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University of the Witwatersrand
SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT
Department of Psychology

The effects of a reading intervention on first and second language English medium learners

A research project submitted in partial fulfilment of the requirements for the degree of M.Ed by coursework and research report in the field of Educational Psychology in the Faculty of Humanities, University of the Witwatersrand, Johannesburg, October 2010.

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Table of Contents

Chapter 1 Literature Review 1

1.1. Introduction 1

1.2. The South African Education Context 2

1.3. Reading in South Africa 5

1.4. A Theoretical Basis 8

- The Immersion Debate 8
- Cummins' Theory 9
- The Threshold Hypothesis of Language Proficiency 12
- Comprehension and Vocabulary 14

1.5. The difference between L1 and L2 learners 16

1.6. Rationale 21

1.7. Research Question and Hypotheses 23

Chapter 2 Methodology 25

2.1. Research Design 25

2.2. Sample 26

2.3. The Implemented Intervention 28

2.4 Instruments and Materials 28

2.5. Data Gathering Procedure 28

2.6. Ethical Considerations 29

Chapter 3 Results 31

3.1. Vocabulary 32

- Descriptive Statistics 32
- Inferential Statistical Analysis 32

3.2. Comprehension 35

- Descriptive Statistics 35

- Inferential Statistical Analysis 35

Chapter 4 Discussion 38

Limitations and Recommendations 48

Implications for the South African learning context 51

Conclusion 54

References 56

Appendices

Appendix A: Principal Information Sheet

Appendix B: Principal Permission Form

Appendix C: Parental Information Sheet

Appendix D: Parental Consent Form (Guardian)

Appendix E: Participant Information Sheet

Appendix F: Participant Consent Form

Appendix G: Biographical Questionnaire

Appendix H: Department of Education Research Approval

Appendix I: Human Research Ethics Clearance Certificate

Tables and Figures

Table 2.1:Control and Experimental Groups; L1 and L2 Participants 27

Table 2.2: Control and Experimental Group; L1 and L2 Learners 27

Table 3.1: Descriptive Statistics for scores on the SDRT: Brown Level Vocabulary subtest at Time 1 (Grade 8) and Time 2 (Grade 10) 32

Table 3.2: Descriptive Statistics for scores on the SDRT: Brown Level Comprehension subtest at Time 1 (Grade 8) and Time 2 (Grade 10) 35

Figure 3.1: Differences between Control and Experimental groups on a measure of Vocabulary (mean scores) over time 33

Figure 3.2: Differences between L1 and L2 learners on a measure of Vocabulary (mean scores) over time 34

Figure 3.3: Differences between Control and Experimental groups on a measure of Comprehension (mean scores) over time 36

Chapter 1

Literature Review

1.1. Introduction:

This research will contribute to the knowledge of how to best educate South African learners given our unique schooling conditions. Teachers need to understand the extent of the disadvantage involved in second language learning and the proposed research aims to equip teachers to better deal with, or avoid the resultant deficits. Such knowledge will be gained by taking a closer look at the evident gap in reading ability between first and second language English medium learners*. Understanding the underlying causes of the discrepancy as well as evaluating efforts to narrow the gap, will equip the current body of research with a necessary springboard for future educational practices.

Prior to 1994 the language policy in South Africa allowed English and Afrikaans a dominant advantage even though the majority of South Africans at the time, and today, speak an African language as their home language. Although the policy today allows learners the right to be educated in their language of choice, this has proved impractical (Barry, 1999). Research by Winnett (2008) revealed a constant significant gap in both vocabulary ability and comprehension ability between first language and second language English medium learners when tested during their Grade 8, Grade 9 and Grade 10 years. Thus the implications of a post-apartheid era are still evident in South African schools (Barry, 1999).

The study aims to investigate this gap in reading ability across language backgrounds by testing comprehension and vocabulary ability in a South African sample of high school learners. The study is a longitudinal repeated measures design and statistical analysis focuses on the effects of implemented efforts to narrow this gap and the implications thereof. These efforts to narrow the gap in reading ability refer to a school initiated half-an-hour reading period aimed at improving the comprehension and vocabulary abilities of learners. During this period groups of learners numbering thirty-five to forty, and consisting of learners from

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* For the purpose of this study, first and second language English speakers will be referred to as L1 and L2 respectively. For the purpose of this study L2 learners are defined as those learners who have a black African home language but have been educated in English for a minimum of five years.

across grades 8 to 11, gathered in a classroom in order to practice reading under supervision (Karolia, 2008).

Shared reading or supervised oral reading is a form of modelling, allowing the entire class or paired individuals to follow the same text as each takes a turn to read aloud. Consequently the differences in fluency and pronunciation are highlighted when listening to, and following a text simultaneously. Coupled with immediate correction from the teacher or more proficient reader, in order to avoid the acquisition of incorrect vocabulary, correct reading skills are modelled and learnt. Hence the critical nature of adult-child interaction during the early stages of childhood literacy development (Begeny & Martens, 2006; Hay & Fielding-Barnsley, 2007; Malloy, Gilbertson & Maxfield, 2007; Rasinski, 1990; Stinnett, 2010). The notion of repetition is essential to the learning process. Practice results in familiarity and easier memory retrieval. When skills and behaviours are repeated the newly developed neural pathways are strengthened and become more engrained, allowing such a skill or behaviour to be internalised as a habit. Thus, automaticity is accomplished. In line with theory, research indicates that reading interventions based on repetition are likely to yield the greatest gains over time (Begeny & Martens, 2006; Malloy et al., 2007; Manset-Williamson & Nelson, 2005; National Institute for Literacy, 2000; Rasinski, 1990; Stinnett, 2010) and are thus relevant to this study. Investigating various methods for reading improvement is pertinent to expanding the current knowledge base pertaining to South African education as 'reading is not simply an additional tool that students need at tertiary level - it constitutes the very process whereby learning occurs' (Pretorius, 2002a, p.169).

1.2. The South African Education Context

Prior to 1994, learners attended separate schools segregating black and white education. Furthermore, these schools adopted differing strategies when implementing a medium of instruction. The 1976 uprisings of the Soweto Rebellion of students were a result of resistance to black education 'mother- tongue' language policy and led to the decision that neither Afrikaans nor black African languages could be implemented as the language of instruction in black schools. The amendments made to the 1953 Bantu Education Act in 1979 entailed the limitation of mother tongue instruction to the first four years of school. The aim became to decrease bilingualism in black schools (de Wet & Wolhuter, 2009; Mahlalela-Thusi & Heugh, 2002).

After 1994, eleven languages of South Africa gained official status and educational rights in order to enhance the nature of newly founded democracy. According to de Wet and Wolhuter (2009), a case of "deep-seated distrust and fear that home-language education would lead to impoverishment, social and political isolation, and disempowerment" (p. 359) resulted in the majority of South African learners indicating a preference for English as the language of primary instruction instead of their native tongue (de Wet & Wolhuter, 2009).

The White Paper on Education and Training (Department of Education (DoE), 1995) expresses a specific mandate for "Transforming the Legacy of The Past" (Ch. 3) wherein, although gross inequalities in educational opportunity are acknowledged, equity attainment is of paramount importance. Aspirations toward equal opportunity are evidenced in the paper's indication of the parental right to choose the language, culture and religious basis of a child's education (Ch. 4). However, in chapter 2 of the 1996 Bill of rights, the right of everyone to be educated in the official language of their choice is accompanied by necessary clauses regarding practicability, the consideration of the resultant impact of past racially discriminatory laws, and the exploration of all reasonable alternatives, including single medium instruction. These practical hindrances stand in opposition to the recognition of the White Paper on Education and Training (DoE, 1995, Ch. 4) that 'education and training are basic human rights' and that 'the state has an obligation to protect and advance these rights, so that all citizens irrespective of race, class, gender, creed or age, have the opportunity to develop their capacities and potential, and make their full contribution to the society'.

Fifteen years later, and 20 years after the release of Nelson Rolihlahla Mandela from prison in 1990, the 11th of February 2010 saw President Jacob Zuma deliver his second State of the Nation Address in which he firmly indicated the position of education and skills development at the centre of government policy. New 'to be implemented' procedures include literacy and numeracy testing in schools as well as the provision of workbooks in all 11 official languages. Government aspires to elevate pass rates on tests of literacy and numeracy from the current average of 35-40% to a minimum of 60% by 2014. In his statement, President Jacob Zuma indicated the government's desire 'to improve the ability of [South Africa's] children to read, write and count in the foundation years'. He acknowledged that unless this task is successfully carried out, the quality of education in South Africa will not improve.

In spite of such efforts to promote language equity, concerning the majority of South Africans, English is selected as the preferred language of learning and teaching (LoLT) after the first four years of schooling (Die Burger, 12 September 2000: 9 as cited in de Wet, 2002). de Wet (2002) investigated the reasoning behind this preference by addressing two factors associated with choice of LoLT; firstly the number of speakers, and secondly the perceptions of the role and functions of language in particular areas of life. The study specifically explores the perceptions of educators and student educators on the significance of language in education, politics, science and technology, trade and industry, and cultural activities. The respondents to the study indicated their understanding of English as most paramount to practices of education, politics, science and technology, and trade and industry. Furthermore the multilingual (belonging to five South African language groups), multicultural group of respondents acknowledged the significance of one's home language in the activity of culture. A large portion (78.9%) of the respondents indicated that they use language or code switching to enhance their teaching methods, thus confirming the majority opinion that home language usage aids the education process (de Wet, 2002).

In spite of notions that education in one's native tongue is more successful than bilingual or second language medium of instruction (Heugh, 2002), in South African schools English is the dominant medium of instruction (De Klerk, 2002; de Wet, 2002). Furthermore, the South African National Curriculum Statement (DoE, 2002) indicates that one should attain proficiency in the selected language of teaching and learning (LoLT) at a level fundamental for successful learning of the curriculum. Howie, Scherman and Venter (2008) conducted research investigating the "gap" between advantaged and disadvantaged students in science achievement in South African secondary schools. Their rationale for conducting the study included the opinion that 'South Africa's education system is still deep in the throes of reform under its third Minister of Education since 1994' (p. 29). Furthermore the authors acknowledge that poorer, rural South African communities are carrying the majority burden resulting from past inequalities. The category of students labelled as 'disadvantaged' was characterised by an Africa language as their home language which differed from the language of school instruction, primarily English. In addition these students were more likely to have come from rural areas, to have less books or possessions within their homes and to be of an older than mean age per grade. These disadvantaged students achieved the lowest scores for achievement on a science test administered in English as well as on the English proficiency tests. Furthermore South African students performed well below the international average for

science achievement (Howie, Scherman & Venter, 2008). Factors analysed for variance in science test scores revealed that English test scores had a strong effect on science achievement. Twenty-three percent of the variance in English test scores among the disadvantaged group could be explained by location of the school, age, language spoken at home, aspirations of the students and books in the home. The results from this study are not unexpected and it is problematic that poor comprehension and communication skills are limiting South African student's access to not only science knowledge but possibly conceptual understanding relating to a variety of subjects (Howie, Scherman & Venter, 2008). The concerns highlighted in the study conducted by Howie, Scherman and Venter (2008) are echoed in Mallozzi and Malloy's (2007) research into second language issues in South Africa. Mallozzi and Malloy (2007) stress the importance of learning English as a second language for those South Africans who speak an African home language, as the English language dominates the workforce as well as school instruction. However, it is noted that for those whose first language differs from the LoLT, English is not offered as a distinct second language subject. Furthermore the vast cultural and socio-economic differences within the South African learning environment impose difficulties on the development of an appropriate literacy education program.

1.3. Reading in South Africa

Pretorius (2002a) describes the reading situation in South Africa as a 'national educational crisis' (p. 170) and deliberately expresses a call for decisive action. Pretorius and Naude (2002) comment on the fact that a large majority of South African children, specifically those born in Township areas, are ill prepared for formal education and in spite of their lack of school readiness are still expected to cope with the current school system. In a sense, they are lagging behind before they even begin. Their studies revealed poor sentence construction and use of syntax, poor literacy skill, and inadequate sound development, among other concerns, prior to beginning formal education.

It is suggested that the problem of reading in South Africa is indicative of a people still reaping the detrimental effects of apartheid regime. A history of education deprivation as well as emphasis on the English language as the only means for success and power has left a legacy of disadvantage (Rasinski, 1990). The South African educational context is tainted by disadvantage and poverty and inhibited by insufficient resources or school supplies, as well as the problem of too many students and too few adequately qualified teachers (Pretorius,

2002b). Pretorius and Mampuru (2007) in their study examining the relationships between L1 (Northern Sotho) and L2 (English) proficiency as well as between L1 and L2 reading in Grade 7 learners at a high-poverty South African primary school during the year that a reading intervention was being implemented at the school, attribute many of their findings to the long term consequences of negative 'Matthew effects' on reading.

Within the domain of education 'Matthew effects' refer to the observed phenomenon that early success in learning to read accumulates, resulting in more reading and greater success in reading later in life. Within sociology and economics this would be described as 'the rich getting richer'; those students attending well resourced schools with well trained teachers are able to learn to read and then have opportunity to accumulate their knowledge, reading ability and achievement. On the other hand, those students who are not provided with the opportunity to learn to read within the first three or four years of schooling are likely to experience long term difficulties in learning as they tend to fall behind in the beginning stages of schooling, resulting in their reading less and accumulating less knowledge. As time passes the gap increases between those who have been left behind and those who have learnt to read from an early age. Eventually these students experience significant difficulty passing other subjects and school dropout rates increase. It can be said that 'the poor get poorer'. (Wikipedia, n.d./2010)

To quote Keith Stanovich, a psychologist whom adopted the term *Matthew effect* within the realm of reading and education; "Slow reading acquisition has cognitive, behavioural, and motivational consequences that slow the development of other cognitive skills and inhibit performance on many academic tasks. In short, as reading develops, other cognitive processes linked to it track the level of reading skill. Knowledge bases that are in reciprocal relationships with reading are also inhibited from further development. The longer this developmental sequence is allowed to continue, the more generalized the deficits will become, seeping into more and more areas of cognition and behaviour. Or to put it more simply -- and sadly -- in the words of a tearful nine-year-old, already falling frustratingly behind his peers in reading progress, 'Reading affects everything you do'" (Adams, 1990, pp. 59-60).

