the lifecourse*. London: National Research and Development Centre for adult literacy and numeracy, Institute of Education, University of London.
- Payne, G., & Payne, J. (2004). Secondary Analysis. In G. Payne & J. Payne (Ed.), *Key Concepts in Social Research* (pp. 214-219): SAGE Publications. Retrieved 15 January 2013 from http://www.sagepub.com/gray3e/study/chapter20/book%20chapters/Secondary_Analysis.pdf
- Pellegrini, A.D. (1991). A critique of the concept of at risk as applied to emergent literacy. *Language Arts*, 68, 380-385.
- Pittman, J.F., Keiley, M.K., Kerpelman, J.L., & Vaughn, B.E. (2011). Attachment, Identity, and Intimacy: Parallels Between Bowlby's and Erickson's Paradigms. *Journal of Family Theory and Review*, 3, 32-46.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1-24.
- Portes, A. (2000). The Two meanings of Social Capital. *Sociological Forum*, 15(1), 1-12.
- Pretorius, E.J. (2002). Reading ability and academic performance in South Africa: Are we fiddling while Rome is burning? *Language Matters: Studies in the Languages of Africa*, 33(1), 169-196.
- Pretorius, E.J. (2008). What happens to literacy in (print) poor environments? Reading in African languages and school language policies. In M. Lafon & V. Webb (Eds.), *The Standardisation of African Languages: Language Political Realities* (pp. 60-87). Johannesburg: Institut Français d'Afrique du Sud Johannesburg.
- Pretorius, E.J. (2010). Issues of complexity in reading: Putting Occam's razor aside for now. *Southern African Linguistics and Applied Language Studies*, 28(4), 339-356.
- Prinsloo, E. (2011). Socio-economic barriers to learning in contemporary society. In E. Landsberg, D. Kruger & E. Swart (Eds.), *Addressing Barriers to Learning: A South African Perspective* (2nd ed.) (pp. 29-47). Pretoria: Van Schaik Publishers.
- Prinsloo, M., & Breier, M. (1996). *The Social Uses of Literacy: Theory and Practice in*

- Contemporary South Africa*. Amsterdam: John Benjamins.
- Purcell-Gates, V. (1996). Stories, coupons, and the TV guide. Relationships between home literacy experiences and emergent literacy knowledge. *Reading Research Quarterly*, 31(4), 406-428.
- Putnam, R. (2000). *Bowling alone- The collapse and revival of American community*. New York: Simon & Schuster.
- Rashid, F.L., Morris, R.D., & Sevcik, R.A. (2005). Relationship between home literacy environment and reading achievement in children with reading disabilities. *Journal of Learning Disabilities*, 38(1), 2-11.
- READ Educational Trust. (2010). *READ Educational Trust*. Retrieved 8 November 2013 from <http://www.read.org.za/index.php?id=129>
- Republic of South Africa. (1996). *South African Schools Act (Act. 84 of 1996)*. South Africa: Government Gazette.
- Roberts, E., Bornstein, M.H., Slater, A.M., & Barrett, J. (1999). Early cognitive development and parental education. *Infant and child development*, 8(7), 49-62.
- Rosén, M., & Strietholt, R. (2010). *On the degree of comparability in trend studies as a function of differences in age and schooling*. Paper presented at the IEA IRC, Sweden. Retrieved 7 December 2013 from http://www.iea.nl/fileadmin/user_upload/IRC/IRC_2010/Papers/IRC2010_Rose_n_Strietholt.pdf
- Ross, K.N., & Postlethwaite, T.N. (1994). Differences among countries in school resources and achievement. In W.B. Elley (Ed.), *The IEA study of reading literacy: Achievement and instruction in thirty-two school systems* (pp. 123-147). Oxford: Pergamon.
- Rule, R., & Modipa, T.R. (2012). "We must believe in ourselves": Attitudes and experiences of adult learners with disabilities in KwaZulu-Natal, South Africa. *Adult Education Quarterly*, 61(2), 138-158.
- Ryan, A.B. (2006). Post-positivist approaches to research. In H. F. M. Antonesa, A.B. Ryan, A. Ryan, T. Walsh & L. Borys (Eds.), *Researching and writing your thesis: A guide for postgraduate students* (pp. 12-28). Maynooth, Ireland: MACE, National University of Ireland.
- SACMEQ. (2010a). *Reports on the Quality of Education*. Retrieved 27 March 2011 from <http://www.sacmeq.org/reports.htm#sacmeqII>
- SACMEQ. (2010b). *SACMEQ III Project Results: Pupil achievement levels in reading and mathematics*. Retrieved 27 March 2011 from

