THE EFFECT OF READING STRATEGY INSTRUCTION ON L2 TEACHER TRAINEES' PERFORMANCE

BY

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submitted in accordance with the requirements
for the degree of

MASTER OF ARTS

in the subject

APPLIED LINGUISTICS

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF EJ PRETORIUS

NOVEMBER 2011

DECLARATION

I declare that *The Effect of Reading Strategy Instruction on L2 Teacher Trainees' Performance* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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SIGNATURE
(MRS C. O. OYETUNJI)

DATE

ACKNOWLEDGEMENTS

I wish to acknowledge the contributions of the following:

- Prof EJ Pretorius, my supervisor, for her scholarly advice, support, patience and commitment without which this project would not have been completed.

- Dr. and Mrs. Olatunji, Dr. Alimi and Dr. (Mrs) Eyitayo, for their encouragement and assistance in various ways.

- Dr. Oyetunji, my husband, and my children: Olamide, Oluwaseun and TiJesunimi for their unfailing support throughout the period this project was carried out.

SUMMARY

At every educational level reading is a powerful tool for academic success because it provides students with access to information. Comprehension is crucial to reading. Many students at Lobatse College of Education, Botswana, have problems comprehending L2 reading materials and thus struggle academically because English is the medium of instruction. To some extent, methods of teaching L2 reading contribute to students' reading failure. It is said that how we teach is as important as what we teach. Thus, how L2 reading is taught is important for improving students' understanding of texts and their L2 academic performance.

This study focuses on teaching reading as a process which involves an application of reading strategies in order to facilitate comprehension of texts. The overall aim of the research is concerned with the improvement of methods of teaching L2 reading comprehension in Botswana Colleges of Education. The specific objective was to implement reading strategy instruction programme (RSI) to see what effect it would have on (i) on L2 students' use of strategies during reading (ii) on L2 students' reading comprehension, and (iii) on L2 students' English academic performance.

Using a quasi-experimental pre-posttest design, an explicit RSI programme was implemented over six-week period in a Botswana College of Education. Two intact cohorts of second-year teacher trainees were randomly assigned to a control and intervention groups. A reading strategy questionnaire and a reading comprehension test were used to examine the relationship between strategy use and level of comprehension. A discrepancy emerged between the self-reports responses of the participants and their actual performance in reading text. Although they claimed to be strategic readers the results suggested that they were not in fact reading strategically.

The Cohen's d analysis yielded a large effect size. This corroborates the significant differences that emerged between the two cohorts in their posttest comprehension results. The intervention group showed significant gains in strategy use and reading comprehension after the six-week intervention period. This suggests that even a short period of intervention can be beneficial to L2 students. However, these effects did not manifest themselves in the students' English academic performance. This suggests that students need more exposure and more opportunities to practice applying strategies to texts that they read before the effect spill over into academic performance in general. The findings from this study have important implications for the teaching reading in Botswana in both L1 and L2 context. This research also point to further avenues for reading research in Botswana, and cautions against a reliance on questionnaire data alone in reading research; the triangulation of data is important to gain an accurate and deeper understanding of reading practices and reading performance.

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Key words: reading strategy, reading strategy intervention, explicit instruction, L2 reading comprehension and L2 students' performance

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CHAPTER ONE

BACKGROUND TO THE STUDY

1.0 Introduction

At the national level the ability to read is important to a nation's social and economic advancement (Uhakheme 2010: 45) while at the individual level, reading in the 21st century is an important gateway to personal development, social and civic life (Holden 2004, in Clark and Rumbold 2006: 5). In the school setting reading is a powerful tool for academic success because it provides students with access to information (English 2011: 11) and in the 21st century information is power. In essence, reading is crucial to the growth of a nation, the success of individuals and to academic achievement. This implies that the ability to read in the modern world tends to drive development in all aspects of life. However, reading is not always popular among all people in developed countries such as the United States of America (Bush 2001: 1) and on the African continent reading is generally not popular e.g. in Botswana (Arua and Lederer 2003: 26-27) and Nigeria (Ofeimum 2010: 46). In December 2010 the president of Nigeria, President Jonathan, called for the book to be brought back into the classroom and society, and he emphasized that reading should be given an important position in school and society if development is to be achieved and sustained (Uhakheme 2010: 45).

From my own experiences as a lecturer at Lobatse College of Education, Botswana I observed that the majority of my students seemed to struggle with reading. They read slowly and effortfully. They did not engage in any pleasure reading outside of their formal study requirements. The schools from which they came did not seem to have equipped them with the requisite reading practices and skills that would enable them to cope with the reading required at tertiary level.

The Nigerian scholar Ofeimum (2010: 46) argues that African society will need to rely on the school to nurture and develop a reading culture. Although reading may be recognized as an important aspect of the education context, reading for leisure is not integral to everyday life. For example, Wafawarowa (2000: 15-16) found that 95% of books sold in Africa are textbooks compared to 35% in Europe. In other words, in Africa reading is functionally driven by educational needs and reading for pleasure is by no means common. The responsibility conferred on the school would require the school to address issues related to reading instruction and development, especially when many students are struggling to achieve effective learning through texts (Irvin, Buehl and Radcliffe 2007: 18) which is one of the major causes of academic failures in schools, especially at college level (Horning 2007: 2). While I was at the Training College, I continuously grappled with the challenge of trying to improve the students' reading levels. Since the 1980's when strategy instruction first came under the research spotlight, there have been several studies that indicate that reading strategy instruction improves comprehension, thus giving a ray of hope to students who are failing to learn from print and to the teachers who work with such students. In this regard, then, the aim of this study is to examine the effect of explicit strategy instruction on students' strategy use, reading comprehension and English as a second language (L2) academic performance in one of the Botswana Colleges of Education.

In pursuance of the effect of reading strategy instruction on L2 students' academic performance, an understanding of the key terms pertinent to this study is necessary. Although these terms will be examined in greater detail in Chapter Two, for present purposes the term 'reading comprehension' is defined as reading a text with understanding. It is a meaning-making task that entails "knowledge of vocabulary, understanding of sentence structure and syntax, and the ability to interpret the intentions of the writer" (Flowers, 2010: 1). It appears that effective reading comprehension can take place only if readers actively interact with the text.

Another operational term that is important to this study is ‘reading strategies’. Reading strategies are described as ‘purposeful, cognitive actions that students take when they are reading to help them construct and maintain meaning’ (Yang 2006: 338). It can be said that readers’ active interaction with the text involves carrying out cognitive actions by applying suitable strategies to construct meaning. Since reading is a meaning-making task those conscious actions taken by readers to enhance understanding of the text are referred to as reading strategies.

Crucial to this study is the term ‘explicit strategy instruction’. It refers to a “direct teaching method used to show students how proficient readers think when they read” (Petitbon 2005: 3). Archer and Hughes (2011: 1) define explicit instruction as a “systematic, direct, engaging, and success oriented method of teaching which has been shown to enhance students learning”. It is an instructional practice that builds interactions between students and their teachers. Teachers clearly state a teaching objective and follow a definite instructional sequence.

As will be shown in Chapter Two, a great deal of research has been conducted on the effects of reading strategy instruction on reading comprehension in the first language (L1), second language (L2) or additional language (AL). Most of the findings suggest that reading strategy instruction has a positive effect on reading comprehension. However, most of the research has been conducted in developed countries. Given that literacy practices differ from culture to culture (Eskey 2005: 567), it is necessary to carry out similar studies in developing countries such as Botswana.