In addition, Pretorius and Mampuru (2007) found that during the pre-test phase of their study, 30% of the tested grade 7 learners were not even able to read at 20% level of comprehension and some had even struggled with L1 grade 2 and 3 texts. At an individual level, the weaker

students were found to have poor word recognition skills and inadequate knowledge of letter-sound relationships; indicative of inadequate learning of phonics at the foundation phase. Furthermore, the class sizes were large, availability of reading material was very limited and many of the learners were over-aged for their grade level. An overarching concern was the teachers' inability to address the problem of reading at the school as well as the lack of parental involvement in reading related activities. Pretorius and Mampuru (2007) further suspect that within high poverty schools, such as the school utilized in their research, severe reading disabilities are not recognized and attended to in earlier grades thus leading to failure at later grade levels. Conditions such as these are unsupportive and often inhibitory in terms of taking remedial action (Pretorius & Mampuru, 2007).

It is also relevant to this study to note that when the grade 7 learners were segregated according to their academic scholastic achievement; all of the learners belonging to the *Not Achieved* category, having obtained between 0 and 39%, had Northern Sotho as their home language. All of the learners falling in the *Achieved* category, having obtained between 50 and 69%, were from a non-Northern Sotho home background. An intervention was implemented in an attempt to rectify the school's reading environment, being characteristic of high poverty education environments. A library was established, teacher training and awareness was raised as well as the implementation of a forum for parental involvement and an opportunity for so many illiterate parents to cease feeling isolated from their children's learning context - as was discovered to be the case. Post-testing was conducted seven months later and results revealed that those who passed grade 7 (*Achieved* and *Outstanding* categories) showed improvements in both their L1 and L2 reading ability. These results further confirm the consequences of the above mentioned Matthew effects. Furthermore, Pretorius and Mampuru (2007) highlight the necessity of available printed text and subsequent reading practice in order for reading levels to be improved. Pretorius and Mampuru (2007) liken the lack of reading resources in the literacy learning environments of South Africa to the ludicrous notion of learning to play soccer without a ball.

Furthermore, in understanding the causes underlying the reading deficits that characterise so many of South Africa's children the educational conditions as well as the extent of inequitable opportunity are highlighted. According to Statistics South Africa Census @ School Project in collaboration with the Department of Education, in 2001 less than 50% of schools across Southern Africa had access to running water. Only 52.7% of schools had

electricity, 52% had available toilet facilities and less than 25% of schools had access to a computer, internet, email and library facilities. In 2001 only 64% of schools had a Maths teacher (Statistics South Africa, 2001). Pretorius (2002b) echoes the statistics in commenting on the unique context at hand; a large portion of South African schools are operating under inadequate conditions, without electricity, running water, telephones or sanitation.

Similarly, specific challenges facing English second language education appears to be not only a severity in lack of available resources as well as the socio-emotional difficulties of learners, but notably a lack of parental support and parental involvement in their child's education is highlighted, and possibly attributed to language usage (Mji & Makgato, 2006; O'Connor & Geiger, 2009). In a similar vein, the fact that language is acknowledged to be culturally imbedded implicates a differential linguistic environment for L2 learners. Such learners are deprived of English written material in their homes, such as newspapers and magazines, as well as English radio and Television. They lack the background of an upbringing characterised by fables, proverbs, nursery rhymes, songs and games. Such heritage is a significant part of English culture and as a result is often referred to in the classroom. In addition, a strong correlation between literacy levels and the quality, access and range of school reading resources puts black South African learners at a significant disadvantage in terms of the lack of library resources in rural schools as well as the deficit in reading material and parental support available at home. This fact, coupled with the knowledge that literacy correlates highly with academic achievement, already predicts academic shortfalls in South African L2 learner populations (Barry, 1999).

1.4. A Theoretical Basis

The Immersion Debate. As is often the case in South African schools, an English-only classroom can have unfortunate academic effects on scholars with limited English language proficiency. Additionally, total immersion in the English language during school hours may serve to alienate scholars from their native tongue and culture causing disruptions in parent-child communication and family relationships (Shaffer, 2002). A distinction is made between additive bilingualism and subtractive bilingualism (Cummins, 1994 as cited in Shoebottom, 2007). Subtractive bilingualism refers to an emphasis that is placed on a second language, causing one's first language and culture to be devalued by society in general, but additive bilingualism results in a second language taking on a merely additional capacity while one's first language and culture maintains value and growth.

Although additive bilingualism has many appealing facets, Morrow, Jordaan and Fridjhon (2005) established another perspective as a result of their research into the effects of educational context on the understanding of linguistic concepts in English and isiZulu by Grade 7 learners. Their results indicated that, compared to learners based in Soweto and Kwa-Zulu-Natal, Johannesburg based learners tend to become more proficient in English and as a result lose their home language as a means for learning and higher order thinking. The Soweto learners, having been submersed in a truly 'additive' bilingual environment seemed to develop an equal proficiency, however, a lack of competence in both English and their mother tongue language. Such a context, wherein both L1 and L2 are made use of within educational practices, may in fact be a hindrance to academic achievement as learners have no language adequate for the establishment of the cognitive processes involved in academic learning. The necessity for the development of one language sufficient for schooling is highlighted (Morrow et al., 2005). The KZN learners - having been educated in their mother tongue during their first three to four years of schooling prior to being shifted to English tuition - demonstrated adequate competence in their mother tongue but poor proficiency in English. In this case the researchers have suggested that it would be more productive and beneficial at this stage for the KZN learners to be educated in their mother tongue and to study English as an additional subject. This suggestion was made in light of the fact that education in a language in which one is poorly proficient may have adverse implications for school competence and cognition (Bialystok, 2001 as cited in Morrow et al., 2005). Morrow et al. (2005) concluded their studies by making note of the widely held misconception that English language instruction will benefit learners both economically and educationally, while it is in fact possible to attain high levels of English proficiency when English is taught as a second language (Kapp, 2000 as cited in Marrow et al., 2005). However, as previously mentioned, although it is imperative for those South Africans who speak an African home language to learn English as a second language - due to the fact that the English language dominates the South African workforce - it is noted that for those whose first language differs from the LoLT, English is not offered as a distinct second language subject. Furthermore, the vast cultural and socio-economic differences within the South African learning environment impose difficulties on the development of an appropriate literacy education program (Mallozzi and Malloy, 2007).

Cummins' Theory. Research on bilingual learners has indicated that all the participants use their L1 to some extent when writing in their L2 (English) (van Weijen, van den Bergh, Rijlaarsdam & Sanders, 2009). Similarly, research indicates a transfer of skills used to master a first language, to the development of reading in a second language (Mumtaz & Humphreys, 2001). There is evidence suggesting that a fluent bilingual reader makes use of primarily overlapping brain circuits for both L1 and L2 (Pugh, Sandak, Frost, Moore & Mencl, 2005). Cummins (1996) proposes two opposing models of bilingual proficiency. The Separate Underlying Proficiency (SUP) Model argues that acquisition and eventual proficiency of a first language (L1) is separate from that of a second language (L2). Thus, it is implied that knowledge content as well as skills learnt in one language cannot transfer to the other language. However, evidence of substantial skills and metalinguistic knowledge transfer between languages supports the Common Underlying Proficiency (CUP) Model claiming that the elements of literacy in both L1 and L2 proficiency are interdependent in that they overlap cognitively. It is thus theorised that exposure to either L1 or L2 will enhance proficiency in the cognitive aspects underlying both languages. As Cummins (2000 as cited in Shoebottom, 2007) states, "Conceptual knowledge developed in one language helps to make input in the other language comprehensible." A child that has grasped the concepts of "justice" or "honesty" in his/her L1 must merely obtain the label for these notions in English. A child having to learn both the label and the concept in his/her L2 has a far greater task at hand (Shoebottom, 2007). However, adequate exposure to L2, for example, as well as motivation to become more proficient in L2 is necessary for experience-related L1 proficiency to transfer to L2. Furthermore, although this principle of linguistic interdependence encourages the continuation of native language development, Cummins (1996) states that transfer is more likely to occur from the majority language to the minority language due to likely immersion and social expectations.

Thus, to ensure transfer from L1 to L2, immersion in a predominantly L2 environment is optimal. Cummins (1996) indicates that an L2 deficient individual can attain age-appropriate basic interpersonal communication skills (BICS), and thus the capacity to function socially within the L2 environment, within two years of total L2 immersion. Furthermore, cognitive academic language (L2) proficiency necessary for executing abstractions as well as academic success in an L2 learning environment will take between five and seven years to develop. Cummins (1996) further argued that it is essential for English second language learners to

develop the ability to accomplish tasks of a context reduced, cognitively demanding nature in order to succeed academically in English medium schooling.

Marinova-Todd, Marshall and Snow (2000) aimed to debunk the myth of age as primary determinant for success in learning a second language. In their research, Marinova-Todd et al. (2000) postulate that although adults are far less likely than children to become proficient in an L2, these differences are in fact more a result of differing contexts than ages, stating that 'age differences reflect differences in the situation of learning rather than in the capacity to learn' (p. 9). There is thus the suggestion that there are no developmental limitations for adults to become highly proficient and fluent in their L2 and although psycholinguists agree on a critical period for L1 acquisition, there exists no formal age-defined critical period for L2 language acquisition (Marinova-Todd et al., 2000). Marinova-Todd et al. (2000) argue that the rare instances in which children have been deprived of an L1 and the cases of L2 learners encountering difficulties with high-level academic performance are completely different and that the critical period setting limitations on the first group does not serve to justify the deficiencies of the second group. Explanations are rather attributed to such factors as environment and motivation. For example reference is made to the ability of adult L2 learners to gain 'nativelike pronunciation' (p. 25) in their L2 after undergoing a *silent period* during which the learners listened to spoken L2 without speaking the language themselves. This simulation of childhood language learning circumstances further defends the importance of environment and learning conditions within which one attempts to acquire an L2.

In accordance with an emphasis on contextual learning, Asfaha, Beckman, Kurvers and Kroon (2009) reiterate the question of whether second language reading ability is a problem of language proficiency or of reading ability. Their studies are of particular relevance to this research because according to their sample population, a non-western African context is intentionally investigated. It was revealed that second language reading could be significantly predicted by both second language proficiency and first language reading comprehension. In response, research indicates promising improvements associated with second language learning in informal settings such as socialising, sports, relationship building, dialogue and those activities based on voluntary participation and not usually associated with the classroom environment (Feuer, 2009). This kind of learning is difficult to attain given that the South African context is unique in that the majority of the population are black African language speakers and are thus able to enjoy the comfort of reverting back to their L1 when

outside of the classroom. According to a previous study investigating L1 and L2 reading ability conducted by Winnett (2008), the L2 learners attending an ex-model C South African high school indicated that they spoke a black African first language; had less exposure to the English language both at school and within their home environments; and they had a tendency to communicate with their peers in their first language during school time. This tendency limits the L2 learners' exposure to, and time spent immersed in an English language environment and is thus likely to limit their potential improvement in L2 proficiency (Cummins, 1996).

The Threshold Hypothesis of Language Proficiency. The threshold hypothesis of language proficiency is described by Taillefer (1996) as a short- circuit. The idea is that the acquired ability to read in L1 is *short circuited* to assist in L2 reading processes. In her research exploring the contribution of both L1 reading ability and L2 language proficiency to L2 reading ability it was evident that both L1 reading ability and L2 proficiency have a significant impact on L2 reading comprehension however, to varying extents in different reading tasks. Confirming the threshold hypothesis, Taillefer (1996) found that when L1 reading ability is high, those who are proficient in their L2 score higher on tasks of L2 reading comprehension than those who have a lower L2 proficiency. However, it was interesting to discover that on simpler cognitive reading tasks (involving scanning a text for key-words as opposed to reading a text to understand the author's point of view), the threshold hypothesis no longer held. In this specific study the task of scanning was adopted in order to glean an indication of the factors affecting less complex reading tasks. It was evident that when performing the simpler task of scanning an L2 text, one is more reliant on one's L1 reading ability than on L2 proficiency. Thus skilled L1 readers performed at similar levels on tasks of scanning regardless of their level of L2 proficiency. It was therefore proposed that the extent of influence of L1 reading ability on L2 reading shifts from high to low as the complexity of the reading task increases. In addition, as the complexity of the task increases, as in high school learning environments, so the extent of influence of L2 proficiency on L2 reading increases (Taillefer, 1996).

In the same vein, a study investigating the impact of maintaining L1 reading skills, on L2 reading skills, again confirmed the threshold hypothesis of language proficiency keeping that there needs to be some particular threshold of L2 proficiency in order for there to be effective transfer of reading skills across languages (Pichette, Segalowits & Connors, 2003). The study

yielded significant correlations between L2 reading ability and both L1 reading ability and L2 knowledge; further confirming the joint contribution of these two factors to L2 reading ability. Fifty-two adult participants were tested for factors affecting L2 reading ability at a time ranging from 7 to 21 months after having been fully immersed in their L2. They were tested again one year later after having had an additional 12 months of immersion in their L2, so an improvement in L2 knowledge was anticipated. Comparisons of the results from each occasion of testing indicated that at Time 1 only L2 knowledge, and not L1 reading ability, was a significant predictor of L2 reading. At Time 2 both L1 reading ability and L2 knowledge significantly predicted L2 reading with L1 reading ability being the sole significant predictor when L2 knowledge tested as high. When there was sufficient L2 knowledge a transfer of L1 reading skills could take place and as a result L2 reading ability can be predicted by L1 reading ability (Pichette et al., 2003). In addition, Pichette et al. (2003) discovered that although maintenance of L1 reading skills lead to greater improvement in L2 reading skills and enhanced the effectiveness of the transfer of reading skills, active L1 reading practice was not necessary for the transfer of reading skills to take place.

A different perspective by Walter (2007) proposed that the issue of L2 reading skill was not one of transference but of access. Walter (2007) examined Gernsbacher's Structure Building Framework (SBF) and its predictability of L2 reading performance. The three processes of SBF in terms of reading comprehension are: firstly, *laying a foundation* for a mental structure; secondly, *mapping* new information onto the developing mental structure; and thirdly, *shifting* to build a new substructure. The basic idea is that readers form mental hierarchical representations of a text. These structures are networked and substructures are added as new information is comprehended. Skilled comprehension is characterised by a mental structure made up of fewer substructures while poor comprehension involves 'bulky' structures as the reader has experienced difficulty suppressing irrelevant information. The simpler and more cohesive structures of skilled comprehension facilitate information accessibility and memory recall (Gernsbacher, 1990 as cited in Walter, 2007).