http://www.sacmeq.org/downloads/sacmeqIII/WD01_SACMEQ_III_Results_Pupil_Achievement.pdf

- Sainsbury, M., & Schagen, I. (2004). Attitudes to reading at ages nine and eleven. *Journal of Research in Reading, 27*(4), 373-386.
- Saracho, O.N. (1997a). *Teachers and Students' Cognitive Styles in Early Childhood Education*. Westport, CT: Greenwood Publishing Group.
- Saracho, O.N. (1997b). Using the Home Environment to Support Emergent Literacy. *Early Child Development and Care, 127*(1), 201-216.
- Saracho, O.N. (1999). Families' involvement in their children's literacy development. *Early Child Development and Care, 153*, 121-126.
- Saracho, O.N. (2002). Family Literacy: Exploring Family Practices. *Early Child Development and Care, 172*(2), 113-122.
- Schlee, M.B., Mullis, A.K., & Shriner, M. (2009). Parents social and resource capital: Predictors of academic achievement during early childhood. *Children and Youth Services Review, 31*, 227-234.
- Scott, J. (2004). Family, gender, and educational attainment in Britain: A longitudinal study. *Journal of Comparative Family Studies, 35*(4), 565-590.
- Scribner, S. (1984). Literacy in three metaphors. *American Journal of Education, 93*, 6-21.
- Scribner, S., & Cole, M. (1976). *Studying cognitive consequences of literacy*. Unpublished Manuscript.
- Sen, A.K. (2003). Reflections on literacy. In C. Robinson (Ed.), *Literacy as Freedom* (pp. 21-30). Paris: UNESCO.
- Sénéchal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *Journal of Child Language, 24*(1), 123-138.
- Sénéchal, M. (2006). Testing the Home Literacy Model: Parent involvement in kindergarten is differentially related to Grade 4 reading comprehension, fluency, spelling and reading for pleasure. *Scientific Studies of Reading, 10*(1), 59-87.
- Sénéchal, M., & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A 5-year longitudinal study. *Child Development, 73*, 445-460.
- Sénéchal, M., LeFevre, J.A., Thomas, E.M., & Daley, K.E. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly, 33*(1), 96-116.

- Sharp, L., McDonald, A., Sim, P., Knamiller, C., Sefton, C., & Wong, S. (2010). Positivism, post-positivism and domestic water demand: interrelating science across the paradigmatic divide. *Transactions of the Institute of British Geographers*.
- Sigel, I.E., & McGillicuddy-De Lisi, A.V. (2002). Parent beliefs are cognitions: The dynamic belief systems model. In M. H. Bornstein (Ed.), *Handbook of parenting. Vol 3: Being and becoming a parent*. Mahwah, NJ: Lawrence Erlbaum.
- Simpkins, S.D., Weiss, H.B., McCartney, K., Kreider, H.M., & Dearing, E. (2006). Mother-child relationship as a moderator of the relation between family educational involvement and child achievement. *Parenting: Science and Practice*, 6(1), 49-57.
- Snow, C.E., Burns, M.S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Sonnenschein, S., Baker, L., Serpell, R., & Schmidt, D. (2000). Reading Is a Source of Entertainment: The Importance of the Home Perspective for Children's Literacy Development. In K.A. Roskos & J.F. Christie (Eds.), *Play and Literacy in Early Childhood: Research from Multiple Perspectives*. Mahwah, NJ: Erlbaum.
- Sonnenschein, S., Brody, G., & Munsterman, K. (1996). The influences of family beliefs and practices on children's early reading development. In L. Baker, P. Afflerbach, & D. Reinking (Eds.), *Developing engaged readers in school and home communities* (pp. 3–20). Mahwah, NJ: Lawrence Erlbaum.
- South African Qualifications Authority. (2011). NQF Levels. Retrieved 8 June 2011 from <http://www.sqa.org.za/show.php?id=5690>
- Statistics South Africa. (1998). *Informal and traditional dwellings*. Retrieved 22 July 2013 from <http://www.statssa.gov.za/census01/census96/html/metadata/Docs/Dfntns.html>
- Statistics South Africa. (2012a). *Census 2011*. Stats SA: Pretoria.
- Statistics South Africa. (2012b). *General Household Survey 2011*. Stats SA: Pretoria.
- Statistics South Africa. (n.d.). *Formal dwelling*. Retrieved 22 July 2013 from <https://www.statssa.gov.za/census01/Census96/Wards/catb/..%5Cdefinitions.htm>
- Stephenson, K.A., Parrila, R.K., & Georgiou, G.K. (2008). Effects of Home Literacy, Parents' Beliefs, and Children's Task-Focused Behavior on Emergent Literacy and Word Reading Skills. *Scientific Studies in Reading*, 12(1), 24-50.