This chapter will highlight and discuss the background and context of the study, provide a brief theoretical framework of the study and the research methodology, identify the research problem, the research questions and hypotheses and outline the structure of the rest of the dissertation.

1.1 Background to the research problem

To facilitate an understanding of the research context of this study it is important to give a short description of the country in which this study was conducted. This includes the country's geographical location, a brief account of the country's linguistic situation with regard to the teaching of English at primary, secondary and at college level, its literacy status and a brief description of the institution used in the study.

1.1.1 Geographical location of Botswana

Botswana is a landlocked country situated in the centre of Southern Africa. It is bordered by South Africa to the south and southeast, Namibia to the west, Zambia to the north, and Zimbabwe to the northeast (Nyati-Ramahobo 2000: 243). Most of its goods come through South African seaports. Botswana is about 582,000 square kilometres in size with a population of about 1.7 million people (Government of Botswana 2004: 25). It has one of the lowest population densities in the world; 3.2 inhabitants per square kilometer (Hanemann 2005: 2). After 80 years as a British Protectorate, Botswana became independent on September 30, 1966. At independence, Botswana was one of the twenty-five poorest and least developed countries in the world (Presidential Task Force 1997: 13). In 1995/96 the per capita gross domestic product was the equivalent of about US$ 2.85 (ibid: 14). The country of Botswana has however recently graduated to rank 125 on the United Nations Development Project (UNDP) Human Development Index list (UNDP 2003). Although Botswana has moved into the group of middle income countries in the World Bank classification due to its development, it has an estimated 37.4% of the population below the national poverty line (Republic of Botswana/United Nations, 2004: 1). The capital of Botswana is Gaborone, one of Africa's fastest-growing cities. About half of the population lives in urban areas. Figure 1.1 shows the location of Botswana within Southern Africa. The section below discusses the linguistic situation in Botswana.

1.1.2 Linguistic situation in Botswana

Botswana is a multilingual country with an estimated number of 26 languages being spoken within its borders (Nkate 2005 in Adeyemi 2008: 24). Some of them are: Setswana, Ikalanga, Otjiherero, Shiyeyi, Thimbukushu, Sesubiya, Shekgalagari, Khoesan and Afrikaans (Batibo, Mathangwane and Mosaka 1997: 29).

Figure 1. 1: The country of Botswana

Setswana is the most dominant language in the country. It is spoken by at least 80% of the Botswana population as mother tongue and as a second language by another 10% (Nyati-

Ramahobo 1997: 26). For this reason, it is regarded as the country's *lingua franca* (national language) because the majority of the members of other linguistic groups in the country can speak it fairly well (Nkosana 2009: 15). It belongs to the Sotho group of languages within the Southern Bantu language family. It is also spoken in South Africa, along with Northern Sotho and Southern Sotho, its closest linguistic relatives.

At independence, English was designated the official language. The government banned the use of local languages except Setswana. The general rule in Botswana is that English dominates as a written language while Setswana is used for most oral communication (Batibo 2008: 17). Both English and Setswana were used and are still being used in education, government, media, and all other social domains. However, Setswana is used as a medium of instruction only at the initial levels Standards 1–2 (Grades 1-2) of primary education. English, the official language, is taught as a subject and used as a medium of instruction from Standard 3 up to university level (Mooko 2008: 10) while Setswana is offered as a subject from primary school up to university.

Before independence, the transition to the medium of English varied according to the language competence of the teacher, and it was common to find Setswana used as a medium of instruction even in Standard 7 (Republic of Botswana 1977: 15). Before independence, code-switching occurred into Setswana and other native languages of the students when the teachers belonged to the community in which they were teaching. Some commonly cited examples of teachers who code-switched between Setswana and the children's home languages were the Ikalanga-speaking (Ikalanga is related to one of Zimbabwean languages) teachers in Northeast district and Afrikaans-speaking teachers in Southern Kgalagadi district. Even after independence actual classroom practices indicate that teachers actually code-switch between Setswana and English in the primary and secondary schools, which may or may not be due to lack of language competence (Umunnakwe and Anderson 2005: 15). In essence, officially, Setswana is taught as a subject and used as the medium of instruction for the first two years of schooling in public

or government primary schools but in the third year of schooling a switch is made to English as the medium of instruction.

1.1.3 Literacy in Botswana

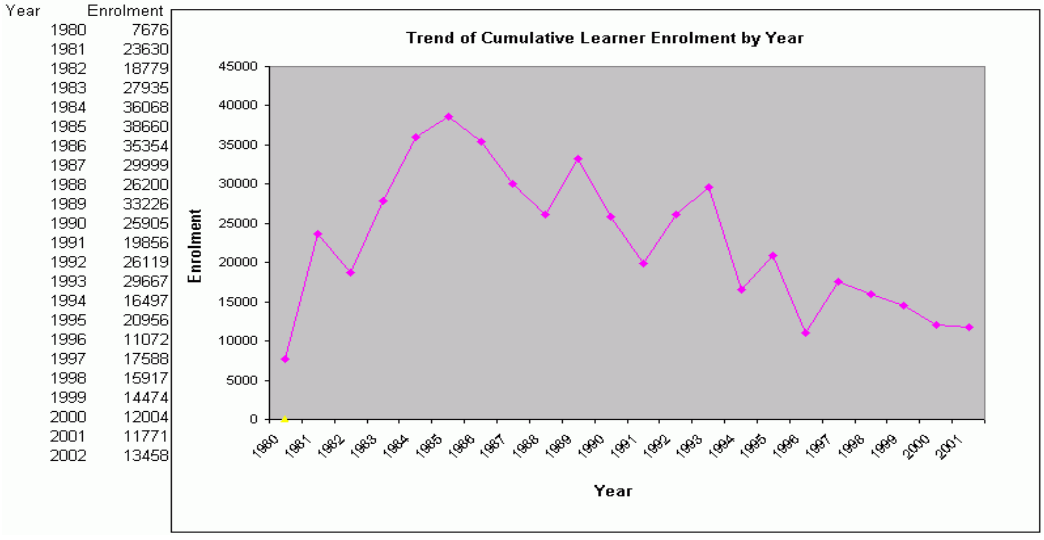
The Government of Botswana gives education a high priority. This is demonstrated in its support of the 'World Declaration on Education for All' as adopted at the World Conference on Education for All held in Jomtien, Thailand in 1990, and its belief that education is a fundamental right for all Batswana citizens (Seisa and Youngman 1993: 7). One of the major goals of basic education in Botswana is to assist individuals to obtain "knowledge, skills, attitudes and behaviour that will give them a full, successful life and continued personal growth; equipping them to participate effectively in a rapidly changing society" (Government of Botswana 1977: 23). In other words, basic education in the Botswana context should empower individuals not only to survive but also to be able to continuously develop themselves so that they can contribute meaningfully to society. Literacy is considered a central element of the strategy for the 'Basic Education for All' in Botswana (Mutava and Mutanyatta 1991: 1) and English is perceived as the direct connection to accomplishing the aims of basic education. However, it is important to note that basic education is not yet compulsory in Botswana.