The study consisted of participants equally proficient in their L1 and divided into two groups, namely lower-intermediate and upper-intermediate, regarding their L2 proficiency. The participants were tested for their ability to detect anomalies (a later statement in a text contradicting an earlier one) in stories written in both their L1 and L2. A well formed mental

representation will allow a reader to recognise when new information contradicts information already in the structure. The results confirmed that lower-intermediate L2 learners were unable to access the already possessed skill utilised when reading in their L1 that allowed them to build mental structures facilitative of comprehension. Walter (2007) acknowledged the involvement of working memory in L1 reading comprehension and continued to propose the notion that the difficulty experienced by L2 readers in utilising structure building comprehension skills might be explained by limited L2-based verbal working memory. For lower-intermediate L2 readers, verbal working memory is exhausted by sentence processing tasks and little capacity remains for structure building tasks. This hypothesis, as previously postulated and supported by Walter (2004), was confirmed in the resulting lower L2-based verbal working memory scale scores for the lower-intermediate group and the correspondence of individual working memory scores with structure building within this group. It is suggested that for the lower-intermediate L2 learners, sentence processing may not yet be fully automatised in order that there may be capacity for higher-order comprehension to occur (Walter, 2007). This study claims to have implications for second language instruction. If it is true that L2 learners already possess L1 comprehension skills then teachers need not waste time teaching L2 comprehension skills. A shifted emphasis of classroom time and intervention focus to that of reading practice in order to sufficiently automatize sentence processing skills may allow L2 learners to more freely utilise their working memory capacity for structure building comprehension tasks when reading in their L2 (Walter, 2007).

Comprehension and Vocabulary. Text comprehension is described as "the reason for reading" (NIFL, 2000, p. 41). A reader engages in a complicated process of combing his/her knowledge and experience of the world; vocabulary base and practice gained using reading strategies in order to gain understanding from a text. Furthermore, the process of comprehending allows the text to accomplish its initial purpose, whether it is to provide education, pleasure, news or the like (NIFL, 2000; NRP, 2000). Vocabulary, on the other hand, is understood to be the words recognised and used when listening and speaking (oral vocabulary), and when reading and writing (reading vocabulary), in order to communicate or portray meaning and gain understanding effectively. Vocabulary and comprehension are inextricably linked. A reader will have difficulty reading and understanding a text that is comprised mostly of words that are not already part of his/ her oral vocabulary. The majority of one's vocabulary is learned indirectly through everyday interactions involving spoken and

written language (NIFL, 2000 & NRP, 2000). Adequate vocabulary is essential for fluent reading and expected content comprehension due to the reader's mental storage of sight words as well as the reader's knowledge of the meaning of these words. Furthermore, equal opportunity for students to use their receptive vocabulary - words they hear and read - and their expressive vocabulary - words they voluntarily use to express themselves - is beneficial when memorising and expanding vocabulary (Joshi, 2005; Nel, Dreyer, & Kopper, 2004).

Wise, Sevcik, Morris, Lovett & Wolf (2007) examined causal relationships between differing linguistic subsystems and reading achievement. The subjects were 279 grade 2 and 3 learners with reading disabilities. They found a significant relationship between pre-reading skills and receptive and expressive vocabulary knowledge, with receptive vocabulary knowledge being more strongly related to pre-reading skills, and thus more influential in the development of these skills than expressive vocabulary knowledge. Furthermore, the study revealed that listening comprehension and expressive vocabulary both significantly predict and facilitate word identification. It can be concluded that there is a significant relationship between oral language skills and reading achievement, which supports the argument that language proficiency rather than reading ability, is a better predictor of L2 reading ability. Holding that the participants demonstrated poor reading ability, much like many South African readers, results indicated no significant relationships between reading comprehension and any other measure of linguistic skill. It is hypothesised that this finding is a result of the participants' poor reading skills as their pre-reading and word identification skills were not yet automatized to allow for the fluent reading necessary for comprehension. Furthermore, Wise et al., 2007 concluded that the relationship between word identification skills and pre-reading skills is bidirectional. As learners engage with text material they gain exposure to sound and print correspondences which cultivates improved pre-reading skills. In turn, these skills develop better fluency and more automatized reading skills.

Mumtaz and Humphreys (2001) argue that, as languages differ in orthographic depth (the degree to which the relationship between spelling and sound is obvious), an orthographically shallow first language (all the words have the same spelling- to- sound correspondence) may cause an individual to read more phonologically. Whereas a language with great orthographical depth may cause an individual to rely more heavily on visual reading processes. Thus it is necessary to consider the implications of an African first language,

which is orthographically shallow and has phonologically-reliant 'clicks', on the acquisition of second language English reading ability.

Trudell and Shroeder (2007) emphasise the psycholinguistic and social nature of learning to read. The aim of their article is to highlight the mistake in borrowing teaching methodologies from other linguistic environments when teaching reading in sub-Saharan Africa. The claim is that these westernised methodologies disadvantage Africans who attempt to use them for mother-tongue literacy learning. Trudell and Shroeder (2007) further argue that European languages such as French and English differ from African languages on the grounds of certain orthographic and linguistic differences namely; phonological and morphological distinctives; as well as differing economic and social language contexts. These differences are likely to impact the South African learning environment where home language often differs linguistically from the LoLT and thus learning to read in one's mother tongue is a qualitatively better learning experience (Trudell & Shroeder, 2007). Furthermore, a multilingual, multicultural group of educators acknowledged the significance of one's home language in the activity of culture. A large portion (78.9%) of the respondents indicated that they use language or code switching to enhance their teaching methods, thus confirming the majority opinion that home language usage aids the education process (de Wet, 2002).

However, as has already been established, adequate exposure to L2 is necessary for experience-related L1 proficiency to transfer to L2. Although the principle of linguistic interdependence, whereby exposure to either L1 or L2 enhances cognitive processes facilitating the use of both, lends itself to the encouragement of the continuation of native language development, Cummins (1996) cautions that transfer is more likely to occur from the majority language to the minority language due to likely immersion and social expectations. Thus it is argued that in order to ensure transfer from L1 to L2, immersion in a predominantly L2 environment is optimal.

1.5. The difference between L1 and L2 learners

Second language English learners' scores on a task of academic language proficiency fell consistently marginally below those of English first language learners, exemplifying Jooste's (2003 as cited in van Rooyen & Jordaan, 2009) concept of the "moving target" for second-language learners. As second language learners are developing their skills, so are first

language learners, in effect generating a 'fluid goal', which often appears unattainable to second language learners. Winnett (2008) analysed the gap in reading ability between first language and second language English medium learners over a period of three years. Although both the first and second language English medium learners showed steady improvement in comprehension and vocabulary ability, the second language learners consistently fell significantly below the first language learners throughout grade 8, 9 and 10. However, results indicated that the size of significance was lessened over the years and thus the gap in ability was in fact narrowing with time, specifically with regard to comprehension ability. This finding is consistent with Cummin's (1996) theory that the attainment of basic interpersonal communication skills (BICS) requires approximately two years of immersion in the particular second language, in this case English, while attainment of the requisite cognitive academic language proficiency (CALP) takes five to seven years of second language immersion. Thus, the gap in reading ability is proposed to narrow with time and thus educators need to be cautious not to attribute discrepancies in achievement between first and second language English medium learners to special educational needs (Shoebottom, 2007).

Although such disparity may not necessarily indicate cognitive deficiency, academic achievement is strongly correlated with reading ability (Chard, Ketterlin-Geller, Baker, Doabler, & Apichatabutra, 2009), and thus the question becomes one of not 'if' but 'where' to focus remedial action (Uys, van der Walt, van den Berg, Botha, 2007). A richly diverse South African sample of 464 first and second English language adolescents attending a previously Model C, English medium, government school were tested in order to establish the effects of second language instruction on one's ability to use language for learning purposes. A test of complex sentence comprehension was administered as a task demonstrating academic language proficiency. Results from the study indicated that junior phase English second language males attained the lowest scores. Discussion concluded that English second language learners can take as long as eight to nine years to develop the level of English language proficiency required for 'reading to learn' (van Rooyen & Jordaan, 2009). However, continued analysis of this particular study highlights the fact that although English second language learners' scores fell consistently below those of the English first language learners, the majority of learners attained results that fell within the normative range. Additionally, it is interesting to note that the teachers at this particular school are a combination of both first and second language English speakers (van Rooyen & Jordaan,

2009). Such a fact may have proven to be both pertinent and detrimental to the study as, as previously mentioned, likely incidents of code switching (switching between languages to aid comprehension) would have possible positive implications for the results of second language learners (Han Chung, 2006).

van Rooyen and Jordaan's (2009) study is relevant to this research as it aimed to investigate L1 and L2 reading ability within an ex-Model C South African high school, pertaining to learners who have been educated in English for a minimum of five years as a result of the majority of feeder primary schools in the area having adopted English as the primary language of instruction. Thus, much like van Rooyen and Jordaan's (2009) study, this research included the potential effects of Cummin's (1996) theory of academic language proficiency (CALP) and aimed to analyse such an effect within the South African context. In the current study, aimed at comparing L1 and L2 English language reading ability, confounding variables defined by a lack of L2 learners' previous exposure to the English language learning environment are eliminated. However, differing from van Rooyen and Jordaan's (2009) study, this research was conducted within a high school consisting of educators holding appropriate teaching qualifications and who were predominantly monolingual English speakers. Thus, unlike the previous research, the potential for code-switching and mother tongue education to have an effect on the comprehension and learning ability of the L2 learners is an unlikely confounding variable in this study.

Pretorius and Ribbens (2005) examined the reading ability of grade 8 second language English medium learners as they entered high school education. The grade 8 learners ranged from age 12 to 19, spoke mainly Venda, Tsonga and Northern Sotho, and had attended either a local township primary school or a primary school in rural Mpumalanga and Limpopo province. Such a sample is highly indicative of the situation of South African learners. The grade 8 results on tests of reading ability were compared to a younger grade 7 class at a former Model C English medium school, 75% of the class consisted of African first language speakers. The grade 8 group performed very poorly and slowly in comparison to the grade 7 learners. In particular the grade 8 learners, while some demonstrated adequate decoding ability, primarily struggled with the meaning construction processes of vocabulary and comprehension (Pretorius & Ribbens, 2005). In light of the findings from this research, the current study aimed to eliminate the potential for underperformance by the L2 learner population due to lack of prior English language exposure.

In addition, Pretorius and Mampuru (2007) make an important point in their reasoning that current theories in reading such at the linguistic threshold hypothesis make assumptions about learners' access to books as well as a learning context that may not be fully obtainable within a developing country such as South Africa. The legacy of apartheid has had detrimental effects on many of the previously black schools of South Africa. Commonly termed 'the breakdown of the culture of learning and teaching'; these schools, located in poor communities previously subjected to apartheid regimes, suffer in terms of unmotivated staff, disorganisation, insufficient school facilities and a lack of respect for schooling - characterised by significantly poor school attendance by pupils, substance abuse, vandalism, violence and rape (Christie, 1998). Pretorius (2002b) further comments on the dire circumstances at hand; a large portion of South African schools are operating under inadequate conditions, without electricity, running water, telephones or sanitation. Christie (1998) states that the reasons for the breakdown of black education can be traced back to apartheid legislation.

As previously highlighted, numerous factors including race; culture; poverty; lack of exposure to the English language; and previous deprivation of the right to English medium school instruction, account for the apparent differences in reading ability between L1 and L2 English language learners. This research aims to further eliminate the variables of extreme poverty, deprivation, illiterate parental support, and lack of access to English language printed text, that have confounded previous research (Pretorius & Mampuru, 2007). Furthermore, Pretorius and Mampuru (2007), in their research investigating reading ability within high poverty South African schools, concluded that the inadequately resourced learning environments and large class sizes characteristic of poverty stricken schools are not conducive to reading remediation efforts. The current research pertained to a learning environment consisting of class sizes of approximately 37 to 40 learners in Grade 8 with class sizes dropping after subject choices were made at the Grade 9 level. The school also provided sufficient access to a well resourced library for both staff and learners and English teaching resources were made available to the staff. These factors were considered so as to better understand L2 reading ability and the potential for L2 reading ability remediation within the South African context provided sufficient and appropriate resources, tuition, support and environmental necessities are provided.

Pretorius and Mampuru (2007) conducted a study aimed at raising reading awareness, encouraging learners to read, as well as furthering research into cross-linguistic reading in educational settings. Their study examined the relationships between L1 (Northern Sotho) and L2 (English) proficiency as well as between L1 and L2 reading in Grade 7 learners at a high-poverty South African primary school during the year that a reading intervention was being implemented at the school. The pre-test results revealed large differences in performance on the reading tests and the language proficiency tests with reading performance being much lower. These results, characteristic of high-poverty schooling wherein children receive little reading experience and text exposure, are indicative of the fact that language proficiency, particularly in L1, does not solely guarantee reading ability (Pretorius & Mampuru, 2007). As a result of changes in the reading agenda at the school (including reading within the daily agenda) and in the print environment (access to books) the post-test results, at the end of the year, showed improvements in both L1 and L2 reading ability while L1 language proficiency remained constant and L2 language proficiency increased only slightly. These results are described as 'encouraging' (p. 53) in that they evidence the possibility of rising above the disadvantageous effects of poverty on learning. Relevant to this study, these results are indicative of the potential for improvement regarding L1 and L2 high school learners' English language reading ability and evidence the lucrative nature of additional learning experiences.

It is assumed that reading difficulties exist primarily in the processes of comprehension rather than decoding and it is assumed that decoding skills are already well developed by ages 13 to 14 (Pretorius and Ribbens, 2005). It was thus the focus of this study to analyse reading ability as a function of comprehension ability and vocabulary knowledge. Of specific relevance to the current study is the research conducted Barry (1999) investigating the differential performance of L1 and L2 learners in South African schools. Results from the study found that L2 learners specifically experienced difficulty when required to process figurative non-literal language, predict outcomes, make inferences and distinguish between opinions and facts. It is likely that the differing cultural backgrounds between L1 and L2 learners are partially responsible for the differences regarding text interpretation. Text material and teaching themes are often centred on concepts and topics that are remote from the life experience and cultural backgrounds of L2 learners (Barry, 1999).