- Stevens, J.P. (2002). *Applied multivariate statistics for the social sciences* (4 ed.). NJ: Erlbaum: Hillsdale.
- Stewart, D.W., & Kamins, M.A. (1993). *Secondary Research: Informational Sources and Methods*. USA: Sage Publications.
- Storch, S.A., & Whitehurst, G.J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology*, 38, 934-947.
- Street, B.V. 1993. *Cross-cultural Approaches to Literacy*. Cambridge: Cambridge University Press.
- Street, B.V. 1995. *Social literacies: Critical Approaches to Literacy in Development, Ethnography and Education*. London: Longman.
- Sulzby, E. (1986). Writing and Reading: Signs of oral and written language organization in the young child. In W. H. Teale & E. Sulzby (Eds.), *Emergent Literacy: Writing and Reading* (pp. 50-89). Norwood, NJ: Ablex Publishing Corporation.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). *The effective provision of pre-school education (EPPE) project: Final Report: A longitudinal study funded by the DfES 1997-2004*. Institute of Education, University of London/Department for Education and Skills/Sure Start.
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using Multivariate Statistics* (5th ed.). Boston: Pearson Education Inc.
- Tamis-LeMonda, C.S., Shannon, J.D., Cabrera, N.J., & Lamb, M.E. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development*, 75(6), 1806-1820.
- Taylor, D., & Dorsey-Gaines, C. (1988). *Growing up Literate: Learning from inner-city families*. Portsmouth, NH: Heinemann.
- Thorndike, R.M., Cunningham, G.K., Thorndike, R.L., & Hagen, E.P. (1991). *Measurement and Evaluation in Psychology and Education* (5 ed.). Singapore: Maxwell Macmillan International.
- Topping, K., Dekhinet, R., & Zeedyk, S. (2011). Hindrances for Parents in Enhancing Child Language. *Educational Psychology Review*, 23, 413-455.
- Trochim, W.M.K. (2006). *Descriptive Statistics*. Retrieved 28 March 2013 from <http://www.socialresearchmethods.net/kb/statdesc.php>
- Trochim, W.M.K., & Donnelly, J.P. (2006). *The Research Methods Knowledge Base* (3rd Ed.). Mason, OH: Atomic Dog.

