

**The effect of parental involvement on Grade 4 learner literacy:  
evidence from prePIRLS 2011**

**by**

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**in the Faculty of Education**

**at the**

**UNIVERSITY OF PRETORIA**

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## DECLARATION

“I declare that the dissertation which I hereby submit for the degree M.Ed. in Assessment and quality assurance in education and training, at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.”

.....

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29 August 2017

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## ABSTRACT

The study aims to determine the effect of parental involvement on the reading literacy abilities of Grade 4 learners. Literacy is a fundamental skill needed to successfully function in a country's economy, as well as broader society. The acquisition of literacy is a complex and difficult process, where several factors can have an effect. One of the most important factors in the acquisition of literacy, is parental involvement. Many initiatives have been launched in South Africa to get parents involved in their child's acquisition of literacy, such as the Family Literacy Project and Nal'ibali. Both of these initiatives aim to improve learners' literacy through parental involvement.

In order to determine the effect of parental involvement on the reading literacy abilities learners, this study focused on selected variables from the PreProgress in International Reading Literacy Study (prePIRLS) 2011, notably from the parental responses and Grade 4 learners reading literacy achievement results. This study took the form of a secondary data analysis while specifically using descriptive and multiple regression techniques to measure the effect of parental involvement and the parental level of education on learner reading achievement.

The conceptual framework of the study consists of parental involvement and the parental level of education which might have an effect on the reading literacy ability of Grade 4 learners. The study adapted Epstein's six types of parental involvement (1992, 1994), as well as Myrberg and Rosén's (2008) path model of direct and indirect influences of parental education on learners' reading achievement.

This study found that higher levels of parental education, as well as higher levels of parental involvement can be associated with higher reading literacy achievement results. Therefore parental involvement is of great importance in children's development of reading literacy skills.

### **Key Terms:**

*PrePIRLS, reading literacy, parental involvement, parental level of education, parental behaviours, reading literacy achievement, parental education, secondary analysis*

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## DECLARATION


### To whom it may concern

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To my knowledge the manuscript is free of language errors.

Yours faithfully



Dr J. E. Mitchell

## LIST OF ABBREVIATIONS

ANA	Annual National Assessments
CEA	Centre for Evaluation and Assessment
DBE	Department of Basic Education
DCP	Data Processing Center for the IEA
DoE	Department of Education
EPPE	Effective Provision of Pre-School Education Project
IEA	International Association for the Evaluation of Educational Achievement
ISC	International Study Centre
PIRLS	Progress in International Reading Literacy Study
PrePIRLS	PreProgress in International Reading Literacy Study
SES	Socio-Economic Status
SGB	School Governing Body
SPSS	Statistical Package for the Social Sciences
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organization

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## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### 1.1 INTRODUCTION

This study aims to examine to what extent parental involvement could have an effect on the reading literacy achievement of Grade 4 learners, as measured by prePIRLS 2011 data when controlling for the parents' level of education. Parental involvement is seen as the activities that the parents do with their children when they are at home that may be associated with their children's reading literacy. The parental level of education refers to the mother's reported level of education, that is primary school, high school, graduate or post-graduate degrees.

South Africa has been striving towards improving the level of reading literacy of learners for many years. Several strategies have been proposed as possible solutions to the lack of reading literacy achievement, but according to the reading literacy results found by prePIRLS 2011 (Howie, et al., 2012), the results are still very poor. During the prePIRLS 2011 reading literacy study, it was found that only 6% of learners in Grade 4 could read at an advanced level and that 29% of the learners did not reach the Low International Benchmark<sup>1</sup>.

When one considers the literacy results of South African learners, there are several factors that that need to be taken into account, one of which is parental involvement. Parental involvement is a complicated term since there are several ways in which it can manifest in children's lives. Some of these ways include helping with homework and taking part in school meetings. When discussing parental involvement as a whole, an important aspect is the role that parental involvement plays in the attainment of reading literacy achievement in children (Jeynes, 2012). The level of education that the parent has achieved may also have an effect on the academic development of the child (Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford, Taggart, 2008). This indicates that parental involvement and the parents' level of education might play an important role in the attainment of literacy.

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<sup>1</sup> The International Benchmark is set at 500 points and points to the basic level of reading.

The government of a country plays a pivotal role in learner achievement since its resources and policies could have an effect on the learners' attainment of reading literacy. The South African Schools Act (South African Government), created in 1996, aimed to provide quality education for all. The purpose was to provide parents with the opportunity to participate in school governing bodies and to have an effect on decisions taken by the school. The South African Schools Act (South African Government, 1996) thus provides a broad framework for the role that parents play in schools, but the Act is not specific when it refers to the role of the parent.

Although legislation does not cover specifics concerning parental involvement, South African studies provide certain insights on the topic. Parental involvement has been explored by several authors including Mncube (2009) and Lemmer and van Wyk (2004). Several factors have been explored such as reasons for the lack of parental involvement and the way schools involve parents. Studies suggest that while schools do try to involve parents (Lemmer, van Wyk, 2004), some are just not interested (Mncube, 2009).

Although there has been research conducted in the South African context concerning parental involvement, no research has specifically focused on the role of parents in the attainment of literacy. The aim of this study was to examine the extent to which parental involvement could be associated with the reading literacy achievement of Grade 4 learners, as measured by prePIRLS 2011 in South Africa when controlling for the parents level of education, as measured by the mother's reported levels of education.

### **1.1.1 THE SOUTH AFRICAN CONTEXT FOR THIS STUDY**

In the South African context, there are many examples of studies that have aimed to test the reading literacy abilities of learners. The Annual National Assessments (ANA) is one of these examples. The ANAs are conducted annually and are administered by the Department of Basic Education (2016). The ANAs were conducted for the first time in February, 2011 and are intended to improve the language and mathematics skills of learners in South Africa. The specific target set by the Department of Basic Education is that 90% of learners should have

acceptable levels of literacy and numeracy by 2025 (The Department of Basic Education, 2016).

The results gathered during the last successfully administered ANA assessments conducted in 2014, indicate that learners are faring quite well in literacy. The results climbed steadily from 2012 to 2014. Table 1.1, below, illustrates the increased average achievement per grade. The assessment conducted on Home Language in 2014 shows that learners achieved on average above 50%, with the exception of Grade 9 learners who scored an average of 48% (Matshediso, 2016). Although these results appear to be quite high, they have been contested by several academics who refer to the results as being ‘highly unlikely’ (Spaull, 2013).

*Table 1.1: Results of ANAs from 2012 to 2014*

Grade	Home Language percentage mark			First Additional Language percentage mark		
	2012	2013	2014	2012	2013	2014
<b>1</b>	58%	61%	63%			
<b>2</b>	55%	57%	61%			
<b>3</b>	52%	51%	56%			
<b>4</b>	43%	49%	57%	34%	39%	41%
<b>5</b>	40%	46%	57%	30%	37%	47%
<b>6</b>	43%	59%	63%	36%	46%	45%
<b>9</b>	43%	43%	48%	35%	33%	34%

When the ANA results are compared with other studies, such as PIRLS, prePIRLS and TIMSS 2011, the credibility of the ANA results come into question, even though the Department of Basic Education has used independent consultants to try to counter criticism of the results. The PIRLS and prePIRLS 2011 results, as discussed

above, present a very different picture of literacy in South Africa. The prePIRLS 2011 found that 29% of learners could not reach the Low International Benchmark<sup>2</sup> (Combrinck, van Staden & Roux, 2014).

In addition to the ANA assessments, the *Action Plan 2014: Towards the realisation of schooling 2025* is an initiative that was developed by the Department of Basic Education (2016) in order to try and increase the quality of education in South African schools and, by implication, improving the literacy results of learners. The plan identifies several role players involved in achieving this goal; the most important are the parents of the learners.

The *Action Plan 2014* (2016) states that parents should be well-informed of what is happening in schools and should be involved in school affairs. They should also receive regular reports on how their children are performing at school. Parents should know when untoward things are happening in schools and should have the confidence to report these activities to the Department of Basic Education (Department of Basic Education, 2016). Another important point mentioned in the Action Plan and in the Schools Act of 1996 (South African Government, 1996) is the definition of the term 'parent' and how parents can be involved in School Governing Structures.

According to the Director-General of Basic Education in South Africa the role that parents and guardians play in supporting children's education is essential. However, parents still believe it is the responsibility of the teachers and the Department to educate their children (Soobrayan, 2012). Keeping this in mind, the Department still has not developed a policy, nor has it introduced a strategy to show or tell parents how they can be involved effectively in the education of their children, even though they have considered the content of the Action Plan.

The role of the parents is very important and numerous studies have shown that a high level of parental involvement has a positive effect on academic and literacy results (Fan and Chen, 2001; Lemmer & van Wyk, 2004; Olsen & Fuller, 2008). In addition, the level of education of parents have an effect on the level of their

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<sup>2</sup> As set by the International Benchmark which is a qualitative description of learner performance at different levels in order to describe their competence at of the set scores.

involvement. Mncube (2009) found that uneducated parents are less involved in school affairs such as the school governing bodies than educated parents.

Other research conducted in the South African context relating to parental involvement concerns the involvement of black parents. A study conducted on parental involvement by Singh, Mbokodi and Msila (2004) found that many parents did not understand their role, and 90% of parents deemed the school competent enough to deal with their children without their input. Also, the problems that learners experienced in their home environments had an effect on their performance in the classroom. The conclusion found in the study was that learners who receive attention from their parents from a young age were more empowered to deal with school work independently later in life (Singh, et al., 2004).

In the South African context there are many factors that might have an effect on the literacy abilities of learners that still need to be researched. As parental involvement is one of these factors the present study will add to the available knowledge about literacy in South Africa.

## **1.2 PROBLEM STATEMENT AND RATIONALE OF THE STUDY**

Literacy in South Africa is a concern. According to research conducted by Desmond (2006), there are between 7.8 and 8.5 million functionally illiterate and between 2.9 and 4.2 million completely illiterate adults in South Africa. These statistics indicate that even though there is a legislative framework in place, there are still many adults that do not have basic literacy skills. In addition, it is probable that some of these illiterate adults have children.

According to de Witt, Lessing and Lenyani (2008) parents play an essential role in a child's acquisition of literacy and language skills. If the parents happen to be illiterate, their positive effect on the child's acquisition of literacy may be less than desired. During the 2011 cycle of the prePIRLS reading literacy study, where the reading and comprehension abilities of Grade 4 learners were tested, the results found that the learners fared far below the international centre point, even when they were expected to write a much easier assessment than learners from other country's (Howie, et al., 2012). These results show that there is reason to be concerned about the reading literacy results of South African learners.

Literature on the child's acquisition of literacy indicate that several factors are at play (Geske & Ozola, 2008; Bennet, Weigel & Martin, 2002; Levy, Gong, Hessels, Evans, Jared, 2006). According to Desmond (2006; 2010) one of the factors that might have an effect on the child's acquisition of literacy, is the involvement of the parents. In South Africa an initiative has been launched by Desmond (2006; 2010) to encourage parents to become involved in their children's literacy development. The Family Literacy Project, conducted in KwaZulu-Natal, aims to enhance the early literacy skills in children by supporting parents in their role as the first educators of their children. Another goal of the project is to increase the level of education of the parents so that they, in turn, can help their own children increase their reading literacy skills. The reason for increasing the level of education of the parents is that children generally learn from people around them (Desmond, 2006).

The prePIRLS 2011 reading literacy research project explored many factors that might have an impact on the reading performance of Grade 4 learners. The impact of the home environment and the way parent's encouraged reading literacy was one of the research objectives. In the study, parental level of education, parents' occupation, number of books in the home, and the availability of the Internet in the home were grouped together under 'Home resources'. A scale was then developed to show how many resources the learners had available. The range varied from many to few resources at home (Howie, et al., 2012). Since parental level of education was listed under 'Home resources', the exact effect of this specific resource could not be measured. This research addresses this issue.

When exploring the importance of the present study, the positive effects of parental involvement and the negative effects of the lack of parental involvement should be discussed by considering the available literature on the topic. In American schools research has been conducted on the effects of parental involvement by, among others, Elena and Lam (2013), Gonzalez (2002), Jeynes (2007) and Hill and Taylor (2004). In one study it was found that children with whose parents were not involved had a higher risk of leaving school before graduating than expected and experiencing discipline problems (Chen & Gregory, 2009).

The positive effect of high parental involvement is important since it has a significant effect on the reading literacy achievement of learners (Yang Hansen & Gustafsson,

2016). According to Hill and Taylor (2004), a higher level of parental involvement will lead to better academic achievement (Chang, Park, Singh, & Sung, 2009) and it can also be construed that a child will experience fewer discipline problems (Carlson, 2006).

Another study shows how parental involvement promotes achievement. The first way is by increasing social capital, which means that the more parents are involved in their child's school, the more equipped they will be in terms of skills and information (which is defined as social capital) of school activities in which their children are involved. The result is that learners will fare better academically if their parents have the skills to assist them with homework and improve the learning that takes place at home (Hill & Taylor, 2004).

The second way in which parental involvement increases achievement is through social control. According to Hill and Taylor (2004), this occurs when parents and schools work together to build a framework to establish goals that are both behavioural and academic in nature and will lead to a reduction in problem behaviour (Hill & Taylor, 2004).

With the positive effects of parental involvement and the negative effects of a lack of parental involvement discussed, the context also has to be explored in terms of what research has been done on parental involvement in South Africa. There are some examples of parental involvement (Mncube, 2009; Lemmer, & van Wyk, 2008), but there are no examples in the South African context of the effect of parental involvement on the acquisition of reading literacy achievement in Grade 4 when controlling for the parental level of education. This points to the unique perspective of the present study.

#### AIM AND OBJECTIVES OF STUDY

1. The primary aim of this study is to determine the effect of parental involvement on the reading literacy abilities of Grade 4 learners.
2. The study also aims to identify the parental behaviours that can be associated with higher reading literacy achievement results.

3. The final aim is to determine the specific reading literacy activities completed by the parent that can be associated with the higher reading literacy achievement results.

### **1.3 MAIN RESEARCH QUESTIONS**

The aim of this study is to determine whether parental involvement and parental education affect the reading literacy results of Grade 4 learners. This study used a secondary data analysis of the PrePIRLS 2011 reading literacy achievement data gathered in South Africa as well as parental questionnaires and reading literacy results of the Grade 4 learners. Only the items that are relevant to the research questions were addressed.

The level of education as measured by the mothers' reported levels of education were divided into eight response categories. When both parents completed the questionnaire, the term 'parental education' was used to refer to the highest level of education of the mother.

The following research questions will guide the study:

#### **To what extent does parental involvement affect the reading literacy of Grade 4 learners?**

The study was guided by secondary research questions:

- 1) What is the level of parental involvement in reading literacy activities of the Grade 4 learners?
- 2) Which level of the mother's education can be associated with the highest reading literacy scores achieved by learners?
- 3) What literacy activities performed by parents with their children contribute to higher reading literacy scores among Grade 4 learners?

### **1.4 RESEARCH METHODOLOGY**

The aim of this research is to determine to what extent parental involvement will affect the reading literacy of Grade 4 learners, using the prePIRLS 2011 South



African data. The study will take on the form of a secondary data analysis within a quantitative research approach.

Various authors (Dale, Arbor & Procter, 1988; Heaton, 2011; Johnston, 2014) have suggested definitions of a secondary data analysis. The definition accepted for this study is that the researcher analyses data originally gathered for a different purpose (Dale, 2011). This can lead to new research questions addressed with the data that already exists (Babbie & Mouton, 2014). Using secondary data sets have many benefits such as being cost- and time-efficient. The researcher is also not in contact with the respondents, which makes the research independent or detached (Welman, Kruger, Mitchell & Huysamen, 2005). Using secondary data analysis may leave room for bias since the researcher has not compiled the research methods herself. However, bias can be limited if the sample design is transparent since the researcher will be able to access relevant resources to ensure objectivity (Payne & Payne, 2011).

This study drew on selected items from the prePIRLS 2011 South African data, particularly from questionnaires completed by parents. The data from the prePIRLS 2011 reading literacy study was collected using a cross-sectional survey (Howie, et al., 2012). A cross-sectional survey is used to make inferences about a certain population at a certain point in time and may be repeated in certain intervals, such as the prePIRLS reading literacy study that occurs in a five-year cycle (Hall, 2011). According to the researchers of the prePIRLS 2011 (Howie, et al., 2012), the selected sample was sufficient to represent South African Grade 4 learners, thus inferences can be made about these learners.

The present study employed many different variables to address the main and secondary research questions; for this reason a descriptive and regression analysis was used. The specific type of descriptive analysis used is a univariate analysis that explores a single variable (Chamberlain, 2013). A multiple regression analysis was also used to explore the relationship between the multiple variables that determine parental involvement and their effect on reading literacy abilities. Chapter 4 provides a more in-depth discussion on the research design and methods used in this study.

## 1.5 STRUCTURE OF THE DISSERTATION

**Chapter 2** provides an overview of the IEA and the PIRLS 2006, PIRLS 2011 and prePIRLS 2011. The definition of reading literacy as defined by the PIRLS and prePIRLS 2011 reading literacy study, as well as the different contexts for learning to read, namely national and community, home and classroom contexts are explored. The PIRLS and prePIRLS 2011 assessment framework consists of the purposes for reading and processes of comprehension. The purposes for reading include reading for literary experience, and acquiring and using information, while the processes of comprehension include focusing on retrieving explicitly stated information, making straight-forward inferences, interpreting and integrating ideas and information, and examining and evaluating content, language and textual elements. Lastly, the assessment instruments, achievement booklets, various question types and scoring procedures, as well as the questionnaires completed by the learners, parents, teachers, principal and curriculum coordinator, are discussed.

**Chapter 3** provides an overview of the literature available on the definition of parental involvement, the effect of parental involvement on literacy, measuring parental involvement, the effect of the parental level of education on parental involvement, and the effect of parental level of education on children's literacy. The conceptual framework of the study draws on Epstein's six types of parental involvement (Epstein, 1992; 1994) and the path model of direct and indirect influences of parental education on learners' reading achievement (Myrberg & Rosén, 2008). The conceptual framework was used to guide the analysis and interpretation of the results.

**Chapter 4** discusses the research design and methods used in the original prePIRLS 2011 reading literacy study, as well as that of the present study. This study is a secondary data analysis entrenched in a post-positivist quantitative paradigm. Multiple regression and descriptive analysis, using the IDB Analyzer software to conduct the statistical analysis of the data was used to address the research questions. The prePIRLS 2011 sample, data collection and monitoring, data capturing and quality assurance is discussed. The parental questionnaire was used to gather information concerning the effect of parental involvement on the literacy of the Grade 4 learners. Thus, the parental questionnaires were used

against the reading literacy achievement results. Lastly, ethical clearance was applied for and granted by the University of Pretoria's ethical committee for analysing the data. Permission was not sought from the CEA since the data is available in the public domain.

**Chapter 5** focuses on the analysis and reliability of the items used in this study. The descriptive statistics used to measure the level of parental involvement is provided, as well as the reliability results determined by the use of Cronbach's alpha. The next stage of the data analysis is the multiple regression analysis and the r-square value which shows the variance of the results. Lastly, evidence for answering the main and sub-questions is provided from the various analysis methods.

**Chapter 6** presents a summary of the results through a discussion of each sub-question and accompanying results. A discussion of results highlights the importance of parental involvement in literacy, as well as the effect of parental levels of education. The chapter concludes with reflections on the conceptual framework, the main conclusions, research design and methodology reflections and proposals for future, practice and further research.

## CHAPTER 2

### THE PROGRESS IN INTERNATIONAL READING LITERACY STUDY (PIRLS) 2011

#### 2.1 INTRODUCTION

“More than any other skill, the ability to read is fundamental to successfully navigating the school curriculum. Moreover, it is central to shaping each individual’s trajectory through life, his or her economic wellbeing, and the ability to actively and fully participate in broader society” (Mullis, et al., 2012). The phrase conveys the importance of literacy in modern society and the effect it will have on any learners’ future contribution to society. According to Sénéchal and LeFevre (2002), a factor that may have an effect on the literacy abilities of learners is the parental involvement that the learner experiences at home. What can be construed is that parental involvement plays a deciding role in the literacy abilities of learners (Bennett, et al., 2002).

The International Association for the Evaluation of Educational Achievement (IEA) based in the Netherlands, is an independent international organisation that participates in various research projects around the world. The IEA was established in 1958 when scholars met at the UNESCO Institute for Education in Germany. One of the studies facilitated by the IEA, is PIRLS (Progress in International Reading Literacy Study) which aims to provide reliable information on the reading literacy abilities of learners in various country’s (International Association for the Evaluation of Educational Achievement, 2011).

The first PIRLS study took place in 1991, but was originally called the Reading Literacy Study. The study occurs in five-year cycles. During the 2006 cycle there were 40 country’s and 45 education systems that participated in the study. The PIRLS 2006 study was one of the most comprehensive studies of the reading literacy achievement of Grade 4 and 5 learners in South Africa because all 11 official languages were used to assess the learners. South Africa had the largest sample of all the country’s who participated (Howie, et al., 2012). According to the PIRLS 2006 guidelines, learners who had completed four years of formal schooling had to be assessed. While this referred to Grade 4 learners Grade 5 learners were included

as a national option in South Africa. The Grade 5 learners were thus the second population included in the study (Howie, et al., 2012).

During the next cycle PIRLS 2011 country's were given the opportunity to see trends from the 2006 study. Not only was PIRLS 2011 administered to Grade 5 learners but a new assessment instrument, called the preProgress in International Reading Literacy Study (prePIRLS), was also developed by the IEA to test the reading literacy achievement of learners in developing country's such as South Africa. PrePIRLS 2011 was a way to test the reading literacy in developing country's: it included simpler reading comprehensions, vocabulary and grammar than the PIRLS. The underlying purpose of the tests was to assess the reading skills that serve as a basis for success in PIRLS. South Africa, Colombia and Botswana participated in prePIRLS 2011; in South Africa the assessment was conducted in all 11 official languages (Combrinck, et al., 2014).

The next section starts with an explanation for reading literacy as used in the prePIRLS reading literacy study (Section 2.2), followed by a description of the IEA and PIRLS (Section 2.3) and a discussion on the different contexts of learning to read including home, school and classroom (Section 2.4). In Section 2.5 the discussion of the prePIRLS assessment framework considers the purposes for reading and of comprehension. In Section 2.6 the assessment instruments are discussed by focussing on reporting reading achievement, the achievement booklet design, the types of questions used, the procedure for scoring, and the background questionnaires that were used to determine the behaviour and attitudes of several role-players. The chapter concludes with a summary (Section 2.7).

## **2.2 READING LITERACY**

According to a report compiled by the Cambridge Assessment (2013), reading literacy, comprises many definitions of literacy and reading literacy. A comprehensive definition of reading literacy used by PISA (Programme for International Student Assessment) states "reading literacy is understanding, using, and reflecting on written texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society" (Technische Universitat

Munchen, 2016). However, the IEA has developed its own definition in order to serve as a foundation for any PIRLS studies undertaken.

A working definition of reading literacy was developed by the IEA in 1991 to serve as a foundation for the first PIRLS 2001 reading literacy study (Mullis, et al., 2009, p. 10). It defines reading literacy as “the ability to understand and use those written language forms required by society and/or valued by the individual” (Mullis, et al., 2009, p. 11). Nevertheless, a new definition was developed for the PIRLS 2011 study and defines reading literacy as follows:

“...reading literacy is 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., 2009, p. 11).

Being able to construct meaning of what is read, as well as knowing effective reading strategies and how to reflect on what is being read are emphasised in this definition. Readers are also seen as being positive towards reading and reading for enjoyment and recreation (Mullis, et al., 2009).

## **2.3 THE INTERNATIONAL ASSOCIATION FOR THE EVALUATION OF EDUCATIONAL ACHIEVEMENT (IEA) AND PIRLS**

### **2.3.1 The IEA**

The International Association for the Evaluation of Educational Achievement (IEA) is a research institute that can trace its origins back to 1958. The institute started with a group of scholars, educational psychologists, sociologists and psychometricians who met at the UNESCO Institute for Education in Germany. They came together to discuss problems associated with school and learner evaluation and to measure both inputs and outcomes of education (International Association for the Evaluation of Educational Achievement, 2011).

The IEA established their first offices in Hamburg, with a permanent secretariat based in the Netherlands. The IEA Data Processing and Research Center, located

in Germany, was then established to centralise the data collected. The IEA-ETS Research Institute was also established to create a central point for statisticians to come together and attend training concerning large-scale assessment (International Association for the Evaluation of Educational Achievement, 2011).

The first study conducted by the IEA was started in 1960 and showed that large-scale, cross-national surveys are possible. Several studies covering a wide variety of topics, including mathematics, reading comprehension, information technology, geography, science and non-verbal abilities were conducted after the first study. All these studies contribute to a sound understanding of processes that occur in the education systems of certain country's and across a broad international context. They also propose what the possible link between the intended curriculum, the implemented curriculum and the achieved curriculum could be (International Association for the Evaluation of Educational Achievement, 2011). Additional data is gathered with the help of school principals, teachers and learners in order to understand the teaching and learning contexts.

The aims of IEA include:

- Helping policymakers identify the strength and weaknesses of education systems through the setting of international benchmarks;
- Providing policymakers with enough data to increase their understanding of school- and non-school features that affect the teaching and learning of learners;
- Providing enough data to enable the identification of areas where help and action is needed;
- Developing and improving the capacity of education systems to engage in strategies for monitoring and improvement;
- Contributing to the development of researchers from around the world in the field of educational evaluation (International Association for the Evaluation of Educational Achievement, 2011).

The IEA focuses on cross-sectional and longitudinal non-experimental designs, with respondents selected by means of a sample survey method. The cross-sectional studies repeat their assessment every five years in subjects like reading, mathematics and science. Examples of these studies include the Progress in

International Reading Literacy (PIRLS) and Trends in International Mathematics and Science Study (TIMSS). The purpose of TIMSS is to provide data concerning science and mathematics to improve teaching practices (Mullis, et al., 2009, p. 7).

### **2.3.2 PIRLS 2006 Study Design in South Africa**

The PIRLS study is used for comparative purposes to assess the reading literacy achievement of learners. More specifically, PIRLS aims to help the participating country's make informed decisions about how to improve teaching and learning in reading.

PIRLS was conducted for the first time in 2001 and occurs in five-year cycles. It was implemented in South Africa for the first time in 2006 when there were 40 country's and 45 education systems that participated in the study. According to the PIRLS 2006 guidelines, learners who had completed four years of formal schooling had to be assessed. This translated to Grade 4 learners, but Grade 5 learners were also included as a national option in South Africa. The Grade 5 learners were thus the second population to be included. The PIRLS 2006 study was one of the most comprehensive investigations into the reading literacy achievement of Grade 4 and 5 learners in South Africa since all 11 official languages were used in the assessment. South Africa also had the largest sample of the international participating country's (Howie, et al., 2012).

The PIRLS 2011 study used surveys and assessment instruments to gather data not only of the reading literacy abilities of learners, but also of the contexts in which learners acquire literacy. The requirement of the assessment instruments was that learners who participated had to be tested in the language in which they were taught (Howie, et al., 2008). Even though the guidelines set by the IEA expect 5% of the data to be verified, all of South Africa's data were verified (Howie, et al., 2008). The results gathered in the PIRLS 2006 study showed that the reading literacy achievement rates in South Africa were below average. The PIRLS 2006 average score was set at 500 points, but South African Grade 4 learners scored an average of 253 points, while Grade 5 learners scored an average of 302 points (Mullis, et al., 2012).