Similarly, in light of the post-apartheid struggles; the plea for South African learners to be educated in English; and the resultant multilingual, multicultural classroom environment; a study conducted by Broom (2004) investigated the effects of these changes in education environments as learners whose home language is a black African language were granted permission to move to schools where English is the LOLT in order to make an earlier transition to English medium schooling. The English reading proficiency of Grade 3 learners attending 20 government schools in Gauteng was measured. Results indicated that L2 English learners fell significantly below L1 English learners in their performance on the tasks of reading ability having not developed levels of CALP equal to that of the L1 learners in spite of their having been immersed within an English learning environment for approximately 3 years. Broom (2004) suggested that the fact that the class teachers had English as their L1 and possessed little knowledge of the learners' African home languages, may have hindered the L2 English learners' attainment of CALP as the teachers were unequipped to recognise cultural factors having potential implications on the interpretation of texts as well as being unable to provide explanations in the L2 learners' home languages. Relevant to the current study, these results indicate the necessity for an additional learning experience for L2 learners. If the 'regular' school environment is not adequately facilitating the development of CALP in L2 learners then it was the hope of this study that the additional implementation of a reading intervention would serve to narrow the gap between L1 and L2 learners on measures of reading ability. Furthermore, this study aimed to contribute to the current body of knowledge regarding the most appropriate and best methods for English reading intervention and remediation within the South African learning environment.

1.6. Rationale

Post-apartheid efforts have been made toward the attainment of equal opportunity among learners, allowing parents to choose the language of learning for their children, however the practicability of these rights are uncertain (DoE, 1995). Furthermore, beliefs regarding the economic and social dominance of the English language have resulted in English being the most frequently selected language of learning and teaching (LoLT) (de Wet, 2002). Barry (n.d.) suggests that Language-in-Education policy and other additive bilingual initiatives have been unsuccessful in their attempts to address educational inequity in South African schools. Barry (n.d., p.105) proposes that 'this policy essentially remains a symbolic gesture' in spite of government decisions to move towards an implemented policy of multiculturalism through an additive approach to bilingualism in education.

L2 English language learners in South African schools are not only lagging behind their L1 English language learner peers on measures of reading ability, but due to their failure to attain sufficient levels of cognitive academic language proficiency (CALP) their performance in other academic school subjects is also falling significantly below the rest (Broom, 2004; Howie, Scherman & Venter, 2008; van Rooyen & Jordaan, 2009; Winnet, 2008). Skilled readers are able to gain the utmost benefit from 'reading to learn' and thus limited reading ability is a significant hindrance to reaching academic potential (Pretorius, 2002a).

Previous studies analysed the differences between L1 and L2 reading ability within the course of 'normal' schooling (Barry, 1999; Broom, 2004; Mumtaz & Humphreys, 2001; Pretorius & Ribbens, 2005; van Rooyen & Jordaan, 2009; Winnett, 2008), but this study aimed to investigate whether or not the gap in reading ability between L1 and L2 learners, as measured in Grade 8 and in Grade 10, would narrow as a result of a school implemented reading intervention. The intervention aimed to provide additional exposure to the English language and reading environment necessary for an improvement of English language proficiency and a transfer of L1 reading ability to L2 reading ability for those learners for whom English is a second language (Cummins, 1996, Taillefer, 1996).

Consideration was taken in eliminating the variables of poverty and insufficient prior English exposure that confounded previous studies (Mampuru, 2007; Pretorius & Mampuru, 2007; Pretorius & Ribbens, 2005). The measured improvements of L1 and L2 reading ability for those high school learners who were exposed to a reading intervention over a two year period (experimental group) were compared with those who did not have the additional experience of a reading intervention (control group). The scores were analysed with the aim of looking at whether the reading intervention was effective in not only causing reading ability to improve at a faster rate but in also causing the gap between L1 and L2 reading ability to narrow significantly.

Specifically the vocabulary and comprehension subtests of the Stanford Diagnostic Reading Test (SDRT): Brown level, were used as a measurement of reading ability in this study. Comprehension is described as "the reason for reading" (NIFL, 2000, p. 41). A reader combines his/her knowledge and experience of the world; vocabulary base and practice gained using reading strategies in order to gain understanding from a text. Furthermore, the

process of comprehending allows the text to accomplish its initial purpose, which in this case is to educate (NIFL, 2000; NRP, 2000).

1.7. Research Question and Hypotheses

Research Question: Is there a significant difference in improvement of learners' ability (vocabulary and comprehension) between grade 8 and grade 10 when comparing those learners who participated in the intervention and those that did not?

Vocabulary

1a) Is there a significant difference between the control and experimental groups' vocabulary ability at Time 1 (Grade 8)?

1b) Is there a significant difference between the control and experimental groups' vocabulary ability at Time 2 (Grade 10)?

Hypothesis 1: The additional experience of a school implemented reading intervention will cause a significant difference between the control and experimental groups' vocabulary ability.

2a) Is there a significant difference between L1 and L2 learners' vocabulary ability at Time 1 (Grade 8)?

2b) Is there a significant difference between L1 and L2 learners' vocabulary ability at Time 2 (Grade 10)?

Hypothesis 2: The additional experience of a school implemented reading intervention will cause the gap between L1 and L2 learners' vocabulary ability to no longer be significant.

Comprehension

3a) Is there a significant difference between the control and experimental groups' comprehension ability at time 1 (Grade 8)?

3b) Is there a significant difference between the control and experimental groups' comprehension ability at Time 2 (Grade 10)?

Hypothesis 3: The additional experience of a school implemented reading intervention will cause a significant difference between the control and experimental groups' comprehension ability.

4a) Is there a significant difference between L1 and L2 learners' comprehension ability at Time 1 (Grade 8)?

4b) Is there a significant difference between L1 and L2 learners' comprehension ability at Time 2 (Grade 10)?

Hypothesis 4: The additional experience of a school implemented reading intervention will cause the gap between L1 and L2 learners' comprehension ability to no longer be significant.

Chapter 2
Methodology

2.1. Research Design

This quantitative research took the form of a longitudinal ex post facto comparative quasi - experimental repeated measures design (experiment examining the pre-existing causal conditions between two groups without random sampling, and thus no variables were manipulated). This research forms part of a larger longitudinal study evaluating the reading comprehension and vocabulary of first and second language learners in an ex-Model C South African high school. Comprehension and vocabulary ability were measured using the appropriate subtests, Auditory Vocabulary and Reading Comprehension, of the Stanford Diagnostic Reading Test (SDRT): Brown level.

A pre-test and a post-test were administered to two differing cohort groups. Within both cohort groups the test was administered to the L1 and L2 learners at the end of Grade 8 and the same measurement was repeated on the same learners at the end of Grade 10, yielding four sets of collected data. The primary difference between the two cohort groups is explained by the fact that at the time of the post-test (at the end of Grade 10) the first cohort group (Control Group) had completed 'ordinary' schooling without exposure to any school initiated reading intervention. The second group (Experimental Group), however, when completing the post-test (at the end of Grade 10), had completed 'ordinary' schooling as well as a specifically implemented reading intervention. Thus the effects of the intervention could be analysed comparatively.

The grade of the learners is an independent variable subdivided into two levels (Grade 8 and Grade 10) and the home language of the learners is a second independent variable, also subdivided into two levels (L1 and L2). The dependent variables are performance on the SDRT: Brown level subtests measuring comprehension and vocabulary ability. Practice effects resulting from the repeated administration of the same test to the same learners were minimised due to the re-administration of the test having taken place approximately two years later and the fact that any practice effects are the same for both the L1 and L2 learners and thus will not affect the comparability of the results.

2.2. Sample

The participants belonged to two cohorts. Both groups consist of male and female, first and second language English medium learners of an ex-Model C South African High School. The control group consisted of learners tested in their grade 8 year and again in their grade 10 year without having had any exposure to a school initiated reading intervention. The experimental group consisted of learners tested in their grade 8 year, prior to the implementation of a reading intervention, and again in their grade 10 year, having undergone two years of the reading intervention. There were approximately 200 Grade 8 learners in each cohort. In the control group approximately 170 learners were retested in Grade 10 and approximately 80 learners remained in the experimental group. Only participating learners in each cohort who completed the comprehension and vocabulary tests in both Grade 8 and Grade 10 were included in the study. Learners who had left the school or who did not progress to a following grade, for various reasons, were not included in the study. Furthermore, those learners who joined the school in Grade 9 or Grade 10, after the initial pre-test had been administered, were also not included in the study. The few European language learners were removed from the analysis, resulting in the L2 group consisting of only black African Language learners who had a minimum of five years in English medium primary schools before entering Grade 8.

The final number of learners were 168 in the control group and 83 in the experimental group (refer to Table 2.1). As in Table 2.1, the mean ages for participants in Grade 8 and Grade 10 remained approximately the same across the two cohorts. The ratio of male to female participants remained relatively the same over the period of time between the testing of the two cohorts resulting in an approximate one to one ratio (1:1). Across the two cohorts the ratio of L1 learners to L2 learners was approximately one to one (1:1) with less L2 learners than L1 learners in the control group and more L2 learners than L1 learners in the experimental group (refer to Table 2.1).

Participation in the study was voluntary and the learners did not benefit or experience loss of any sort as a result of their decision to participate or not to participate. A biographical questionnaire ascertained various participant demographics and information regarding relevant prior exposure (Appendix G). The longitudinal nature of the study allowed for certain variables to remain fixed over time and thus not influence the findings. Furthermore, comparability of the L1 and L2 results remained unaffected due to both L1 and L2 learners

being exposed to exactly the same testing procedures. Differences in the socio-economic variables were assumed to remain similarly distributed across L1 and L2 participants and constant across cohorts based on the fact that the participants were living in the same areas as well as the knowledge that the specific areas did not changed significantly in socio-economic means over the course of this longitudinal study.

Table 2.1:Control and Experimental Groups; L1 and L2 Participants

	Control Group	**Experimental Group**
Grade	(N = 168)	(N = 83)
Language (L1)	98 (58%)	40 (48%)
Language (L2)	70 (42%)	43 (52%)
Gender (Male)	70 (42%)	44 (53%)
Gender (Female)	98 (58%)	39 (47%)

Table 2.2 provides insight into the population demographics of all the learners in each grade for both cohorts regardless of participation or nonparticipation. This assists in analysing the demographic change that has taken place over time as well as the changes in the learning environment, teaching style and reading ability that may have resulted (Refer to Chapter 4: Disscussion).

Table 2.2: Control and Experimental Group; L1 and L2 Learners

	Control Group	**Experimental Group**
Grade	(N = 171)	(N = 171)
Language (L1)	100	60
Language (L2)	71	111
Gender (Male)	70	85
Gender (Female)	101	86

2.3. The Implemented Intervention

A reading period was initiated by the principal of the school to take place from Monday to Friday (10:25am to 10:55am). During this period groups of learners numbering thirty-five to forty and consisting of learners from across Grades 8 to 11, gathered in a classroom in order to practice reading. Each class was supervised by a teacher for the duration of the reading period (Karolia, 2008).

2.4. Instruments and Materials

The Stanford Diagnostic Reading Test (SDRT) is used to gain a detailed assessment of reading ability as well as to identify the associated strengths and weaknesses of an individual. The primary purpose of the measure is to enhance reading skills in all learners by specifically addressing instructional needs. However, the SDRT is specifically aimed at accurately addressing the needs of low achieving learners. The measure is comprised of four levels. This particular research made use of the Brown Level, designed to assess learners from grade 5 to grade 8 as well as high school students with low reading ability and thus, in this research, the Brown level was utilised in assessing learners in grade 8 and again in grade 10. Having used the same measure for pre and post testing the comparability of the results was further benefitted. The Vocabulary and Comprehension subtests were administered and the results thereof were the specific focus of the proposed study (Karlesen, Madden & Gardener, 1966).

The Vocabulary subtest is administered orally and thus measures auditory vocabulary and language competence without the confounding effects of other components of the reading process. The subtest is comprised of words form three content domains: literature and reading, mathematics and science, as well as the arts and social studies. The Comprehension subtest measures literal and inferential comprehension through administration of a variety of textual, functional and recreational reading materials. According to Spreen and Strauss (1998 as cited in Winnett, 2007) the subtests of the SDRT correlate significantly and the measure has adequate internal consistency and reliability.

2.5. Data Gathering Procedure

The Gauteng Education Department as well as the principal of the involved school provided their consent for the conduction of this study. Informed parental consent and informed learner consent was obtained prior to the administration of each test (Appendices D & F for forms). The principle, parents and participants were informed of the purposes and procedures of the

study, as well as the terms of voluntary participation and non-discrimination, in an information sheet (Appendices A, C & E). Prior to the commencement of the testing procedures in each year, the participants were reminded of the assured confidentiality and the relevant issues of anonymity (see Ethical Considerations) of the data collected. The relevant subtests of the Stanford Diagnostic Reading Test (SDRT): Brown level was administered to each cohort group of learners at the end of their respective Grade 8 and Grade 10 school years. Within each cohort group the biographical questionnaire (Appendix F) was completed by the participants on the same day as their Grade 8 pre-test was conducted. Administration of the vocabulary and comprehension subtests took place within the classrooms that were originally assigned to each class to ensure manageable administration procedures. Test administration took place during school hours ensuring minimal disruption of the testing procedures. The rules for administration as set out in the test manual of the SDRT: Brown Level was adhered to. There was a class teacher in each classroom available to assist the researcher during administration of the tests and in this regard the teachers also followed the standardised administration procedures so as to ensure accuracy in testing. The test papers were collected at the end of the testing times and scored by the involved researchers, and data was captured by the involved researchers. The original test papers and results are kept confidential and are locked away in safe keeping ensuring that only the involved researchers are granted access.

2.6. Ethical Considerations

The principal, parents and learners were given an information sheet explaining the aims and procedures of the study (Refer to Appendices A, C & E). Furthermore, consent was obtained from the various involved persons as well as the Gauteng Education Department. Voluntary non-discriminatory participation or non-participation and confidentiality were assured. Thus, the participants were not advantaged, disadvantaged or subjected to harmful consequences as a result of their decision to participate or not to participate in this study. Participants were informed that they were free to withdraw from the study at any point in time. Participants were guaranteed confidentiality and were ensured that the data would be stored and safeguarded from unauthorised access and that individual records would not be made available to the school or to their teachers and thus would not elicit any effect on their schooling experience. Participants were also made aware that anonymity could not be assured as the longitudinal nature of the research requires the researcher to keep track of and compare individual records. However, the focus of the research is to analyse general trends and thus

does not concern itself in the reporting of individual results and thus anonymity will be ensured in the resulting reports, theses and/or publications. Furthermore, the administration of the test on the school premises and during class time allowed for a non-threatening environment and uninterrupted routine for the participants involved (Winnett, 2008).

Chapter 3

Results

Information regarding the age, gender and home language of the two cohort groups was collected at the time of administration. The participants' performances on the SDRT: Brown Level Vocabulary and Comprehension subtests at the end of their Grade 8 and Grade 10 years were measured. Incomplete individual measures were removed from the data set in order to conduct an accurate statistical analysis of the data using Statistica (2010).