Based on the foregoing, the Botswana government provides a 10 year free education programme for its citizens: children, youth and adults (Seisa and Youngman 1993: 6) which leads to a Junior Certificate qualification. Half of the school population attends two years of senior secondary education which leads to the award of the Botswana General Certificate of Education (BGCSE). However, the rate of failure and school dropout has been high, especially in the rural areas, due to poor supply of education facilities, teachers' negative attitude to students from these areas, and long travelling distances (Presidential Task Force 1997: 18). For example, the results of Standard 4 attainment tests showed that learning is not very effective at the early primary school level: in 2001, only

39.6% of Standard 4 primary school students were literate in Setswana, 21.9% had reached the desired competency level in English, whilst only 21.2% demonstrated a good knowledge of basic numeracy (Republic of Botswana/ United Nations 2004: 32). Thus, the major challenge that Botswana is facing in the area of education is more of quality than of access (Government of Botswana 2004: 3). This is an issue that is currently being addressed by the government.

The government's commitment to basic education for all is demonstrated by catering for illiterate youth, men and women between the ages of 12-65 years, by establishing the Botswana National Literacy Programme (BNLP) to provide non-formal education for children who are not able to enter a formal school for a variety of reasons, and for out-of-school and unemployed people in order to give every citizen access to basic education (Molosi 1993: 48) to enable the participants read and write in either Setswana or English or both, and to carry out simple mathematics computations (Hanemann 2005: 11). Figure 1.2 shows the pattern of enrollment in BNLP between1980-2002.

Figure 1. 2: Enrolment figures for the National Literacy Programme, 1980-2001



Source: Department of Non-formal Education (2002) Republic of Botswana (2003)

The participants in BNLP were assessed and categorized as literate if they scored 50% or more in the primary education Standard 4 attainment test (Youngman 2002: 10). The analysis of their test results up to 1993 showed an increased literacy rate of 1.6% and the participants performed better than those who did not attend the programme. However, in 2003, a survey indicated that between 20% and 27% of those who claimed some level of skill in reading and writing in Setswana and English were not competent in the skill assessed (Central Statistics Office 2004: 29/30).

A general decline in the number of participants from year to year as reflected in Figure 1.2 could be due to various reasons: lack of adequate facilities in some rural areas, long distance travel problems, disabilities, lack of information on the programme and lack of motivation. Apart from the National Literacy Programme, other literacy programmes also run by the government include the mines and the prison reformatory institutes, and workplace literacy programmes (Hanemann 2005: 10).

Despite the Botswana government's efforts to promote literacy by way of provision of free basic education, the establishment of a well-organized literacy programme (Legwaila 1994: 4), and provision of the necessary infrastructure in most villages and cities, Arua and Lederer's (2003: 26-27) findings indicate that secondary school students have not developed a reading interest. According to them, the percentage of students reading frequently or even occasionally is not as high as expected.

In addition, the authors assert that teachers at the University of Botswana are concerned about their first year students' inability to cope with basic reading and their lack of adequate reading skills. This suggests that more work needs to be done in literacy acquisition for the country to become "an educated and informed nation in 2016" (Presidential Task Force 1997: 12).

Nevertheless, on the whole, the Botswana literacy rate (81%) compares favourably with other SADC countries: Swaziland (80.9%), Zambia (79.9%), Tanzania (77.1%), Malawi (61.8%) and Mozambique (46.5%) (Hanemann 2005: 12). The Botswana illiteracy rate quoted internationally by UNESCO is 23% compared to Africa at 52.7% and the world illiteracy rate of 23.6% (Molosi 1993: 53). Having sketched the borders literacy landscape, we now take a brief look at instruction in Botswana schools

1.1.4 Teaching in schools

The general approach to teaching in Botswana primary and secondary schools is teacher-centred (Arua, Moanakwena, Rogers, Tierney and Lenters 2005: 22). Teachers dictate the pace of teaching and learning. Teachers who use this approach discourage active student-teacher interaction and see themselves as the source of knowledge. Thus, the suggestion for the need to move from a teacher-centred to a student-centred pedagogy/approach is advocated. The student-centred approach responds to the students' needs, encourages critical thinking and involves teacher and students in the building of knowledge. If the teaching approach is not student-centred it is unlikely that the teaching of reading will be effective. Moreover most secondary school teachers (86%), particularly the content area teachers, believe that literacy development is the responsibility of primary school teachers, and they expect the primary school teachers to have helped students develop literacy skills (ibid: 22). Thus, they believe that their content areas are most important and seem not to acknowledge their own role in developing their students' literacy skills in reading the discourse of their specific content subjects.

1.2 The context of the research problem

Lobatse College of Education was the oldest teacher education institution in Botswana before it was closed down in December 2009. It was established in 1947 in Kanye as a

Government Teacher Training College and moved to Lobatse in 1956 where it later assumed the name of Lobatse Teacher Training College. In its 53 years of existence the college experienced many changes in its teacher training programmes. Because the idea of Teacher Training was limited to Primary Education at that time, the college offered a two-year Primary Lower Teachers' Course (PL) to prepare lower primary school teachers. Candidates with a primary school leaving certificate, which is known today as Standard 7 (i.e. Grade 7 in Botswana), were admitted to this programme. It later introduced a two-year Primary Higher Certificate Course (PH). The PH course targeted candidates who had attempted Junior Secondary Certificate (JC) to prepare them to teach in upper primary classes. This then called for validation and accreditation of the programme of study by an external tertiary institution. Therefore, from the time the PH course was introduced, the College had to affiliate to the then University of Botswana, Lesotho and Swaziland (UBLS) (Letsatle 2006: 4).

In 1974, both the two-year PL and PH programmes were replaced with a two-year certificate course leading to the Primary Teacher Course (PTC). The PTC programme enrolled candidates with Primary School Leaving Examination (PSLE) and JC qualifications or those who had attempted JC. All of them were required to have two years of teaching experience in a registered primary school. In 1993, the government policy focused on issues of quality, access and equity. For this reason, the two-year PTC programme was replaced with a three-year Diploma Certificate in Primary Education (DPE). Thus, when the Lobatse Teacher Training College became a diploma awarding institution in 1996, it became known as Lobatse College of Education (Rantabe 2006: 10) till it was closed down in 2009. The closure was due to the fact that the facility was quite old and the government decided to distribute the students to other sister colleges instead of renovating it. This means that Lobatse College of Education was the first teacher training institution in the country to have affiliation with the University of Botswana. A picture of the then Lobatse College of Education is shown in Figure 1.3

Figure 1. 3: Lobatse College of Education 1956-2009

Due to the increase in school enrolment (due to free basic education) during the 1990s, which led to a shortage of teacher supply in the country and because of a need to upgrade the status of the untrained teachers (Standard 7 and Junior Secondary Certificate holders), particularly in primary schools, new colleges of education were established (Eduation for Kagisano 1977: 36). Presently there are five Colleges of Education in the country. Three of the colleges prepare teachers for primary education and two prepare teachers for secondary education. All five colleges run a three-year programme leading to the diploma certificate (Hopkin 1996: 132). After the completion of the diploma programme, some motivated students may proceed to the University of Botswana for a three-year course leading to a Degree Certificate in Primary or Secondary Education, while others may choose to wait for the government to sponsor them, a process that may take several years.

Since 1993, with the exception of the in-service students, who are usually few, the potential candidates for Diploma Certificate in Primary Education must possess the BGCSE with four credit passes including the candidates' proposed subject area of specialization. The Diploma in Primary Education is a full time three-year programme for the pre-service candidates in particular. The in-service candidates join the programme in the second year. Apart from the general subjects and electives, candidates have three areas of specialization to choose from, these being English and Setswana, Mathematics and Science, Social Studies and Religious Education.