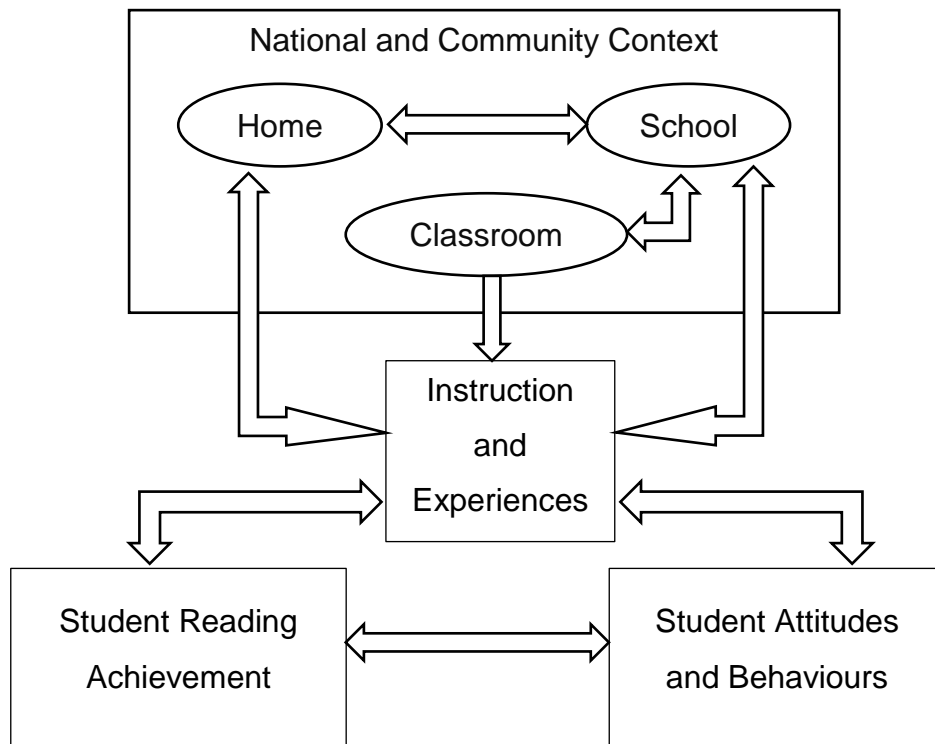
### **2.3.3 PIRLS and PrePIRLS 2011**

During the next cycle, country's were given a chance to see trends from the 2006 study (Mullis, et al., 2012). Not only was PIRLS 2011 administered to Grade 5 learners, but a new assessment instrument was also developed by the IEA to test the reading literacy achievement of learners in developing country's. The new assessment was called the preProgress in International Reading Literacy Study (prePIRLS). The test included simpler reading comprehension tests, simpler vocabulary words and easier grammar than the PIRLS. The purpose of the tests was to assess reading skills that serve as basis for success in PIRLS. South Africa, Colombia and Botswana participated in prePIRLS 2011. In South Africa all 11 official languages were included in the tests (Combrinck, et al., 2014).

When looking at the scores achieved in the prePIRLS 2011 study, the participating country's still fared poorly. While Colombia scored an average of 576 points, Botswana and South Africa still scored below the international centre point of 500, with Botswana achieving 463 points and South Africa, 461 points (Howie, et al., 2012).

## **2.4 CONTEXTS FOR LEARNING TO READ**

Reading literacy is often attained through different activities and experiences that operate within a certain context. At a young age, the school- and home environment play an important role in establishing skills, behaviours and attitudes towards reading. The background questionnaires collected data concerning the different contexts which in turn effects the learners reading literacy achievement. The current sub-section will briefly describe the prePIRLS 2011 assessment framework with all the different contexts that effect the learners' ability to read. These include the contexts of learning to read, national and community context, the home context, the school context and the classroom context, indicated in Figure 2.1.



*Figure 2.1: National and Home Contexts for the Development of Children's Reading Literacy (Mullis, et al., 2009, p. 35)*

There are contexts, including home and school environments, where various activities and experiences contribute to the acquisition of literacy. The home and school contexts are located in various communities that all differ in available resources, goals set by community members, and the organisation of the community (Mullis, et al., 2009, p. 33). These factors affect the acquisition of literacy. The relationship between the home, school and classroom and how they affect children's acquisition of literacy is shown in Figure 2.1, In addition Figure 2.1 indicates that national and community contexts shape this relationship.

#### **2.4.1 National and Community Context**

There are many factors that affect the literacy levels of children. According to the PIRLS 2011 Assessment Framework (2009), a few of these factors include the culture, social and political structures, and the economic climate in a country. According to Machet and Tiemensma (2009) learners without reading literacy skills will not be able to function in the difficult 'information society', thus the importance of acquiring reading literacy skills to function in an ever-changing society is

emphasised. Reading literacy achievement is increased through various strategies and resources that a country has available (Mullis, et al., 2009).

There are many challenges when it comes to choosing strategies to teach children how to read; these strategies will be affected by many factors. One of these factors is the historical background of the country that might have an effect on how decisions are made concerning language of instruction and the implementation of these decisions. Another factor is that the importance of literacy is affected by the background and beliefs of the people of a country. Because of this, national and local policies reflect the emphasis that the country places on literacy (Mullis, et al., 2009, p. 36).

The country's demographics and national economy affect the rates of literacy of the people of the country. In large country's there can be difficulty in implementing a standard curriculum (Mullis, et al., 2009, p. 37).

The economic status of the country also affects the resources available. In South Africa, R236 million was spent on education during the 2014/2015 financial year (South African Government, 2016). The funds were used to support the advancement of educational facilities and provide more qualified teachers.

The organisation and structure of the education system affect the policies that are created and implemented in a country. A country can either decentralise or centralise education systems that affect the consistency of what is taught in class. In a centralised system a country makes educational decisions about curriculums and policies on a national or regional level. This leads to a consistent system, in which every learner is granted the same opportunity. In a decentralised system important educational decisions are made in classrooms, resulting in many variations when schools or classes are compared (Mullis, et al., 2009, p. 37).

South Africa's education system functions in both a centralised and decentralised manner since school governing bodies can make important decisions concerning the school. However, ultimately the power of providing sufficient curriculum documents lies with the Department of Education (Pampallis, 2002).

### **2.4.2 The Home Context**

The home context consists of many direct and indirect variables that might affect the acquisition of literacy in learners. According to Machet and Tiemensma (2009), should a learner operate in a home environment which does not promote reading, he or she will never participate in voluntary reading activities. There are many factors that can determine the child's reading literacy abilities, including the interactions between children and adults and the reading resources, like libraries, that are available (Makin, 2003). A strategy to promote literacy developed by UNESCO (2006) consists of updating the environment of children to facilitate literacy. This means that more books are added to libraries.

According to the PIRLS 2011 Assessment Framework, there are some major factors that contribute to the acquisition of reading literacy development. These are:

- parental emphasis on reading literacy acquisition;
- economic, social and educational resources of the parents;
- behaviour and attitudes that parents display towards reading.

In order for the development of literacy to take place, the home environment must be centred on activities that encourage the acquisition of literacy (Mullis, et al., 2009). Parents need to motivate their children to read by expressing positive attitudes towards reading and being literate. Through parental involvement, the connection between the school and home can be strengthened since learners who have a strong home - school connection tend to achieve better literacy results (Mullis & Martin, 2007).

The learning environment is affected by factors such as economic status, social status and culture, which in turn can have an effect on the acquisition of literacy (De Witt, et al., 2008). It has been found that children who come from low socio-economic families experience an educational disadvantage when compared with families with a higher socio-economic status (Park, 2008). In addition the learning environment affects the development of literacy during a child's early years (De Witt, et al., 2008) and depend on family factors like the amount of time that is spent reading with the child. The educational level of parents also affects children's academic achievement. Davis-Kean (2005) found that there is a positive correlation

between the education level of parents and the academic achievement of their children.

Attitudes and behaviour that parents display towards reading play an integral part in children's attitude and behaviour towards reading. Parents who participate in reading activities, cultivate positive reading experiences in young children. Parents can also express positive opinions about reading and literacy, which will lead to children reading for pleasure (Mullis, et al., 2009).

### **2.4.3 School Context**

There are many factors and environments that might affect the acquisition of literacy. One of the main environments is the school. Learners tend to acquire basic reading literacy skills by their fourth year of schooling which enables them to read and understand more intricate material. This is a direct result of the school which starts to expect more from learners at that stage (Mullis, et al., 2009, p. 42).

According to the PIRLS 2011 assessment framework, the factors that affect the attainment of reading literacy of children are:

- the characteristics of the school;
- the way the school is organised;
- an atmosphere that promotes learning;
- school resources;
- parental involvement in school activities.

There are several characteristics that can have an effect on the academic achievement of a school. The academic achievement of urban schools tends to be better than schools in rural areas. Furthermore schools in areas where there are less favourable economic conditions tend to have environments that are less favourable for academic achievement. Poor reading literacy abilities might be a reflection of the school at which a learner is enrolled (Mullis, et al., 2009).

The context in which formal reading instruction takes place should be defined through the use of the curriculum and policies that pertain to literacy. The importance of literacy education and teaching educators how reading literacy should

be approached ought to be emphasised. Principals play an integral role in creating a learning environment that is conducive to the teaching of reading literacy. Principals can engage in classroom visits and encourage improved teaching methods (Mullis, et al., 2009).

A positive learning environment can contribute to better academic performance, since the school will have a demanding academic programme with dedicated personnel who actively participate in the progress of the school (Mullis, et al., 2009). These factors will affect the acquisition of literacy and, in turn, the academic achievement of learners. Miles and Stipek (2006) found that children's social behaviour affects their academic achievement. Children's social behaviour affects the school climate and can lead to an environment which promotes or prevents learning. For quality instruction to take place certain resources are needed. These resources include efficient teachers, the space available in the classroom, the presence of a library, and additional psychology or technology specialists (Mullis, et al., 2009).

In many studies it was found that an increase in parental involvement lead to better academic achievement (McBride, Dyer, Liu, Brown & Hong, 2009; Lam & Ducreaux, 2013; Taliaferro, DeCuir-Gunby & Allen-Eckerd, 2009). According to the PIRLS 2011 Assessment Framework (Mullis, et al., 2009), parental involvement should be encouraged by schools since it will lead to higher academic results (Dearing, Kreider & Weiss, 2008). The present study pays special attention to the effect of parental involvement since it affects the reading literacy achievement of Grade 4 learners.

#### **2.4.4 Classroom Context**

It has been found that the real effect on children's reading literacy achievement is determined by the intervention strategies implemented by teachers in the classroom (Mullis, et al., 2009). These teaching practices should include the improvement of the intrinsic motivation of learners to read (Lefstein, 2008), which means that teachers can positively or negatively affect learners' ability to read.

Teacher training also plays an important role in the reading literacy achievement of learners in a classroom. Teachers need to understand how learners learn to read

and how to teach reading effectively. The classroom should also be structured to accommodate these teaching strategies (Mullis, et al., 2009).

The teachers' efficiency is also affected by the resources and the climate of the school, where a more positive atmosphere can lead to teachers who experience more job satisfaction and which, in turn, will increase learning in the classroom. Nutrition and prerequisite skills also play a role in how learners are affected in the classroom pertaining to their reading literacy achievement (Mullis, et al., 2009).

The classroom context is also affected by the instructional materials available and how they are used to encourage reading literacy. A classroom library and computers are examples of instructional materials. Homework and assessment (formal and informal) can be used to track the progress of the learners in class to ensure that their reading literacy levels are up to standard (Mullis, et al., 2009).

## **2.5 PIRLS 2011 ASSESSMENT FRAMEWORK**

According to the PIRLS 2011 Assessment Framework, reading literacy is one of the most important skills that a learner can have. This forms the reasoning behind the development of the PIRLS study to determine the level of reading literacy achievement of learners and their experiences of literacy at home and in school (Mullis, et al., 2009).

PIRLS 2011 assessed the reading literacy achievement of children in their fourth year of schooling. The focus was on the following three aspects:

- the purposes for reading;
- the processes used for comprehension;
- the reading behaviour and attitudes concerning reading literacy.

The different aspects of reading literacy in the prePIRLS 2011 study are illustrated in Table 2.1

*Table 2.1: The Different Aspects of Reading Literacy in the prePIRLS 2011 Study*

<b>Purposes for reading</b>	<b>Processes of Comprehension</b>	<b>Reading Behaviour and Attitudes</b>
Reading for literary experiences	Focusing on and retrieving explicitly stated information	Learners reading literacy behaviour
Reading to acquire and use information	Drawing straight-forward conclusions	Positive attitudes towards reading
	Understanding and integrating ideas and information	Learners' attitudes toward learning to read
	Examining and evaluating content, language and textual elements	

### **2.5.1 Purposes for Reading**

According to the PIRLS 2011 Assessment Framework there are many reasons for reading, including reading for pleasure, learning and for personal interest (Mullis, et al., 2009). PrePIRLS 2011 focuses on reading for literary experience and reading to acquire information (Mullis, et al., 2009). These purposes operate in a variety of contexts.

A certain type of text is associated with each purpose for reading. Reading for literary experience happens mostly through reading fiction. The other purpose for reading, reading to acquire and use information, is generally associated with formative and instructional texts (Mullis, et al., 2009), but since people's taste in literature differ greatly, any text can be used for either purpose.

Since both purposes for reading are equally important at Grade 4 level, the PIRLS Reading Assessments gives equal opportunity to both in assessing these purposes. Table 2.2 presents the percentages of the texts from the reading assessments devoted to each purpose for reading.



**Table 2.2: Percentages of the PIRLS and prePIRLS Reading Assessments Devoted to Reading Purposes**

PIRLS 2011		prePIRLS 2011	
Purposes for reading		Purposes for reading	
Literary experience	50%	Literary Experience	50%
Acquire and Use Information	50%	Acquire and Use Information	50%

Reading for literary experience encourages learners to become involved in the text and, ultimately, to enjoy reading. Through the use of fantasy or reality-based texts, learners must incorporate their own experiences into the text. In the PIRLS 2011 assessment narrative texts were predominantly used. Since PIRLS are written by such a wide variety of learners, specific literary texts such as poetry could not be included since they are coupled with specific contexts (Mullis, et al., 2009).

Reading to acquire and use information is the second purpose for reading. Through the use of informational texts learners have the opportunity to experience real aspects of the world. Informational texts can be either chronological, logical or expository because they all describe events or provide explanations. In turn these informational texts assist learners to make decisions and guide their behaviour (Mullis, et al., 2009).

### **2.5.2 Processes of Comprehension**

Each reader constructs meaning in a different way by using the four processes of comprehension. These four processes, namely, focusing on and retrieving explicitly stated information, making conclusions, interpreting and integrating ideas and information, and examining and evaluating content, language and textual elements (Mullis, et al., 2009). In the PIRLS 2011 assessment a variety of questions dealing with comprehension was used to assess whether learners could construct meaning from the texts they read. The questions in the assessment were designed with the help of the four comprehension processes mentioned above. There is a link between the length and difficulty of a text and the comprehension processes that are required to answer a question (Mullis, et al., 2009).

As mentioned above, the first comprehension process is the focus on and retrieval of explicitly stated information. The reader will pay attention to some information, but not to other information; this shows that readers differ in the attention they give to explicitly stated information. Readers also use a variety of ways to locate and understand information when questions are asked about the content. This means that the reader must not only understand the information, but also see the relevance of the information to the question.

Reading tasks that exemplify explicitly stated information include:

- identifying information that is needed to address the specific goal of reading;
  - seeking specific ideas;
  - searching for definitions of words and phrases;
  - identifying the setting of a story;
  - finding the topic sentence or main idea (when specifically asked for this)
- (Mullis, et al., 2009, p. 25).

The second comprehension process is drawing straight-forward conclusions. As learners read text, they draw conclusions concerning ideas and information that are not openly stated. Learners are able to extract meaning from the texts in order to fill 'gaps'. Conclusions are sometimes very straight-forward since they are just based on information in the text where ideas must be connected. Learners with good reading skills can draw these conclusions fairly easily. According to the PIRLS 2011 Assessment Framework (2009), this type of comprehension processing makes the learner focus on more than just a sentence or phrase. Reading tasks that exemplify this process include:

- inferring that one event could lead to another;
- deducing the main point made by a series of events or arguments;
- determining the referent of a pronoun;
- identifying any generalisations made in the text;
- describing the relationship between two characters (Mullis, et al., 2009, p. 26).

The third comprehension process is the interpretation and integration of ideas and information. Learners use their understanding of the world to interpret text. This means that everyone experiences text differently, depending on their own experience and knowledge. By actively engaging with a text, learners construct their own ideas about the meaning and contexts within text. Learners can demonstrate this type of comprehension processing by completing reading tasks such as:

- discerning the overall message or theme of a text;
- considering an alternative to actions of characters;
- comparing and contrasting text information;
- inferring the mood or tone of a story;
- interpreting a real-world application of text information (Mullis, et al., 2009, p. 27).

The last comprehension process is the examination and evaluation of content, language and textual elements. Evaluating the text in terms of language and content will ultimately lead to judging the text itself critically. Learners read and compare the text with their own internal framework. This leads to them either rejecting, accepting or remaining neutral to the interpretation of the text. Learners can participate in the interpretation of a text in a subjective or objective manner.

Learners can demonstrate this type of comprehension processing by completing reading tasks such as:

- calculating the chances of the described event actually happening;
- describing how the author has devised a surprise ending;
- judging the completeness or clarity of information in the text;
- determining an author’s perspective on the central topic (Mullis, et al., 2009, p. 30).

**Table 2.3: Percentages of the PIRLS and prePIRLS 2011 Reading Assessments Devoted to Processes of Comprehension**

<b>Process of comprehension</b>	<b>PIRLS</b>	<b>PrePIRLS</b>
Focus on and retrieve explicitly stated Information	20%	50%

<b>Process of comprehension</b>	<b>PIRLS</b>	<b>PrePIRLS</b>
Make straight forward inferences	30%	25%
Interpret and integrate ideas and information	30%	25%
Examine and evaluate content, language and textual elements	20%	0%

The percentages indicated in Table 2.3 show the percentage of questions that were devoted to the different processes of comprehension. The data indicates that a large percentage of questions addressed the focus on and retrieval of explicitly stated information. Since prePIRLS was designed to test the reading literacy of learners who had just started learning to read, the majority of questions focused on this essential foundation of reading comprehension (Mullis, et al., 2009).

## **2.6 ASSESSMENT INSTRUMENTS**

PrePIRLS 2011 was designed to test basic reading skills that were needed for learners to excel in PIRLS 2011. The prePIRLS assessment contains a wide-range of reading comprehensions to measure Grade 4 learners' reading literacy achievement. Questionnaires were also used to gather information about the home, school and community context of the learners. The passages used in the prePIRLS 2011 assessment were shorter and contained easier assessments than those used in the PIRLS. In total there were six reading passages with accompanying questions. PIRLS and prePIRLS 2011 learner, parent, school and teacher questionnaires used the same items with only grade differences. Thus the PIRLS 2011 assessed Grade 5 learners while the prePIRLS 2011 assessed Grade 4 learners.

### **2.6.1 Reporting Reading Achievement**

Since prePIRLS 2011 could provide a broad picture of reading literacy of Grade 4 learners in South Africa, more than one type of achievement had to be included. Reading purpose and comprehension processes were included with the overall

reading achievement results. PrePIRLS 2011 consists of six reasonably undemanding reading passages with questions for each passage. Learners were presented with only a part of the assessment as divided by the administrators of the assessment. A reading achievement scale was used to show the overall reading literacy of the learners in South Africa based on the responses received through the data collection methods. By adding the results on the scale, trends in the reading literacy abilities of the learners could be measured. Since the scale was the same for all country's participating in prePIRLS, the data could be compared.

The scales for prePIRLS 2011 included the overall reading literacy scale and separate achievement scales for the literacy, informational and comprehension reading purposes. The scale for the comprehension process focused on the retrieval of explicitly stated information. Scales were used to report the reading literacy achievement of the Grade 4 learners (Mullis, et al., 2009).

### 2.6.2 Reading Literacy: Achievement Booklet Design

With the design of the prePIRLS 2011 achievement booklets, six blocks of reading passages with accompanying assessment items were developed and resulted in four hours of testing time. A matrix sampling technique with the use of matrix sampling blocks (see Table 2.4) were used to administer the assessment to the Grade 4 learners. The matrix of sampling techniques were new when used for the prePIRLS 2011 and will be used for future assessment cycles (Mullis, et al., 2009).

*Table 2.4: PIRLS 2011 Matrix Sampling Blocks (Mullis, et al., 2009, p. 63)*

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

The six test blocks presented in Table 2.4 are distributed across nine learner booklets and each block appears in three separate booklets so that the blocks are linked (see Table 2.5). Each block includes two 40-minute test blocks so that each

learner has to complete 80 minutes of testing time, followed by 15 to 30 minutes for learner questionnaires.

**Table 2.5: prePIRLS 2011 Learner Booklet Design**

<b>Booklet</b>	<b>Part 1:</b>	<b>Part 2:</b>
1	L1	L2
2	L2	L3
3	L3	I1
4	I1	I2
5	I2	I3
6	I3	L1
7	L1	I1
8	L2	L2
9	L3	L3

Great care was taken to ensure that the passages were engaging, familiar to the learners and age-appropriate. The passages were kept short, generally not more than 400 words, so that the learners could effectively focus on the passage and still have time to complete the items. As a way of facilitating the completion of the assessments, items are distributed throughout the passages. In cases where learners needed to focus on a specific passage, the items and passages are on facing pages. The distribution of the items helped learners to answer some questions, even if they did not complete the whole passage.

Multiple-choice items and items with a constructed-response format were used to simplify the answering of the assessments. Constructed-response items, that require a very short answers, made up 60% of the items in the assessment. This

simplified the work learners had to do since the amount of reading in the traditional PIRLS assessment was reduced. In addition, using constructed-response items instead of multiple-choice made the results more trustworthy because there is a limited number of plausible distractors available for multiple choice items (Mullis, et al., 2009).

### **2.6.3 Question Types and Scoring Procedures**

The items used in the prePIRLS assessment were either multiple choice or constructed-response questions. The ability of the learners to understand literary and informational texts was assessed through these questions. The mark count of each was in line with the purpose of the assessments where each multiple choice item was worth one mark, while the constructed-response questions were worth one or more.

PrePIRLS used multiple choice item types with four response options where only one option is correct. According to the PIRLS and prePIRLS assessment framework (Mullis, et al., 2009), the questions allowed for a simple answers and thus were not ideal to assess more complex interpretations of the learners' understanding. There are rules that simplify the composition of multiple-choice items. Items should be clear and unambiguous. The response options should be kept brief in order not to overload the learner. Lastly incorrect options should be written in such a way that they are believable.

The second type of question was the constructed-response questions. In this question type learners write out their responses instead of choosing from a list. Answering this type of question requires a deeper level of understanding of the text, where meaning is created through the interaction between the learner, the text and the content of the questions. Any of the four comprehension processes can be assessed through this question type. An important point to keep in mind when composing such questions is that the text should have enough information to enable the learner to answer the question.

The scoring of the questions was aimed at an average of 15 marks per block, with seven multiple-choice items at one mark each, two or three short-answer constructed-response questions, worth one or two marks each and one extended-

response item worth three marks. Each block addressed all the prePIRLS comprehension processes. Not all blocks had the exact same number of questions since different texts will vary in the number of possible questions (Mullis, et al., 2009).

#### **2.6.4 Background Questionnaires: Behaviours and Attitudes**

PrePIRLS 2011 not only gathered information concerning the reading literacy achievement of Grade 4 learners, but also gathered information to construct the context surrounding the results of the reading literacy achievement. The different contexts at play are the community, home and school, all factors that might affect the reading literacy achievement results of learners. The respondents of the questionnaires were the learners, parents, teachers and principals of the schools that participated in the study. The National Research Coordinators completed questionnaires to construct the context of the curriculums of specific country's. The results of the latter questionnaire were compiled in the PIRLS Encyclopedia. Each of the questionnaires is discussed in detail below:

##### *1. Learner questionnaire*

Each learner who participated in the reading literacy assessment completed a questionnaire. They needed between 15 and 30 minutes to complete the questionnaire that included questions pertaining to their classroom experiences, home reading behaviour, demographic information and attitudes towards reading (Mullis, et al., 2009, p. 72).

##### *2. Learning to Read Survey (Home Questionnaire)*

This questionnaire was completed by the parent or caregivers of learner participating in the prePIRLS 2011 assessment. The questionnaire took about 10 to 15 minutes to complete and contributed important information pertaining to the home contexts of the learners. Information about the language spoken at home, parental involvement, the parent's education, books available at home and homework activities was gathered (Mullis, et al., 2009, p. 73).



### 3. *Teacher Questionnaire*

The questionnaire was used to gather data pertaining to classroom practices that may have affected the development of reading literacy. Teachers responsible for the Grade 4 reading acquisition completed this questionnaire. Information gathered in the questionnaire included the teachers' attitudes towards teaching, their background and education, how they involved learners in class, classroom context and classroom resources. Teachers needed about 30 minutes to complete the questionnaire (Mullis, et al., 2009, p. 73).

### 4. *School questionnaire*

The questionnaire pertaining to the school context was completed by principals. Again, many factors were addressed such as the characteristics of the school, how much time was spent on instruction, the role of the principal and staff, and parental involvement. It took about 30 minutes to complete (Mullis, et al., 2009, p. 73).

### 5. *Curriculum Questionnaire*

The national research coordinator completed this questionnaire. The goal of the curriculum questionnaire was to provide information about the goals of teaching learners to read. The questionnaire included questions on the national policy on reading, goals and standards for teaching reading, time that should be spent on reading and the availability of literary resources in a country (Mullis, et al., 2009).

The curriculum used in South Africa when the PIRLS and prePIRLS 2011 data were collected was the *Revised National Curriculum Statement Grades R-9*<sup>3</sup>. Languages and Mathematics were the two focal learning programs in this Intermediate Phase curriculum (which includes Grade 4). The focus on language acquisition emphasised functional literacy in at least two languages. Where possible, learners were encouraged to attend school in their own home language<sup>4</sup>. The *Revised National Curriculum Statement* emphasised reading literacy and how it should have been approached in class (Multon & Coleman, 2012). The present study made use

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<sup>3</sup> Also known as Curriculum 2005.

<sup>4</sup> Home language is referred to as the first language that is acquired by learners (Mullis, et al., 2012, p. 612).

of selected items from the prePIRLS 2011 parent questionnaire (Learning to Read Survey) and the Grade 4 prePIRLS reading literacy achievement results.

## **2.7 SUMMARY**

Chapter 2 focused on providing an overview of the IEA, as well as the origins of the PIRLS and prePIRLS 2011 reading literacy study in South Africa conducted in 2006. Various definitions of reading literacy were provided together with the specific definition used for the prePIRLS 2011 reading literacy study. The prePIRLS 2011 assessment framework was explored, as well as the various contexts in which learners learn to read. Questionnaires completed by the parents, teachers, learners and principals were used to gather information concerning contexts such as the national and community, home, school and classroom environments. The assessment instruments used to determine the Grade 4 reading literacy results via achievement booklets and various question types and scoring were also discussed.