The descriptive statistics of the cohort groups can be found in Tables 3.1 and 3.2. These tables indicate the number of participants (N) in each level of the independent variables (Group, Home language and Time/Grade) in each cohort group as well as their mean performances on the dependent variables (SDRT: Brown Level subtests of Vocabulary and Comprehension). The inferential statistics tested for significant differences as indicated by the research questions. A Repeated-Measures analysis of variance (ANOVA) was conducted in order to compare the participants' performances on the three levels of independent variables namely Cohort Group (Control or Experimental), Grade (Time 1 or Time 2), and Home Language (L1 or L2). The Repeated-Measures ANOVA was first conducted regarding Vocabulary performance (dependent variable) and then conducted regarding Comprehension performance (dependent variable).

3.1. Vocabulary

Descriptive Statistics:

Table 3.1: Descriptive Statistics for scores on the SDRT: Brown Level Vocabulary subtest at Time 1 (Grade 8) and Time 2 (Grade 10)

	N	Grade 8 Mean	Grade 8 Std. Dev.	Grade 10 Mean	Grade 10 Std. Dev.
Total	250	29.5	5.5	33.7	4.43
Experimental Group	83	28.9	5.23	34.08	4.12
Control Group	167	29.78	5.63	33.51	4.57
L1	137	31.62	5.3	35.27	3.81
L2	113	26.92	4.58	31.81	4.4
Exp Group (L1)	40	31.15	4.9	35.85	2.92
Exp Group (L2)	43	26.84	4.68	32.44	4.41
Cont Group (L1)	97	31.81	5.47	35.03	4.11
Cont Group (L2)	70	26.97	4.55	31.41	4.37

Inferential Statistical Analysis:

A repeated measures analysis of variance (ANOVA) revealed a meaningful interaction effect between the variable of Time and Group ($F(1,246)=7.46$, $p=0.0067$) as well as those of Time and Home Language ($F(1,246)=4.84$, $p=0.0287$) for performance on the Vocabulary subtest measure. Comparisons are given below.

When considering the Cohort groups over Time, regardless of Home Language, comparisons revealed significant improvements over time on measures of Vocabulary for both the Experimental ($F(1,246)=7.46$, $p=0.000$) and the Control group ($F(1,246)=7.46$, $p=0.000$) which is to be expected in the natural order of school age learning and development. However, the analysis indicates no statistically significant differences between the cohort groups first at Time 1 (Grade 8) ($F(1,246)=7.46$, $p=0.488$) and at Time 2 (Grade 10) ($F(1,246)=7.46$, $p=0.789$). This indicates that the cohort groups started their Grade 8 years at similar levels of vocabulary performance and that they also ended their Grade 10 years at similar levels of vocabulary performance. The additional experience of a school implemented reading intervention did not cause a significant difference between the control and experimental groups' vocabulary ability (hypothesis 1), however minor differences were

evident indicating that the experimental group (mean difference of 5.18) did improve more than the control group (mean difference of 3.73) over time.

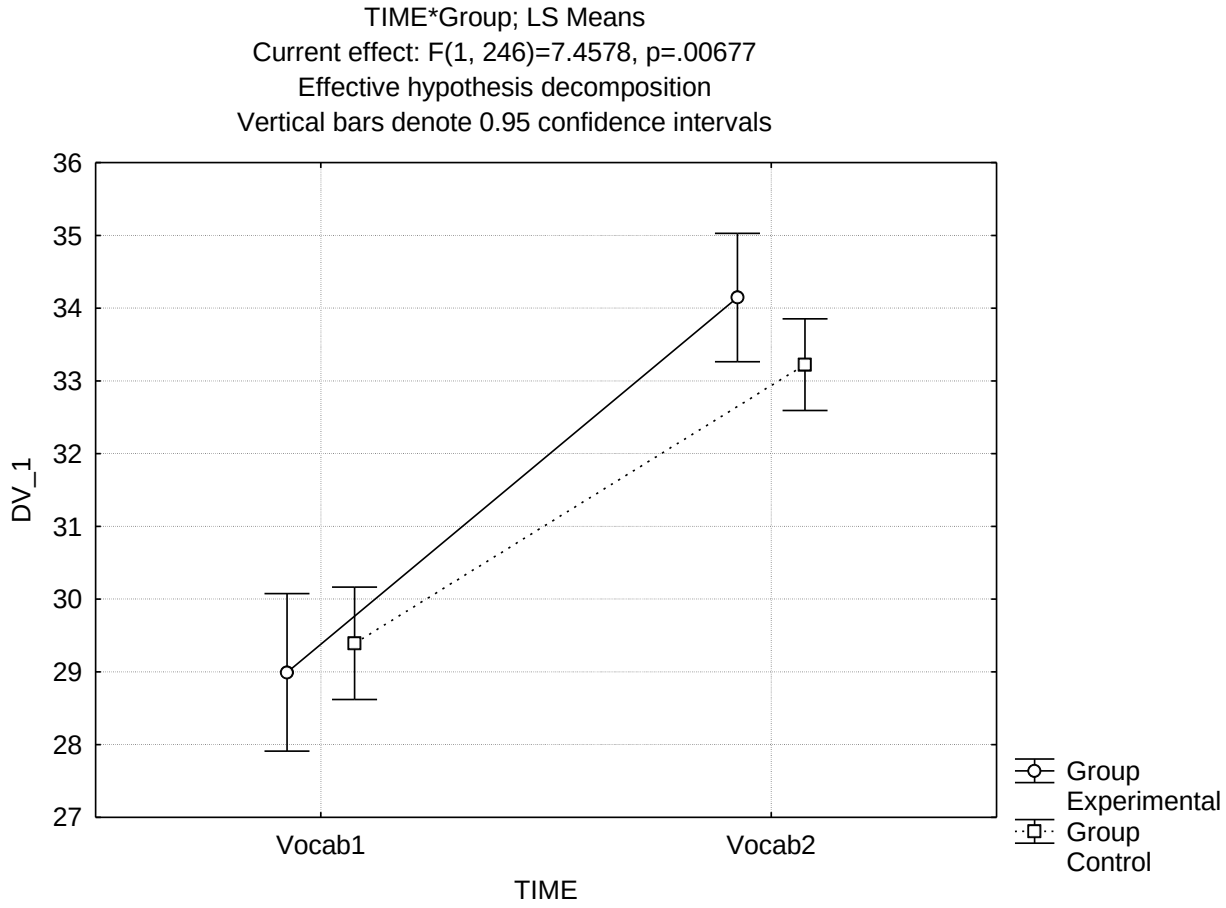


Figure 3.1: Differences between Control and Experimental groups on a measure of Vocabulary (DV_1: mean scores) over time

When considering Home Language over Time, regardless of cohort group, a comparison indicated significant improvements over time on measures of Vocabulary for both the L1 ($F(1,246)=4.84$, $p=0.000$) and L2 ($F(1,246)=4.84$, $p=0.000$) learners which is to be expected in the natural order of school age learning and development. However, the analysis revealed significant differences between language groups both at Time 1 ($F(1,246)=4,84$, $p=0.000$) and at Time 2 ($F(1,246)=4.84$, $p=0.000$). This indicated that although the L2 learners improved more than the L1 learners over time (mean difference of 4.89 versus 3.65 respectively) they did not do so to an extent that would render their differences no longer

significant. Thus the L2 learners still fell significantly behind the L1 learners on measures of Vocabulary at the end of their Grade 10 years.

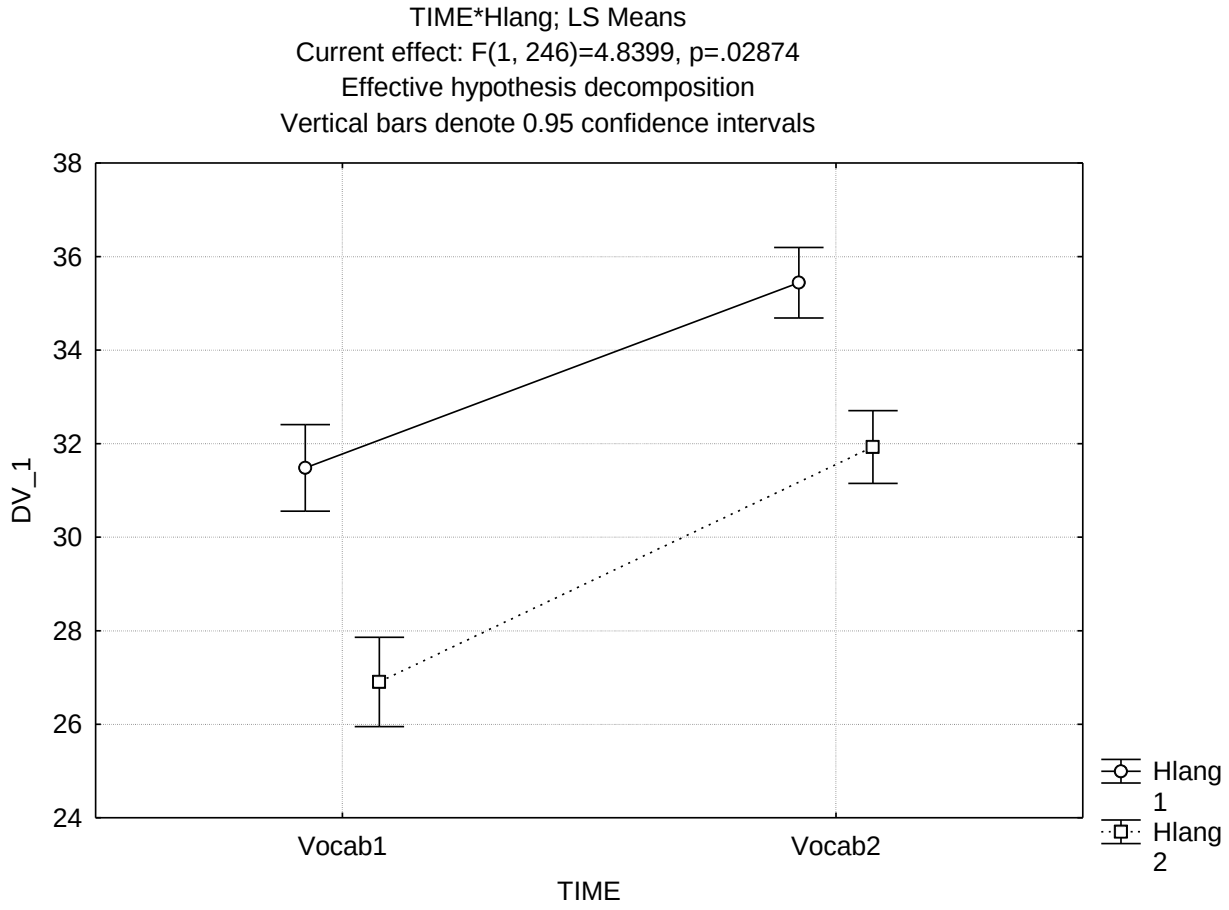


Figure 3.2: Differences between L1 and L2 learners on a measure of Vocabulary (DV_1: mean scores) over time

On measures of Vocabulary performance a repeated measures ANOVA indicated nonsignificant differences between the L1, Grade 8 (Time 1) learners across the Experimental and Control groups ($F(1,246)=0.11$, $p=0.994$) as well as nonsignificant differences between the L2, Grade 8 (Time 1) learners across the Experimental and Control groups ($F(1,246)=0.11$, $p=1.000$). Furthermore, results showed nonsignificant differences between the L1, Grade 10 (Time 2) learners across the Experimental and Control groups ($F(1,246)=0.11$, $p=0.980$) as well as nonsignificant differences between the L2, Grade 10 (Time 2) learners across the Experimental and Control groups ($F(1,246)=0.11$, $p=0.943$). Given that statistically significant differences were found within both the Experimental and

the Control groups between L1 and L2 learners both at Time 1 (Grade 8) and at Time 2 (Grade 10) it is concluded that the additional experience of a school implemented reading intervention did not cause the gap between L1 and L2 learners' vocabulary ability to no longer be significant (hypothesis 2).

3.2. Comprehension

Descriptive Statistics:

Table 3.2: Descriptive Statistics for scores on the SDRT: Brown Level Comprehension subtest at Time 1 (Grade 8) and Time 2 (Grade 10)

	N	Grade 8 Mean	Grade 8 Std. Dev.	Grade 10 Mean	Grade 10 Std. Dev.
Total	251	43.03	9.53	48.69	7.95
Experimental Group	83	43.58	8.94	47.06	8.57
Control Group	168	42.76	9.82	49.5	7.52
L1	138	46.43	8.82	51.06	6.81
L2	113	38.88	8.71	45.81	8.3
Exp Group (L1)	40	47.68	7.92	51.25	6.15
Exp Group (L2)	43	39.77	8.18	43.16	8.71
Cont Group (L1)	98	45.92	9.15	50.98	7.09
Cont Group (L2)	70	38.33	9.04	47.43	7.66

Inferential Statistical Analysis:

A repeated measures analysis of variance (ANOVA) revealed an interaction effect between the variable of Time and Group ($F(1,247)=10.745$, $p=0.00119$) for performance on the Vocabulary subtest measure. Comparisons are given below.

When considering the Cohort groups over Time, regardless of Home Language, comparisons revealed significant improvements over time on measures of Comprehension for both the Experimental ($F(1,247)=10.745$, $p=0.001$) and the Control group ($F(1,247)=10.745$, $p=0.000$) which is to be expected in the natural order of school age learning and development. However, the analysis indicated nonsignificant differences between the cohort groups first at Time 1 (Grade 8) ($F(1,247)=10.745$, $p=0.875$) and at Time 2 (Grade 10) ($F(1,247)=10.745$,

p=0.113). This indicated that the cohort groups started their grade 8 years at similar levels of comprehension performance and that they also ended their grade 10 years at similar levels of comprehension performance. Thus it is concluded that the additional experience of a school implemented reading intervention did not cause a significant difference between the control and experimental groups' comprehension ability (hypothesis 3). However, it is evident that minor differences between the groups did occur indicating that the experimental group (mean difference of 3.48) made less of an improvement compared to the control group (mean difference of 6.74).