Students are required to do a minimum of 55 school days of teaching practice in the entire programme. The teaching practice is structured such that the first-year students go for ten days of observational school experience in selected schools, and the second-year students embark on an eight week period of teaching practice. In the first four weeks students teach selected standards but in the second four weeks they teach either lower or upper classes. The third-year students do about four weeks of final teaching practice in selected schools in standards they feel comfortable teaching. Students are provided with the Teaching Practice Handbook for guidance. Figure 1.4 shows some Lobatse College of Education students improvising some teaching aids.

Figure 1. 4: Some Lobatse College of Education students working on their teaching aids

1.3 Theoretical background to the research problem

Strategy use is not new in the domain of second language learning. Many researchers and educators have shown a keen interest in determining what differentiates successful from unsuccessful or less successful learners, thereby opening up the field of language learning to include cognitive and affective factors. The work of Rubin (1975) served as the springboard for other related studies. Rubin (1975: 45) attempted to characterize successful language learners, especially their use of modifiable L2 variables, in the expectation that such information can be conveyed to less successful learners in order to help them become effective learners. One of the most important of these modifiable L2 variables is language learning strategy use, which is considered to be a cognitive variable. Learning strategies are "specific actions, behaviours, steps or techniques such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult task used by students to enhance their own learning" (Scarcella and Oxford 1992: 63). In other words, learning strategies are students' conscious thoughts and the actions they take to facilitate learning or to accomplish a learning task or goal.

One of the principal assumptions that underlies strategy use is that some students attempt language-learning tasks in more successful ways than others. This suggests that some students will be more successful than others in language learning. It is proposed that successful strategies can be used to good effect by less effective learners and that self-direction promotes learning in and outside the classroom. It is believed that teachers can promote strategy use by training students to become self-directed learners (Wenden and Rubin 1987: 15-18). Wenden and Rubin's proposition motivated this study. The purpose of the study is explained in the next section.

1.4 Justification of the Research

Several studies have been undertaken in the area of language learning strategies, especially in L1 and L2 reading strategies. A number of studies have shown that there is a

connection between learners' knowledge of reading strategies and their comprehension. For instance, Reyes (1991); van Gelderen et al. (2003 in Stevenson, Schoonen and Glopper (2007); Carrell (1989); Langer, Bartholome, Vasquez and Lucas (1990), to mention but a few, found significant correlations between learners' knowledge about reading and their comprehension. In other words, learners' level of knowledge about reading strategies has something to do with reading comprehension. It is no wonder that many teachers recommend explicit strategy training of language learners so as to make learning more meaningful and effective for learners (Oxford 1990: 102).

Although studies have shown a positive relationship between strategy use and good readers, most of the research on language learning strategies has been conducted in the USA (Wharton 2000: 204). Therefore, it is important to research this topic in different L2 learning contexts. According to Oxford and Burry-Stock (1995: 160), there is a need to replicate language learning studies within and across cultures and countries so as to avoid 'ethnocentric bias' concerning the definition of good language strategies. As mentioned earlier, most of the studies on learning strategies have been carried out in developed countries e. g. USA (Wharton 2000: 204), France, UK, Japan, Russia, etc (Oxford 1990: 109). In light of this, I thought it appropriate to investigate whether reading strategy training would have any effect on strategy use, reading comprehension and academic performance of bilingual students in a developing country such as Botswana

In addition, Abbott's (2006: 656) findings lend support to the claim that successful strategy use is a function of linguistic/cultural differences. That is, because strategy use may depend on other factors, particularly the culture or the setting in which learning occurs, there is a need for more studies on different learners in different settings; part of the reasons that necessitated this study. Another reason is the fact that this study would be the first of its kind in Botswana Colleges of Education. There were not prior local studies on this topic to which I could refer. Consequently, my study lacks reference to reading strategy instruction (RSI) in Botswana which would have served as a springboard.

Moreover, it is different from other strategy studies in the sense that the participants were a combination of bilingual adults from a multicultural setting.

1.5 The Research problem

From my experience as a student and teacher of English, I concur with the argument that the ability to read and understand what is being read is pivotal to students' success in the L2 and other subjects. As a teacher of English in a college of education, I have noticed that some students do not seem to improve much on their L2 proficiency level, even after spending a year in the L2 college lecture halls. Challenges in reading and comprehending have been observed to be some of the factors contributing to their failure to improve on their proficiency level and their performance in other subjects that they do. The findings of Arua et al.'s (2005: 13) lend support to the claim that performance in English influences performance in other subjects if English is the medium of instruction.

It is surprising to note that the feedback and comments written on students' written production indicating what and how to correct their mistakes do not produce the expected results as some students still repeat the same mistakes in their corrections or subsequent work. This is mainly due to the fact that they do not understand the comments. In addition, some students fail a test or an examination not because they do not study, but because they do not fully understand what they study, they do not use effective methods or strategies when they to learn. Another reason could be that they do not fully grasp the meaning of test or examination questions/instructions. It is therefore the aim of this study to examine the effect of strategy instruction on students' strategy use, their reading comprehension and their L2 academic performance. The aims, objectives and research questions guiding this study are set out below.

1.6 Research aims:

There are basically three aims that drive this study, namely:

- To investigate the effects of reading strategy training on L2 college students' strategy use.
- To investigate the effects of reading strategy training on L2 college students' reading comprehension.
- To investigate the effects of reading strategy training on L2 college students' academic performance.

1.6.1 Research objectives

In order to realize the above aims the following objectives were set to guide the course of action in conducting the study.

1. To use a questionnaire to assess students' strategy use in order to know what they claim to do or not do.
2. To use a reading comprehension test to see to what extent students apply strategies when they read.
3. To triangulate the research instruments so as to look for converging. evidence of what they can do (according to the questionnaire) and what they actually do when reading a text (in the comprehension test).
4. To use two intact groups of students (intervention and control groups) in order to compare participants' performance.
5. To explore strategy use by implementing a reading strategy (RS) programme.
6. To test students' strategy use before and after the intervention to see how effective the RS programme was.

1.6.2 Research questions and hypotheses

Given the aims of the research, this study sought to answer the following questions:

1. Does strategy intervention have an effect on L2 students' use of strategies during reading?
2. Does strategy intervention have an effect on L2 students' reading comprehension?
3. Does strategy intervention have an effect on L2 students' academic performance?

These three research questions translate into the following three hypotheses:

H1: There is a significant difference in strategy use between the intervention group who received explicit strategy instruction and the control group who received no instruction.

H2: There is a significant difference in reading comprehension between the intervention group and the control group.

H3: There is a significant difference in L2 academic performance between the intervention group and the control group.

1.7 The Research Method

The research participants, the instruments and the procedures of the study are only outlined at this point as a comprehensive description will be provided in Chapter Three.

1.7.1 The participants

I conducted the research with two groups of students. Some second year students doing the Diploma Certificate in Primary Education from one of the Colleges of Education

participated in the pilot study in March 2008. For the main study two classes of second year students enrolled for the Diploma Certificate in Primary Education at Lobatse College of Education participated. The two classes specialized in English and Setswana languages. I obtained consent to conduct the study from the college authority as well as the research participants. The participants will be described in detail in Chapter Three.