Although the prePIRLS 2011 reading literacy study gathered data concerning all the contexts that shape learners reading abilities, this study used only data from the parental questionnaire, and the Grade 4 reading literacy achievement results. More specifically, the parental level of education, as well as the parental level of involvement coupled with the reading literacy achievement results of the Grade 4 learners are used to address the main and sub- research questions.

## CHAPTER 3

### LITERATURE REVIEW

#### 3.1 INTRODUCTION

The purpose of this study was to examine to what extent parental involvement could be associated with the reading literacy achievement of Grade 4 learners, when controlling for the parental level of education. The PrePIRLS 2011 South African data was used and the parents' level of education was measured according to the mothers' reported levels of education. The study utilised the body of research concerning parental involvement in various contexts while exploring various factors.

The term parental involvement has been a topic of interest for quite some time (Epstein, 1987; Green, Walker, Hoover-Dempsey & Sandler, 2007; Bakker & Denessen, 2007; Altschul, 2012; Child Trends, 2013) and originates from the language compensation programs implemented during the 1960s and 1970s implemented in the United States (Bakker & Denessen, 2007). However, the term is problematic as it is seen as lacking a uniform definition (Dor, 2012), as well as having different meanings for different authors (Young, Austin & Growe, 2013; Taliaferro, et al., 2009; Lemmer, 2007). When exploring the various studies conducted on the effect of parental involvement, a study conducted in Canada found that when parents are involved, the learners' acquisition of literacy is higher than when parents are not involved (Sénéchal & LeFevre, 2002). In addition a study conducted in England in the context of the home, found that the extent of the activities that had an effect on learning had a significant independent effect on educational attainment (Melhuish, et al., 2008).

Various studies concerning parental involvement have been conducted in the South African context (Mncube, 2007; Mncube, 2010; Lemmer, 2007; Mncube, 2009; Lemmer, 2011; Makgopa & Mokhele, 2013), but not much have been written on parental involvement in school activities (Mncube, 2010; Makgopa & Mokhele, 2013). This study aims to determine the effect of parental involvement on the literacy of Grade 4 learners, and to address the gap identified in the research.

Chapter 3 starts with a review of the literature identified with the aim of the research. The sections of the chapter are structured as follow:

- Definition of parental involvement (Section 3.2)
- Effect of parental involvement on literacy (Section 3.3)
- Impact of parental involvement on literacy (Section 3.4)
- Measuring parental involvement (Section 3.5)
- The effect of parental level of education as measured by the mother's reported level of education (Section 3.6)
- The effect of parental involvement of education on children's literacy (Section 3.7)

Following these sections is the conceptual framework discussed in the introduction and rationale (Section 3.8.1) and the conceptual framework for this study (Section 3.8.2). The chapter concludes with a summary in Section 3.9.

### **3.2 DEFINITION OF PARENTAL INVOLVEMENT**

The term parental involvement and its effect on children's academic performance and literacy attainment has long been an interesting topic in the field of education. Studies conducted in South Africa show that a high level of parental involvement contributes to positive aspects in education such as high academic averages, fewer learners who leave school early, and an increase in achievement in reading (Mncube, 2009). Although there are many studies that show the positive effects of parental involvement conducted in various contexts (Bakker, et al., 2007; Jeynes, 2007; Lam & Ducreux, 2013; Gonida & Cortina, 2014) there are many issues concerning the research conducted on the topic, such as a general lack of consensus amongst researchers, that need to be explored (Young, et al., 2013).

Before a complicated term such as parental involvement can be defined, it needs to be explored in the South African context. A suitable definition is found in the South African Schools Act No. 84 of 1996. According to this Act, there are three acceptable definitions of a parent in South Africa. The first definition is the "biological or adoptive

parent”, followed by the second definition which is the “person legally entitled to the custody of a learner” and the third definition is “a person that takes responsibility for the learners’ education” (South African Government, 1996). The Act further provides a breakdown that states that a parent is responsible for ensuring that a child attends school from the age of seven to fifteen, as well as paying the school fees as determined by the school governing body (SGB).

Since the term ‘parent’ has been well-defined, different definitions of ‘parental involvement’ can be explored. Originally the term ‘parental involvement’ originated from the language compensation programs implemented during the 1960s and 1970s in the USA and Europe. The implemented programs aimed to encourage engagement and assist parents of families with a low SES and ethnic minorities to prepare their children for a successful academic career (Bakker & Denessen, 2007). The policies aimed to recreate the behaviour naturally occurring among middle-class families and assured, to a certain extent, success in school. Families with a low SES status suffered in particular because of the gap between the family and school cultures, even though the gap could be overcome by the parents becoming involved in their children’s schooling (Bakker, et al., 2007).

The term parental involvement has not been used for very long, but since the creation of the term many researchers have explored this interesting topic in various contexts. When exploring parental involvement one finds that there is a lack of uniform and acceptable definitions (Dor, 2012), and the term has different meanings for different authors (Young, et al., 2013; Taliaferro, et al., 2009; Lemmer, 2007). Parental involvement is viewed by some as simple, but it can be viewed as a “value loaded term” (Bakker & Denessen, 2007). An early definition of parental involvement used for a study conducted by Fantuzzo, Davis and Ginsberg (1995) in the United States is any behaviour by a parent that has a direct or indirect effect on a child’s cognitive development and school achievement. Examples include attending parent-teacher meetings, parents assisting in the classroom, assisting children with homework and discussing school-related activities of children. These examples are almost exactly the same as those given by Hill and Taylor (2004) who state that parental involvement in today’s context consists of the following activities: parents volunteering at schools, communication between teachers and parents, parents helping children with academic work at home, and parents attending school-related

functions. Another simplistic definition of parental involvement used in the United States, is parental participation, home-school partnership with parents as partners (Lloyd-Smith & Baron, 2010). These definitions all mention the interaction between the school and home environment.

When exploring different definitions of parental involvement, one also has to look at the differences between parental involvement where parents are involved in home-based activities and parental involvement where parents are involved in school-based activities. It is also necessary to differentiate between these activities, since studies which differentiate between the two may yield different results (Altschul, 2012). Examples of activities conducted in various contexts, such as the United States and Africa, that are home-based include encouraging success in school, talking to learners about school, expressing expectations deemed as high, helping learners with homework, and providing structure in which learning can flourish (Altschul, 2012; Chowa, et al., 2013). Examples of activities that are school-based (also conducted in the United States) include communication with the school and participating in activities which occur at school (Green, et al., 2007). For the current study, only home-based activities will be used to determine the level of parental involvement.

Parental involvement in the South African context is perceived as a combination of parents supporting academic achievement and participating in functions which have been initiated by the school (Makgopa & Mokhele, 2013). Mncube also notes that parental involvement involves parents who are aware of schoolwork and the learners' achievement in school work. Parents also have a commitment to communicate consistently with teachers about their children's progress (Mncube, 2010). The gap in the research concerning parental involvement in South Africa has been identified by authors such as Mncube (2010), who found that not much has been written on parental involvement in school activities in South Africa, even though the international research on parental involvement in school activities is quite broad. Mncube's findings are supported by Makgopa and Mokhele (2013), who found that no systematic research has been carried out to determine what type of parental involvement correlates the strongest with achievement. The present study aims to determine the effect of parental involvement on the literacy of Grade 4 learners and aims to address the gap identified in the research.

When exploring the literature, it was found that there are some problems associated with the term parental involvement. According to Lightfoot (2004) most parental involvement is meant to conform to a certain path deemed as 'normal' and no room is left for any cultural differences or habits that might differ from the norm. If parents are not involved by being invited by the school, they are not perceived as being involved (Bakker & Denessen, 2007). Another problem is that parental involvement is often seen as the ideal behaviour of typical American middle-class parents who have proved to contribute effectively to their children's school achievement and well-being (Bakker, et al., 2007).

A study conducted in England found that although the participation of parents in the SGB and school structures are important, parent involvement in academic activities has a greater effect on the learner's academic achievement (Okeke, 2014), and from the many authors who have written on the subject, it can be deduced that parental involvement simply refers to parental behaviour that relates to the child's school or schooling. Thus, in this study, parental involvement needs to be clearly defined in order to avoid confusion. Parental involvement is thus defined as situations where parents are active participants in the process of educating their children through home-based activities. In Chapter 4 of this dissertation the specific variables that determine the level of parental involvement are discussed.

### **3.3 EFFECT OF PARENTAL INVOLVEMENT ON LITERACY**

Learning to read is a complex and difficult process that takes much time and effort (Sénéchal & LeFevre, 2002). In addition, reading is found to be a strong predictor of academic success in the United States (McMahon, 2010). Reading literacy, as found in a study conducted in Latvia, is the basis for all processes of learning and is necessary not only for learning languages, but also for studying any of the other subjects (Geske & Ozola, 2008). It can be assumed that some of the reading literacy skills are picked up at home or in pre-primary school. The idea that the involvement of parents in the academic development of their children will increase their academic achievement is supported by various studies conducted in different contexts (Sénéchal & LeFevre, 2002).

Parents are responsible for formal and informal literacy activities at home (Sénéchal & LeFevre, 2002) and an example of these formal and informal activities is a parent reading a story to a child; this is seen as an informal way to acquire literacy. Formal literacy activities take place when the parent does actual reading and writing exercises with the child. These informal and formal activities eventually lead to the development of the child's own literacy formation.

A study conducted by Sénéchal and LeFevre (2002) found that children whose parents were involved in their acquisition of literacy in Grades 1 to 4 were on standard when compared with their counterparts whose parents' involvement was at much lower levels. The children with a low parental involvement were up to two grades behind their peers. In another study conducted by Melhuish, Phan, Sylva, Sammons, Siraj-Blathford and Taggart (2008) in England, the effects of the home learning environment and experiences in preschool centres on literacy and numeracy development were studied. The study found that the extent of the activities that took place at home and that inspired learning had a greater independent effect on educational attainment. The study also found that the effect of the home environment and parenting on children's literacy skills might be effected by specific skills, such as letter-sound relationships being taught to the children. Children also acquired cognitive skills such as literacy, through interacting with others who encouraged and assisted in skills development.

The effective provision of pre-school education project (EPPE) (Siraj-Blatchford, Taggart, Barreau & Grabbe, 2007) examined the relationship between children's home learning environment and their reading attainment. The project conducted in England found that when there was a high frequency of parental involvement children had high scores in pre-reading, language and early numeracy. The children of parents who participated in alphabet learning scored higher than others, and visiting libraries had a positive impact on this attainment.

A meta-analysis of 41 studies examined the relationship between parental involvement and the academic achievement of urban school children. The results of the study indicated that there was a significant relationship between overall parental involvement and the academic achievement of their children. Since the regression coefficient results were larger for studies that employed sophisticated controls, it



indicated that parental involvement had a more significant effect than differences in socio-economic status, race and many other factors. The study also found that nearly all the components of parental involvement were positively and significantly associated with educational outcomes (Jeynes, 2005).

Lam and Ducreux (2013) found many sources that state that parental involvement positively effects learners' academic progress, but in their own study conducted in the United States they found that there was no noteworthy relationship between help that the parents provide, the monitoring of the learners by the parents and the parents' focus on the attainment of literacy. What was significant was that as the communication between the parent and learner increased, so did the academic achievement of the learner. It can thus be assumed that the relationship on communication between parents and their children is of vital importance. This communication can also be seen as a type of parental involvement, according to Epstein's (2011) six types of involvement.

The Department of Basic Education (Soobrayan, 2012) distributed a circular to the principals of South African schools to address parental involvement and the role that parents play in their children's literacy and numeracy skills (Soobrayan, 2012). The Department set clear targets for literacy and numeracy skills in the Action Plan 2014: Towards the realisation of schooling 2025. According to the then Minister of Basic Education, Mrs. A.M. Motshekga, parents play a vital role in their children's education but that some parents believe that they have no role to play. The Department believed that there should be better communication between parents and schools in terms of the learners' progress. Parents should discuss the individual results of the ANA's with their children's teachers. Although specific parental behaviour such as parent-teacher meetings and parents monitoring their children's progress in their workbooks is discussed, no mention is made of specific parental behaviour in literacy or numeracy activities. This shows a gap in what the Department deems to be parental behaviour that can have an effect on the literacy abilities of learners.

Few studies have been conducted to address the unique South African context concerning parental involvement. Most studies address parental involvement in SGBs (van Wyk, 2004; Mncube, 2007; Mncube, 2009) and in teacher education

(Lemmer, 2007; Singh, et al., 2004). A study conducted in South Africa that specifically addressed the family and school involvement in literacy development found that schools' support of home literacy practices was very important for reading literacy development. It was also found that children developed literacy skills before coming to school and continued to engage in different literacy activities at home after having started school (Lemmer, 2011). A specific example of a literacy study conducted on preschool Zulu children in South Africa, found that storybook reading makes a difference to language and literacy development (Pretorius & Machet; 2008). Another study conducted in South Africa explored parental involvement in school activities and found that parents were more comfortable with private than public involvement (Mncube, 2010). Research thus indicates that certain ways of interacting with children confer cognitive and linguistics advantages on children's literacy development, irrespective of language, class or culture (Hart & Risley, 2003).

### **3.4 MEASURING PARENTAL INVOLVEMENT**

Studies concerning parental involvement have used various methods to measure the level of involvement. The field of parental involvement was fragmented for some time since there were no theoretical frameworks in place to guide the research, but this is changing due to an increase in research in the field (Fan & Chen, 2001). Epstein (1987) developed one of the first theoretical frameworks for parental involvement. The framework first consisted of four types of involvement in which the parents were involved in their children's education. These activities consisted of basic parental responsibilities, school-to-home communication, involvement of parents in the school, and parental involvement in activities where learning takes place at home. Epstein (1992, 1994) later expanded these levels of parental involvement into six, and included school-related opportunities for parental involvement. These levels consisted of assistance in child-rearing skills for parents, communication between the school and parents, involvement of parents in school and volunteering opportunities, involvement of parents in learning that takes place at home, involvement of parents in the school decision-making, and involvement of parents in collaborations between the schools and community. Although these parental involvement activities were well-structured, they were written from the perspective of the school and teachers, but the authors suggest that schools can

increase the level of parental involvement as found from a meta-analysis of 25 studies (Fan & Chen, 2001).

A study conducted by Lam and Ducreux (2013) gathered data to measure parental involvement using the Inventory of Parental Influence that was developed by Campbell in 1994 created specifically with an international focus and testings conducted in China, Japan and Greece. The survey consisted of three sections where Section 1 concerned the pressures that a parent might face and the parents' access to various support structures. Section 2 concerned the help that parents provide to their children in literacy, while Section 3 concerned the communication that occurs between parents and their children. Likert scale was used for the answers in the questionnaire and each section consisted of a different number of questions.

A secondary empirical analysis on quantitative studies on parental involvement, shows that most studies of parental involvement gathered data by using questionnaires. As each study used a unique questionnaire, the comparison of the operationalisation and measurement of parental involvement was difficult (Bakker & Denessen, 2007). Although each study used its own questionnaire, there are various components which overlap. Most studies include specific concrete behaviour concerning involvement in a child's school, as well as parental involvement at home, while some studies measure only one or the other (Bakker, et al., 2007; Hoover-Dempsey & Sandler, 2005; McWayne, et al., 2004).

Another factor that might also have an effect on the way in which parental involvement is measured is that definitions of parental involvement are inconsistent as found in a meta-analysis of 25 studies (Fan & Chen, 2001). An example of this is a study conducted by Lam and Ducreux (2013) where the terms 'parental involvement' and 'parental influence' were both used to describe parental involvement. Different definitions used in the literature can lead to confusion when the results of various studies are explored.

During the PIRLS and PrePIRLS 2011 reading literacy study different questionnaires were completed by different role players in the Grade 4 learners' attainment of reading literacy. Parents, teachers and principals completed a

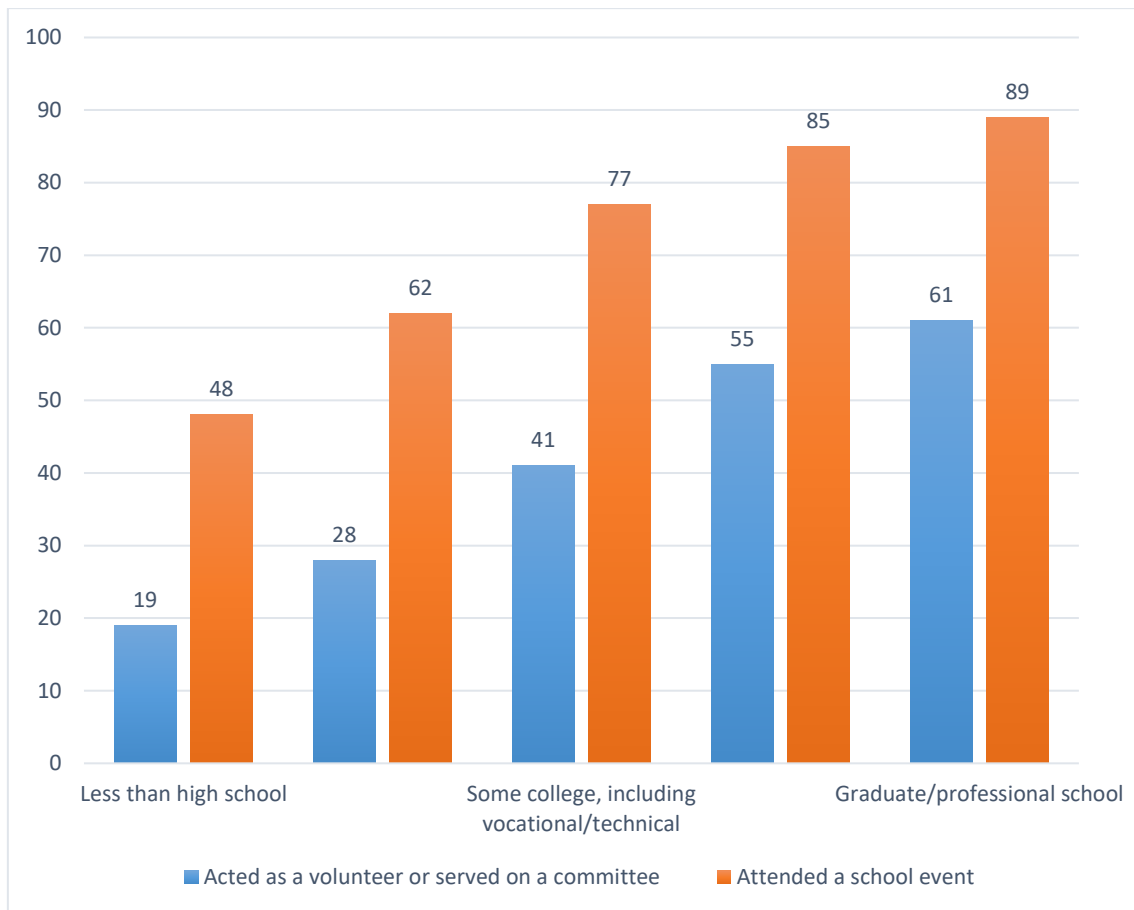
questionnaire that addressed issues concerning different components of the school and home environment. Specifically, the parents of Grade 4 learners completed questionnaires that addressed parents' specific behaviour in the attainment of reading literacy abilities of their children. Parents were asked to select activities from a list and say how often they performed these activities with their children. A nominal scale was used in order to rate the frequency of these behaviours. The PIRLS and prePIRLS 2011 thus created a means to determine the level of parental involvement (Howie, et al., 2012). In this study the behaviour identified in the prePIRLS 2011 questionnaire that parents had completed with their children was used to determine the level of involvement.

### **3.5 EFFECT OF PARENTAL LEVEL OF EDUCATION ON PARENTAL INVOLVEMENT**

The importance of parental involvement is well documented and increasing parental involvement in schools has been a goal of several organisations worldwide (J-Pal Briefcase, 2011; National Center for School Engagement, 2017; NEA Education Policy and Practice Department, 2008). When exploring the literature on the effect parents have on their children's literacy and educational attainment, there are many predictors that play a role (Myrberg & Rosén, 2008). One of the predictors is the parental level of education as found in a study conducted in seven countries.

According to research conducted by the Child Trends Organization (2013) parents with high levels of education are more likely to be more involved in their children's schools than those with low levels of education. The research conducted on parents in the United States found that more than 85% of parents who had obtained a bachelor's degree or higher attended school events. This is in contrast with 48% of parents with less than a high school education who attended school events.

The data further show that only 19% of parents who have not graduated from high school volunteered for school events, compared with 61% of cases where at least one of the parents had completed a graduate or professional qualification (Child Trends, 2013). The data from the Child Trends Organization are graphically represented in Figure 3.1 below.



**Figure 3.1: Percentage of learners in Grades K-12 whose parents reported attending school events**

Another way for parental involvement to take place, especially in South Africa, is through participation in the SGB (School Governing Body). In the South African context Mncube (2009) conducted research on parental participation in SGBs and found that the majority of governors expressed the view that parental participation depended entirely on the level of education of the parent, and this ultimately effected the parents' contributions and abilities. Van Wyk (1998) who found that illiterate parents were unable to keep up with the challenges faced in education and tended to become passive participants. Another observation made in the study by Mncube (2009) was that the more educated parents were, the more regular their attendance was at SGB meetings and that overall they had a keen interest in education, while illiterate parents had no interest in SGBs.

Bakker, Denessen and Brus-Laeven (2007) found in their study, conducted in a mixed urban/rural area in the eastern part of The Netherlands, the same results concerning the socio-economic background, level of parental involvement,

perceptions of teachers and how all these factors related to pupil achievement. They found that parents who reported high levels of involvement, had high levels of education, and demonstrated more involvement than parents with lower levels of education. Teachers were asked to rate the level of involvement of parents. They reported that parents with higher levels of education had more contact with teachers, had more influence on the school, participated more in school activities and were more involved at home than parents who had lower levels of education.

When the parental level of education and the effect it has on parental involvement is discussed, another source of data that needs to be explored is that from the prePIRLS 2011 reading literacy assessment. The prePIRLS 2011 reading literacy study refers to the “home context” which includes children’s access to various resources like “domestic, economic, social and educational resources” (Howie, et al., 2012). The resources found in home contexts refer to the number of books available in the home, children’s books found in the home, parents’ occupations, children having their own bedroom, access to Internet connections, and parental level of education. Although the prePIRLS 2011 reading literacy study gathered the level of education of the parent, these levels were classified as a part of the home environment as a whole. The parental level of involvement was also documented in the prePIRLS 2011 reading literacy study and was also categorised under the home context. According to Mullis et al. (2009) parental involvement is a characteristic of the school that affects reading literacy and the child’s attainment at school (Howie et al., 2012). Thus the prePIRLS 2011 reading literacy study gathered information concerning parental involvement and the parental level of education, but identified no meaningful relationship between these two factors.

### **3.6 EFFECT OF PARENTAL LEVEL OF EDUCATION ON CHILDREN’S LITERACY**

It is estimated that there are between 2.9 to 4.2 million illiterate people living in South Africa (Aitchison & Harley, 2006). When one considers these worrisome statistics, the importance of researching various factors which may affect the level of literacy of children in South Africa becomes clear. One such factor is the effect of the parental level of education on children’s literacy. According to various studies, the parental level of education has an effect not only on the level of literacy, but also on

factors such as the health of the child (Aslam & Kingdom, 2010; Cochrane, et al., 1982; Lindeboom, et al., 2006; Pufall, et al., 2016).

Research conducted specifically on the topic of children's literacy and academic achievement show that there is a positive correlation between the parental level of education and children's academic and scholastic achievement (Myrberg & Rosén, 2008). Consistent findings across numerous country's show that individuals with higher levels of schooling have children who also attain higher levels of schooling (Dickson, et al., 2013). An earlier study conducted by Myrberg and Rosén (2006) demonstrated the effect of parental level of education on the reading literacy achievement of Grade 3 learners in Sweden. A strong relationship between the parental level of education and the reading liteacy achievement results of the Grade 3 learners were found regardless of any school reform that was in place. Another term that emerged from the research on parental level of education and reading literacy achievement is "cultural capital" (Myrberg & Rosén, 2009).

Cultural capital is a term developed by the French sociologist Pierre Bourdieu (1986) who describes it as a theoretical hypothesis and conceptual tool that makes it possible to explain the unequal scholastic achievement of children originating from different social classes by relating academic success to the distribution of cultural capital between classes and class fractions (Bourdieu, 1986). Thus learners from different backgrounds and social classes had opposing academic achievement. The term can exist in three forms: the embodied state (dispositions of the mind and body), the objectified state (pictures, books, dictionairies etc.), and the institutionalised state (academic qualifications). The parental level of education is classified under the institutionalised state and thus the process of cultural capital (Myrberg & Rosén, 2009) starts early in the child's life and will be affected by the literacy levels of the parent. The transmission of this cultural capital is hereditary and the process of accumulating it will depend on the family and if the child is exposed to this capital during the period of socialisation (Myrberg & Rosén, 2009).

Myrberg and Rosén (2009) concluded that the parental level of education (institutionalised cultural capital) exerts an important effect on learners' reading literacy performance. Literacy should also be viewed in the context in which it is taught, and not as a set of skills that the learner will acquire. The learners' reading

literacy performance is an expression of the cultural capital in families, since highly educated parents are more likely to engage their children in reading literacy activities (Myrberg & Rosén, 2009).

More research, conducted on 37 countries that participated in the PIRLS 2011 and was specifically on the attainment of reading literacy, found that parents with a higher level of education, tended to be more involved in activities such as interacting verbally with their children, using more abstract words, using more complex syntax, and inviting their children into discussions, book-sharing and dialogical reading (Yang Hansen & Gustafsson, 2016).

A study that investigated parental level of education and the effect it had on specific reading literacy factors in the Netherlands was conducted by Bakker, Denessen and Brus-Laeven (2007). The results of the study are represented in Table 3.1:

*Table 3.1: Parental level of education and the effect on reading literacy*

<b>Pupil achievement scores</b>	<b>Low level of parental education</b>	<b>Middle level of parental education</b>	<b>High level of parental education</b>
<b>Spelling</b>	2,95	3,34	3,45
<b>Vocabulary</b>	3.33	3.62	3.70
<b>Reading comprehension</b>	3.13	3.39	3.67

The parental level of education was classified as follows:

- Low level of parental education was a primary or junior vocational education;
- Middle level of parental education was a secondary or senior vocational education
- High level of parental education was a college education or higher.



While factors such as the parental level of education is important and will have an effect on the reading literacy of the child, the home learning activities performed with the child have a higher independent effect on the educational attainment of the child (Melhuish, et al., 2008). This study showed that although the parental level of education does play a role, the level of parental involvement wields a much greater effect on the education of a child. Although the results of learner achievement considered parental education from low to high levels, the differences were not meaningful enough to draw a conclusion. The authors admit that the sample might have been relatively homogenous. When conducting the data analysis, the sample of parents who participated in the reading literacy survey needs to be taken into account.