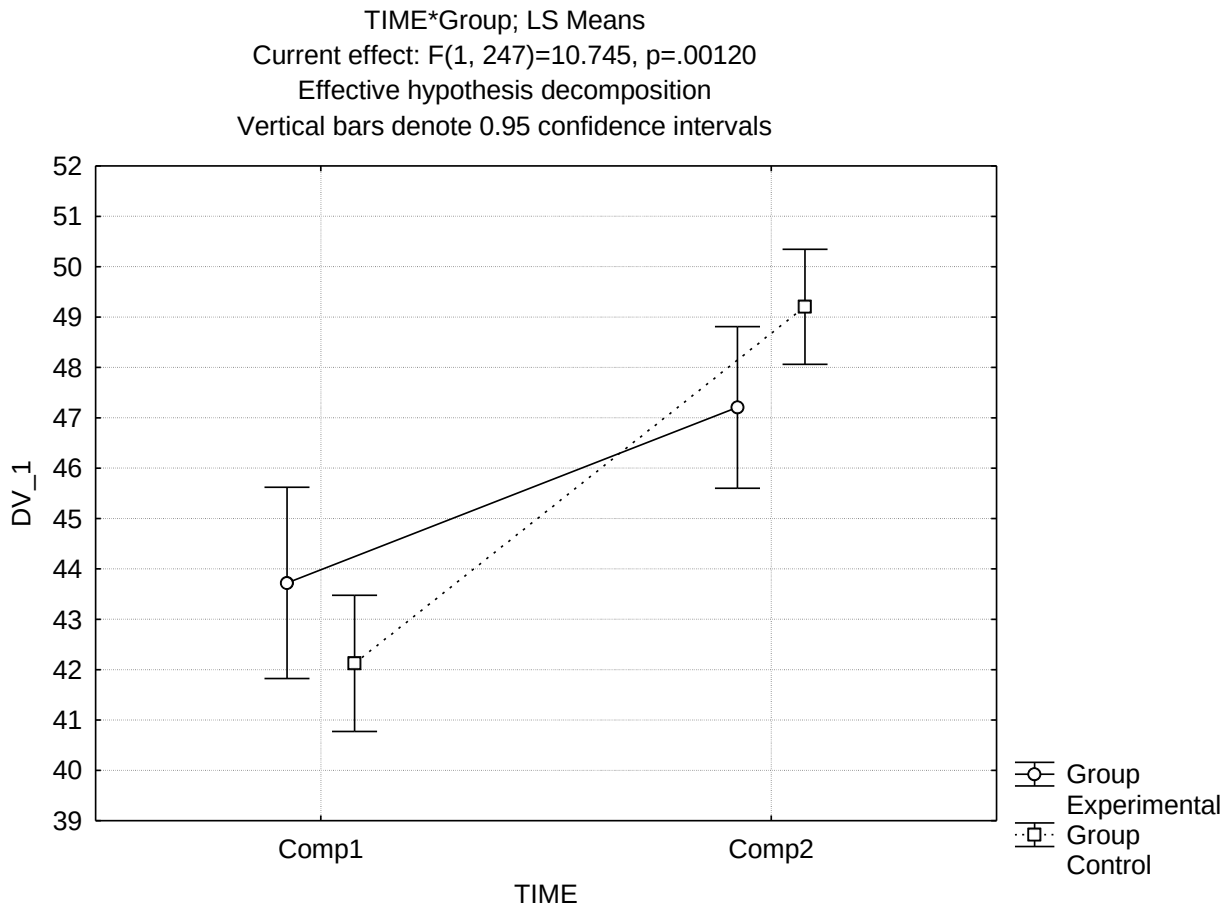


Figure 3.3: Differences between Control and Experimental groups on a measure of Comprehension (DV_1: mean scores) over time

On measures of Comprehension performance a repeated measures ANOVA indicated nonsignificant differences between the L1, Grade 8 (Time 1) learners across the Experimental and Control groups (F(1,247)=3.698, p=0.945) as well as nonsignificant differences between the L2, Grade 8 (Time 1) learners across the Experimental and Control groups

(F(1,247)=3.698, p=0.985). Furthermore, results showed nonsignificant differences between the L1, Grade 10 (Time 2) learners across the Experimental and Control groups (F(1,247)=3.698, p=1.000) as well as nonsignificant differences between the L2, Grade 10 (Time 2) learners across the Experimental and Control groups (F(1,247)=3.698, p=0.119). Given that statistically significant differences were found within both the Experimental and the Control groups between L1 and L2 learners both at Time 1 (Grade 8) and at Time 2 (Grade 10). It is concluded that the additional experience of a school implemented reading intervention did not cause the gap between L1 and L2 learners' comprehension ability to no longer be significant (hypothesis 4).

Furthermore; given that there was not a significant difference in improvement of learners' ability (vocabulary and comprehension) between grade 8 and grade 10 when comparing those learners who participated in the intervention and those that did not; it is concluded that the additional experience of a school implemented reading intervention did not serve to narrow the gap in reading ability between first and second language English medium learners.

Chapter 4
Discussion

This research aimed to measure the differences in reading abilities between English First Language (L1) and English Second Language (L2) high school learners at two points in time. The first cohort group (Control) were tested at the end of their Grade 8 year and again at the end of their Grade 10 year, after having completed two more years of formal schooling. The second cohort group (Experimental) were also tested at the end of their Grade 8 and Grade 10 years respectively, however, in addition to their completion of two more years of formal schooling a reading intervention was implemented for the duration of their Grade 9 and Grade 10 years. The school initiated reading intervention aimed to improve learners' reading ability by facilitating increased exposure to reading texts as well as through 'partnership reading' practices across grade levels. Reading ability was measured on the Vocabulary and Comprehension subtests of the SDRT: Brown Level. The study aimed to analyse the effects of the reading intervention on learners' reading abilities when compared with those that were not exposed to the reading intervention.

The participants in this study were male and female, first and second language English medium learners of an ex-Model C South African High School. For the purpose of this study L2 learners were defined as those learners who have a black African home language but have been educated in English for a minimum of five years. According to a previous study conducted by Winnett (2008), the L2 learners who spoke a black African language had less exposure to the English language both at school and within their home environments and they had a tendency to communicate with their peers in their first language during school time.

Furthermore, Winnett (2008) found that all of the feeder primary schools in the area adopted English as the primary medium of instruction from Grade 1. These feeder schools differed in their quality of provided education thus resulting in mixed academic performance and levels of motivation among the incoming Grade 8 populations. In addition, the high school educators held appropriate teaching qualifications and were predominantly monolingual English speakers. There were approximately 37 to 40 learners per a class in Grade 8 with class sizes dropping after subject choices were made at the Grade 9 level. Furthermore, the

school provided sufficient access to a well resourced library for both staff and learners and English teaching resources were made available to the staff (Winnett, 2008).

The results for the hypotheses, as presented in Chapter 1, will be discussed. Hypothesis 1 and hypothesis 3 stated that the additional experience of a school implemented reading intervention will cause significant differences between the control and experimental groups' vocabulary and comprehension ability, respectively. The results indicated no significant differences between the cohorts on measures of both vocabulary and comprehension at Time 1 (Grade 8); confirming that the cohorts began their Grade 8 years at similar levels of vocabulary and comprehension performance; thus allowing the Time 2 (Grade 10) results to be interpreted more readily. No significant differences were found between the control and experimental groups' vocabulary ability at Time 2 (Grade 10) indicating that both groups ended their Grade 10 years at a similar level of vocabulary ability. Furthermore, no significant differences were found between the control and experimental groups' comprehension ability at Time 2 (Grade 10) indicating that both groups ended their Grade 10 years at a similar level of comprehension ability. Hypothesis 1 and hypothesis 3 are rejected and it can be inferred that the reading intervention did not make a significant difference to either the vocabulary or comprehension ability of high school learners' when compared with those that were not exposed to a reading intervention. However, regarding Vocabulary performance, minor differences were evident indicating that the experimental group (mean difference of 5.18) did improve more than the control group (mean difference of 3.73) over time. It is thus concluded that the reading intervention caused the learners to improve in their vocabulary performance more than those who were not exposed to an intervention; however not to an extent that could render significance.

Hypothesis 2 and hypothesis 4 stated that the additional experience of a school implemented reading intervention will cause the gap between L1 and L2 learners' vocabulary and comprehension ability to no longer be significant. According to the obtained results significant differences were found, on measures of vocabulary ability, within both the experimental and the control groups between L1 and L2 learners both at Time 1 (Grade 8) and at Time 2 (Grade 10). Furthermore, significant differences were found, on measures of comprehension ability, within both the experimental and the control groups between L1 and L2 learners both at Time 1 (Grade 8) and at Time 2 (Grade 10). Thus hypothesis 2 and hypothesis 4 are rejected and it can be inferred that the reading intervention did not serve to

narrow the gap between L1 and L2 learners on measures of both vocabulary and comprehension ability over time.

Text comprehension is described as the reason for reading. A reader engages in a complicated process of combing his/her knowledge and experience of the world; vocabulary base and practice gained using reading strategies in order to gain understanding from a text. The process of comprehending allows the text to accomplish its initial purpose, whether it is to provide education, pleasure, news or the like. Within the current South African context of educational demands it is important to identify those specific components of reading that will have the greatest effect on academic achievement and educational attainment (NRP, 2000). Nel, Dreyer and Kopper (2004) and NRP (2000) agree that all components of the reading process will contribute to reading comprehension. Thus studies regarding comprehension are likely to be the most meaningful. The results from this study are therefore meaningful in their description of high school reading ability particularly at a stage when learners are required to be able to 'read to learn' in order to glean information and understanding from a text.

Research highlights certain themes regarding text comprehension; it is understood that reading comprehension is a complex cognitive process that cannot be fully explained without first establishing the role of vocabulary in understanding a text (NRP, 2000). Vocabulary and comprehension are inextricably linked. A reader will have difficulty reading and understanding a text that is comprised mostly of words that are not already part of his/her oral vocabulary. The majority of one's vocabulary is learned indirectly through everyday interactions involving spoken and written language (NIFL, 2000; NRP, 2000). Middle childhood and adolescence is a time of rapid vocabulary growth as one develops metalinguistic awareness (the ability to think about and analyse the use of language) and sociolinguistic knowledge (Shaffer, 2002). Adequate vocabulary is essential for fluent reading and resultant comprehension due to the reader's mental storage of sight words as well as the reader's knowledge of the meaning of these words (Joshi, 2005). Comprehension is considered active and intentional, and teachers play a significant role in equipping students with necessary comprehension skills. These ideas emphasise the importance of monitoring comprehension and vocabulary instruction within schools (NRP, 2000). Skilled reading is characterised by a rapid and simultaneous utilization of both decoding and comprehension skills. A skilled reader will show competence in using clues from a text to identify patterns and relationships within a text, thus he/she will be able to gain the utmost benefit from

reading to learn. Limited reading ability is a significant hindrance to reaching academic potential (Pretorius, 2002a). The results from the study suggest that at Time 1 (Grade 8) and again at Time 2 (Grade 10) L2 learners were not able to understand English words nor were they able to comprehend English texts at the same level of proficiency as the L1 learners. This has likely implications on L2 academic performance rendering the scholastic achievement of L2 learners lagging behind their L1 peers. The significant difference between L1 and L2 learners is mirrored in their probable differing levels of academic achievement.

In a similar vein, Cummins' (1996) theory of Cognitive Academic Language Proficiency (CALP) indicates that the components of exposure and immersion within a predominantly L2 environment as well as motivation are essential in order for the skills and proficiency developed in L1 reading to transfer to L2 reading. It is expected to take between five and seven years of L2 immersion for the cognitive academic language proficiency (CALP) necessary for academic success in an L2 learning environment to develop (Cummins' 1996). Specifically relevant to this study, Cummins' (1996) theory explains the resultant significant differences found between the learners' vocabulary and comprehension ability at Time 1 (Grade 8) when compared with their results at Time 2 (Grade 10). An extra two years of immersion in an English language learning environment facilitated the high school learners' improvement on tasks of vocabulary and comprehension. In light of Cummins' (1996) theory it is expected that a reading intervention based on increased textual English language exposure would serve to increase the rate of cognitive academic language proficiency attainment among participating learners. Given that no significant differences were found between the control and experimental groups at Time 2 (Grade 10) it is necessary to explore the possible explicatory factors involved in the culmination of these results. Furthermore, provided that the L2 learners were significantly lagging behind the L1 learners in their Grade 8 year it is expected, according to theory, that the implemented reading intervention would have a greater effect on L2 learners as their L2 proficiency was not yet of an academic standard like that of their L1 peers. However, L2 learners continued to lag significantly behind the L1 learners at Time 2 (Grade 10) even after exposure to the reading intervention. Once again it is necessary to explore possible explanations for these rejected hypotheses.

The threshold hypothesis of language proficiency implies that the ability to read in L1 is short-circuited to assist in L2 reading provided L2 proficiency is sufficient (Taillefer, 1996). Specifically stated is the increased impact of L2 proficiency, and subsequently decreased

impact of L1 reading ability on L2 reading ability when the complexity of the reading task is increased. Thus it would hold that when reading L2 texts of an academic nature - assuming complexity – a reader is more reliant on L2 proficiency than on L1 reading ability. Empirical research regarding the threshold hypothesis holds that their needs to be some particular attained threshold of L2 proficiency in order for there to be effective transfer of reading skills across languages (Pichette, Segalowits & Connors, 2003). It is therefore hypothesised that due to the textual-based, reading focused nature of the specific reading intervention used as an experimental condition for this study, the L2 learners were not provided with any additional L2 spoken language exposure. Thus, regardless of the extent of their exposure to L2 reading tasks, the L2 learners were unable to effectively transfer L1 reading ability to L2 reading processes as a result of their apparent insufficient attainment of L2 proficiency. The intervention failed to remediate the problem of language deficiency which was highlighted in theory as pertinent.

Walter's (2007) perspective suggests that the problem of L2 reading ability is not one of transference but of access. Less proficient L2 learners are unable to access the already possessed skill utilised when reading in their L1 that allowed them to build mental structures facilitative of comprehension. It is proposed that this inhibition of access is due to limited L2 –based verbal working memory. For less proficient L2 learners, verbal working memory is exhausted by sentence processing tasks and little capacity remains for structure building tasks. Such a hypothesis confirms the currently utilised reading intervention's lack of emphasis placed on L2 proficiency and the automatisation of sentence processing skills in order that reading skills may come to the fore. A shifted focus to increased L2 proficiency will allow L2 learners to more freely utilise their working memory capacity for structure building comprehension tasks, thus allowing them to comprehend texts at a higher level.