1.7.2 The instruments

Two instruments were used to obtain data necessary for this study: a strategy questionnaire, and a comprehension test. The students' first term and end of year examination scores were also used for the analysis. The strategy questionnaire was used to collect data on students' strategy use, the comprehension test was used to assess the actual application of the strategies under study as reflected in students' comprehension levels, and the students' first term and end of year examination scores were used to determine L2 students' academic performance. The strategy questionnaire and the comprehension test will be discussed in greater detail in Chapter Three.

1.7.3 The procedures of the study

Because the purpose of the study was to examine the effect of strategy training (an independent variable) on L2 students' performance (a dependent variable), a quasi-experimental design was considered appropriate for use in this study. A quasi-experimental design is one which is carried out from already existing situations in the real world (McDonough and McDonough, 1997: 160), using intact groups of students (i.e. participants are not randomly selected from the larger population). Thus, my two regular English classes participated in the current study. The t-test was used to analyze the data because of its suitability to establish differences in the population means, and to give a significant value if such differences are present (Woods, Fletcher and Hughes (1993: 191). Details of the study procedures will be provided in Chapter Three.

1.8 The dissertation structure

In order to address the research questions posed in this dissertation, I have organized the dissertation into six chapters

Chapter Two provides the theoretical background for this study, it discuses reading theories and it looks at previous research on reading strategy instruction. In addition, it identifies the reading strategies covered in this study and locates the study within this broader research landscape.

Chapter Three sets out the research design and explains the methods used in this study. It describes the approach, the profile of the participants, the study procedures and data collection instruments. Finally, it explains how the data were analyzed.

Chapter Four presents the findings of the study. In each case, the descriptive statistics results are first presented, followed by the testing of each hypothesis and finally, a discussion of the findings and trends and patterns observed in the findings.

Chapter Five reflects on and evaluates the study, it highlights the weaknesses and strengths of the study, and discusses some factors that may affect reading strategy instruction.

Finally, Chapter Six summarises the findings of the study, discusses the implications of the findings for reading strategy instruction in schools, and for curriculum planners, points out the limitations of the study provides some suggestions based on the findings and highlights areas for further research.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

In Chapter One, the background to the study was sketched, and the research aims, research questions and hypotheses were stated. This chapter situates the concept of reading strategies, which is the focus of this study, within the broader field of reading theory and research. It first gives a brief historical overview of reading theories and clarifies the distinction between decoding and comprehension. Thereafter it describes differences between skilled and less skilled readers, provides taxonomy of learning/reading strategies, and identifies factors affecting reading strategy instruction and the nature of intervention programmes. It also examines and identifies issues in reading strategy research, shows how previous research informed the current study and generally positions the study within the broader reading landscape. The present empirical study is grounded in the socio-cognitive theory of reading.

2.1 Historical overview of the reading process

Although the phenomenon of reading gave rise to reading theories, the interest in knowing why children from low-economic homes (at risk children) continuously perform below standard in literacy in national examination and school assessment has contributed to the rise in reading research as far back as the 1920s (Chall, Jacobs and Baldwin 1990:1). It was observed that children from low-income homes failed to learn as much as children from middle-class families. Thus, researchers explored the reason(s) responsible for the differences between the performance of children from low-economic and middle-class homes.

A great deal of research on children's reading and vocabulary development consistently shows a correlation between literacy and the professional, educational and economic class of children's parents (Currier 1923; Irwin 1948; Bell and Schaefer 1957 in Chall et al. 1990:1). Research and theories on the literacy of low-income children received considerable attention in the 1960s and 1970s when reading was found to be related to academic achievement (Thorndike 1973; Bloom 1976 in Chall et al. 1990: 2).

Coleman's study (1966) contributed a great deal to reading theories. He conducted a large scale survey of schools and children and he concluded that among factors such as school, teachers, home, etc, family background is the major determining factor for children's verbal achievement as well as school achievement. Likewise, Chall et al.'s (1990: 2) report on Thorndike's (1973) study, which compared levels of reading achievements of 15 countries, reveals a relationship between a country's affluence and students' overall reading achievement and between each country's affluent families and students reading achievement. All of these findings on the low reading performance of low–income children have informed reading theories which have attempted to provide various explanations on issues related to reading.

2.1.1 Reading - a complex phenomenon

Reading is a complex skill which includes a number of decoding and comprehension processes (Caulwell and Botha 2005: 29). Decoding is a 'conscious and deliberate process of sounding out word parts such as single letters, letter strings, phonograms and syllables, to produce a plausible pronunciation of a word that is not immediately recognized' (Koda 2004: 41), while comprehension is perceived by Kintsch and Kintsch (2005: 71) and Pressley and Block (2002: 384) as a process which involves the integration of the ability to decode, knowledge of vocabulary, grammar and sentence structure, previous knowledge of the topic, and suitable strategies to interpret a text for meaning making.

It is important that decoding is automatic i.e. it should be done with little attention or effort for readers to understand the meaning of the text. It requires a lot of practice before students become automatic at the decoding task (Guzzetti 2007: 28). The idea of automaticity will be discussed in greater detail later in this chapter. Comprehension, unlike decoding, cannot be made automatic, it needs concentration and cognitive resources for it to take place (Guzzetti 2007: 28). Even though decoding and comprehension are different kinds of skills, they work closely together in skilled reading. Research has shown that correct and 'automatic word decoding is prerequisite for a good reading ability', lack of accurate word decoding impedes comprehension, while good comprehension skills enhance decoding process (Adams, 1990: 67). In other words, the ability to decode is important but not sufficient for comprehension; good reading ability rests on both decoding and comprehension processes. This implies that both skills should be the focus of reading instruction.

2.1.2 Reading theories

Reading theories can be placed into three main groups namely: the *bottom-up* theory, the *top-down* theory and the *interactive*/*transactive* theory (Harris 2005: 26). The next subsection describes each of the reading theories.

2.1.2.1 Bottom-up theory of reading (1950s – 1960s)

The perception of the reading process has gone through transformational phases over the years. For instance, between the 1950s and early 1960s researchers and educators regarded reading largely as a *bottom-up* process. The *bottom-up* (decoding) theory assumed that the text is singularly important in the reading process. It was believed that one cannot 'read' unless one first understands the code (i.e. the writing system). Some aspects on this approach are still valid and have been further refined and some aspects have fallen away. This theory posited that readers deal with the text by first identifying

the smallest units of words after which they continually integrate them into more complicated units. For example, readers identify letters, then combine many letters to form words, after which they combine words to construct phrases, then join phrases to form a sentence, sentences to paragraphs and finally paragraphs to form the whole text. Meaning is obtained along the process but the overall meaning is achieved at the end of the process (Harris 2005: 26). In other words, on this view reading was seen as a process that follows one single direction, that is, from the text to the reader, and that effective reading is the ability to understand adequate progression of language from the page to permit readers to understand the message the author intends to convey. At that time readers were viewed as passive participants in the reading process.

2.1.2.2 Automaticity

The theme of automaticity in reading became very important from the 1970s onwards. The notion of automaticity, according to Graves, Juel and Graves (1998: 14), suggests that the skilled reader recognizes words and assigns meaning to them very rapidly and accurately, comprehends without much effort. A task like reading involves many sub-processes, which take place simultaneously, for example, recognizing words, giving meaning to words, constructing the meaning of sentences, and relating information from the text to past experience. Thus, some of the processes need to be performed automatically in order to access the meaning of the text. Graves et al. (1998: 15) argue that it is essential that readers recognize and give meaning to words automatically for them to understand what they read. For this reason, recognizing words and the assigning of meaning to words automatically are requirements for smooth reading.