In the present study the reported level of education of mothers is used to show the effect of parental involvement on the literacy of Grade 4 learners when controlling for the parents level of education. When exploring the literature on parental education, not many studies specifically address the effect of the mother's level of education. A study conducted in the United States on data gathered during the School Transition Study (STS) and the Comprehensive Child Development Program (CCDP) found that when the parental level of involvement was low, mothers who were more educated had children who had higher levels of literacy than mothers who were less educated (Dearing, McCartney, Weiss, Kreider & Simpkins; 2004). These findings are supported by a study conducted by Sammons, Elliot, Sylva, Melhuish, Siraj-Blatchford and Taggart (2004) during the Effective Provision of Pre-school Education (EPPE) project. The study conducted research on the impact of pre-school experience on young children's cognitive attainment when they entered primary school in England. In Table 3.2 the results of the mother's level of education and the child's achievement is presented.

*Table 3.2: The results of the mother's level of education and their child's achievement*

<b>Mother's highest level of qualification (compared to no qualifications)</b>	<b>Estimate</b>	<b>S.E.</b>
<b>Vocational</b>	0.066	0.335
<b>Academic age 16</b>	1.017	0.278
<b>Academic age 18</b>	2.392	0.412
<b>Degree</b>	4.083	0.409
<b>Higher</b>	5.969	0.572
<b>Other</b>	7.015	0.811

The SE (effect size) measures the strength in mean differences (Glass, et al., 1981) and is useful when comparing different studies (Elliot & Sammons, 2003). In the table above, the results of the study show that there is a strong, significant, positive impact on language, as well as all cognitive outcomes (Sammons, Elliot, Sylva, Melhuish, Siraj-Blatchford & Taggart, 2004). Thus it can be accepted from the research consulted that parental levels of education, especially the mother's level of education, play a significant role in children's literacy and academic achievement.

### **3.7 CONCEPTUAL FRAMEWORK**

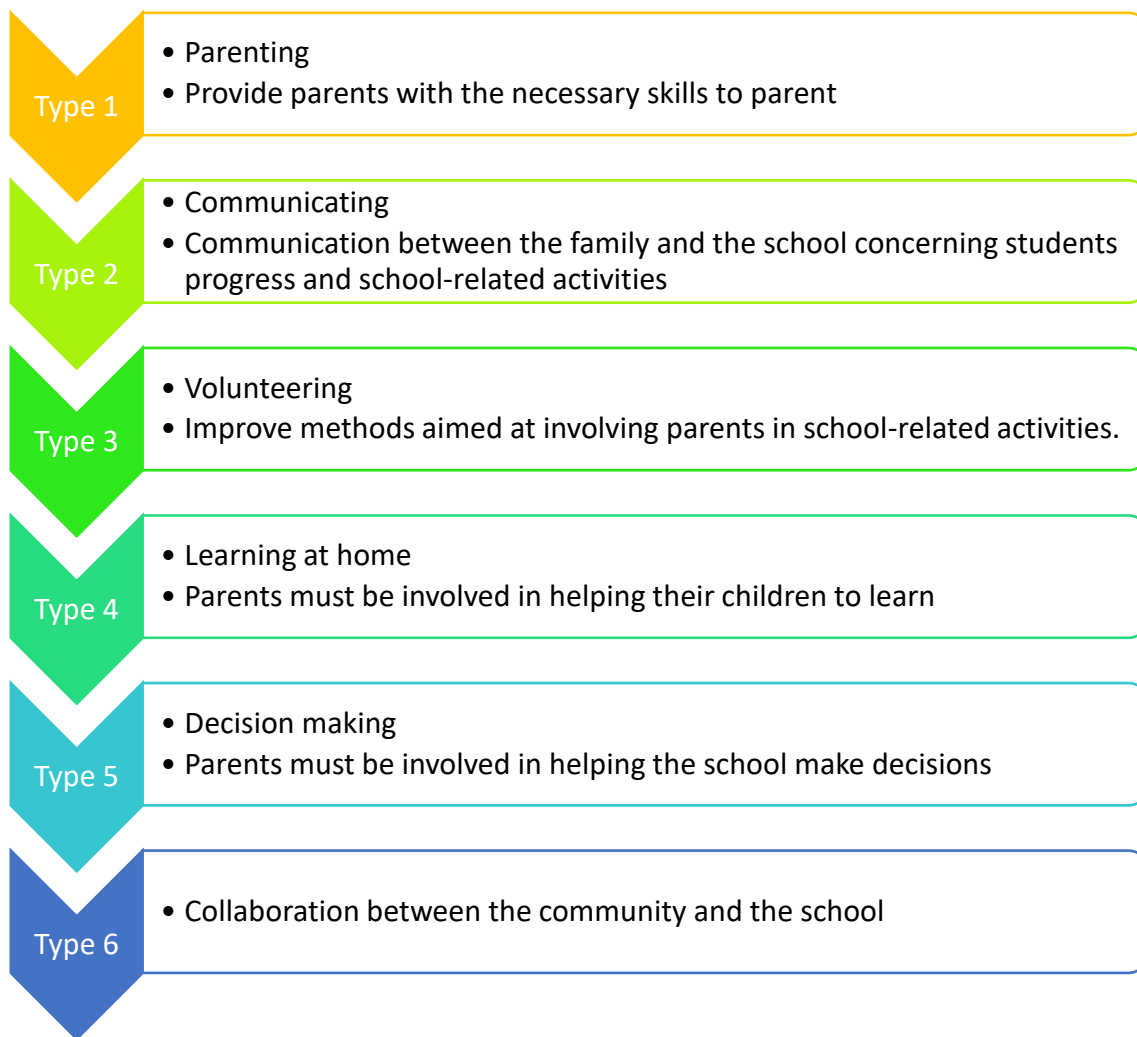
The conceptual framework for this study was developed using the principles of Epstein's six types of parental involvement (Epstein, 1992, 1994) (see Figure 3.2) and Myrberg and Rosén (2008) path model of direct and indirect influences of parental education on learners' reading achievement (see Figure 3.3). The factors that are explored can be found in the modified model of Myrberg and Rosén (2008) that includes the parental level of education, parental involvement in reading literacy activities at home and the reading literacy achievement of Grade 4 learners. The direct effect of parental level of education and level of involvement in reading literacy

activities at home on children's acquisition of literacy was researched. While indirect associations emerged, the focus remained on the direct effect. The rationale for using these frameworks are examined in Section 3.7.1 and the development of the framework used in this study is analysed in Section 3.7.2

### **3.7.1 Introduction and Rationale**

According to Epstein (1992), evidence suggests that parental involvement does have an effect on school learning, which in turn effect the literacy of learners. The statement shows the importance of literacy and the effect of parental involvement on literacy. In order to address parental involvement an effective theoretical framework concerning parental involvement should be employed. According to Fan and Chen (2001) an adequate theoretical framework which can effectively guide the research conducted on parental involvement was not developed until Epstein's model of parental involvement appeared. The theoretical model is described as comprehensive and can have a profound effect on either encouraging or discouraging parents to become involved in schools (Lemmer, 2007).

Epstein's theoretical model of the six types of parental involvement (1992, 1994) attempts to address all the levels where parents can have an effect on children's education (Fan & Chen, 2001). The model consists of different aspects in which parents can exert an effect on children's academic achievement. The model was originally developed to assist schools in developing programs that could facilitate the communication between schools and parents (Epstein, 1992, 1994).



**Figure 3.2: Epstein's six types of parental involvement (Epstein, 1992, 1994)**

Figure 3.2 shows the different types of parental involvement that have an effect on the academic achievement of the learners. This model was originally composed of four levels which consisted of four different types of parental involvement in schools. It was later expanded to the six levels illustrated in Figure 3.2.

The first type of parental involvement suggests that parents should be provided with the skills that they need in order to raise their children. This includes helping parents to create an environment that is conducive for children to learn. This type of environment includes supporting children at each age and grade, understanding the development of children and adolescents, and lastly assisting schools to understand families effectively (Epstein, 2011).

The second type of parental involvement addresses the communication that happens between the school and parent. Schools need to communicate information about school programs and the progress of children (Epstein, 2011).

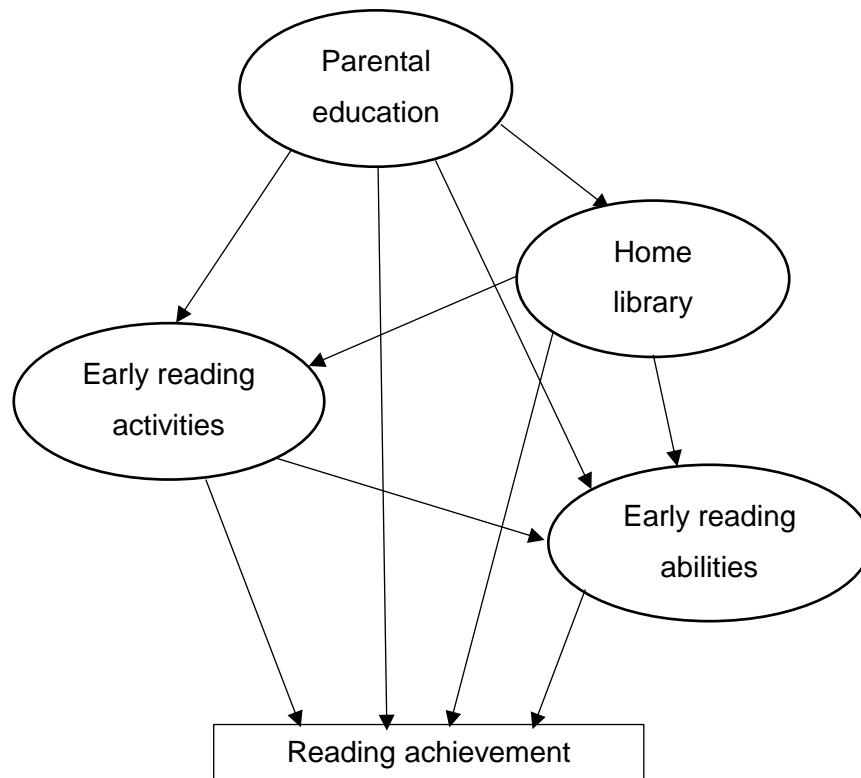
The third type of parental involvement is parents' participation in school-based activities and addresses parents volunteering to become involved and receive training to be involved effectively. Parents need to be involved in supporting students and school programs (Epstein, 2011).

The fourth type of parental involvement deals with learning that takes place at home. This includes assisting the children with homework activities, checking if children's homework is done and making sure that they understand the work (Epstein, 2011). In the present study this type of parental behaviour is deemed to be so important, that it is included in the theoretical framework.

The fifth type of parental involvement addresses parental involvement in decision-making that takes place at school. Through such involvement parents can be included in school decisions, school governing bodies, councils, committees and other parental organisations (Epstein, 2011).

The sixth type of parental involvement considers collaboration between the school and the community. The community coordinates the provision of resources and services to learners and families, and also connects learners to businesses, agencies and other groups who provide services to the community (Epstein, 2011).

According to Myrberg and Rosén (2008), students' home background affect their academic performance, which includes reading literacy skills. One of the background factors that ultimately has an effect on the reading literacy of learners is the level of education of parents. This factor was shown to be the most important dimension of socioeconomic effect on school performance. These authors suggest that, in order to address the effect of the level of education of parents on the children's reading literacy, an effective theoretical model should be used. The path model of direct and indirect influences of parental education on learners' reading achievement addresses the effect of parental level of education on children's reading literacy abilities, is (Myrberg & Rosén, 2008). The model is illustrated in Figure 3.3.



**Figure 3.3: Path model of direct and indirect influences of parental education on learners' reading achievement (Myrberg & Rosén, 2008, p.512)**

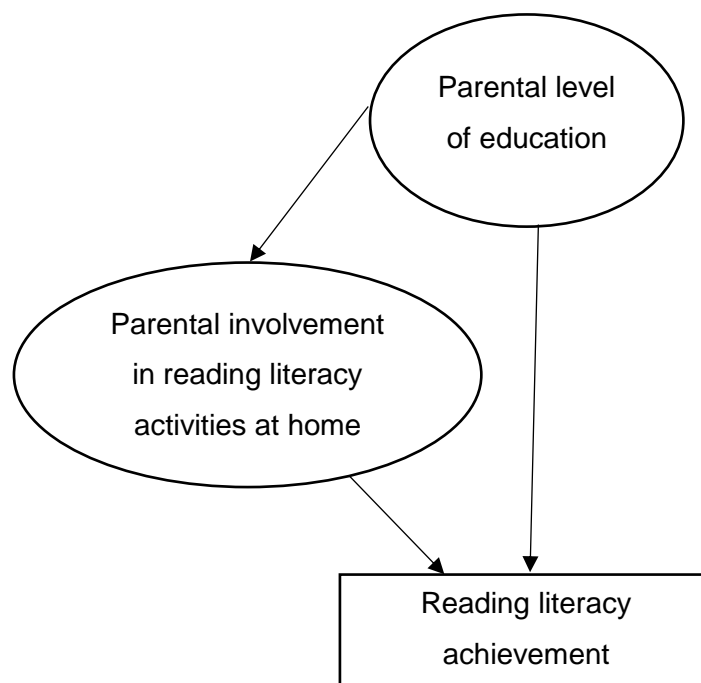
The education level of parents have a direct and indirect effect on the reading achievement of children (Myrberg & Rosén, 2008). The parental level of education is the first factor included in the model illustrated in Figure 3.3, above, and consists of two variables: the father's level of education and the mother's level of education. In the study where the model was used, eight alternatives were used to represent the levels of education. In this study, the mother's level of education is used to determine the parental level of education (Myrberg & Rosén, 2008).

The second factor included in the model is the home library and is determined by the number of books and, more specifically, of children's books in the home. The third factor, early reading activities, can determine the child's early reading abilities and reading achievement. The reading activities are determined by how much reading is done with the child and how many stories are told to the child. The fourth factor, which is also the last factor, is early reading abilities, and can be used to determine the reading achievement of the child. It is measured by the child's ability to recognise letters, as well as read words and sentences (Myrberg & Rosén, 2008).

### 3.7.2 Conceptual framework for the present study

In this study the focus is on parental involvement, parental education (as measured by the mother's reported levels of education) and learners' reading literacy achievement results. Epstein's six types of parental involvement (1992, 1994) is incorporated into the Myrberg and Rosén model (2008), while the Myrberg and Rosén model (2008) is adapted to include the fourth type of parental involvement found in Epstein's six types of parental involvement. The fourth type of parental involvement is learning activities where the parents are involved in learning that occurs at home. The model for this study was kept simple and includes only three variables.

The factors included in the conceptual framework aim to provide a model that will clarify the extent to which parental involvement affects the reading literacy of Grade 4 learners when controlling for the parents' level of education, as measured by the mother's reported levels of education. The model of the present study is distinctive and no such model exists for the unique South African context. The model is depicted in Figure 3.3.



**Figure 3.3: Relationship between parental education and parental involvement in reading literacy activities at home**

The model consists of two independent variables that may have an effect on the learner's reading literacy achievement, the parental level of education and the parental involvement in reading literacy activities at home. At the base of the model, the dependent variable is the reading literacy achievement results. According to many works consulted for the literature study, the parental level of education may have an effect on the parental involvement in reading literacy activities at home, but in the present study its direct effect on the learners reading literacy abilities are studied, as well as the effect of the parental level of involvement on reading literacy achievement.

The parental education applies to the mothers' level of education as measured by the mother's reported levels of education. The parental education levels are divided into eight categories. The eight categories are as follows:

1. Did not go to school
2. Some primary school, however lower than Grade 9/Standard 7
3. Grade 9/Standard 7
4. Grade 12/Standard 10
5. Post-secondary training (Vocational training, e.g. College)
6. Technikon diploma
7. First degree
8. Honours, Master's or PhD

Parental involvement in reading literacy activities at home is another factor that will ultimately have an effect on the reading literacy achievement of learners. The reading literacy-related activities consists of the parent's involvement in:

1. Discussing Grade 4 learners' homework with them;
2. Helping Grade 4 learners with homework;
3. Ensuring that Grade 4 learners set aside time to do their homework;
4. Asking Grade 4 learners what they have learned at school;



5. Checking that Grade 4 learners have done their homework;
6. Helping Grade 4 learners practise their reading;
7. Talking to Grade 4 learners about what they are reading.

The model proposed in this study will help fill the gap left by the Myrberg and Rosén (2008) model. Although the model created by Myrberg and Rosén addresses many different aspects of the effects of parental education on children's literacy, they do not address the amount of parental involvement, specifically in terms of reading literacy activities. The model proposed for this study specifically addresses the extent to which parental involvement in reading literacy activities is affected by parents' level of education.

### **3.8 CONCLUSION**

Chapter 3 highlighted the different components of parental involvement. Parental involvement is not a simple term and many different authors who have explored the topic have used different definitions (Young, et al., 2013; Taliaferro, et al., 2009; Lemmer, 2007). Parental involvement as well the level of education of the parent play a pivotal role in the development of learners' reading literacy achievement. The more educated the parents, the more likely they are to be involved in their children's school (Child Trends, 2013). This study is conceptualised in terms of the effect of parental involvement on the reading literacy of children, when also controlling for the parental level of education of the mother. The chapter concludes with a discussion and adaptation of the Myrberg and Rosén (2008) path model of direct and indirect influences of parental education on learners' reading achievement and Epstein's six types of parental involvement (1992, 1994) as a conceptual basis on which to build this study.

## CHAPTER 4

### RESEARCH DESIGN AND METHODS

#### 4.1 INTRODUCTION

This study aims to determine to what extent parental involvement affects the reading literacy of Grade 4 learners when controlling for the parental level of education. A secondary data analysis was conducted which lead to an elaboration of the prePIRLS 2011 data. In this chapter the design and methodology of the prePIRLS 2011 reading literacy study is discussed, as well as the design and methodology of the present study.

In Section 4.2 the research paradigm used for this study is discussed and is followed by Section 4.3 where the prePIRLS 2011 research design and methods are discussed in terms of the sample, the data collection and monitoring, the data capturing and verification and the quality assurance of the data during collection and processing.

The research design (Section 4.4) and the research methods (Section 4.5) used in this study are discussed, as well as the sample, data source, data analysis methods and methodological norms. The research ethics is discussed in Section 4.6, and Section 4.7 provides a summary of Chapter 4.

#### 4.2 RESEARCH PARADIGM

The study is placed within a post-positivist paradigm. Clark (1998) originally devised the concept 'paradigm' and argued that when research is conducted philosophical positions have to be used to define the nature of the matter, what can be researched, and how the facts produced by this research can be achieved (Clark, 1998).

According to O'Leary (2007), post-positivism states that by using this method to understand the world, everything that is known as being 'true' must be questioned. Any knowledge available is ambiguous and should be explored in the context in which it was found. The role of a post-positivist researcher cannot be seen as separate from the research. Although the science on which the research is based cannot be seen as the personal ideas of the researcher, the two cannot be

separated. The personal feelings or processes (Clark, 1998) that the researcher employs will have an effect on how the study is conducted and how the results are gathered.

A quantitative research approach was used because the data collection and secondary data analysis was carried out using statistical analysis to describe and understand the effect of parental level of involvement on the reading literacy abilities of the learner when controlling for the parental level of education. Although most studies involving parental involvement follow a qualitative approach, this study will benefit from analysing data using quantitative methods as it produces data that can be generalised to conditions that are similar to those in the study. The effect of the study is to provide evidence to support the theory that parental involvement has an effect on literacy and that parents' own levels of education can have an effect on how much they are involved.

### **4.3 RESEARCH DESIGN AND METHODS: PREPIRLS 2011**

PrePIRLS 2011 aims to determine the reading literacy abilities of Grade 4 learners in a five-year cycle (Mullis, et al., 2009) in all 11 official languages. The prePIRLS 2011 was the first of its kind to gather data on basic reading skills of learners who were required to succeed in the PIRLS reading literacy assessment. The prePIRLS 2011 study used a cross-sectional survey that aimed to gather information about reading literacy at a certain time, within a population in South Africa. Questionnaires were also used to gather information about the population in order to represent Grade 4 learners.

#### **4.3.1 Sample**

The population from which the data were gathered for the prePIRLS 2011 was a nationally representative sample of South African Grade 4 learners. According to the international guidelines set by the IEA, at least 4 000 learners and a minimum of a 150 schools per country were needed to participate in the prePIRLS 2011 reading literacy study (Howie, et al., 2012).

The sampling method consisted of a "three-stage stratified cluster sampling" (Howie et al., 2012). Random samples were divided into clusters (schools) until smaller

groups (classrooms) were chosen. Schools chosen for the prePIRLS 2011 study had to offer education up to at least Grade 4 level.

The prePIRLS 2011 reading literacy study was administered to Grade 4 learners. The sample was stratified by language and school status. The school status categories were created to show the differences between schools in terms of the grades they offered.

For the prePIRLS 2011 study, 345 schools were sampled countrywide, but only 341 of these selected schools eventually took part in the study. This translated to 15 744 Grade 4 learners participating. The assessment took place in all 11 official languages and the schools were divided into clusters according to their language. The learners were thus tested in a language that was offered in Foundation Phase in the sampled school.

#### **4.3.2 Data Collection and Monitoring**

Since there were so many participants in the prePIRLS 2011 reading literacy study, a large number of instruments had to be employed to ensure the reliability and validity of the assessment instruments. In total there were 175 instruments that were all processed, packaged and randomly assigned to the learners who participated. The assessment took six weeks to complete. The names of the learners who participated were added to the instruments beforehand.

A market research company, appointed by the CEA, conducted the main data collection between October and November 2011. Training was provided to all the fieldworkers and supervisors to ensure that strict guidelines were adhered to. There were some challenges faced by the researchers. Some of the participating schools received incorrect assessment instruments as a result of incorrect information concerning language. Some schools were affected by the changing of testing dates and labour strikes.

### **4.3.3 Data Capturing and Verification**

During the course of the prePIRLS 2011 reading literacy study the data<sup>5</sup> was captured with the use of the programme, WinDEM, specifically designed by the IEA. All the country's that participated had access to the programme that not only captured the results, but also verified them.

The data were first captured using the ASCII format and were given to the CEA data manager. Statistical Analysis System (SAS) software was next used to access, sort and validate the data according to the requirements set by the IEA. The last format the data was in, before being imported to WinDEM, was dBASE.

As discussed in Chapter 2, only 5% of the data needed to be verified after being captured (thus the verification rate), as stated by the guidelines set by the IEA. Although this was the expectation, all of South Africa's data were verified.

### **4.3.4 Quality Assurance**

According to the PIRLS 2011 report (Howie, et al., 2012), a strict monitoring process was employed in order to adhere to the strict guidelines and standards set by the IEA/PIRLS 2011 to ensure the quality of the data that was gathered. As professional data capturers were employed, very strict procedures were required to unpack and process the instruments.

The CEA conducted impromptu visits to school where data collection was conducted, in order to monitor that the data capturers had followed the guidelines and procedures set for the fieldwork. Additionally, a Quality Control monitor, trained by the IEA, was appointed to conduct further external quality control checks. The quality control monitor reported directly to the IEA secretariat that dealt with data collection in South Africa (Howie, et al., 2012).

## **4.4 RESEARCH DESIGN: PRESENT STUDY**

In the present study, a secondary data analysis of the prePIRLS 2011 South African data was conducted. A secondary data analysis is an empirical re-analysis of data

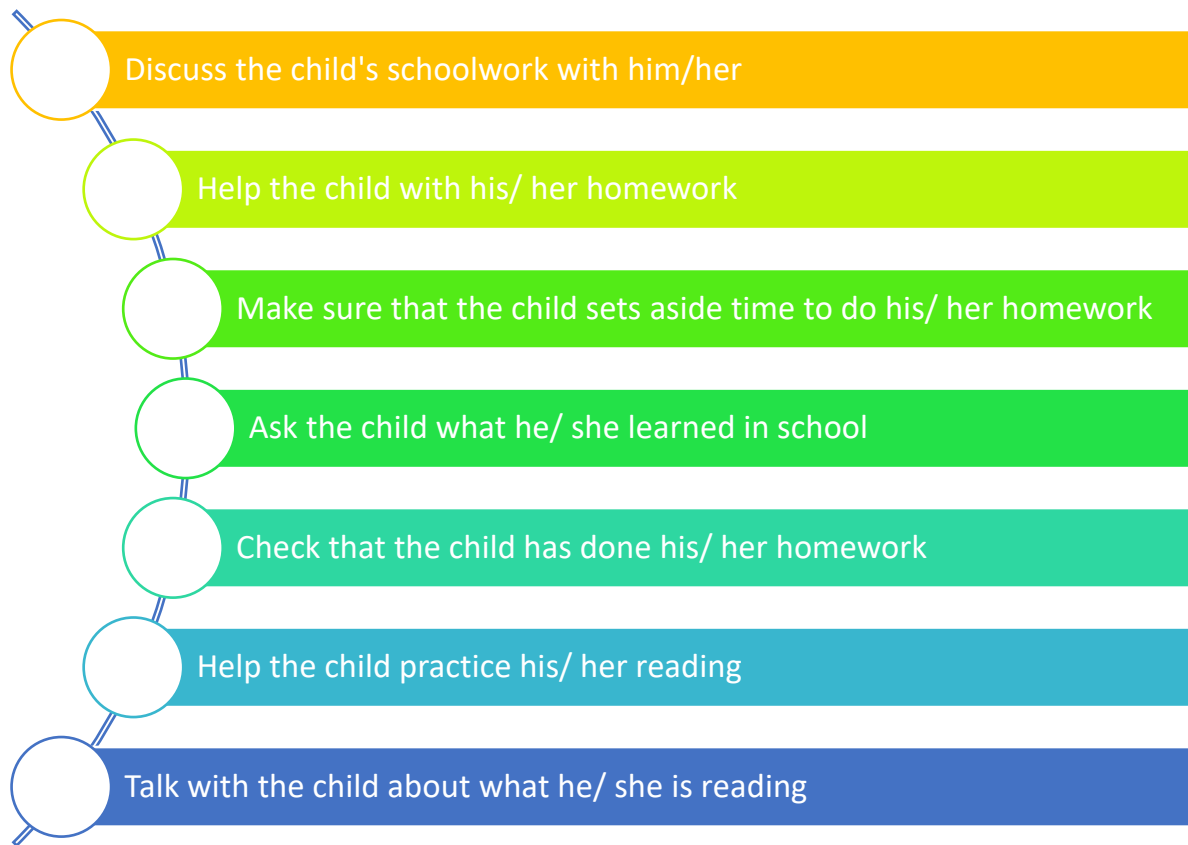
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<sup>5</sup> Refers to the reading literacy results and the background questionnaire responses

gathered in a previous study and has many advantages as it can be original research gathered by “top-flight professionals” (Anon., 2014) as in the case of prePIRLS 2011. Another advantage is that the researcher has the opportunity to dig deeper into the original research. Researchers have the opportunity to build on primary research conducted on a large scale such as the prePIRLS 2011 reading literacy study (Anon., 2014). According to Babbie and Mouton (2001), there are two types of secondary data analysis that can take place. In the first type the researcher use numerical data to conduct analysis, while in the second type the researcher analyses text. The present study used numerical analysis to make meaning from the data.