Rott (2004) suggests that the cognitive mechanisms required for executing comprehension and those involved in the learning of new words might be different, they may even be in conflict. The process of comprehension involves a rapid integration of text-based information (referential and linguistic) and learner-based information (experience and background knowledge) resulting in personalised interpretation and meaning. Learning new words forces the brain to isolate individual words from the context, thus shifting the focus away from the comprehension process (Rott, 2004). In the same vein, the brain with its limited automatic inputs (via the five senses) and outputs (vocal outputs and movements) will find it necessary

to pay conscious attention to behaviours that require learning prior to becoming habitual. Initially the reading process is slow, disintegrated and unreliable in terms of attaining accurate information. It is therefore mandatory for a learner to develop automaticity. Automaticity describes the brains ability to master a skill to the extent that it can be performed automatically or without conscious execution. Such functions allow a reader to focus on the given meaning of a text without paying attention to the comprehension strategies and processes of acquiring meaning (Chard et al., 2009; Manset-Williamson & Nelson, 2005; Stinnett, 2010).

This problem of insufficient L2 proficiency is particularly relevant to the South African school context. English–only classrooms in South Africa often result in unfortunate academic consequences for many learners with limited L2 proficiency. Furthermore, total immersion in an English language schooling environment is recognised as a form of subtractive bilingualism as those L2 learners are further segregated from their home culture and their native tongue. Based on such discussions; a certain amount of resistance to English culture and home language alienation may be evident in the results obtained by the persistently lagging behind L2 learners identified in this study. Furthermore, the vast difference between L1 and L2 learners in the South African context reaches not only to cultural domains but there are meaningful differences in orthographic depth evident between English and black African languages. It appears that the brain circuit that develops to facilitate reading ability is similar in all individuals across languages (Pugh, Sandak, Frost, Moore, & Mencl, 2005). Neuroimaging studies revealed certain Left hemisphere cortical regions that are always engaged in the reading process regardless of the language involved. Neural network differences according to language occur more in degree of activation than in type or location. One language might require a specific neural network to be more or less activated than another. It was suggested that these differences in degree of activation may be due to differing processing demands required by the varying degrees of orthographic depth apparent in different written languages (Moats, 2004). The acquisition of L2 reading ability may therefore be a far greater task in the South African context than at first expected. It is these great differences that may act as barriers to transformation not only in this study but within South African society at large.

The concept of literacy is thought to be socially constructed. The meaning and value placed on reading and writing, as well as the purpose for becoming literate, are determined by the

requirements and expectations found within a particular socio-cultural context (Pretorius, 2002b). Within the different areas and ranging social classes of South Africa these regulations may look very different, but as a developing country it would be wise to acknowledge that our goals and ideals do play a significant role in forming certain expectations of South African literacy. Thus, Pretorius (2002a) states that any discussion of the reading situation cannot be removed from the broader socio-cultural context of South Africa.

Trudell and Schroeder (2007) agree that the process of learning to read and write is both psycholinguistic and social. Not only does this imply the necessity of socially stimulated learning, characteristic of classroom support interventions but such a statement further queries the use of borrowed teaching methods. Models established in western linguistic environments are often applied to entirely different social and psycho-educational circumstances in Southern Africa. The linguistic characteristics of African languages (first language to many South African students) are very different to those of the English language as well as other European languages, thus it is logical that instruction methods should differ in order to adopt a better constructivist approach whereby one's current level of skill and knowledge is used as a starting point for instruction (Woodward & Talbert-Johnson, 2009).

Pretorius and Naude (2002) identify the strengths that African culture can bring to a classroom. The most notable being an interest in the visual art, expressiveness of gestures and body language, storytelling, singing, dance and rhythm. Their studies suggest such vices be incorporated into foundational phase instruction. It is imperative that South African educators realise the diverse range of needs, ability and potential within their classrooms, specifically in terms of reading (Nel et al., 2004). It is proposed that certain cognitive styles are inherent to different cultures (Kokot, 1992). When reading, one uses the right hemisphere of the brain to react emotionally to a text according to the sort of reaction the text is designed to elicit. The left hemisphere, on the other hand, is used to breakdown and analyse the text so that it can be understood. Such cerebral organisation appears to differ across cultures. Observations suggest that black South African cultures characterised by collectivism and 'ubuntu' values have developed a tendency to more readily utilise the right hemisphere to process information in a holistic manner, involving and valuing intuition and contextualisation above objectivity and rational thinking (Pretorius and Naude, 2002). These are enduring patterns deeply embedded

in African culture as a result of the tendency to more frequently participate in the telling and listening to of stories than to engage in the process of reading stories.

Research investigating the differential performance of L1 and L2 learners in South African schools found that L2 learners specifically experienced problematic difficulty when required to process figurative non-literal language, predict outcomes, make inferences and distinguish between opinions and facts. It is suggested that the adopted procedure of performance based assessment tasks have inappropriately developed norms and represent bias because L2 learners lack the required proficiency to learn and demonstrate knowledge in the English medium of instruction. Comprehension suffers if the reader finds it necessary to use up his/her limited resources in the process of decoding. Textbooks used in schooling contain concepts and topics that are often remote from the life experience and cultural background of L2 learners. An established relationship between vocabulary and background knowledge, and ultimately comprehension clearly highlights the fact that a scholar faced with a text that is too difficult, is going to gain very little learnt information from that text. (Barry, 1999)

In the same vein, the interconnectedness of language and culture implicate a different kind of linguistic home environment for L2 learners. These learners are not exposed to the same English culture that so many of their L1 peers are accustomed to. English written material such as newspapers and magazines, as well as English radio and Television are not common place in their homes. They are deprived of an upbringing characterised by fables, proverbs, nursery rhymes, songs and games that are so often referred to in the classroom. A strong correlation between literacy levels and the quality, access and range of school reading resources puts black South African learners at a significant disadvantage in terms of the lack of available reading material in rural schools as well as the problem of insufficient parental support at home. Academic shortfalls in South African L2 learner populations are already predicted when considering the current degree of disadvantage and the fact that literacy correlates highly with academic achievement (Barry, 1999).

Culture also implies communicative sociolinguistic competence. When participating in a particular language one needs knowledge of the language system. Language is a dynamic process involving strategy, motivation and communicative goals. There are certain social rules, norms, values and attitudes that govern conversational appropriateness within a given context. An L2 learner will need to develop sensitivity to the use of their language of

instruction in order to establish and maintain social relations and to avoid an inhibiting classroom environment. It is thus imperative that an L2 learner become proficient in every aspect of their instructed medium, in this case English, because the consequences associated with failure to do so point to high dropout rates, poor academic achievement across the curriculum as well as future problems in the workplace, both socially and professionally (Barry, 1999). In considering the results obtained from this study in light of the above mentioned research, it is firstly debatable whether western teaching methods are suitable within such a unique South African setting wherein the differences between L1 and L2 learners are vast and numerous occupying several domains of life (Trudell & Shroeder, 2007). Secondly, this challenge of overcoming L2 reading deficiency may have been too weighty a task for this study's implemented reading intervention to have made a meaningful change in circumstances.

Similarly, the weight of the detriment of apartheid regime has still not been satisfactorily lifted, in spite of efforts to change circumstances. Many previously black South African schools still suffer under dire conditions characterised by insufficient school facilities, disorganisation, unmotivated staff, poor school attendance; lack of electricity, running water or adequate sanitation as well as substance abuse and violence (Christie, 1998; Pretorius, 2002b). It is obvious that such conditions are not facilitative of the educational remediation many learners need today nor will continued disadvantage serve to narrow the gap in both English language reading ability and academic achievement between L1 and L2 learners. Prior to 1994 the language policy in South Africa allowed English and Afrikaans a dominant advantage even though the majority of South Africans at the time, and today, speak an African language as their home language. Although the policy today allows learners the right to be educated in their language of choice, the practical implementation of such an allowance is unrealistic. Furthermore, English dominates the international workforce and thus economically speaking English continues to hold certain importance. Although as a nation South Africa takes pride in its 'rainbow' effect, from a political perspective, educational attainment is a means for reduction in unemployment and thus we need to attain such education by the most practical and unified means (Barry, 1999). We can no longer attribute the differences in our learners to test bias and cumulative disadvantage because rectifying such a problem is now the imperative option. Adjusting Senior Certificate marks, as was procedure in 1998, reduces the integrity of our countries education system and further fails to

rectify the problem of language in classrooms (Barry, 1999; Niebuhr, 1996 as cited in Barry, 1999).

Barry (1999) places the onus on teachers to be the solution we are looking for. Remedial programmes for L2 learners are accused of discriminating against pupils while extended explanations in the classroom only serves to frustrate and disadvantage those pupils who are already proficient in English. In addition learners become restless and loosen the established boundaries of discipline. It is suggested that teachers be trained to make group work, regular reading and writing tasks as well as continuous and various assessment, a daily part of the classroom. Such activities might serve to assist learners in the acquisition of the communication and language skills necessary for proficiency. Teachers need to be equipped with the theory behind second language education so that the issues that arise from such a classroom are not surprising nor dismissed. In addition, teachers should be aware that the mother-tongue can be instrumental in facilitating the acquisition of English proficiency as well as assisting in the learning of academic content. (Barry, 1999; de Wet, 2002)

Due to the attainment of cognitive language proficiency, learning in one's mother tongue is thought to be a qualitatively better learning experience (Trudell & Shroeder, 2007). Educators admire the use of code switching within their teaching practices and agree that the role of home language in culture cannot be ignored (de Wet, 2002). Research exploring the implications of additive bilingualism specifically investigated L2 learners in Kwa-Zulu-Natal who were educated in their mother-tongue during their first three to four years of schooling prior to being shifted to English medium tuition. These learners demonstrated sufficient academic competence in their mother-tongue but poor proficiency in English. The researchers suggested that it would be more productive and beneficial at this stage for the KZN learners to be educated in their mother-tongue and to study English as an additional subject. This suggestion was made in light of the fact that education in a language in which one is poorly proficient may have adverse implications for school competence and cognition (Bialystok, 2001 as cited in Morrow et al., 2005). Furthermore, Morrow et al. (2005) concluded their studies by making note of the widely held misconception that English language instruction will benefit learners both economically and educationally; while it is in fact possible to attain high levels of English proficiency when English is taught as a second language (Kapp, 2000 as cited in Marrow et al., 2005).

In their write up, Mallozzi and Malloy (2007) stress the importance of learning English as a second language for those South Africans who speak an African home language, as the English language dominates the workforce as well as school instruction mediums. However, it is noted that for those whose first language differs from the LoLT, English is not offered as a distinct second language subject. Furthermore the vast cultural and socio-economic differences within the South African learning environment impose difficulties on the development of an appropriate literacy education program. Ultimately change in L2 reading ability signifies great strides towards change in society at large; speaking of transformation in terms of education, the South African workforce, race, discrimination and government policy. It may be that just as South Africa encounters great resistance in its efforts to implement transformation due to many factors including a strong sense of cultural, language based identity; so specifically implemented reading interventions aimed at remediating L2 reading capacity may also encounter similar psychosocial resistance. In addition the implications of negative Matthew effects increase the load of additional resistance as small scale interventions seek to move against the current.

Limitations and Recommendations

Figure 3.3 presents a graph depicting the differences between the control and experimental groups over the two year time period, on the measure of comprehension. It is evident from this depiction that although there were no significant differences between the control and experimental groups at both Time 1 (Grade 8) and Time 2 (Grade 10), the experimental group actually performed worse than the control group at Time 2 (Grade 10) in spite of their having been exposed to the reading intervention as well as their having performed at a slightly higher level of performance at Time 1 (Grade 8), although not to a significant extent. This result has caused the graphs to intersect and the control group to present at a slightly higher level by Time 2 (Grade 10). This counterintuitive result, having only occurred on the measure of comprehension and not on the measure of vocabulary traces back to the administration procedures.

A limitation to this study has been the vast drop in cohort size with the control group consisting of 168 participants while the experimental group only had 83 participants. A large number of experimental group participants were removed from the study after the Time 2 (Grade 10) administration due to their failure to complete the test measures. Due to the fact

that the vocabulary subtest was administered first and the comprehension subtest administered second; it is hypothesised that while the participants were given adequate time to complete the vocabulary measure, it is possible that they were not provided with an adequate amount of time to complete the comprehension measure. This would explain the difference in results obtained between the two subtests and implies that even those who were able to complete the comprehension test, and be included in the study, were under likely time pressures rendering them unable to perform at their optimal level of ability and thus the measures of comprehension used in this study are inconclusive.

Due to the administration assistance gained by school staff members who are unlikely to be invested in the study at hand as well as under curriculum time pressures of their own, the administration time may have been cut short in such cases causing the data to be an invalid measure of comprehension ability. A limitation to the administration procedure, in this regard, was the distribution of pupils to various locations in the school as they completed the measures within in their own classrooms at the same time. This limited the ability of the researcher to monitor test venues, administration procedures and notable distractions. It is therefore hypothesised that the unexpected intersection of the graphs in figure 3.3 can be attributed to ineffective administration procedures and is not due to any actual changes in performance that might be linked to individual and contextual differences or have theoretical implications.

Further limitations involve the contextual nature of the study. Within a diverse South African context the results from this study cannot be generalised to other high schools as there may be vast differences in home language, cultural demographics as well as access to reading resources within schools. Furthermore, although a large portion of the experimental participants were removed from the final analysis of results, causing the gender and home language demographic ratio to me approximately equal across cohort groups, the reality of the school demographics is that the ratios have undergone marked change, ultimately changing the learning context over time. The longitudinal nature of the study implies the eventual implications of an environment that is not static. According to the original demographic details, prior to the removal of inadequately completed data sets (refer to Table 2.2), the final number of remaining learners for both cohorts resulted in there being 171 learners in Cohort A and 171 learners in Cohort B. The mean ages for participants in Grade 8 and Grade 10 remained approximately the same across the two cohort groups. The ratio of

male to female participants changed over the period of time between the testing of the two cohorts with the relative number of females decreasing and bringing the male to female ratio down from an approximate 0.7 to one (0.7:1) in Cohort A to an approximate one to one ratio (1:1) in cohort B. Across the two cohorts the ratio of L1 learners to L2 learners changed from an approximate one to 0.7 ratio (1:0.7) to an approximate one to 1.9 ratio (1:1.9). It seems that over the time taken to conduct this longitudinal study, the number of L1 learners decreased, almost halving in amount, and the number of L2 learners increased, almost doubling in amount (refer to Table 2.2).