This view advocates a lot of practice to achieve automaticity in carrying out decoding processes. That is, readers need to do a lot of reading in materials which they can easily understand. The development of automaticity in reading implies that students should be given plenty of opportunities to read different reading materials. By Grade 2 the teacher's

focus should move from automatic word recognition to comprehension (Chall 1983) because by Grade 4 students should be able to 'read to learn' rather than 'learn to read'. Better still, both decoding and comprehension should be given attention right from the beginning because both are essential in the reading process (Machet and Pretorius 2003: 8). At this point let me mention that although the importance of automaticity became prominent in the 1970s it continues today because it is recognized as a central cognitive process and it forms an important part of current interactive views of reading which will be discussed later in this chapter.

2.1.2.3 Top-down theory of reading (1970s)

In the 1970s, the *bottom-up* process of reading was challenged by the *top-down* reading process. The argument was that phonological processing or the ability to decode letters and words is important but not sufficient for proficient reading. Thus, the *top-down* process proposed that reading comprehension depends almost always on the readers' prior knowledge of the topic of the text. It was believed that the reading process begins in the head of readers, who use their background knowledge to construct the meaning of the text. Thus, according to this view the focus was on the interaction of the readers' background knowledge and the text for meaning-making (Harris 2005: 27). Mature readers perceive words as different parts of meaning instead of a set of letters and they are able to recognize words almost automatically. Unlike the bottom-up idea which focuses on decoding issues, the top-down view emphasizes using background knowledge, making inferences, interpretations and predictions, drawing conclusions, monitoring comprehension, seeking clarifications and so on, while reading.

In this view beginning readers, compared to mature readers, rely on the context to recognize words because they are yet to fully learn that words function as units (Graves et al. 1998: 14). However, the idea that readers need context to recognize unfamiliar words has been refuted by a considerable number of study findings (e.g. Stanovich 1991;

Stanovich 1994; Stanovich 2000) suggesting that as readers become more skilled at recognizing words they do not need context to identify words. Once they have developed a large sight vocabulary and mastered the letter-sound patterns of the language used for the written text they can recognize words accurately and automatically independent of context (Caldwell 2007: 134). According to her, poor readers who overuse context clues do not sometimes recognize a new word they are trying to identify because readers need to recognize most of the other words accurately for them to use context to identify an unfamiliar word (Caldwell 2007: 135).

The top-down theories adopt a constructivist view, an idea which is based on the belief that learning occurs when learners are actively involved in a process of meaning and knowledge construction rather than passively receiving information. Constructivism shares both cognitivist and schema's views. The former refers to the thinking and mental processes learners use to understand new information or experiences, and learn new things (Robinson, Molenda and Rezabek 2008). It involves what goes on in learners' minds before, during and after learning (Ormrod, 2008: 163). The latter is perceived as a type of filing cabinet of information in our brains, which consists of related, concepts, events, situations, and the like (Rumelhart 1981) e. g. a hospital schema includes things like nurses, doctors, patients, diseases, wards, operation, drugs, etc. In addition to the idea that learners are active participants in the learning process, constructivists posit that understanding a text is also a constructive process (Graves et al. 1998: 8). That is, we do not passively "receive" meaning, we construct meaning while we read, and it is an ongoing process, involving modifications and revisions. It relies on both bottom-up and top-down processes. Here readers are compared to a builder, who are said to be active as they construct meaning from a reading text (based on the ideas the author has presented) just as a builder constructs a house according to the picture created by the architect. Thus, as readers read, they are actively involved in considering what is being read, linking the information they are obtaining from the text with already known concepts, topics and

events. It is believed that the level of the readers' engagement with the text depends on how difficult the text is.

Besides, constructivists regard reading as a social practice which involves *when* you read, *what* you read, *who* you reads with, *why* and *how* you read. Thus, the meaning that readers construct from the text is subjective as it is influenced by the reading context, readers' experiences, mental constitution and other factors (Cambourne 2004: 25) which are usually different from one person to another. As a result, it is uncommon that two readers construct exactly the same meaning from a text, except perhaps with informational material (Graves et al. 1998: 9). Readers are seen as active participants in the reading process. An example of a typical *top-down* theory is schema theory.

The concept of schema is one of the fundamental ideas of cognitive psychology. As mentioned earlier, a schema is concerned with the storing of information in the mind and the schema idea focuses on how what is known helps to obtain new knowledge. In other words, prior knowledge is seen as important to learning a new concept. Schemata/schemas (plural of schema) are described as 'brain networks connecting related meanings' (Lindsay and Norman 1994 in Reutzel and Cooter 2003: 254). Each schema is linked to other affiliated schemata constituting an individual's distinctive and interrelated network of knowledge and experiences. For this reason, the size and content of each schema is determined by individuals' past chances to acquire prior knowledge (Reutzel and Cooter 2003: 254). Thus, in reading, readers interpret what is being read by relating and usually matching it to their existing schemata (Scott 2001: 1).

Anderson and Pearson (1984: 58) claim that schemata help readers to figure out what they read, relate the new information to previous knowledge, determine the importance of information to a text, make inferences and retain the information. The implication of this is that readers who do not have well developed schemata are likely to struggle in

meaning-making. In addition, readers may still fail to obtain effective reading even if they have schemata because schema is cultural specific and is part of a particular reader's cultural background (Carrell and Eisterhold 1983: 556). This may be true to some extent, yet readers' lack of prior knowledge on a topic does not mean that they cannot read and understand a text on that topic. It was argued that the main source of processing difficulty, particularly with second language readers, is a lack of schema activation Carrell (1988b) whether students have familiar background knowledge or not (Alderson and Urquhart 1988). In essence, irrespective of students' cultural background in an ESL classroom it is essential that teachers help students build prerequisite knowledge or remind them of what they already know before introducing a new concept.

2.1.2.4 The interactive model of reading (1980s – 1990s)

In the 1980s and 1990s the *top-down* idea was challenged by the *interactive* theory. Researchers (e.g. Ruddell and Speaker 1985; Rumelhart 1985) proposed that the reading process is an *interactive* or a *transactive* process whereby meaning is accessed from the text by integrating the *top-down* and the *bottom-up* processes (Rumptz 2003: 3). That is, to better understand texts, readers need to apply *top-down* (high-level macro) and *bottom-up* (low-level) processes simultaneously. Reading is both "perceptual and cognitive processes" (Rumelhart 1985: 722). Readers attain understanding of the text by concurrently integrating information from different sources which include word-level knowledge, syntactic knowledge and different kinds of schemata that they have internalized (Rumelhart 1994: 882).

Nassaji (2003: 268) argues that good readers depend on both the text and their prior knowledge as they construct meaning. Thus, learners should be taught how to interact with texts and engage their background knowledge while reading; they should also be given the kinds of texts and tasks that enhance this interplay of text and background knowledge. The *interactive* model also accommodates the recent social view of reading.

Reading is social in nature in that it is a *transaction* between readers' and cultural meanings of the author. The experiences that readers bring to reading to help them achieve meaning are cultural in nature and the authors' meanings are also influenced by their culture. Thus, both the author and readers are influenced by personal and social experiences. The social and cultural aspects of reading can be traced to the social learning theory. The following subsection deals with comprehension within a social cultural context.