#### **4.5 RESEARCH METHODS: PRESENT STUDY**

This study made use of multiple regression analysis and descriptive analysis. Multiple regression analysis is a method in which the value of a variable is predicted by using two or more other variables (Maree, et al., 2016). The dependent variable needs to be predicted. This variable was interpreted as the overall reading literacy results of the Grade 4 learners. The independent variable influences the dependent variable. In this study the independent variable was taken as parents’ level of involvement in their children’s literacy attainment, while the dependent variable was the reading literacy achievement scores. The parent’s levels of involvement were determined by the seven parental behaviour illustrated in Figure 4.1.



**Figure 4.1: The seven parental behaviours used to determine the level of parental involvement**

The regression analysis could have been conducted using multiple or logistic regression, but logistic regression has only a limited number of possible outcomes (Cohen, et al., 2003), while multiple regression's outcomes are continuous. In this study the variables were continuous, since the range of values were infinite (Liao, 2011). The IDB Analyzer provides options for linear regression and logistic regression, while omitting multiple; however, linear- and multiple regression are both continuous in nature and linear regression could thus be used for analysis in IDB. Linear regression was used in this study because one of the secondary questions aims to understand which of the literacy-related activities performed by parents with their children contribute to higher reading literacy scores among Grade 4 learners.

A cross-sectional study is very useful when different variables need to be compared. The researcher also has no effect on the results obtained through a cross-sectional study, but there are some disadvantages to this. The main disadvantage is that there is no information about 'cause-and-effect' (Institute for Work and Health, 2015). The researcher using data gathered through a cross-sectional survey may also

experience that all the information needed to answer research questions has not been gathered. Since this study uses secondary data analysis, the researcher did not have the opportunity to gather additional data.

In 1996 when the South African Schools Act was promulgated, the main purpose of the act was to provide quality education for all. Despite this Act there is still evidence of South African's poor reading literacy skills (Howie, et al., 2012). According to Jeynes (2012), there is a definite link between parental involvement and the learners' attainment of literacy. Given this reality, the main research question addresses both parental involvement and reading literacy.

#### **4.5.1 Sample**

This study used the data from the parental questionnaire, as well as the Grade 4 learners reading literacy achievement results. There were 15 722 Grade 4 learners that took part in the reading literacy achievement tests, while more than 11 000 parents completed the parental questionnaire named the *Learning to read* survey.

#### **4.5.2 Data Source**

PIRLS and prePIRLS 2011 collected information pertaining to the context of the learners' home and school environment through the use of questionnaires completed by the learners, parents, teachers and principals. In this study, items from the questionnaire completed by parents and the Grade 4 reading literacy results were used, as they represented plausible values. An in-depth discussion of each questionnaire is found in Chapter 2. Appendix A provides a detailed list of the items from the learner questionnaire that were used in the study.

According to Van Staden and Bosker (2014) the reading literacy achievement results are represented in the form of reading literacy achievement results that are either above or below the fixed international centre point of 500. The reading literacy achievement results are presented by five overall Plausible Values. Plausible values (Van Staden, 2010) are imputed values and are only estimates of the reading literacy achievement results. It would be appropriate to use plausible values when working with reading literacy achievement results, as it has been found that data gathered in developing country's have a level of missing data. Therefore it would be



useful to use plausible values since precise results of the data could be missing (Howie, 2002). Since the prePIRLS and PIRLS use points to indicate the level of reading literacy of the learners, it should be remembered that 40 points constitute two years of formal education (Rosén & Strietholt, 2010).

In the case of prePIRLS 2011 plausible values were used where too few test items were administered to allow precise estimates of the ability of individuals. Each Grade 4 learner who participated in prePIRLS 2011 completed only two reading passages from the large number of passages that were available in all 13 test booklets. The plausible values that were used as approximations of the learners' reading literacy achievement of the prePIRLS 2011, are discussed in Chapter 6.

The reading passages used for the prePIRLS 2011 reading literacy study required learners to complete achievement booklets that measured their ability to identify the purpose of reading and processes of comprehension. Multiple-choice questions and constructed response questions were used in the test booklets. The marks allocated to the answers depended on the length of the questions: multiple-choice questions were worth one mark each while constructed response questions were worth more (Howie, et al., 2012).

### **4.5.3 Data Analysis**

The regression analysis and multiple regression analysis were conducted using statistical analysis programmes. The IEA International Database Analyser (IDB Analyzer) version 3.2.23 was used for the regression analysis. The IDB Analyzer was developed by the IEA to combine and analyse data from large-scales assessment studies such as PIRLS, prePIRLS and the Trends in International Mathematics and Science Study (TIMSS) (Mullis, et al., 2009). The IDB Analyzer uses SPSS as a platform and can also compute plausible values. In the next section the statistical procedures used to analyse the data are discussed in more detail.

#### **4.5.3.1 Descriptive Statistics**

Since the study is a secondary analysis, it is imperative that the data be organised and summarised in a logical manner in order for descriptive statistics to be effective (Maree, et al., 2007). In this study the first and second sub-question were answered

using descriptive statistics, more specifically univariate analysis. A univariate analysis was selected since both sub-questions use a single variable that needs to be explored (Jupp, 2006). The level of parental involvement is discussed in answer to the first sub-question, while the second sub-question addresses the mothers' reported level of education.

#### **4.5.3.2 Regression Analysis**

Regression analysis was used to explore the relationship between variables and to create a mathematical expression that could lead to a prediction. When regression analysis is used, a single quantitative dependent variable is needed and at least one independent quantitative variable (Maree, et al., 2016). In this study a multiple regression analysis was used because there was more than one independent variable used to predict a single dependent variable.

According to Maree et al. (2016), the mathematical equation that represents the relationship between the independent variables and dependent variables can be represented as follow:

$$y = (b_0 + b_1X_{1i} + b_2X_{2i} + b_{ki}X_{ki}) + e_k$$

The variables in the equation are represented as follow:

Y = Dependent variable

$b_0$  = Constant or intercept

$b_1$  = the coefficient of the first predictor ( $X_1$ )

$b_2$  = the coefficient of the second predictor ( $X_2$ )

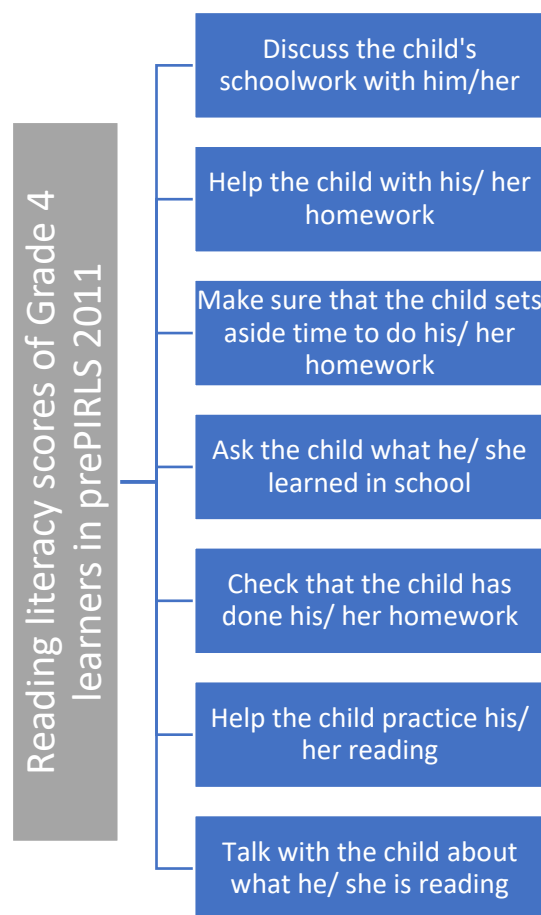
$b_k$  = the coefficient of the kth predictor ( $X_k$ )

$e_k$  = the difference between the predicted and observed value of Y for the  $i$ th participant

In the equation, Y refers to the reading literacy scores of Grade 4 learners, while  $a$  refers to the intercept depicting the mean reading achievement when controlling for all other variables. Depending on the number of predictors, the  $b_k$  represents the

coefficients of each predictor and  $e_k$  signifies the associated error in the model. The equation illustrates  $Y$  as modelled as a linear function of the parameters  $b_0$ ,  $b_1$  and so forth (Williams, et al., 2013).

Multiple regression aims to find a linear combination between the outcomes variables and the predictors used in the study (Field, 2009). It was expected that each extracted factor in this study would have some effect on reading literacy achievement and together have a combined effect on Grade 4 learners' reading achievement. The effect is illustrated in Figure 4.2. The conceptual framework for the present study has two components namely parental involvement and parental level of education both of which might have an effect on reading literacy abilities of learners. Figure 4.2 illustrates the activities that determine the level of parental involvement.



**Figure 4.2: Parental involvement activities that contribute to their children's reading literacy scores**

#### **4.5.3.3 Reliability Analysis**

Reliability refers to the extent to which a measuring instrument is “reliable and consistent” (Maree, et al., 2016), thus the reliability of variables informed the researcher whether the respondent to the parental questionnaire would have had the same score if it were to be administered again (Trobia, 2011). The ideal would be to conduct the survey twice to determine the reliability of the results, but since prePIRLS 2011 had over 11 000 parental respondents to the questionnaire, this was not feasible. An alternative to conducting the scale twice was to determine the internal consistency through the use of Cronbach’s alpha (Trobia, 2011).

Cronbach’s alpha is based on the principle that since similar items or variables measure the same construct, there will be a high level of consistency between the items or variables (Maree, et al., 2016). In order to use Cronbach’s alpha, the researcher needs to believe that the same construct is measured in various variables, the variables correlate with one another and a scale can be formed with the items (Trobia, 2011). Cronbach’s alpha ranges between 0 and 1. The higher the value of alpha, the more coherent and reliable the correlation is between the variables or items (Trobia, 2011). Through the use of SPSS, Cronbach’s alpha could be determined on the prePIRLS 2011 items.

Acceptable ranges of Cronbach’s alpha, from 0.70 and up, is deemed acceptable, since with an alpha of 0.70 at least 50% (or more) of the variance is shared among the items being considered to form a scale (Trobia, 2011). The different items or variables that were assessed for consistency are discussed in the sub-questions.

#### **4.5.4 Methodological Norms**

Reliability means “the extent to which a measuring instrument is repeatable and consistent” (Maree et al., 2016). The data from the prePIRLS questionnaires were all gathered under similar conditions. According to the PIRLS report (2012), several quality assurance checks were implemented to ensure that the data captured was reliable and trustworthy. Measures put in place to ensure quality include unannounced visits to the schools in which the data were gathered to assess the conditions under which the tests were carried out. Thus it could be assumed that

the testing, questionnaires and scoring were all conducted under the same conditions.

The validity of the data was also tested. According to Maree (2016), the validity of an instrument refers to the “extent to which it measures what it is supposed to measure”; Moss (2010) adds that it ascertains the degree to which multiple lines of evidence are consistent with the purpose or construct of the research undertaken. Traditionally validity has been divided into three types, namely, criterion-related, content and construct validity (Brown, 1996). Validity in the prePIRLS 2011 reading literacy study consisted of content and construct validity.

Content validity can be described as the items in a questionnaire or test which are representative of what they should assess (Wilson & MacLean, 2011) and was ensured in the prePIRLS questionnaire and testing booklets through extensive checking by the participating country’s appointed quality assurance team (Howie, et al., 2012). Construct validity is described as validity which is experimental in nature and refers to the extent to which a study represents the underlying construct. Construct validity can be described as a type of experimental validity that refers to the extent to which a study represents an underlying construct (Babbie, 2013).

For the prePIRLS 2011 reading literacy study, the items selected sufficiently test the study’s theoretical constructs, since the prePIRLS 2011 allowed the specific country’s to add additional items which accounted for the context of the specific country where the study was conducted. All collected data used for the current study, has thus gone through strict quality assurance procedures and can be considered valid.

#### **4.6 RESEARCH ETHICS**

The CEA obtained permission from the Minister of Basic Education to conduct the PIRLS and prePIRLS 2011 reading literacy study. Letters were sent out to any would-be participants in order to inform them of the details of the study so that an informed choice concerning participation could be made. All parents, principals, teachers and learners who participated in the prePIRLS 2011 study, did so voluntarily. The learners also obtained consent from their parents to participate.

Data gathering consisted of questionnaires and tests. Questionnaires were used to gather data on the context of the reading literacy abilities of the learners, while the reading comprehension tests were used to determine the actual reading literacy abilities of the learners. The participants enjoyed privacy concerning their involvement since each participant was assigned an identity number and names were kept confidential. The PIRLS and prePIRLS 2011 data can be accessed by anyone as it is in the public domain, but no names are found with the data.

For this study permission was obtained from the Pretoria University Research Ethics Committee in the form of ethical clearance (see the Ethical clearance certificate). No harm or injury was inflicted on any of the participants since only tests and questionnaires were used during the data gathering process. A secondary analysis of data was conducted which means that the researcher had no direct contact with any school, parent, teacher or child.

#### **4.7 SUMMARY**

In Chapter 4 the research designs and methodologies employed in the prePIRLS 2011 reading literacy study and the present study were described. The descriptions correspond with the information on how prePIRLS 2011 was planned and conducted in Chapter 2. The post-positivist paradigm used in the present research promotes the study of data with a specific context in mind.

The prePIRLS 2011 reading literacy study was a cross-sectional survey from which reading literacy results of Grade 4 learners were gathered, as well as data on the background conditions in which the reading literacy abilities are developed. A three-stage stratified cluster sampling method was used to select the participating schools and only parents of learners who participated in the reading literacy study could participate in the parental questionnaire. The parental questionnaires and reading literacy results were used as the data source. The data analysis methods, methodological norms and ethics were discussed with a focus on the specific descriptive statistics, regression analysis and reliability analysis used to conduct the data analysis.

## CHAPTER 5

### DESCRIPTIVE RESULTS FOR THE SELECTED VARIABLES UTILISED IN THE PRESENT STUDY

#### 5.1 INTRODUCTION

This study aims to examine to what extent parental involvement could have an effect on the reading literacy achievement of Grade 4 learners, as measured by prePIRLS 2011 data when controlling for the parental level of education as measured by mother's reported levels of education. In order to address the aim of the study, data concerning the effect of parental involvement on the reading literacy of Grade 4 learners were analysed. This chapter focuses on answering the main research question by providing descriptive statistics for the variables used as measures of parental involvement. The next stage of the data analysis was to conduct the regression analysis which discovered the extent of the effect of parental involvement on reading literacy.

Technical aspects of the present study, is the reported levels of education of mothers was used when referring to the parental level of education. Another aspect that had to be taken into account was that the activities conducted with the Grade 4 learners in relation to their reading literacy attainment might not necessarily have been conducted by the mothers or fathers of the children. In the parental questionnaire there was a specific question asking who had completed the questionnaire, it can be assumed that it would have been the respondent who had carried out the specific activities with the learner.

In Section the 5.2 the South African Grade 4 prePIRLS 2011 overall reading literacy performance results and performance by benchmarks are described. The sub-sections in Section 5.3 discuss the results of the question pertaining to:

- Responses to parental level of education as measured by the mother's reported level of education (Section 5.3.1)
- Parents of Grade 4 learners discussing their children's homework with them (Section 5.3.2)

- Parents of Grade 4 learners helping their children with their homework (Section 5.3.3)
- Parents of Grade 4 learners ensuring that their children set time aside to do homework (Section 5.3.4)
- Parents of Grade 4 learners asking their children what they had learned in school (Section 5.3.5)
- Parents of Grade 4 learners checking that their children had done their homework (Section 5.3.6)
- Parents of Grade 4 learners helping their children practise their reading (Section 5.3.7)
- Parents of Grade 4 learners talking to their children about what they are reading (Section 5.3.8)

The reliability analysis results are presented in Section 5.4, while the regression analysis are depicted in Section 5.5. The chapter concludes with a summary of the results in Section 5.6.

## **5.2 SOUTH AFRICAN GRADE 4 LEARNER PERFORMANCE IN READING LITERACY**

### **5.2.1 Overall results of South African Grade 4 prePIRLS 2011**

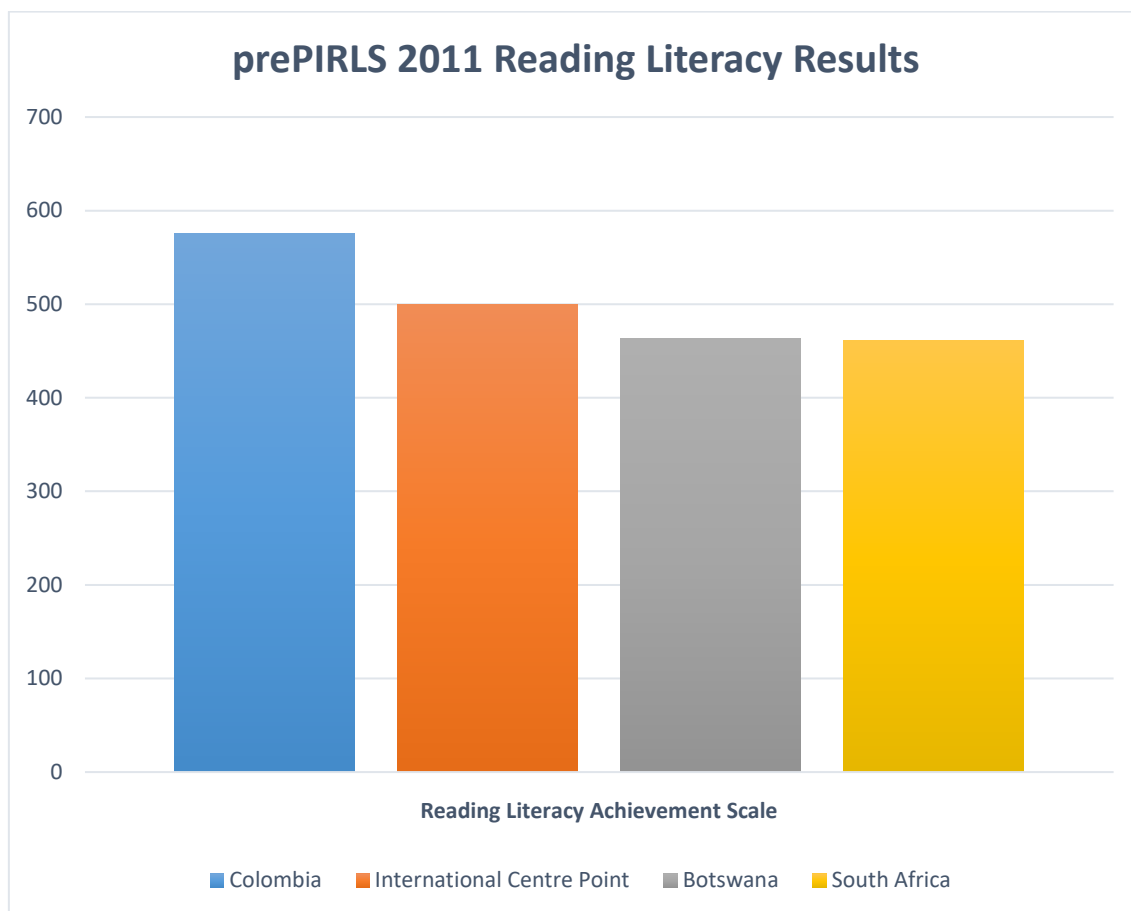
Three country's participated in the prePIRLS 2011 reading literacy study. The participating country's and their results based on the scale set<sup>6</sup> for prePIRLS 2011 can be found in Figure 5.1. The centre point of the scale developed for prePIRLS

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<sup>6</sup> The scale developed for prePIRLS 2011 is a metric scale with a score of between 0 and 1000, with the centre point being set at 500. The standard deviation is set at 100. The scale was developed to address the variance in the results achieved by the participants of the study (Howie, et al., 2012).



2011 was set at 500 points with a standard deviation of 100 points. Thus a new baseline for Grade 4 learners was developed to test reading literacy.



**Figure 5.1: International Reading Literacy performance in prePIRLS 2011**

The scores of the participating country's can be seen in Figure 5.1. South Africa scored an average of 461 points (SE=3.7). This score was much lower than the 500-centre point set for the prePIRLS 2011 study. Botswana scored two points above South Africa with 463 points (SE=3.5). Colombia was the best performer in prePIRLS 2011 with 576 points (SE=3.4) (Howie, et al., 2012).

## **5.2.2 South African Grade 4 prePIRLS performance at the international benchmarks of reading achievement**

### **5.2.2.1 A Description of the international benchmarks of reading achievement**

The prePIRLS 2011 assessments measure Grade 4 learners reading literacy achievement by using various texts. The informational and literary texts were used

to test the two purposes of reading. By using these specific texts, the processes of comprehension were tested and showed the learners' competency in:

- Focusing on and retrieving explicitly stated information;
- Drawing straight-forward conclusions;
- Understanding and integrating ideas and information;
- Examining and evaluating content, language and textual elements.

Competencies in these processes of comprehension were tested using an international benchmark set at a maximum of a 1000 points and a mean score of 500 points. The purpose of the benchmark scores were set to conduct a detailed scale anchoring analysis that could describe the reading literacy achievement at the specific benchmark (Howie, et al., 2012). The descriptions of the benchmarks are cumulative, which means that learners who could reach the higher levels also displayed abilities on the lower levels.

The benchmarks are a qualitative description of the Grade 4 learners' reading literacy abilities. The benchmark scores and what they mean in terms of the learner's abilities are presented in Table 5.1.

**Table 5.1: International Benchmarks Scores and what they entail (Adapted from Howie, et al., 2012)**

<b>Advanced International Benchmark</b>	
<b>625</b>	<p>Literary texts:</p> <ul style="list-style-type: none"> <li>• Learners can understand and integrate ideas and information across a text to appreciate general themes that arise</li> <li>• Learners are able to understand events occurring in a story and also understand the actions of characters in terms of what motivates them, the reasons for their behaviour, feelings of the characters and specific character traits all supported by the text content</li> </ul> <p>Informational texts:</p>

	<ul style="list-style-type: none"> <li>• Learners can differentiate and understand complex information from different parts of text all supported by the text</li> <li>• Learners can incorporate information across the text to provide reasons for events/activities, significance of events/activities and explain the sequence of the events/activities that occur</li> </ul>
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**High International Benchmark**

<b>550</b>	<p>Literary texts:</p> <ul style="list-style-type: none"> <li>• Learners can find and differentiate significant actions and details entrenched in the text</li> <li>• Learners can make interpretations to explain the relationship between intentions, events/actions and feelings by providing evidence in the text</li> <li>• Learners can integrate and interpret the actions and traits from characters in the text</li> <li>• Learners can evaluate the importance of events and actions across the entire story</li> <li>• Learners can identify the use of some language features (e.g. metaphors, tone, imagery)</li> </ul> <p>Informational texts:</p> <ul style="list-style-type: none"> <li>• Learners can find and differentiate between information within a dense text or complex table</li> <li>• Learners can provide explanations and reasons in order to create conclusions about logical connections</li> <li>• Learners can combine textual and visual information to understand the relationship between ideas</li> <li>• Learners can make generalisations based on the content and text</li> </ul>
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**Intermediate International Benchmark**

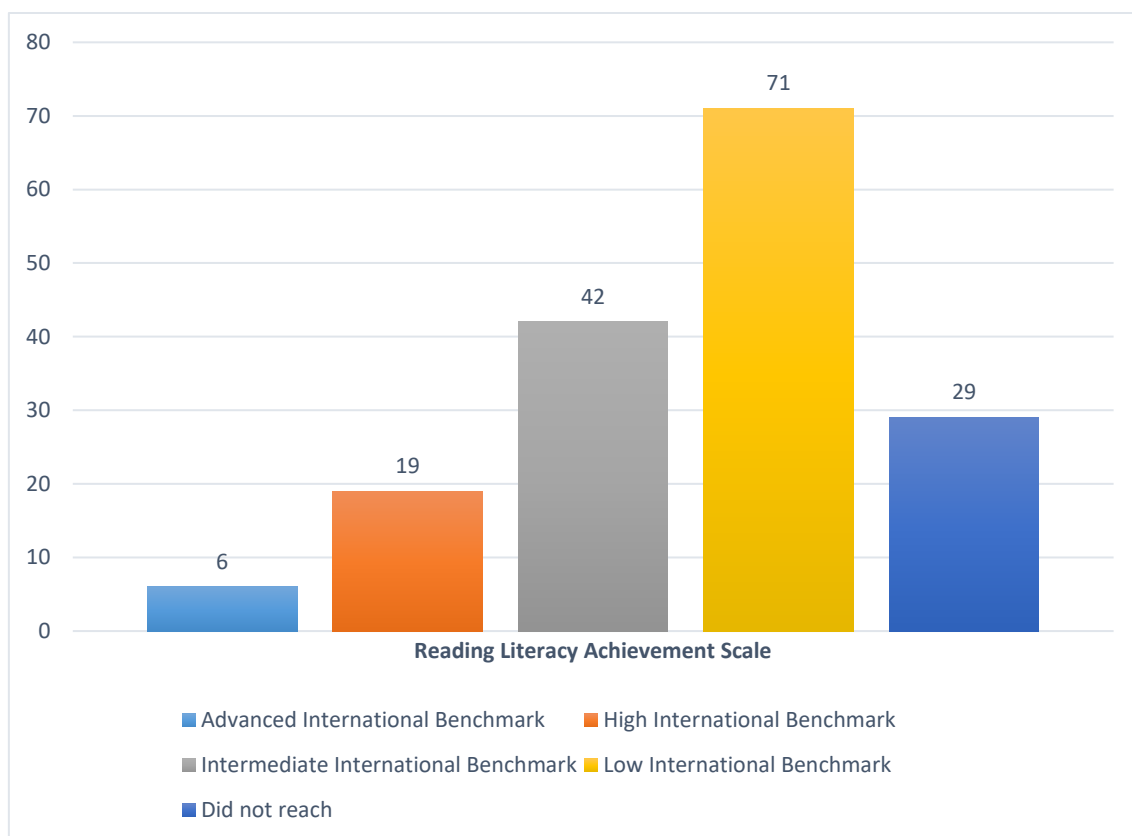
<b>475</b>	Literary texts:
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	<ul style="list-style-type: none"> <li>• Learners can find and reproduce openly stated actions, events and feelings</li> <li>• Learners can make straight-forward conclusions about main characters when it comes to their attributes, feelings and motivations for certain actions</li> <li>• Learners can provide simple explanations, make interpretations about causes and provide reasons for actions</li> <li>• Learners start to recognise features of language and language style</li> </ul> <p>Informational texts:</p> <ul style="list-style-type: none"> <li>• Learners can find and reproduce two or three pieces of information from within the text</li> <li>• Learners can use subheadings, text boxes and illustrations to locate parts of the text</li> </ul>
<b>Low International Benchmark</b>	
<b>400</b>	<p>Literary texts:</p> <ul style="list-style-type: none"> <li>• Learners can find and retrieve clearly stated details</li> </ul> <p>Informational texts:</p> <ul style="list-style-type: none"> <li>• Learners can discover and replicate two or three pieces of information from within the informational texts</li> <li>• Learners can find parts of the informational texts by using subheadings, text boxes and illustrations</li> </ul>

As seen in Table 5.1, there were four benchmarks that were set and they show the learners' abilities based on their score. The Advanced benchmark (625 points), the High benchmark (550 points), the Intermediate benchmark (475 points) and lastly the Low benchmark (400 points) all correlate with qualitative descriptions of reading literacy abilities that the learners display.