- UN Millennium Project. (2005). *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*. New York: Millennium Project.
- UNESCO. (1958). *Recommendations Concerning the International Standardization of Educational Statistics*. Paris: UNESCO.
- UNESCO. (1999). *Operational manual for ISCED-1997: International classification of education*: UNESCO Institute of Statistics.
- UNESCO. (2005). *Education for All Global Monitoring Report 2006*. France: UNESCO.
- UNESCO. (2008). *International literacy statistics: A review of concepts, methodology, and current data*. Montreal, Canada: UNESCO Institute for Statistics.
- Van de Mortel, T.F. (2008). Faking it: social desirability response bias in self-report research. *Australian Journal of Advanced Nursing*, 25(4), 40-48.
- Van der Berg, A., & Louw, M. (2006). *Lessons learnt from SACMEQ II: South African student performance in regional content*. Paper for DBSA/HSRC/Wits NEPAD Conference "Investment Choices for Education In Africa" September 19-21 2006, Johannesburg.
- Van Staden, S. (2010). *Reading between the lines: Contributing factors that affect Grade 5 learner reading performance*. (Philosophiae Doctor in Assessment and Quality Assurance Unpublished doctoral dissertation), University of Pretoria
- Van Staden, S., & Howie, S. (2010). South African teacher profiles and emerging teacher factors: The picture painted by PIRLS 2006. *Reading and Writing* 1(1), 47-60.
- Van Staden, S., & Howie, S.J. (2008). *South African teacher profiles and emerging teacher factors: The picture painted by PIRLS 2006*. Paper presented at the TLEP Conference, Boksburg, South Africa.
- Van Steensel, R. (2006). Relations between socio-cultural factors, the home literacy environment and children's literacy development in the first years of primary education. *Journal of Research in Reading*, 29(4), 367-382.
- Van Wyk, N. (1998). Organisation and governance of education in South Africa. In F. Pretorius & E. Lemmer (Eds.), *South African education and training: Transition in a democratic era*. Johannesburg: Hodder & Stoughton.
- Vartanian, P. (2011). *Secondary Data Analysis*. New York: Oxford.
- Vygotsky, L. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.

- Wangenge-Ouma, G. (2010). Funding and the attainment of transformation goals in South Africa's higher education. *Oxford Review of Education*, 34(4), 481-497.
- Weideman, A. (2013). Academic literacy interventions: What are we not yet doing or not yet doing right?. *Journal for Language Teaching*, 47(2), 11-24.
- Weigel, D.J., Martin, S.S., & Bennett, K.K. (2005). Ecological influences of the home and the child-care center on preschool-age children's literacy development. *Reading Research Quarterly*, 40(2), 204-233.
- Wickens, C.M., & Sandlin, J.A. (2007). Literacy for what? Literacy for whom? The politics of literacy education and Neocolonialism in UNESCO and World Bank sponsored literacy programs. *Adult Education Quarterly*, 57(4), 275-292.
- Wiersma, W. (2000). *Research Methods in Education: An Introduction* (7 ed.). Boston: Allyn and Bacon.
- Williams, J., Clemens, S., Oleinikova, K., & Tarvin, K. (2003). *The skills for life survey: A national needs and impact survey of literacy, numeracy and ICT skills*. Norwich: The Department for Education and Skills.
- Wilson, S., & MacLean, R. (2011). *Research methods and data analysis for psychology*. London: McGraw-Hill.
- Wolf, R. M. (1995). *The IEA Reading Literacy Study: Technical report*. The Hague: IEA.
- Wolfensohn, J. D., & Bourguignon, F. (2004). *Development and poverty reduction: Looking back, looking ahead*. Washington, DC: World Bank.
- Woolard, I. (2002). *An overview of poverty and inequality in South Africa*. Retrieved 2 February 2012 from http://www.sarpn.org.za/CountryPovertyPapers/SouthAfrica/july2002/woolard/Poverty_Inequality_SA.pdf
- World Bank. (2010). *World Development Indicators 2010*. Retrieved 5 August 2011 from <https://openknowledge.worldbank.org/handle/10986/4373>
- World Bank. (2011a). *Data: South Africa*. Retrieved 27 November 2012 from <http://www.worldbank.org/en/country/southafrica>
- World Bank. (2011b). *World development indicators*. Retrieved 27 November 2012 from <http://data.worldbank.org/news/WDI-2011-database-and-publication-available>
- Zeece, P. D. (2005). Using Literature to Support Low Literate Parents as Children's First Literacy Teachers. *Early Childhood Education Journal*, 32(5), 313-320.