2.1.2.5 Comprehension and the socio-cultural context

Learners are "influenced by the cultural background they come from and the socio-cultural context within which they operate at home" (Cohen and Cowen 2008: 108). Thus, learners will learn to use language and understand it according to the ways their culture has presented it (Cohen and Cowen 2008: 108). From this it can be inferred that students in Botswana classrooms are a mixture of learners with diverse linguistic orientations, ways of thinking and interpretation of meaning. The socio-cultural view argues that reading is more than a set of cognitive processes. Cognitive processes (which occur in each individual reader) are but "a part of reading because reading is socially and culturally constructed through interactions with others in different environments" (O'Brien, Moje and Stewart 2001: 31).

Apart from home factors (cultural and socio-economic factors), students learn how to read within the socio-cultural context of different classrooms which include the linguistic practices of students and teachers, interaction patterns between teachers and students and among students. Thus, students learn how literacy is used and how knowledge is communicated both at home and at school and that is why it is important for teachers to understand their students' culture to know how students construct meaning so that teachers can present reading instruction in such ways that will promote comprehension. To buttress this point, Wigfield and Lutz (2004: 49) report on Heath's (1994) and Moll's

(1994) studies of literacy as a social phenomenon. Heath observed the literacy practices including African American families in three different communities, one of which she called Trackton. She described the ways in which language was used to communicate in various settings and the kinds of reading and literacy practices different families used. Moll gave a description of literacy practices of some Latino families. An important point from these studies is that the kinds of rich literacy practices carried out in the families in each study did not always match well with the school literacy practices the children of these families experienced, suggesting that the literacy proficiency they had "developed at home did not help them much with in-school literacy practices" (Wigfield and Lutz 2004: 49). This implies that for reading instruction to have positive effects on students it must consider what learners do and do not bring into the learning situation. What they bring can be used to facilitate learning and what is not brought can be explicitly taught in school.

Multiple literacies is described as "many varied ways people read and write in their lives" (Purcell-Gates 2002: 136). Teachers need to be knowledgeable about learners' "multiple literacies" so as to understand their language and literacy development, and they need to be familiar with how learners communicate at home which may not be similar to how it is done at school, as shown in Heath's and Moll' studies. This definition of multiple literacies incorporates different types of print texts e.g. novels and magazines, non-print e.g. media, music, television and film (Hull, Mikulecky, Clair and Kerker 2003: 12) and new literacies such as digital/electronic literacy, cyberliteracy, environmental literacy, and so on (Lankshear and Knobel 2003: 33). Multiple literacies "begins with multiplicity of cultural identities that are expressed through literacies" (Sheridan-Thomas 2007: 122). As diverse as students are, so also are their homes, environment, cultures and their literacy exposure and experiences, as revealed above. The interactive and constructivism views suggest that learners construct knowledge by actively making connections between prior knowledge and new information (§ 2.1.2.3). Therefore, teachers' knowledge of their students' out-of-school literacies can be used to engage in such connections. Teachers

should use students' multiple literacies as a bridge to academic literacy. In essence, teachers need to be sensitive to students' cultural background, bridge the gap between home and school by using materials (multicultural texts) and experiences that students are familiar with which will help increase their understanding of texts (Gee 2001: 718).

The participants in this study (teacher trainees) need to be equipped with an understanding of the concept of multiple literacies for them to value and support their future students' full range of literacy knowledge and to be able to work with diverse students (Sheridan-Thomas 2007: 122). However, at some point students will need to be exposed to unfamiliar reading materials for them to share in the global information, especially now that Botswana is aspiring to be an educated and informed nation. Beyond that, one of the ways students can develop their minds, reasoning faculty and increase their knowledge and critical thinking, is by reading.

Studies have shown how culture influences learners' belief about their ability to read and the value of reading (Gee 2001: 718). For this reason it is necessary for teachers to consider socio-cultural factors when planning for the "long-term improvement of students' reading comprehension development" (Cohen and Cowen 2008: 108). Thus, the socio-cultural view suggests that teachers should support students' development of reading comprehension by teaching them reading strategies to facilitate cognitive and motivational processes and connections between what they read and their personal experiences (Wigfield and Lutz 2004: 51). It is believed that readers can be trained to "adjust their reading strategies in a flexible manner so as to select the appropriate strategy" for the purpose of the text being read and their purpose for reading it (Harris 2005: 29). However, students need to know the strategies before such adjustment can be made. In sum, to facilitate the comprehension of texts, the socio-cultural experiences of students should be considered when choosing instructional materials and instructional activities.

2.1.2.6 Social cognitive theory

The social cognitive view of reading, coined from the social learning perspective proposed by Miller and Dollard (1994), maintains that social interaction is central to the development of knowledge and learning. In the reading field, the social learning perspective underscores the importance of social influences and social interaction on literacy learning. It is believed that the social community in which students live, the social community within the classroom, the parent-child language interactions, teacher-student interactions, and student-student interactions influence students' literacy learning (§ 2.1.2.6). Social cognitive theory agrees with the idea of a natural component of cognitive development but believes that cognitive development is deeply rooted in culture. It emphasizes social, cultural and linguistic factors in literacy learning.

The social cognitive theory, initially known as social learning theory, believes that people learn more from observing others (their successes, failures, efforts and styles) than what they learn as a result of personal experiences. It is believed that people learn from others by watching them modelling the behaviour (Bandura 1969, 1977 and 1986). This idea is related to reading practices rather than the cognitive process engaged during reading. The four phases of observational learning are: the attention phase (the learners pay attention and watch the teacher while modelling), the retention phase (the learners think about the processes of what they have observed), reproduction phase (learners repeat what they have observed) and the reinforcement phase (the teacher reinforces the behaviour as learners repeat it) (Bandura 1986: 66).

The current study is grounded in social cognitive theory because it encompasses the cognitive interactive and constructivism perspectives, all of which informed the current study. The social cognitive theory covers the cognitive view because the former supports the idea that cognitive processes are involved in the reading process. It includes the interactive view because it believes that there is transaction between readers' and cultural

meanings of the author (§ 2.1.2.5) and it also covers the constructivist idea in that it holds that readers construct meaning from the text while reading and that the meaning readers construct is influenced by the environment (§ 2.1.2.3). Many literacy research studies have been conducted from a social learning viewpoint (e.g. Moll and Greenberg 1990; Gambrell and Almasi 1996) and found to be relevant to classroom practice.

There are three aspects of social cognitive theory, namely, developing competencies through modelling, promoting esteem/efficacy and enhancing motivation. Developing competency through modelling means students become competent as they observe models, store in memory and reproduce the behaviour they have observed at the time of learning and in the future. Self-efficacy refers to self-perceived ability to successfully complete or perform a particular task. For example, when students are to learn a new skill or do a given task, students with high self-efficacy will see themselves successfully acquiring the new skill or completing the task. There is a link between motivation and self-efficacy in that if students perceive themselves as able to learn a new skill or perform a task (high self-efficacy), they will be highly motivated to work hard at successfully learning the skill or completing the task. Students who have low self-efficacy will not be motivated to learn the skill or do the task because they anticipate failure. Thus, it is important that teachers create a learning environment that promotes students self-efficacy. The above three aspects of social cognitive theory are related to cultural learning and organizational improvement (Bandura, 1988: 276-277), and are particularly relevant to this study. When students are taught how to be responsible for their learning, how to learn to read/comprehend and read to learn by using appropriate strategies, their reading proficiency will improve and self-esteem increase. Perkins (2001: 43) maintains that interventions that are not based on the social cognitive view of learning might not achieve their aims. Thus, the strategy instruction procedures of the current study are consistent with this social cognitive view.