### 5.2.2.2 South African Grade 4 Learners' prePIRLS 2011 Overall Benchmark Performance

The overall benchmark performance of the South African learners was quite low as seen in Figure 5.2. Almost one out of three Grade 4 learners, which amounts to 29% of the learners, could not reach the Low International benchmark<sup>7</sup> (as illustrated in Figure 5.2). A total of 71% of Grade 4 learners could at least reach this first benchmark (Low International benchmark), but only 42% of learners could reach the Intermediate International benchmark. The High International benchmark, set at 550 points, was achieved by only 19% of the learners and the Advanced International benchmark, was achieved by only 6% (SE = 0.8) of learners (Howie, et al., 2012). As mentioned, it can be seen from Figure 5.2 that the results are cumulative, which means that the Grade 4 learners, who could reach the higher levels, also displayed the abilities on the lower levels.



<sup>7</sup> As set by the International Benchmark which is a qualitative description of learner performance at different levels in order to describe their competence at each set of the set scores.

*Figure 5.2: International benchmark scores*

### 5.3 VARIABLES TAKEN FROM THE PARENTAL QUESTIONNAIRE

The specific variables were chosen for the purposes of this study from the parent questionnaire in order to determine the level of parental education as measured by the mother's reported levels of education, as well as the parental levels of involvement in the reading literacy activities at home. These variables are listed in Table 5.2. See Appendix A for a complete list of variables with response options.

*Table 5.2: Variables chosen for the study*

<b>Description</b>	<b>Variable</b>	<b>Item</b>
<b>Parental level of education as measured by the mothers' highest reported level of education</b>	ASBH17B	17
<b>Parental behaviour to reading variables:</b>		
<b>Parents discussing their child's homework with them</b>	ASBH09A	9
<b>Parents helping their child with their homework</b>	ASBH09B	9
<b>Parents ensuring that the child sets time aside to do homework</b>	ASBH09C	9
<b>Parents asking their child what they learned in school</b>	ASBH09D	9
<b>Parents checking that child has done their homework</b>	ASBH09E	9
<b>Parents help their child practice their reading</b>	ASBH09F	9
<b>Parents talking to their child about what they are reading</b>	ASBH09H	9

### **5.3.1 Responses to parental level of education as measured by the mother's reported levels of education**

The parental level of education, specifically the mother's level of education, was taken from the questionnaire completed by the parent. The following sub-section will pay attention to the second sub-question that asked:

*Which level of the mother's education can be associated with the highest reading literacy scores achieved by learners?*

The purpose of sub-question, is to provide the overall reading literacy achievement results of the Grade 4 learners which will ultimately show which learners fared the best according to the response categories of the mother's level of education. This will also contribute to answering the main research question, since it will show what the reading literacy results of the Grade 4 learners are.

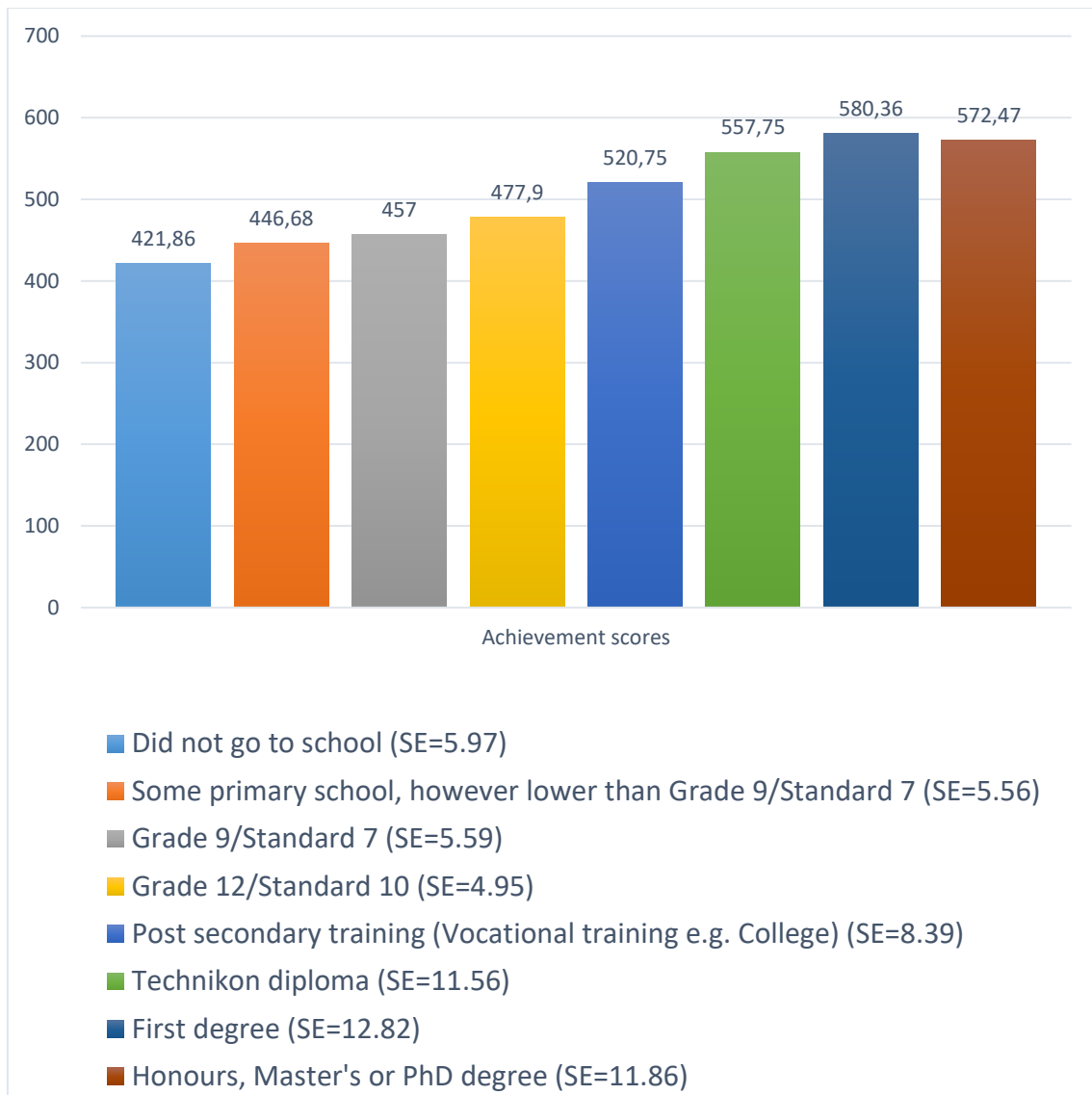
The results are found in Table 5.3 and show that the majority of South African mothers of Grade 4 learners, have obtained at least a Grade 12/Standard 10 level of education with 36,62% (SE=1,22). The least achieved level of mothers' education is the category of mothers who have obtained an Honours, Master's or PhD qualification, with only 3,22% of respondents (SE=0,44).

*Table 5.3: Amount of responses to the parental level of education*

<b>Response categories as measured by the mother's reported levels of education</b>	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percent (S.E.)</b>
<b>Did not go to school</b>	550	7.04%	0.75
<b>Some primary school, however lower than Grade 9/Standard 7</b>	1007	13.36%	0.76
<b>Grade 9/Standard 7</b>	1184	16.38%	0.88
<b>Grade 12/Standard 10</b>	3021	38.62%	1.22
<b>Post-secondary training (Vocational training e.g. College)</b>	716	11.05%	0.80
<b>Technikon diploma</b>	283	4.56%	0.48
<b>First degree</b>	241	4.15%	0.47
<b>Honours, Master's or PhD</b>	184	3.22%	0.44

As seen in Table 5.3 shows that higher education degrees are less prevalent amongst the Grade 4 mothers. From Figure 5.3, it can be seen that Grade 4 learners whose mothers have a first degree can be expected to obtain the highest reading literacy achievement results of 580.36 (SE=12.82). Mothers of Grade 4 learners that have no schooling, can be expected to have children that achieve the lowest score of 421.86 points (SE = 5.97) (Howie, et al., 2012). The mother's level of education was used as a control for the regression analysis. The conclusion from these results shows that the better educated the mother, the higher the reading literacy results of the Grade 4 learner.





**Figure 5.3: Grade 4 learners' achievement results compared to the parental level of education**

### **5.3.2 Parents of Grade 4 learners discussing their children's homework with them**

In order to answer the first sub-question, the level of parental involvement has to be determined. The first sub-question asks:

*What is the level of parental involvement in reading literacy activities of the Grade 4 learners?*

The purpose of the first sub-question, is to provide a framework for the level of parental involvement. Descriptive statistics of the parental involvement component of the conceptual framework for this study will be used which was taken from the

questionnaire completed by the parents. The responses may not necessarily reflect the actions of the mother, but the person who completed the questionnaire. The first question in the parental questionnaire asked who completed the survey and was accompanied by options as follow:

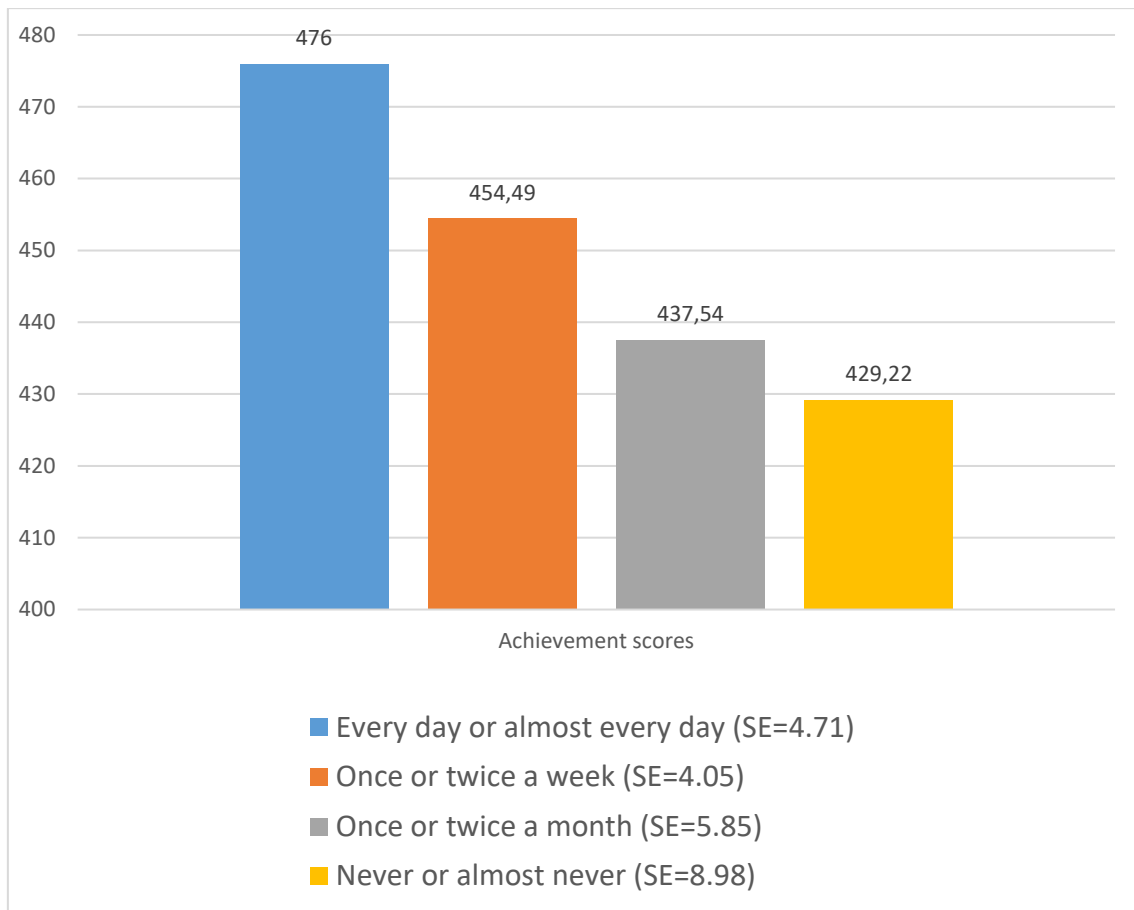
- Mother, stepmother or female guardian
- Father, stepfather, or male guardian
- Other

The level of parental involvement is determined by various variables, the first of which is how often Grade 4 parents discuss their child’s homework with them. . As seen in Table 5.4, most parents discuss their children’s homework with them every day or almost every day (63.16%; SE=1.07). This is in contrast to the least amount of Grade 4 parents stating that they never or almost never discuss their children’s homework with them (2.50; SE=0.33).

*Table 5.4: Results of parental level of involvement in discussing their children’s homework with them*

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	7057	63.16%	1.07
<b>Once or twice a week</b>	3707	28.66%	0.90
<b>Once or twice a month</b>	612	5.69%	0.52
<b>Never or almost never</b>	289	2.50%	0.33

As seen in Figure 5.4, the effect on the achievement results of the Grade 4 learners, show that the parents of Grade 4 learners that discuss their children’s homework with them every day or almost every day, had children who scored the highest reading literacy abilities. The average of these children, was set at 476 points (SE=4.71). The Grade 4 learners who scored the lowest, had parents who never or almost never discussed their homework with them. The score was set at 429.22 points (SE=8.98) (Howie, et al., 2012).



**Figure 5.4: Grade 4 learners' achievement results compared to parents discussing their children's homework with them**

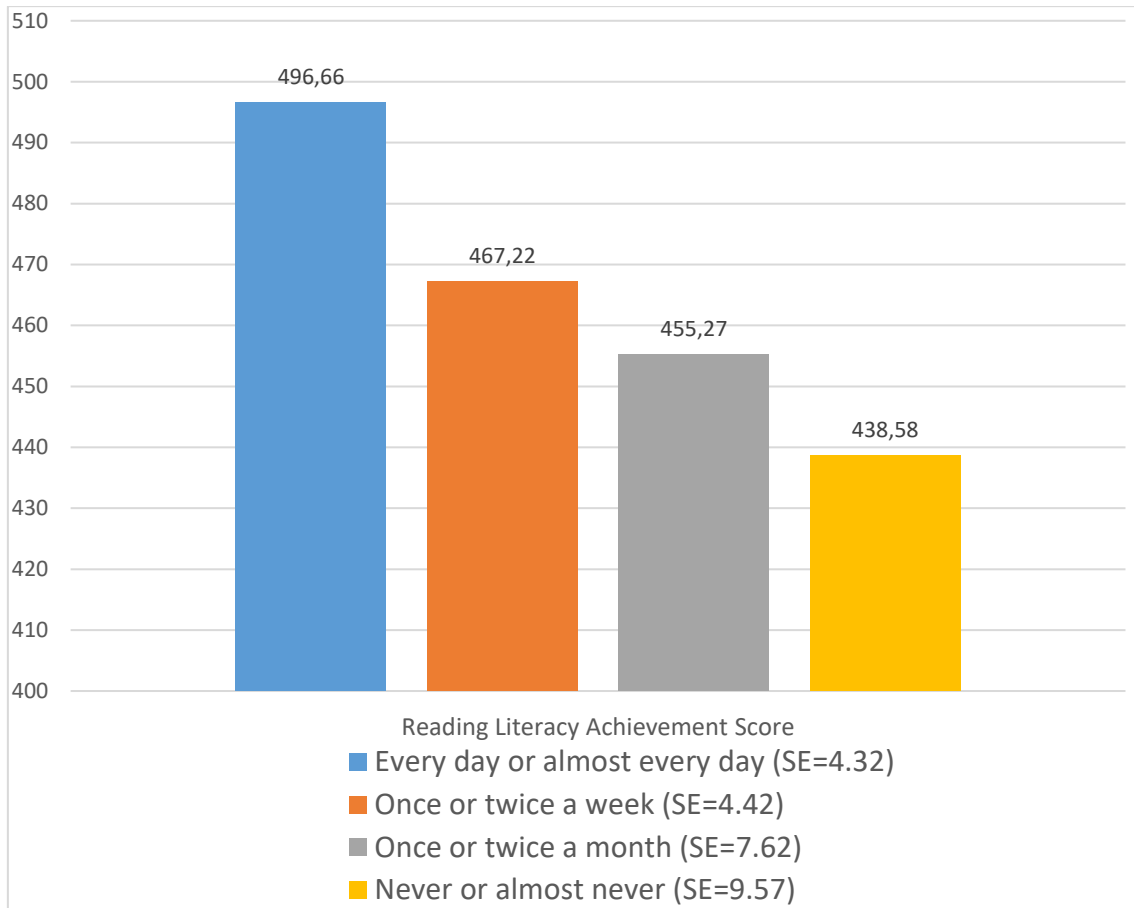
### 5.3.3 Parents of Grade 4 learners helping their children with their homework

In Table 5.5 it can be seen that 66.10% (SE=0.99) of parents of Grade 4 learners stated that they spend every day or almost every day helping their children with their homework. Only 2.5% (SE=0.28) of parents of Grade 4 learners stated that they never or almost never helped their children with their homework.

**Table 5.5: Results of parental level of involvement in helping their children with their homework**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	7671	66.10%	0.99
<b>Once or twice a week</b>	2919	25.68%	0.76
<b>Once or twice a month</b>	610	5.72%	0.53
<b>Never or almost never</b>	275	2.50%	0.28

The effect on achievement is illustrated in Figure 5.5 which shows the reading literacy scores of learners are very high (496.66 points; SE=4.32) when parents of Grade 4 learners help their children every day or almost every day with homework. Grade 4 learners where parents never or almost never help their children with homework, had the lowest reading literacy scores of 438.58 (SE=9.57). Figure 5.5 provides a further breakdown of the results (Howie, et al., 2012).



**Figure 5.5: Grade 4 learners' achievement results compared to parents helping their children with their homework**

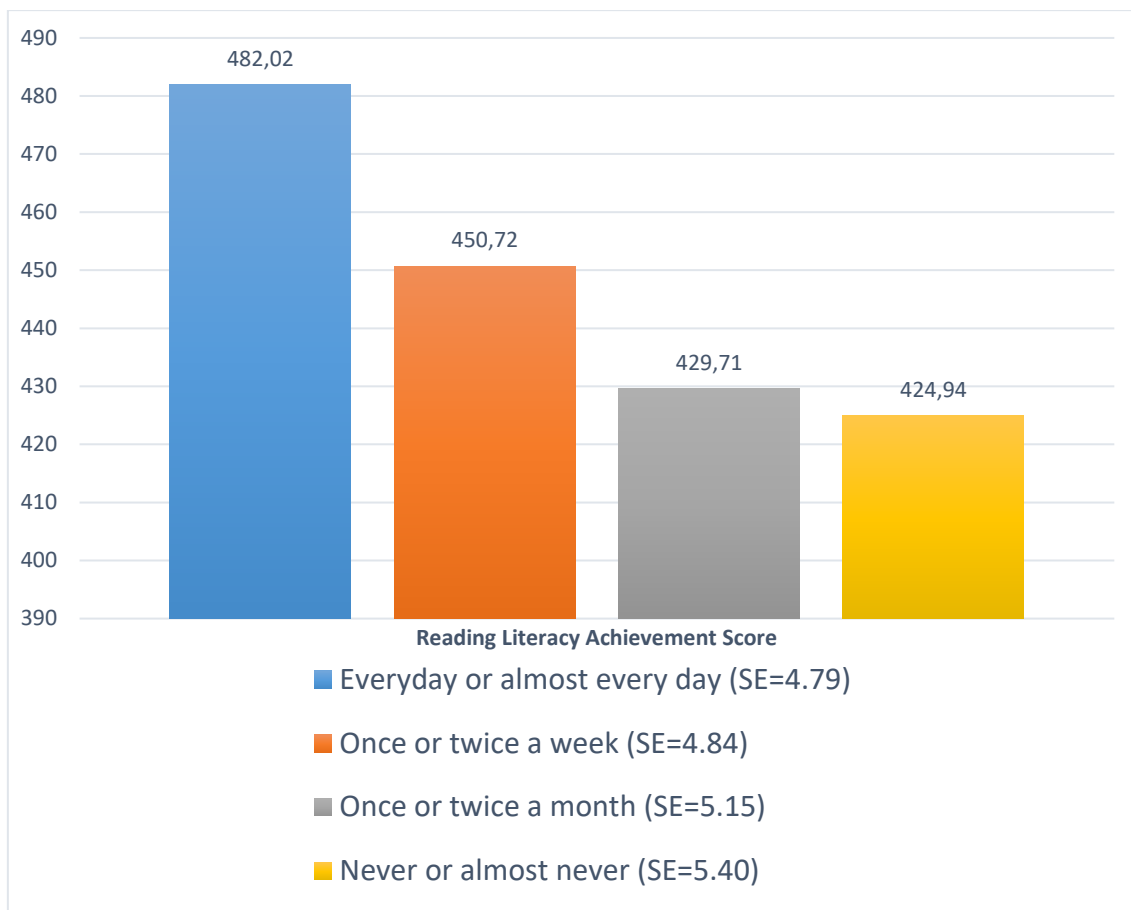
### 5.3.4 Parents of Grade 4 learners ensuring that their children sets time aside to do homework

Parents of Grade 4 learners that never or almost never ensured that their child set time aside to do homework constituted 5.56% (SE=0.41) of respondents. The majority of parents of Grade 4 learners responded that they ensured that their children set time aside for homework every day or almost every day (66.25%; 1.05%). The rest of the results can be seen in Table 5.6.

**Table 5.6: Results of parental level of involvement when ensuring that their children sets time aside to homework**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	7355	66.25	1.05
<b>Once or twice a week</b>	2386	21.80	0.80
<b>Once or twice a month</b>	712	6.38	0.57
<b>Never or almost never</b>	701	5.56	0.41

The effect on achievement is illustrated in Figure 5.6 where parents of Grade 4 learners whose children had the highest reading literacy achievement scores set at 482.02 points (SE = 4.79) stated that they ensured every day or almost every day that their child set time aside to do homework. The Grade 4 learners with the lowest reading literacy scores, set at 424.94 points (SE=5.40), had parents that never or almost never ensured that their children set time aside to do homework. The rest of the reading literacy achievement is seen in Figure 5.6 (Howie, et al., 2012).



**Figure 5.6: Grade 4 learners’ achievement results compared to parents ensuring that their children sets time aside to do homework**

### 5.3.5 Parents of Grade 4 learners asking their children what they learned in school

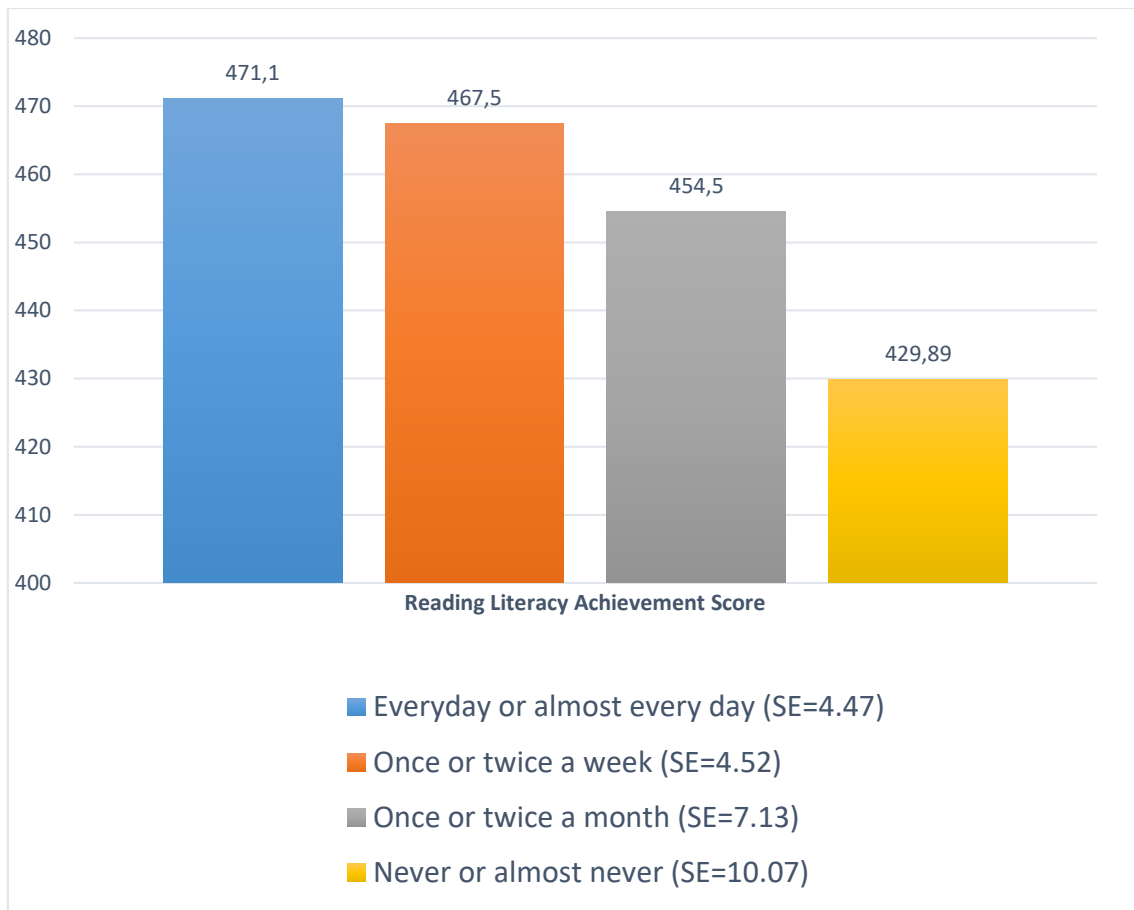
Most parents of Grade 4 learners stated that they spend every day or almost every day asking their children what they have learned in school (70.53%, SE=100.57). Only 2.94% (SE=0.24) of parents of Grade 4 learners stated that they never or almost never spend time asking what their children has learned in school. The results can be seen in Table 5.7. Perhaps there is space to reflect on those parents of Grade 4 learners that are illiterate, but also those of higher SES who do not have time or leave the education of their children to teachers or nannies.

**Table 5.7: Results of parental level of involvement in asking their children what they learned in school**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	8001	70.53%	0.86
<b>Once or twice a week</b>	2350	20.86%	0.63
<b>Once or twice a month</b>	585	5.67%	0.61
<b>Never or almost never</b>	344	2.94%	0.24

The effect on achievement is illustrated in Figure 5.7 and shows that the reading literacy scores can be expected to be high amongst learners were the parents of Grade 4 learners asks their children every day or almost every day what they learned in school (471.10; SE=4.47). The learners with the lowest reading literacy scores, can be expected to achieve 429.89 (SE=10.07). The parents of these Grade 4 learners stated that they never or almost never ask their children what they have learned in school (Howie, et al., 2012). This is nearly a difference of 50 points and is a staggering result since in PIRLS terms, 40 points constitute two years of formal education (Rosén & Strietholt, 2010).