The shift in language demographics of the learners implies meaningful differences in the dominant culture and usage of code switching among peers as well as a differential learning environment for the control and experimental groups. As the number of L2 learners at the school increases so the number of learners struggling academically, due to insufficiently attained levels of cognitive academic language proficiency, increases within classrooms. This may have resulted in a slower learning environment in which L1 learners are left frustrated and forced to leave (Barry, 1999). These hypothesised changes in learning environment may serve to partially account for the counterintuitive results indicating that the implemented reading intervention did not have a significant effect on learners' reading ability. The possible decrease in learning pace, as a result of more L2 learners within the classroom, may have caused the experimental group to have had less exposure to formal English language learning than the control group; counteracting any possible positive effects of the reading intervention.

In light of the limitations relevant to this study, future research endeavours may benefit from an in depth analysis of the changing learning contexts of various South African schools. As South Africa continues to engage in a movement towards transformation, so learning environments are likely to undergo such transformation. Changes in vocabulary and comprehension performance as well as differences between L1 and L2 learners' reading ability should be tracked over time alongside noted demographic and contextual changes in order to comment on the changing nature of South African schooling as well as to better understand the implications of such rapidly dynamic learning environments of South Africa's learners.

A further concern regarding high school reading interventions is the question of the learners having already past the age at which language and reading skills are most easily acquired.

Further concerns raised include the idea that reading deficits might become resistant to remediation over time (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Lyon, Fletcher, Shaywitz, 2001). In developing an intervention for older readers one must account for the challenges involved in 'undoing' years of learnt inefficient compensatory strategies and ingrained discouragement (Manset-Williamson & Nelson, 2005). This may contribute to accounting for the rejected hypotheses in this study. Marinova- Todd et al. (2000), however, emphasised the belief that there exists no formal age-defined critical period for L2 language acquisition, postulating that observed differences in the learning of a second language between age groups is more readily attributed to learning contexts and situations rather than to learning capacity.

In light of the discussion based on the obtained results, future research may yield favourable results if reading interventions focused on the development of cognitive academic language proficiency (CALP) are implemented. It would be beneficial to note whether such interventions, aimed more at language proficiency than reading skills development, create a narrowing of the gap between L1 and L2 learners on measures of reading ability.

Implications for the South African learning context

The results from this study have implications for education policy and bilingual education within South Africa. Furthermore, this study creates awareness regarding the potentially stagnant condition of L2 learners. Important questions are raised regarding mother-tongue education as well as the lack of an English second language subject option within schools. As a nation, resistance to transformation and freedom from apartheid destruction is encountered not only socially but academically too.

As a direct result of the social and political history of South Africa there are currently many second language learners struggling to cope in English medium schools. The L2 learners persistently lag significantly behind their L1 peers on tasks of English reading ability and English language proficiency (Jooste, 2003 as cited in van Rooyen & Jordaan, 2009; Winnett, 2008). This was echoed in the results obtained from this study suggesting that L2 learners fell significantly behind L1 learners on measures of reading ability even when exposed to a reading intervention implemented over a two year period. This lag in reading ability has consequences for L2 learners' academic performance due to their insufficiently developed

cognitive academic language proficiency (CALP) inhibiting them from being fully capable of 'reading to learn' (Cummins, 1996). Although efforts have been made toward the attainment of equal opportunity among learners; allowing parents to choose the language of learning for their children, the practicability of these is questionable (DoE, 1995). Furthermore, due to population beliefs regarding economic and social dominance, English is the most frequently selected language of learning and teaching (LoLT) (de Wet, 2002).

Given the current situation, this study aimed to create awareness among educators regarding the language capabilities of L2 learners in order to foster greater understanding and attention to learner needs within the classroom. Furthermore, the observed resistance to reducing the L2 'lag' by means of a reading intervention may suggest that the problem is of greater severity than once thought and educators are urged to refocus reading interventions, aimed specifically at L2 learner populations, toward the development of cognitive academic language proficiency (CALP). In order to facilitate both a transfer of L1 reading skill to L2 reading processes as well as the automatisation of sentence processing, the focus of intervention needs to be on language proficiency (Taillefer, 1996; Walter, 2007). The incorporation of social immersion as well as African culture into the learning process may facilitate the development of L2 learners' English language proficiency and subsequently their reading ability (Cummins, 1996; Pretorius & Naude, 2002).

Additionally, considering the strong emphasis on English language dominance and the negative implications of subtractive bilingual environments, combined with the current problem, as again identified by this study, of L2 learners falling behind in high school; leads to the question of a solution that would stand in the best interest of the learners (Mallozzi & Malloy, 2007; Shaffer, 2002). The notion has been raised regarding the outweighing benefits of mother-tongue instruction for currently struggling learners as well as the problematic lack of the option to choose English as a second language subject (Mallozzi & Malloy, 2007; Morrow et al., 2005). Mother-tongue instruction combined with second language English tuition might benefit South African learners in their easier attainment of academic knowledge combined with their opportunity to learn the dominant language of today and therefore not be excluded from workplace settings and socio-economic practices. Such notions may be currently impermissible within high school contexts and unaligned to established social and political short-term goals, however, this study aimed to encourage educators and policy

makers to think about the available alternatives and to open their minds to new ways to tackle the resistance to change that is currently evident within the education system.

Conclusion

Efforts to remediate the detrimental effects of apartheid on the South African learning environment include the implementation of language policies aimed at fostering multilingual and multicultural education in order to attain educational equity (DoE, 1995). However, the practical implementation of such policies has been rendered somewhat impractical due to factors arising from the country's history of segregation and group disadvantage (de Wet, 2002; Pretorius, 2002b). As a result many L2 learners in English medium schools are struggling to reach their academic potential due to their lack of cognitive academic English language proficiency. This study aimed to analyse the improvement of L1 and L2 reading ability for those high school learners who were exposed to a school implemented reading intervention over a two year period, compared with those who did not have the additional experience of a reading intervention. It was expected that the reading intervention would not only cause reading ability to improve at a faster rate but that it would cause the gap between L1 and L2 reading ability to narrow significantly. The results indicated that although learners' improved in their performance on measures of comprehension and vocabulary over time, those who were exposed to the additional experience of a reading intervention did not improve to a significantly greater extent than those who did not take part in the reading intervention. Furthermore, the reading intervention did not serve to significantly narrow the gap in reading ability between L1 and L2 learners. Reasons provided for the apparent insufficiency of the reading intervention include the intervention's incorrect focus on reading skill development as opposed English language proficiency development.

Furthermore, in her study investigating differences in reading ability between L1 and L2 South African high school learners Winnett (2008) acknowledges that the distinction between these learners is not solely based on language as there are meaningful cultural differences between L1 and L2 groups. Due to the fact that L1 and L2 ratios were not held constant across cohort groups, a differential learning environment for the experimental group can be hypothesised. Variables such as culture, linguistic background, socio-economic status and use of code-switching may have attributed to the unexpected results found in this study

suggesting that the implemented reading intervention did not serve to significantly improve L1 or L2 learners' reading abilities. This study aimed to inform relevant educators and policy makers of the vast differences between L1 and L2 learners in the South African context, proposing that the reasons for the evident gap in reading ability may extend far beyond mere language differences. The incorporation of African culture as well as mother-tongue instruction and code-switching into the L2 learning environment may serve to address the multiple factors implicating such vast differences between learner groups. The benefits of an additive bilingual environment combined with the provision of a second language English subject choice may be in the best interest of the L2 learners who are currently falling behind and are constantly subject to negative Matthew effects (Pretorius & Mampuru, 2007).

According to Barry (n.d.) Language-in-Education policy and other additive bilingual initiatives have been unsuccessful in their attempts to address educational inequity in South African schools. Even though government objectives to move towards a policy of multiculturalism through an additive approach to bilingualism in education have been developed, this study echoes the opinion of Barry (n.d.) that 'this policy essentially remains a symbolic gesture' (p. 105).

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Appendix A

Principal Information Sheet

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

Dear Principal

My name is Kirsty Carter, and together with my supervisor, Dr. Yvonne Broom, I am conducting research for the purposes of obtaining my Masters Degree in Educational Psychology at the University of the Witwatersrand. My area of focus is that of the effects of a reading intervention on narrowing the gap in reading ability between first and second language English medium learners. Therefore, this research is aimed at examining the comparison between the results on tests of vocabulary and comprehension of first language and second language English medium learners over a period of three years whilst also comparing the results of those that took part in a school implemented reading intervention, and those that did not. This study will extend the current research that is available on reading ability concerning classroom environment wherein one's second language is the primary medium of instruction, and additionally provide insight into how to better understand and modify the negative consequences of second language instruction. We would like to request your permission to conduct this study in your school.

Participation in this research will involve the learners at your school taking part in group administered assessments of vocabulary and comprehension. The assessment will take approximately one hour to complete, and the sessions will take place on the school premises during school hours so as not to disrupt the routine of any participants. Trained researchers will ensure fair administration and scoring of the tests. The learners' participation is completely voluntary, and no person will be advantaged or disadvantaged in any way for choosing to participate or not participate in the study. There are thus no benefits to the learners who participate. The learners may choose to withdraw from the study at any point without any negative consequences. Furthermore, all the test results will be kept confidential.

My research will be conducted under the supervision of the WITS Ethics Committee, in order to ensure that the rights of the participants are protected. If you choose to grant permission for the requested study to take place at your school please fill in your details on the form below. I can be contacted telephonically at 082 905 5775 or via email at carter.kirsty@gmail.com. My supervisor can be contacted on (011) 717 or via email at @wits.ac.za.

Kind Regards

Kirsty Carter

Appendix B

Principal Permission Form

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

I _____ hereby grant permission for Miss Kirsty Carter to:

- Make use of _____ (name of school) as the site for the study.
- Assess the vocabulary and comprehension ability of the learners.

Signed: _____

Date: _____

Appendix C

Parental Information Sheet

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

Dear Sir/Madam

My name is Kirsty Carter, and together with my supervisor, Dr. Yvonne Broom, I am conducting research for the purposes of obtaining my Masters Degree in Educational Psychology at the University of the Witwatersrand. My area of focus is that of the effects of a reading intervention on narrowing the gap in reading ability between first and second language English medium learners. Therefore, this research is aimed at examining the comparison between the results on tests of vocabulary and comprehension of first language and second language English medium learners over a period of three years whilst also comparing the results of those that took part in a school implemented reading intervention, and those that did not. This study will extend the current research that is available on reading ability concerning classroom environment wherein one's second language is the primary medium of instruction, and additionally provide insight into how to better understand and modify the negative consequences of second language instruction. We would like to invite you to participate in this study.

Participation in this research will involve your child taking part in group administered assessments of vocabulary and comprehension. The assessment will take approximately one hour to complete, and the sessions will take place on the school premises during school hours so as not to disrupt the routine of any participants. Trained researchers will ensure fair administration and scoring of the tests. The learners' participation is completely voluntary, and no person will be advantaged or disadvantaged in any way for choosing to participate or not participate in the study. There are thus no benefits to the learners who participate. The learners may choose to withdraw from the study at any point without any negative consequences. Furthermore, all the test results will be kept confidential.

My research will be conducted under the supervision of the WITS Ethics Committee, in order to ensure that the rights of the participants are protected. If you choose to participate in the study please fill in your details on the form below. I can be contacted telephonically at 082 905 5775 or via email at carter.kirsty@gmail.com. My supervisor can be contacted on (011) 717 or via email at @wits.ac.za.

Kind Regards

Kirsty Carter

Appendix D

Parental Consent Form (Guardian)

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

I, _____, consent for _____ to be involved in the study in reading ability will be assessed by Miss Kirsty Carter for the exploration of the effects of a school implemented intervention on the reading ability of first and second language English medium learners. I understand that:

- The nature and purpose of the study has been explained to me
- Participation is completely voluntary
- No negative consequences will result if the participant decides to withdraw or if any participant chooses to decline their participation
- The participants' results will remain confidential
- There are no direct benefits to participating in this study

Signed: _____

Date: _____

Appendix E

Participant Information Sheet

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

Dear Learner

My name is Kirsty Carter, and together with my supervisor, Dr. Yvonne Broom, I am conducting research for the purposes of obtaining my Masters Degree in Educational Psychology at the University of the Witwatersrand. My area of focus is that of the effects of a reading intervention on narrowing the gap in reading ability between first and second language English medium learners. Therefore, this research is aimed at examining the comparison between the results on tests of vocabulary and comprehension of first language and second language English medium learners over a period of three years whilst also comparing the results of those that took part in a school implemented reading intervention, and those that did not. This study will extend the current research that is available on reading ability concerning classroom environment wherein one's second language is the primary medium of instruction, and additionally provide insight into how to better understand and modify the negative consequences of second language instruction. We would like to invite you to participate in this study.

Participation in this research will involve your taking part in group administered assessments of vocabulary and comprehension. The assessment will take approximately one hour to complete, and the sessions will take place on the school premises during school hours so as not to disrupt the routine of any participants. Trained researchers will ensure fair administration and scoring of the tests. Your participation is completely voluntary, and no person will be advantaged or disadvantaged in any way for choosing to participate or not participate in the study. There are thus no benefits to the learners who participate. You may choose to withdraw from the study at any point without any negative consequences. Furthermore, all the test results will be kept confidential.

My research will be conducted under the supervision of the WITS Ethics Committee, in order to ensure that the rights of the participants are protected. If you choose to participate in the study please fill in your details on the form below. I can be contacted telephonically at 082 905 5775 or via email at carter.kirsty@gmail.com. My supervisor can be contacted on (011) 717 or via email at @wits.ac.za.

Kind Regards

Kirsty Carter

Appendix F

Participant Consent Form

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

I _____ (name) hereby consent to my participation in the study with Miss Kirsty Carter.

I understand that:

- I understand that my participation is voluntary and that I can withdraw at any time.
- I understand that if I do not participate I will not be disadvantaged in any way.
- I understand that all information will be kept confidential.

Sign: _____

Date: _____

Appendix G

Biographical Questionnaire

Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559

NAME: _____

AGE: _____years_____months

GENDER : Male ☐ Female ☐

HOME LANGUAGE/S: _____

PLEASE FILL IN THE NECESSARY INFORMATION IN THE TABLE PROVIDED.

GRADE	SCHOOL	LANGUAGE OF INSTRUCTION
Grade One		
Grade Two		
Grade Three		
Grade Four		
Grade Five		
Grade Six		
Grade Seven		

Do you speak in English to? (Please tick the appropriate box)

	Sometimes	Often	Never
Your Family			
Your Friends			

Thank you for taking the time to fill in this questionnaire. Your help is much appreciated.