**Figure 5.7: Grade 4 learners' achievement results compared to parents asking their children what they learned in school**

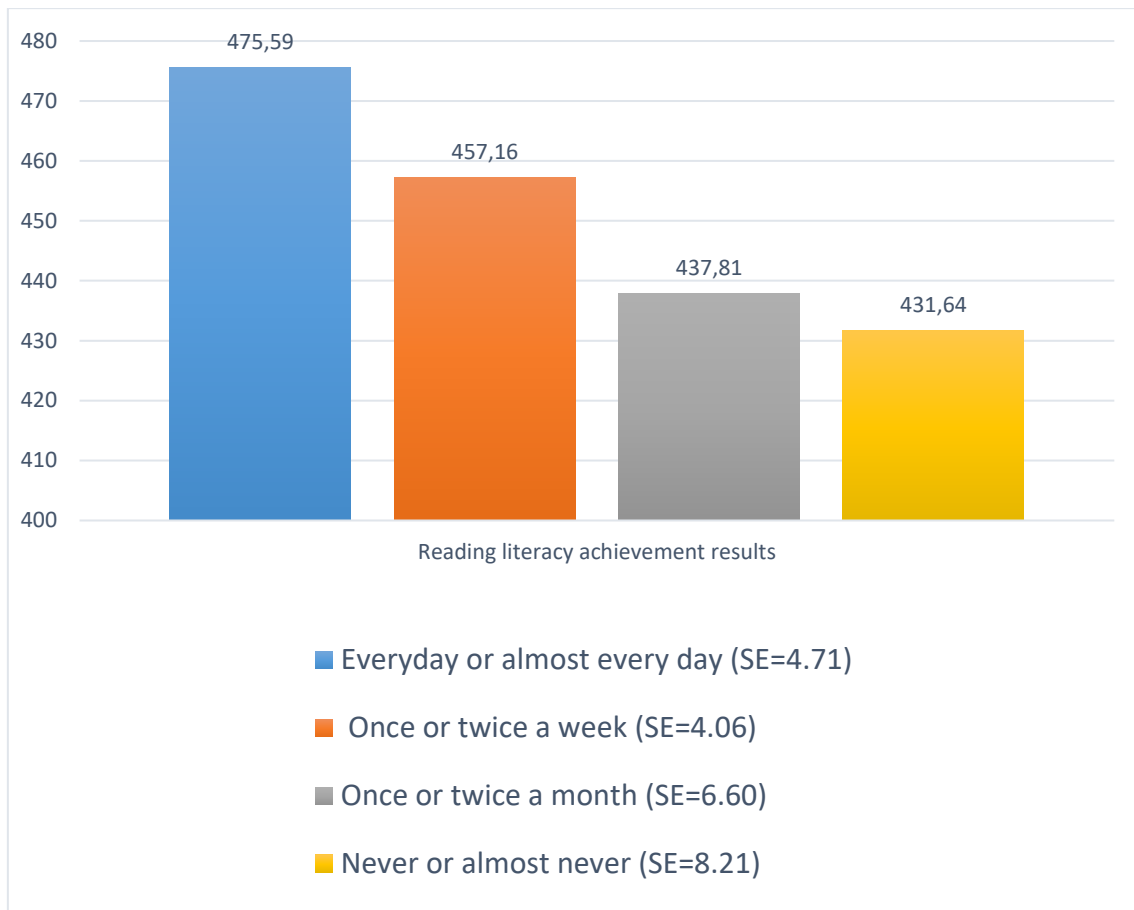
### 5.3.6 Parents of Grade 4 learners checking that their children have done their homework

In Table 5.8 the number of responses, percentage of scores and standard deviation of scores can be seen of the question which asks how much do Grade 4 parents check that their child has done their homework. A majority of 72.20% (SE=1.02) of Grade 4 parents check that their children have done their homework every day or almost every day. 3.11% (SE=0.36) of Grade 4 parents never or almost never check that their children have done their homework. Parents of Grade 4 learners who report not doing any of the given parental behaviours should not be interpreted at face value. In many cases, teachers do not assign homework because they know there is no support at home and they do not send textbooks home since they know it will get lost or damaged.

**Table 5.8: Results of parental level of involvement in parents checking that their children have done their homework**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	8110	72.20%	1.02
<b>Once or twice a week</b>	2142	19.05%	0.74
<b>Once or twice a month</b>	609	5.64%	0.52
<b>Never or almost never</b>	361	3.11%	0.36

The reading literacy achievement (Figure 5.8) shows that the Grade 4 learners with the highest reading literacy results, with a score of 475.59 points (SE=4.71), have parents that check every day or almost every day that they have done their homework. The Grade 4 parents that never or almost never check that their children have done their homework, had children that had the lowest reading literacy scores of 431,64 points (SE=8,21) (Howie, et al., 2012).



**Figure 5.8: Grade 4 learners' achievement results compared to parents checking that their children have done their homework**

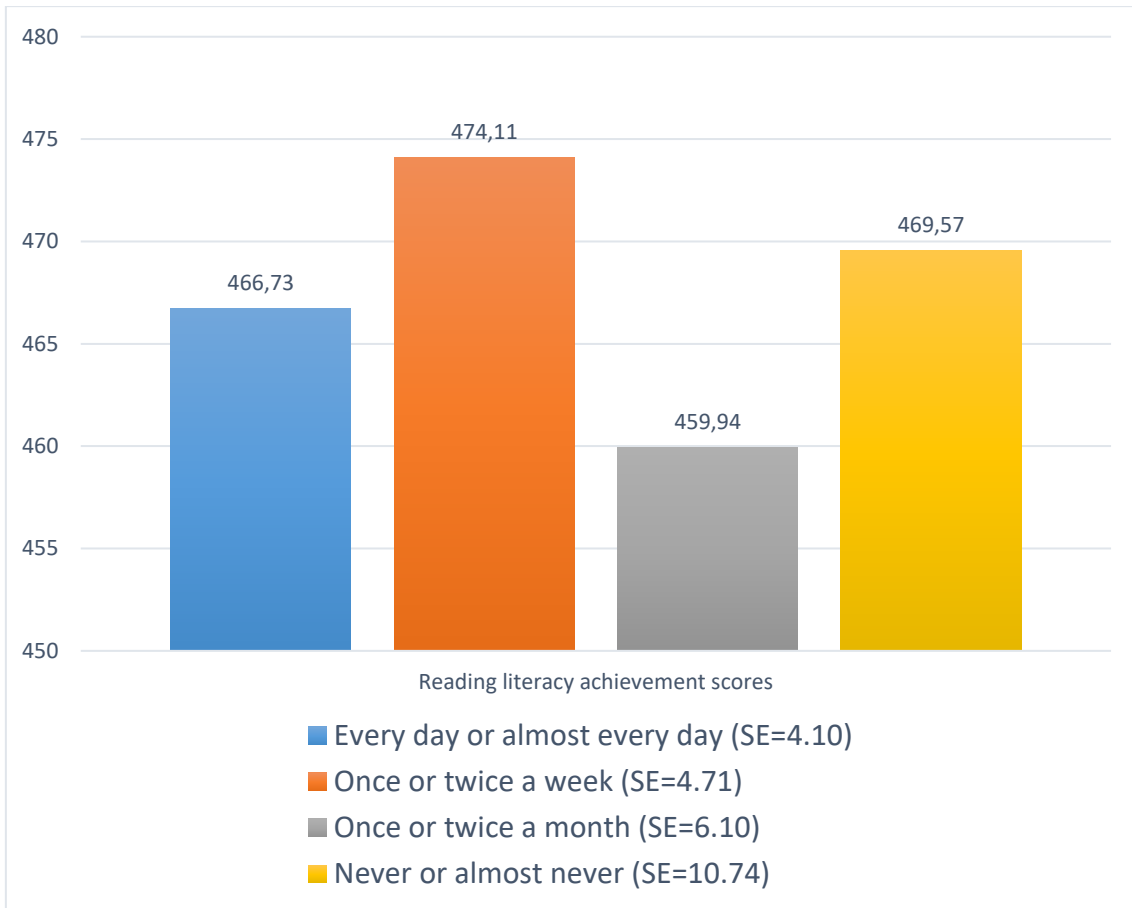
### 5.3.7 Parents of Grade 4 learners helping their children practice their reading

In Table 5.9, it can be seen that most Grade 4 parents help their children practice their reading every day or almost every day (57.81%; SE=0.43). Only 3.80% (SE=0.43) of Grade 4 parents stated that they never or almost never help their children to practice their reading. Parents of Grade 4 learners who report not doing any of the given parental behaviours should again not be interpreted at face value. In many cases, parents at the upper end of the SES may not have time to help their children with reading, while parents at the lower end of the SES may not have the ability to help their children practise their reading.

**Table 5.9: Results of parental level of involvement in parents helping their children practice their reading**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	6428	57.81%	0.93
<b>Once or twice a week</b>	3535	30.95%	0.73
<b>Once or twice a month</b>	817	7.44%	0.65
<b>Never or almost never</b>	410	3.80%	0.43

The effect on achievement on the applicable variable (Figure 5.9) is that there is a deviation from the expected results. The highest reading literacy achievement results, with a score of 474.11 points (SE=4.71), are where Grade 4 parents spend once or twice a week helping their children practise their reading. The lowest reading literacy achievement results, 459.94 points (SE=6.10), were achieved by Grade 4 learners whose parents help them to practise their reading once or twice a month.



**Figure 5.9: Grade 4 learners' achievement results compared to parents helping their children practice their reading**

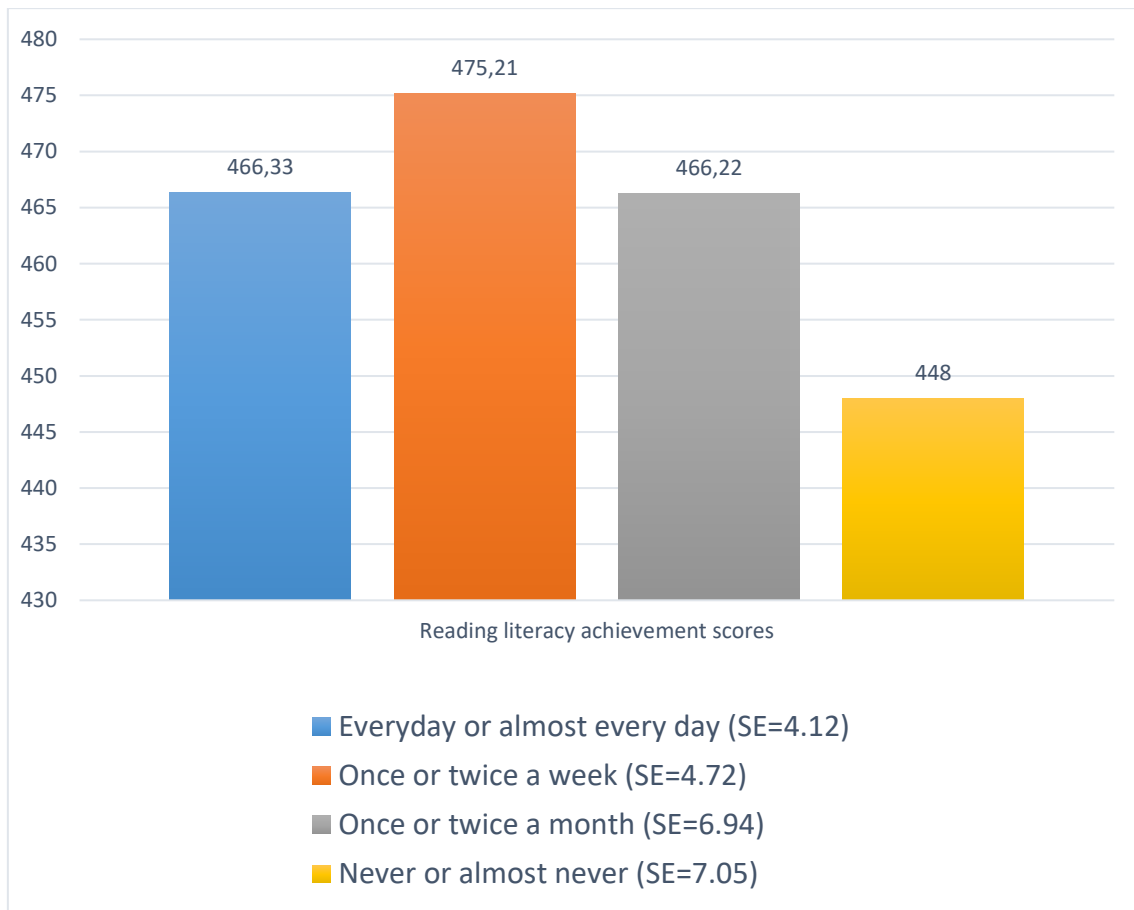
### 5.3.8 Parents of Grade 4 learners talking to their children about what they are reading

Most Grade 4 parents talk every day or almost every day with their children about what they are reading (56.67%; SE=0.84). This is in contrast to only 4.25% (SE=0.38) of Grade 4 parents that never or almost never talk to their children about what they are reading. The rest of the results can be found in Table 5.10.

**Table 5.10: Results of parental level of involvement when talking to their children about what they are reading**

	<b>Total of responses</b>	<b>Percentage of scores</b>	<b>Percentage (SE)</b>
<b>Every day or almost every day</b>	6635	56.67%	0.84
<b>Once or twice a week</b>	3304	30.79%	0.71
<b>Once or twice a month</b>	870	8.29%	0.64
<b>Never or almost never</b>	447	4.25%	0.38

When looking at the results of the reading literacy achievement scores (Figure 5.10), again there is a deviation since the highest reading literacy scores (475.21 points; SE=4.72) were achieved by Grade 4 learners where their parents talked to their children about what they were reading once or twice a week. The lowest reading literacy scores achieved by the Grade 4 learner were where their parents never or almost never talked to them about what they were reading (448 points; SE=7.05).



**Figure 5.10: Grade 4 learners' achievement results compared to parents talking to their children about what they are reading**

As a results of the sub-question, when the level of parental involvement increases, it can be expected that the reading literacy results of the Grade 4 learner will increase. Although it should be said that parents who do not report on any of the activities may do so in a context where it is not necessarily a lack of interest.

#### **5.4 RELIABILITY RESULTS**

According to Trobia (2011) the reliability measures whether a score will stay consistent or stable across a different time and setting/condition. If the measurement is deemed as reliable there is a smaller chance that the score that has been obtained, is due to random factors and measurement error. One way to ensure the reliability of an instrument is to re-administer the instrument to the respondents, but although in theory this is a good practice, in reality it is not always possible. Various factors may play a role in the re-administration of an instrument such as it being too expensive and time intensive.

Since this study is a secondary data analysis and the respondents are confidential, the re-administration of the questionnaire to the original respondents is not possible. But the reliability of the items used has to be determined and thus the internal reliability can be used. Through the testing of the internal reliability, it can be determined whether all the items or variables used for the study, vary in the same direction and whether there is a statistically meaningful level of correlation between the items or variables. Cronbach's alpha is the coefficient which can be used to measure the coherence of the responses through the different items in order to discover which of the items are less correlated with the overall score (Trobia, 2011). Cronbach's alpha uses the specific formula:

$$\alpha = \frac{n\bar{r}}{1 + r(n-1)}$$

$n$  represents the number of items

$\bar{r}$  is the average intercorrelation amongst them

Cronbach's alpha ranges from a score between 0 and 1. The higher the value, the more reliable are the items or variables. According to Maree (2016) a score of 0.8 is acceptable while a score below 0.6 is unacceptable. There are also authors (Trobia, 2011) who suggest that a score that is above 0.7 is deemed as reliable since 50% (or more) of the variance is shared among the items being considered to be scaled together.

The Cronbach's alpha score of the items<sup>8</sup> are determined by using SPSS. The variables or items used in the study are continuous variables where the range of values is infinite (Liao, 2011). Continuous variables are also known as quantitative variables and consist of either an interval or nominal scales. The parental behaviour variables consists of an interval scale (Howie, et al., 2012).

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<sup>8</sup> The seven variables which determined the level of parental involvement discussed in section 5.3.2-5.3.8.



The overall reliability coefficient of the items, which determine the level of parental involvement, was 0.82. Since the reliability coefficient is above 0.8, the items can be seen as reliable and thus acceptable (Maree, et al., 2016)

## 5.5 REGRESSION ANALYSIS

The IEA International Database Analyzer (IDB Analyzer) version 3.2.23 is an application used in conjunction with SPSS in order to conduct the regression analysis. The IDB Analyzer is used to combine and analyse data from large-scale assessments such as PIRLS, TIMMS, TIMMS Advanced and SITES. With the IDB Analyzer, SPSS syntax are created to perform analysis on the data from these large-scale assessments, as well as creating codes to handle the plausible values.

The regression analysis is the technique which examines the relationship between variables (Urland & Raines, 2011). Thus the regression analysis, specifically multiple regression, allows the researchers to explore the effect of numerous independent variables on a dependent variable, as well as statistically 'control' for the effect of variables and eliminate forged relationships. The regression analysis is represented as a relationship between the independent and dependent variables in the following equation:

$$y = (b_0 + b_1X_{1i} + b_2X_{2i} + b_{ki}X_{ki}) + e_k$$

The variables in the equation are represented as follow:

Y = Dependent variable

$b_0$  = Constant or intercept

$b_1, b_2$  = Regression coefficients

$X_1, X_2$  = Independent variables

$e_k$  = The error in prediction

In the equation, Y is the outcome, which in this case is the reading literacy achievement results of the Grade 4 learners while  $b_0$  is the intercept that depicts the mean reading achievement when controlling for all other variables. The

independent variable is the specific parental behaviour which contributes to a higher reading literacy score. Depending on the number of predictors, the  $b_n$  represents the coefficients of each predictor and  $e_i$  signifies the associated error in the model. The expectation was that each variable of parental behaviour would have some effect on reading literacy achievement and when exploring the effect of all these parental behaviour together there will be a combined effect on the reading literacy achievement. The possible effects may be illustrated as follows:



**Figure 5.11: Parental involvement activities that contribute to their children's reading literacy scores**

For the purposes of the regression model, the seven parental behaviours, as illustrated in Figure 5.11 will be examined in terms of the effect on the reading literacy abilities of the learner. Table 5.11 displays the regression analysis coefficient, standard error (SE) and the test statistics (t-value) associated with each coefficient.

*Table 5.11: Regression analysis coefficient*

<b>Variable</b>	<b>Regression coefficient</b>	<b>Regression coefficient (S.E.)</b>	<b>Regression coefficient (t-value)</b>
<b>Constant</b>	503.32	8.18	61.56
<b>Parental behaviour to reading variables:</b>			
<b>Grade 4 parents discussing their children's homework with them</b>	-17.11	3.05	-5.61
<b>Grade 4 parents helping their children with their homework</b>	5.96	3.21	1.86
<b>Grade 4 parents ensuring that the children sets time aside to do homework</b>	-21.54	1.96	-11.00
<b>Grade 4 parents asking their children what they learned in school</b>	-1.79	3.66	-0.49
<b>Grade 4 parents checking that children have done their homework</b>	-12.65	2.99	-4.24
<b>Grade 4 parents help their children practise their reading</b>	12.08	3.29	3.67

<b>Grade 4 parents talking to their children about what they are reading</b>	10.81	2.19	4.94
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The sign before the regression coefficient shows whether the relationship between the reading literacy achievement results of the Grade 4 learners and the parental behaviour is positive or negative. The t-value (as indicated in Table 5.11) provides the level of confidence, while the constant (also indicated in Table 5.11) indicates the intercept (b<sub>0</sub>) in the regression equation. The constant is unique to this study and does not correspond with the international reading literacy achievement results.

Sub-section 5.4 pays attention to the following sub-question:

*What literacy activities performed by parents with their children contribute to higher reading literacy scores among Grade 4 learners?*

The first parental behaviour shown in Table 5.11 is Grade 4 parents discussing their children's homework with them. A coefficient of -17.11 (SE=3.05) implies that there is a negative relationship with reading literacy achievement. In this case, if parents of Grade 4 learners did not discuss their children's homework with them, it can be expected that the reading literacy achievement score can be lower by 17 points.

The second parental behaviour shown in Table 5.11 is parents of Grade 4 learners helping their children with homework is positively associated with reading literacy achievement results with a regression coefficient of 5.96 (SE=3.21). This implies that reading literacy achievement is expected to be higher by at least 14 points where Grade 4 parents help their child with their homework.

The third parental behaviour is parents of Grade 4 learners ensuring that their children set time aside to do homework with a negative relationship to reading literacy achievement with a coefficient of -21.54 (SE=1.96). This means that if parents of Grade 4 learners did not ensure that their children set time aside to do homework, it can be expected that their reading literacy achievement score can be lower by 20 points.

The fourth parental behaviour is Grade 4 parents asking their children what they learned in school and there is a negative coefficient of -1.79 (SE=3.66) with this specific parental behaviour. The difference is not as significant, but parents of Grade 4 learners who do not ask what their children learned in school can expect that their children will have literacy scores that are lower by 1.79 points. Thus Grade 4 parents can expect lower reading literacy scores when they do not ask what their children have learned in school.

The fifth parental behaviour, is Grade 4 parents checking that their children have done their homework. According to the regression coefficient, there is a negative coefficient of -12.65 (SE=2.99). Parents of Grade 4 learners who do not check that their child has done their homework, will have a reading literacy score lower by 12.65 points. Thus parents of Grade 4 learners who do not check that their child has done their homework, can expect lower reading literacy results.

The sixth parental behaviour is Grade 4 parents helping their children practise their reading. The regression coefficient is positively associated with a reading literacy score of 12.08 points (SE=3.29). Parents who help their Grade 4 children practise their reading can expect that their children have reading literacy scores of more than 12 points higher; thus, the more the parents help their children practise their reading, the higher the reading literacy scores of the learners.

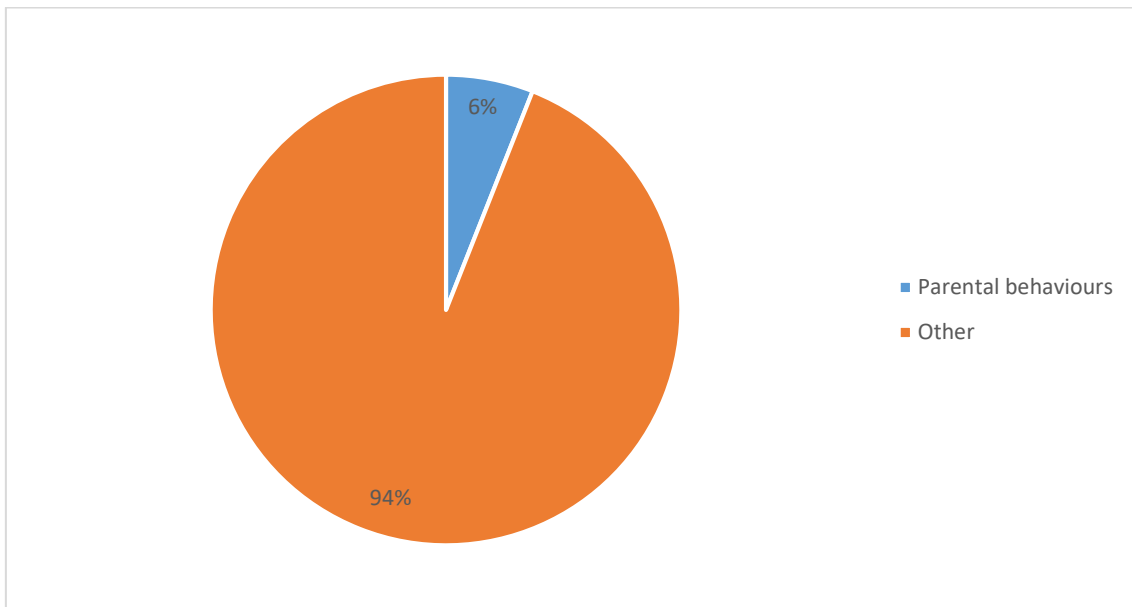
The last parental behaviour is Grade 4 parents talking to their children about they are reading and the regression coefficient is positively associated with this behaviour. When Grade 4 parents talk to their children about what they are reading, they can expect that their reading literacy score will be 10.81 points (SE=2.19) higher.

Total variance is explained in Table 5.12 by predictors R-square, R-square (SE), the adjusted R-square and the adjusted R-square (SE):

**Table 5.12: Model Statistics**

<b>R-Square</b>	<b>R-Square (SE)</b>	<b>Adjusted R-Square</b>	<b>Adjusted R-Square (S.E.)</b>
0.06	0.01	0.06	0.01

Table 5.12 outlines the values of the R-square value, the adjusted R-square value and the associated standard error (SE). The variance in the Grade 4 learners reading literacy achievement results are indicated by the value of the R-Square as accounted for by the seven parental behaviour variables. When the parental behaviours are combined, they account for 6% ( $0.06 \times 100$ ) ( $SE=0.01$ ) of the variation in the reading literacy achievement results. The seven parental behaviour variables also have a low overall correlation of 0.25 with the outcome variable. The variance in the results are indicated in Figure 5.12. Although the r-square is quite low between the items, it should be remembered that although the variance between the items are low, the effect between the items are still valid.



**Figure 5.12: The variance of the reading literacy achievement results in terms of the parental behaviours**

## 5.6 SUMMARY

Chapter 5 provided a detailed discussion of the descriptive results for each of the selected variables for the purpose of this study as defined in the conceptual framework composed of Epstein's six types of parental involvement and the path model of direct and indirect influences of parental education on student's reading achievement. In this study, only direct effects were explored. The South African Grade 4 learners' overall performance in reading literacy was discussed with regard to the South African Grade 4 prePIRLS 2011 overall results and the Grade 4 performance at the international benchmarks of reading achievement.

The overall results of the Grade 4 learners show that the score achieved is quite low in relation to the centre point set for the prePIRLS 2011 study. Grade 4 learners achieved an average of only 461 points and a standard deviation of 3.7. The international benchmarks of reading achievement are described in detail and what each benchmark means in terms of reading abilities. The learners' reading results on the specific benchmarks are also discussed and the results show that almost one out of three learners could not reach the low international benchmark.

The first variable explored, the parental level of education, as measured by the mother's reported level of education, found that 38.62% of parents had a high school qualification. This qualification was the most general. The effect on achievement is also that parents with a first degree, had children who had the highest reading literacy abilities. The second variable that was explored namely, parents discussing their children's homework with them. Most parents spend every day or almost every day doing this activity with their children. These children also had the highest reading literacy scores.

The third variable explored, parents helping their children with their homework is carried out by most parents every day or almost every day. The children of these parents had the highest reading literacy abilities, achieving a score of 496.66 points. For the fourth variable: 66.25% of parents ensure that their children set time aside to do their homework; these children also had the highest reading literacy scores.

The fifth variable explored, parents asking their children about what they learned in school, was done by most parents every day or almost every day (70.53%). The

effect on reading literacy achievement is that these children whose parents spend every day or almost every day asking what they learned in school, had the highest reading literacy scores. The sixth variable discussed, parents checking that their children have done their homework, was again chosen by most parents (72.20%); these children also had the highest scores for reading literacy achievement.

The seventh variable, parents helping their children practise their reading, had differing results from the previous variables. Although most parents spend every day or almost every day helping their children practise their reading, the children with the highest reading literacy results were from parents that helped their children read once or twice a week. The eighth variable; that parents talk to their children about what they are reading, was completed by most parents every day or almost every day. Again the results are quite different when compared with the other variables, where parents that complete the activity once or twice a week, had children's whose reading literacy results are much higher.

From the discussion above, it can be seen that most of the variables follow the same pattern and there is not much differentiation between the various factors. This may be significant when the data is analysed.



## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Introduction

In an effort to determine the effect of parental involvement on the reading literacy ability of Grade 4 learners, this study drew on selected variables from the prePIRLS 2011 South African data, notably from the reading literacy achievement of Grade 4 learner and parent questionnaires. The study aimed to determine the parental activities which have the biggest effect on the reading literacy achievement of Grade 4 learners while controlling for the mothers' level of education as the indicator of parental education.

This final chapter presents the summary of the research (Section 6.2) by providing the study background leading to the framing of the main research question, followed by the summary of the main findings (Section 6.3), taking into account each of the research sub-questions developed for this study and a summary of literature on the topic. A reflection on the conceptual framework composed of Epstein's theoretical model of the six types of parental involvement and the path model of direct and indirect influences of parental education on learners' reading achievement, is presented in Section 6.4. The main research conclusions are presented in Section 6.5 and in Section 6.6 which is a reflection on the research design and methods used in the study, as well as the prePIRLS 2011 reading literacy study. The strengths and limitations of the study are discussed in Section 6.7 and lastly, in Section 6.8 further research possibilities and recommendations are discussed.

#### 6.2 Summary of the research

In Chapter 2, information is provided on the IEA as the responsible agency for the study, the different contexts for learning to read, the PIRLS assessment framework and instruments. The present study drew on selected items from the prePIRLS 2011 South African data, particularly the parent questionnaires. The data of the prePIRLS 2011 reading literacy study was collected using a cross-sectional survey (Howie, et al., 2012). According to Howie et al (2012), the selected sample was sufficient to

represent the South African Grade 4 learners and thus inferences could be made about the Grade 4 learners nationally.

Reading literacy is the basis of all processes of learning and is necessary, not only for learning languages, but also to study any other subjects (Geske & Ozola, 2008). The prePIRLS 2011 results showed that South Africa's score was the lowest when compared with all the participating countries where the Grade 4 (461, SE=3.7) performance was below the international mean of 500 (Howie, et al., 2012). Research reveals that various factors have an effect on literacy, but an important factor is parental involvement. Parents were responsible for formal and informal literacy activities at home (Sénéchal & LeFevre, 2002). Melhuish, Phan, Sylva, Sammons, Siraj-Blathford and Taggart (2008) conducted research on the effects of the home learning environment and preschool-centred experiences on literacy and numeracy development. It was found that the extent of the activities that occurred at home which had an effect on learning had a greater independent effect on educational attainment. The EPPE (Effective Pre-school Education Project) also found that parents who had a higher frequency of parental involvement, in home learning activities, had children who had higher scores in pre-reading, language and early number attainment (Sammons, et al., 2007).

Since it has been shown through the prePIRLS 2011 reading literacy study results that the achievement of South African learners is quite low, it was necessary to conduct the study in order to answer the following main research question:

**To what extent did parental involvement affect the reading literacy of Grade 4 learners?**

The study was also guided by secondary research questions:

- 1) What was the level of parental involvement in reading literacy activities of the Grade 4 learners?
- 2) Which level of the mother's education can be associated with the highest reading literacy scores achieved by learners?

The level of education as measured by the mother's reported levels of education were divided according to the eight response categories which included:

- mothers who did not go to school;
- some primary school, but lower than Grade 9/Standard 7;
- Grade 9/Standard 7;
- Grade 12/Standard 10;
- Post-secondary training (vocational training, e.g. College);
- Technikon diploma;
- First degree;
- Honours, Master's or PhD.

3) What literacy activities performed by parents with their children contribute to higher reading literacy scores among Grade 4 learners?

The activities were taken from the prePIRLS 2011 reading literacy study and consisted of

- Parents discussing their children's homework with them;
- Parents helping their children with their homework;
- Parents ensuring that the children set time aside to do homework;
- Parents asking their children what they learned in school;
- Parents checking that their children have done their homework;
- Parents helping their children practise their reading;
- Parents talking to their children about what they are reading.

The study used a secondary data analysis within a quantitative research approach (see Chapter 4) that utilised univariate descriptive analysis, as well as multiple regression analysis to answer the main and sub-research questions. Descriptive results present findings on the response frequencies for each of the selected variables. Multiple regression was then used to determine the effect of parental activities on overall reading literacy scores as evidence by prePIRLS 2011 while controlling for parental level of education as measured by the mothers' education.

### 6.3 Summary of main findings

The parental level of involvement is a very important aspect of this study and has been shown to have a statistically significant effect on the acquisition of literacy in children (Sammons, et al., 2007; Sénéchal & LeFevre, 2002; Melhuish, et al., 2008).

By determining the level of parental involvement, the following sub-question could be addressed:

*What was the level of parental involvement in reading literacy activities of the Grade 4 learners?*

Descriptive statistics of the parental involvement component of the conceptual framework for the current study was used which was taken from the questionnaire completed by the parents. The responses may not necessarily reflect the actions of the mother, but the primary caretaker who completed the questionnaire.

*Table 6.1: Percentage of Parents who Engage Children in Reading Activities*

<b>Parents' Daily Activities with Children</b>	<b>Frequency of activity associated with highest achievement</b>	<b>% of Parents completing these activities daily</b>	<b>S.E.</b>	<b>Effect on achievement</b>	<b>S.E.</b>
<b>Grade 4 parents discussing their child's homework with them</b>	Every day or almost every day	63.16%;	1.07	476	4.71
<b>Grade 4 parents of helped their child with their homework</b>	Every day or almost every day	66.10%	0.99	496.66	4.32

<b>Parents' Daily Activities with Children</b>	<b>Frequency of activity associated with highest achievement</b>	<b>% of Parents completing these activities daily</b>	<b>S.E.</b>	<b>Effect on achievement</b>	<b>S.E.</b>
<b>Grade 4 parents ensuring that their child set time aside to do homework</b>	Every day or almost every day	66.25%	1.05	482.02	4.79
<b>Grade 4 parents asking their child what they learned in school</b>	Every day or almost every day	70.53%	100.57	471.1	4.47
<b>Grade 4 parents checking that their child has done their homework</b>	Every day or almost every day	72.2%	1.02	475.59	4.71
<b>Grade 4 parents helping their child practice their reading</b>	Once or twice a week	57.81%	0.43	474.11	4.71
<b>Grade 4 parents asking their child about what they are reading</b>	Once or twice a week	56.67%	0.84	475.21	4.72

The results of the sub-questions reveal that with most parental behaviours, the more frequently they are implemented, the higher the reading literacy achievement results are. It could be expected that as the level of parental involvement increases, the reading literacy abilities of the learner should also increase. Most parents who completed the questionnaire claimed to implement the parental behaviours every day or almost every, but with these high levels of involvement the reading literacy results of Grade 4 learners should have been higher. The results of the study are supported by research conducted by Mncube (2010) who found very high levels of parental involvement, but the study reflects that the high levels of involvement should lead to better examination results and school attendance. Mncube (2010) reflected that the level of literacy of the parent may play a role, since parents may lack the necessary skills and levels of education to help their children to succeed at school. It should also be remembered that whenever a questionnaire is completed it is inevitable that social desirable outcomes may be selected.

The parental level of education has been shown by numerous studies to positively correlate with the child's literacy (Myrberg & Rosén, 2008; Dickson, et al., 2013). Dearing, McCartney, Weiss, Kreider and Simpkins (2004) also found that mothers who were more educated had children who had higher levels of literacy, than mothers who were less educated whose children had lower levels of literacy. In this study, the following sub-question is addressed:

*Which level of the mother's education can be associated with the highest reading literacy scores achieved by learners?*

The purpose of the second sub-question, was to determine the overall reading literacy performance of Grade 4 learners according to the eight response categories of the mother's level of education. Chapter 5 detailed how the descriptive analysis was used to establish the highest overall reading literacy achievement scores.

Grade 4 learners whose mothers had a first degree could be expected to obtain the highest reading literacy achievement results of 580.36 (SE=12.82). Mothers of Grade 4 learners who had no schooling, could be expected to have children that achieved the lowest score of 421.86 points (SE = 5.97) (Howie, et al., 2012). The mother's level of education was used as a control for the regression analysis

conducted for this study. The conclusion from these results was that the better educated the mother, the higher the reading literacy results of the Grade 4 learner. The findings from this study confirm what has been reported on in the literature (Desforges & Abouchar, 2003; Melhuish, et al., 2008), since mother's with higher levels of education provided more opportunities for intellectual skill building at home (Desforges & Abouchar, 2003). Another study showed specifically that there was a strong, significant, positive impact on the language and the literacy of the child (Sammons, et al., 2004).

Chapter 5 detailed how a multiple regression analysis was established to examine the relationship between the variables (Urland & Raines, 2011) and allowed the researcher to explore the possible effect of numerous independent variables on a dependent variable. By conducting a multiple regression analysis, the following sub-question could be answered:

*What literacy activities performed by parents with their children contribute to higher reading literacy scores among Grade 4 learners?*

**Table 6.2: Regression analysis coefficient**

<b>Variable</b>	<b>Regression coefficient</b>	<b>Regression coefficient (S.E.)</b>	<b>Regression coefficient (t-value)</b>
<b>Constant</b>	503.32	8.18	61.56
<b>Parental behaviour to reading variables:</b>			
<b>Grade 4 parents discussing their child's homework with them</b>	-17.11	3.05	-5.61
<b>Grade 4 parents helping their child with their homework</b>	5.96	3.21	1.86

<b>Variable</b>	<b>Regression coefficient</b>	<b>Regression coefficient (S.E.)</b>	<b>Regression coefficient (t-value)</b>
<b>Grade 4 parents ensuring that the child sets time aside to do homework</b>	-21.54	1.96	-11.00
<b>Grade 4 parents asking their child what they learned in school</b>	-1.79	3.66	-0,49
<b>Grade 4 parents checking that child has done their homework</b>	-12.65	2.99	-4.24
<b>Grade 4 parents help their child practice their reading</b>	12.08	3.29	3.67
<b>Grade 4 parents talking to their child about what they are reading</b>	10.81	2.19	4.94

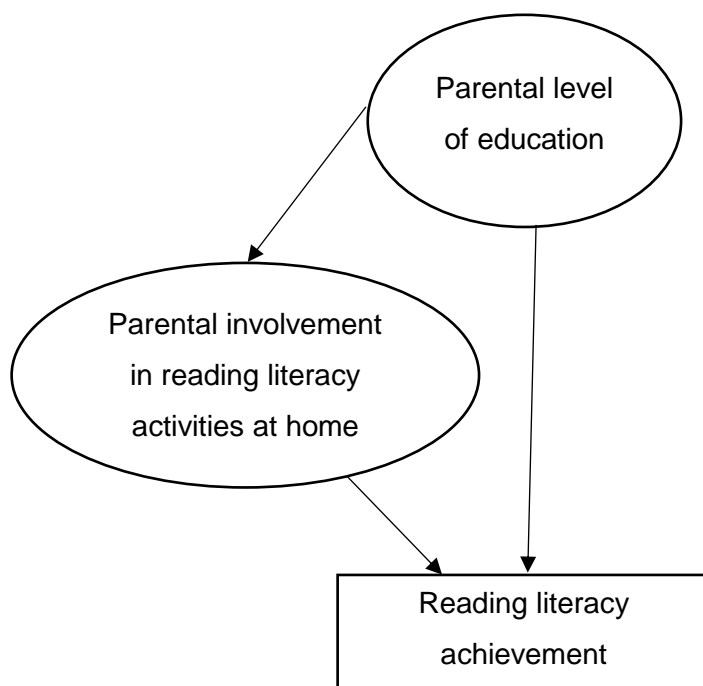
Parents not ensuring that their child set time aside to do home, could expect that their reading literacy achievement results score would be lower by 20 points, while parents helping their children practice their reading could expect that their child would have a reading literacy score of 12 points higher. When the activities are absent, the reading literacy scores could be expected to be lower, while the presence of these parental activities, the Grade 4 learners reading literacy achievement scores can be expected to be higher. Singh, et al. (2004) research has supported the findings of the current study who found that parental involvement was crucial in academic performance.



The r-square indicated the amount of variability accounted for by the seven parental activities that determined the level of parental involvement. Parental involvement explained 6% of the Grade 4 learners' reading literacy achievement, while the adjusted r-square provided an indication of the probability of the seven parental activities accounting for the same variance in another sample taken from the same population. Although the explained variance of the activities was low in the current model, there was still variance that could be explained.

A study conducted on parental involvement and the effect on science achievement, produced low r-square values too. These authors (Olatoye & Ogunkola, 2008) concluded that there are likely to be other factors that account for the variation in science achievement (Olatoye & Ogunkola, 2008), the same conclusion that could be made from the current study. While parental involvement explains some of the variance, school-level factors should not be discounted.

#### 6.4 Conceptual framework reflections



*Figure 6.1: Relationship between parental education and parental involvement in reading*

The conceptual framework used for the study, is presented in Figure 6.1 and is a combination of Epstein's six types of parental involvement and Myrberg and Rosén' path model of direct and indirect influences of parental education (2008) on learners' reading achievement. In order to address the main research question concerning

parental involvement, Epstein's six types of parental involvement, more specifically the parental involvement in literacy activities at home, was included in the conceptual framework.

Furthermore, the study aimed to determine the effect of the parental level of education on the reading literacy achievement. Myrberg and Rosén' path model of direct and indirect influences (2008) included the parental level of education, among other variables, and the effect on the reading literacy of the learner. The conceptual framework for the study consists of parental behaviours in reading literacy activities, as well as the parental level of education and the effect that these two factors could have on the reading literacy achievement results of the Grade 4 learners. Only the direct, one-way effect between the components were researched. In this study, seven parental behaviours were used as indicators of parental involvement of Grade 4 learners' parents that completed the prePIRLS 2011 parent questionnaire, while controlling for the mothers' level of education.

Other suitable models that could have been used for the current study is Bronfenbrenner's systematic framework (1979). Bronfenbrenner's ecological systems theory identifies five environments which a child interacts with, but since the focus of the current study is specifically on parental involvement, frameworks which exclusively dealt with issues of parental involvement were found to be the most appropriate.

In summary, Epstein's six types of parental involvement coupled with Myrberg and Rosén' path model of direct and indirect influences (2008) were used to guide the selection of variables and the analysis of the results. Contrary to Myrberg and Rosén's work, the current study only looked at the direct effects.

## **6.5 Main conclusions**

The main conclusions of this study are as follow:

**Main conclusion 1: The higher the level of parental education as measured by the mothers' level of education, the higher the reading literacy achievement of the learners can be expected to be.**

The parental level of education, as measured by the mother's level of education, had an effect on the reading literacy abilities of the learners. This study indicates that there were significant differences when moving from the lowest level of education of the mother, to the highest level of education.

When exploring the profile on basic education in South Africa, school attendance has been on the rise as seen in trends from 1996 up until 2016 as indicated in Statistics South Africa (2017) and shows an increase in the amount of learners who matriculated rising from 3.7 million to 11.6 million. This was a 211% increase over the 20-year period and could indicate that access to education was increasing. Another interesting trend was an increase in people attending higher education institutions. It was found that in 2016 more than three million people completed a certificate, diploma or a degree which constitutes 12% of the population. Statistics South Africa (2017) also found that children who live in households where the head of the household has a post-secondary level of education, were more likely to participate in educational activities (Statistics South Africa, 2017). The results of the mentioned census shows that the parental level of education was on the rise and the effect of the mothers' levels of education may play a positive role in further access to education of generations to come.

More studies have been conducted specifically on the effect of the parental level of education. Myrberg and Rosén (2009) found in their study that the parental level of education exerts an important effect on learners' reading literacy performance. In addition individuals who have higher levels of schooling in turn have children who also attain higher levels of schooling (Dickson, et al., 2013). More studies, specifically done on the effect of the mother's level of education, show that there was a strong, significant, positive impact on language, as well as across all cognitive outcomes (Sammons, et al., 2004).

It could thus be seen from the research that the parental level of education, especially the mother's level of education, plays a significant role on children's literacy and academic achievement. According to data gathered for the "Statistics on Children in South Africa" (Hall & Meintjies, 2016b) during 2014, 20.9% of children do not live with either parents, while 3.7% of children live with only their father. Hall and Meintjies (2016a) further showed that roughly 0.3% of children in South Africa

live in “child-headed households” and are predominantly clustered in the poorest 20% of households. These children tend to have poor access to services, less reliable levels of income and poor access to social grants (Hall & Meintjies, 2016a). What can therefore be said for children who do not live with their mother or who do not have a mother? Data from Hall and Meintjies (2016a) translates to about a quarter of children in South Africa who do not have the possible positive effect of the mother’s level of education on development, academic attainment and access to education that would make the escape from poverty traps possible.

**Main conclusion 2: Parental behaviours, as conceptualised in terms of parental involvement, can be associated with higher reading literacy achievement**

The results of this study highlighted the importance of parental involvement through various parental behaviours. The higher the frequency of most parental behaviours that determine parental involvement, the higher the overall reading literacy achievement results of the learners. There are numerous sources that support the notion of higher parental involvement being associated with better reading literacy and academic achievement (Sénéchal & LeFevre, 2002; Jeynes, 2005; Melhuish, et al., 2008).

Research conducted by the EPPE project also showed that the higher the parental participation in home learning activities, the better the children’s academic scores in pre-reading, language and early number attainment (Sammons, et al., 2007). Another meta-analysis conducted on 41 studies examining the relationship between parental involvement and the academic achievement of urban school children, found that there was a significant relationship between the overall parental involvement and the academic achievement of the child (Jeynes, 2005). For this study, in five of the seven parental behaviours, the overall reading literacy scores were the highest when parental involvement was reported for these activities every day or almost every day.

Lam and Ducreux (2013) found many sources that state that parental involvement positively affected learners’ academic progress and significant results from their own study showed that the communication between the parent and the learner was of

vital importance. The focus was therefore not only on the frequency of parental behaviours (as reported in the current study), but also on the quality of parental involvement (Fan & Chen, 2001; Hoover-Dempsey et al., 2001; Patall et al., 2008; Pomerantz et al., 2007).

**Main conclusion 3: Specific reading literacy activities completed by the parent can be associated with higher reading literacy achievement.**

The results of the current study clearly support the importance of parental involvement and its effect on the reading literacy abilities of the learners. According to Sénéchal and LeFevre (2002) parents are responsible for the formal and informal literacy activities that occur at home which lead to the development of the child's own literacy formation.

A meta-analysis conducted of 41 studies examined the relationship between parental involvement and the academic achievement of children (Jeynes, 2005). When individual components of parental involvement were explored, nearly all of the components were positively and significantly related to educational outcomes. One of the results of the meta-analysis, is that parental reading, which is the mother and/or father reading with their child, is an important predictor of academic outcomes (Jeynes, 2005). This is supported by the results of the current study which found that *children who had parents who helped them practice their reading* could expect that their child on average had a reading literacy score of 12.08 points (SE=3.29) higher than those parents who did not take time to read to their children.

Another activity which was explored in the current study is the effect of the parent assisting the child with homework. The current study found that parents who did not ensure that their child *set time apart to do homework* had the biggest effect on their reading literacy achievement scores where it could be expected for the score to be lower by 21.54 (SE=1.96) points. Research suggests that parental involvement in homework is only beneficial under certain conditions (Gonida & Cortina, 2014). Parental involvement in homework show that "autonomy support" where parents promote self-regulatory practices, were the most beneficial type of parental involvement (Gonida & Cortina, 2014). Some schools have recently started taking away homework completely (Nel, 2016). From the literature it is not necessarily

homework per se which account for the reading literacy achievement, but the nature of interaction and that homework provides an opportunity for such interaction between the parent and child that could make the difference.

## **6.6 Reflection on research design and methodology**

In an effort to address the main research question of this study, a descriptive and multiple regression analysis was used in a secondary data analysis design. Selected items were used from the parental questionnaire completed during the prePIRLS 2011 reading literacy study.

The data used in this study was primarily collected in the primary study for a different purpose. The data could thus not be modified and additional data could not be gathered. The following methodological reflections could be made:

- Other factors, such as the language of the child could have been included to account for the variance of the reading literacy achievement results by language.
- A stratified study of the effect of parental involvement on reading literacy achievement by different languages or parental background profiles could have added value to this study.
- A stratified study of the effect of the reported combined level of education of the mother and father on the reading literacy achievement of the learners could have been included.

## **6.7 Strengths and limitations of the study**

This study aimed to contribute knowledge on large scale studies that have been conceptualised and developed over many years. More importantly, this study aimed to address a gap in the research as identified in Chapter 3 (literature review), by re-using data collected through an internationally comparative study.

The strength of the study was found in the size of the sample from which the data was collected, as well as the quality of the data supplied by the IEA. The data recorded a very high response rate of 99.1% of sample schools participating. The

school response rates for the Grade 4 learners were translated to 15 722 respondents, while the parental questionnaire had more than 11 000 respondents. A significant strength of this study was the quality assurance measures taken to ensure that the data was captured accurately and made available for secondary analysis. Another strength, is that the research was conducted in the South African context. The findings may shed light on important issues for more future studies to be conducted.

Although the study had strengths, there were also limitations. In the current study, only the direct effects were tested and another method could have been chosen that would have allowed for indirect effects as was done by Myrberg and Rosén (2008).

## **6.8 Recommendations for policy, practice and further research**

The conclusions drawn from the study lead to the following recommendations in terms of educational policy, practice recommendations and further research recommendations.

### **6.8.1 Policy Recommendations**

According to Bakker and Denessen (2007), some policy makers and educators see parental involvement as a panacea to any educational problems, but the importance of parental involvement cannot be disputed. The South African government has a history of policy development with regards to parental involvement starting with the pre-1994 government encouraging non-parental involvement through the Planning and Utilization of Resources Act of 1967 (Ndlazi, 1999). Following 1994, emphasis had been placed on the role of parents in their children's education through the South African Schools Act 84 of 1996. This act enables parents to participate actively in their children's school through the SGB. According to the Act, the head of the SGB should be a parent, with the remainder of the SGB consisting 60% of parents. All these members are elected through a democratic process (Mbokodi & Prakash, 2011). The SGB formulates school policies such as the language- and admission policy, as well as appointing staff members, handling discipline cases and managing the school funds (Lemmer & van Wyk, 2004).

Although the act states how parents are involved in the SGB, there are no official laws mandating how parents should be involved in their child's schooling or academic development. The South African government circular from 2012 (Soobrayan) show that the Minister of Basic Education places growing emphasis on parental involvement through various activities. These activities include sharing their child's performance in the ANA's, parents discussing the ANA results with the individual teacher, informing parents of intervention programs developed by the Department, as well as discussing external factors that may have an effect on academic achievement (Soobrayan, 2012). Although the Department of Basic Education tried to encourage parental involvement through the circular, there was no official policy which guides schools to effectively involve parents or that pushed parents to become involved. Therefore parents may be unsure how to become involved and are sometimes not valued by the school (Okeke, 2014). Parents may also deliberately avoid the school for fear of requests for financial assistance, school fees or other assistance from families that are already constrained.

Findings from the current study highlight the importance of parental involvement in their child's acquisition of literacy (see Chapter 5). National policies should thus reflect the need for parental involvement through schools. The following suggestions can be used by schools to increase parental involvement without expectations of financial aid:

- Train and empower school leadership to empower teachers to effectively involve parents in their children's education.
- Teachers can show parents how they can effectively assist their children with literacy and academic activities.
- Principals of schools need to create an environment where parents feel safe to participate in their child's academic progress, as well as discussing their children's academic progress with their teachers.

### **6.8.2 Practice recommendations**

In Chapter 5, it emerged that the better educated the mother, the higher the reading literacy scores of the child, but the results indicated that more than 37% of mothers



have a level of education lower than Grade 12/Standard 10. What was worrisome, was that there was a difference in the overall reading literacy scores of 158.5 points between learners whose mother had no schooling compared to mothers who had a degree.

There are 58 million women worldwide being denied primary school education. According to a report published by the Department for International Development (2005). Educating women was one of the most important investments that any country can make in its own future. Many reasons exist for women not receiving quality education such as the cost of education, unsafe school environments and education not being valued for women (Department for International Development, 2005). For the South African context these reasons can be applicable and should be addressed through the following:

- Teachers could focus their efforts on mothers and advise them on becoming involved in their children's education.
- Schools can identify learners who struggle to afford basic school necessities such as books and stationery and provide these to the learners to deter leaving school before matriculating.
- Schools can conduct group sessions with mothers to help them develop their children's reading abilities and show which literacy activities they can engage their children in. An example of such an initiative is Nal'ibali which is a national reading campaign aimed at teaching children to read for enjoyment with the help of parents and communities. Nal'ibali also provides many resources and stories for teachers and parents to use (2017).

### **6.8.3 Research Recommendations**

The following recommendations can be made for further research:

- The development and implementation of effective intervention strategies and programmes by schools and the department of education to increase parental involvement in reading literacy.

- Research is also needed to determine possible reasons for a lack of parental involvement to effectively develop the intervention strategies and programmes.
- Differences in parental involvement activities, stratified according to the 11 official languages can be explored to determine the effect of parental involvement on literacy when controlling for the language of the parent since language accurately serves as a proxy indicator of social background.

Since the completion of the current study, PIRLS and PIRLS Literacy 2016 (formerly prePIRLS) have already take place. The recommendations for further studies can thus be completed with the newest PIRLS and prePIRLS data from 2016 when it becomes available.

The study's contribution lies in its use of prePIRLS 2011 data which served as a benchmark study against which reading literacy achievement of Grade 4 learners was measured with parental involvement and parental level of education as measured by the mothers' responses as predictors of reading literacy achievement.

The current study concludes with the following quote from Dr. Karen Mapp (2015) who specialises in creating and strengthening partnerships between families, the community and schools:

“We have 50 years of research showing that what families do matters. Whether it's loving school, college access, good attendance, or academic success, family engagement has positive correlations with all sorts of indicators.”

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## APPENDIX A

### Learning To Read Survey (Parental Questionnaire)

Variable	Main question	Sub questions	Options	Type of Item
9	How often do you or someone else in your home do the following things with your child?	a) Discuss my child's schoolwork with him/her	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	Likert scale
		b) Help my child with his/her homework	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		c) Make sure my child sets aside time to do his/her homework	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		d) Ask my child what he/she learned in school	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		e) Check if my child has done his/her homework	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		f) Help my child practice his/her reading	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		g) Help my child with his/her homework	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	
		h) Talk with my child about what he/she is reading	Every day or almost every day / Once or twice a week / Once or twice a month / Never or almost never	

<b>17</b>	What is the highest level of education completed by the child's father (or stepfather or male guardian) and mother (or stepmother or female guardian)?	a) did not go to school	child's father / child's mother	Multiple choice questions
		b) Some primary school, lower than Grade 9/ Standard 7	child's father / child's mother	
		c) Grade 9/Standard 7	child's father / child's mother	
		d) Grade 12/Standard 10	child's father / child's mother	
		e) Post-secondary training (Vocational training e.g. college)	child's father / child's mother	
		f) Technikon Diploma	child's father / child's mother	
		g) First degree	child's father / child's mother	
		h) Honours degree	child's father / child's mother	
		i) Master's or PhD degree	child's father / child's mother	
		j) not applicable	child's father / child's mother	