2.2 The difference between skilled and less skilled readers

Researchers have identified certain differences between skilled and less skilled reading behavior. Some of the differences are discussed below, particularly as they pertain to L2 reading.

The ability to recognize words varies between skilled and less skilled readers in both L1 and L2 reading. Compared to skilled readers, less skilled readers are slow in "word recognition and generally weak at rapid and automatic syntactic processing because they develop an overt knowledge of L2 grammatical structures" before they achieve proficient reading (Grabe and Stoller 2002: 23). They also struggle in processing more complex ambiguous sentences in particular, due to their limited syntactic knowledge in L2 (Chen 1998: 9). Skilled readers seem to have the ability to process sentences in a rapid and involuntary way because of their high L2 reading fluency (Liu and Bever 2002: 221), consciously devoting more time and attention to meaning. In contrast, less skilled readers give too much attention trying to solve the meaning of unfamiliar language forms to give adequate time to higher cognitive predictions (Smith 1982: 23). It has been observed that poor L2 competence can strictly limit the "development of readers' abilities in cognitive and metacognitive strategy use", which seem to affect the less skilled readers' comprehension (Pang 2008: 4).

Modern technology by way of eye tracking research has also been able to throw light on some important differences between skilled and unskilled readers. Readers' eye-movement while reading indicate whether or not they are skilled, because eye movement "reflects differences in cognitive processing during reading" (Neuman and Dickinson, 2006: 57). The eye movements of less skilled readers "reflect the difficulty they have recognizing words in the text" (Neuman and Dickinson, 2006: 57). Although eyetracking research has yielded valuable insights into skill in lower level decoding processes, it is not able to track the higher level comprehension processes.

Yamashita (2003: 274) investigated how skilled and less skilled readers answered a gap-filling (i.e. cloze) test so as to check whether such tests can measure text-level processing ability. Text-level processing is a mental activity which involves the combination of meanings of words to determine the meaning of phrases and sentences. He used verbal protocols to collect data from L2 Japanese EFL students (six skilled and six less skilled readers). The findings indicate that both skilled and less skilled readers used text-level information more often than other forms of information, but the skilled readers used text-level information more often than the less skilled readers.

Hosenfeld (1977), one of the earliest researchers in L2 reading strategies, attempted to differentiate skilled from less skilled readers. She used think-aloud protocols to assess strategies used by skilled and less skilled readers. Her findings suggest that there are indeed differences between successful and less successful readers. Successful readers stored the meaning of the text in mind, skipped unimportant words, guessed from context the meaning of unknown words, continued if unable to decode words or phrases, had a good self-concept as readers, Less successful readers, on the other hand, translated sentences on a word-for-word basis, rarely skipped words and looked up unfamiliar words in a glossary (Hosenfeld 1977: 113-116).

Another strategy that differentiates skilled from less skilled readers is background knowledge. Skilled readers apply their background knowledge while reading for better comprehension, while less skilled readers tend to focus on reading as a decoding process (Devine 1984: 99). Compared to skilled readers, less skilled readers do not activate "deeper background knowledge necessary for understanding at sentence-level thematic relation" (Cantor and Engle 1993: 1106) when lexical links are not available in the text. The skilled readers "activate a rich network of knowledge, even when they try to understand anomalous-unassociated sentences" (McNamara, O'Reilly and de Vega 2007: 242).

Inference making is another strategy that distinguishes skilled from less skilled readers. Skilled readers tend to make inferences that repair conceptual gaps between clauses, sentences and paragraphs (Magliano and Millis 2003: 268). In contrast, less skilled readers tend to disregard gaps and "fail to make the inferences necessary to fill in the gaps" (Oakhill, Yuill and Donaldson 1990: 407). That is to say that skilled readers perform better on inference questions.

Yang and Zhang (2002: 316) reported on a study which investigated the correlation between metacognition, EFL reading comprehension and EFL proficiency using L2 third year Chinese college students. The study findings revealed that skilled readers exhibit more monitoring ability than less skilled readers while reading. In addition, compared to less skilled readers, skilled readers tend to be more responsive to inconsistencies in the text and responded to them appropriately.

In sum, some of the characteristics that distinguish skilled from less skilled readers include: the ability to recognize words quickly and automatically, steady eye movement, (an indication of rapid automatised processing), ability to activate background knowledge, make inferences, resolve anomalies and monitor their comprehension. It is necessary to mention here that much of this early research on differences between skilled and weak readers led to strategy instruction research. Researchers wanted to find out what difference it would make if weak readers were taught the kinds of skills good readers showed - hence it opened up space for reading strategy instruction.

2.3 Reading strategy theory and practice

The concept of *strategies* in reading instruction was used as early as 1946 in Robinson's book titled *Effective Study* (1946 in Frank, Grossi and Stanfield 2006: 2) which described the *SQ3R* (Survey, Question, Read, Recite, and Review) method of study from which

many strategies evolved. In the late 1960s and early 1970s, various types of "directed reading thinking lessons were presented along with structured overviews, note taking systems and study guides" (Frank et al. 2006: 2). In 1970, Herber published *Teaching Reading in Content Areas* which contained many of the original forms of learning strategies currently used in many schools in the United States of America and some other parts of the world. The period of the 1970s witnessed the work of cognitive psychologists exploring the effects of *prior knowledge* on comprehension.

One of the earliest researchers in strategy use was Rubin (1975). Her interest was to distinguish successful from unsuccessful language learners by categorizing their use of "modifiable L2 variables" with the intention of using the information to assist less skilled language learners to improve language learning (Rubin 1975: 45). One of the modifiable L2 variables was language learning strategy use. Reading Strategy Instruction (RSI) is rooted in the work of Rubin (1975: 45). The idea of RSI is that explicit instruction in specific cognitive and metacognitive strategies improves students reading comprehension (Williams 2002: 243). This idea is the premise for this study. By the 1980s research showed that "students who took an active strategic role in their learning performed more successfully" (Frank et al. 2006: 2). In the 1990s and early 2000s, more teachers started applying a few strategies such as *questioning the text, prediction, and SQ3R* (Frank et al. 2006:2).

There are many approaches used in Reading Comprehension Instruction (RCI) such as Students Achieving Independent Learning (SAIL) which teaches reading processes as strategies through direct explanation, and Direct Explanation (DE) which develops teachers' "ability to explain the reasoning and mental process involved in successful reading comprehension" (Williams 2002: 249). The Transactional Strategy Instruction (TSI) approach combines direct explanation with the ability of teachers to facilitate discussion, while Collaborative Strategic Reading (CSR) combines reading comprehension strategy instruction and cooperative learning (Klingner and Vaughn 1999:

741). The Strategies Approach focuses on the explicit teaching of reading strategies (e.g. summarizing, self-questioning and inferencing) and using them in comprehending the text (Williams 2002: 243) and recently, the Content Approach focuses on keeping students' attention directed toward the content of what they are reading, and working through the text to build a representation of the ideas through discussion (McKeown, Beck and Blake 2009: 218).

Many studies have used the strategies approach to reading instruction and reported improvement on students reading comprehension (e.g. Yanez 1987; Celce-Murcia 1991; Collins 1991; Trabasso and Bouchard 2002; McNamara 2004; McNamara 2007). Based on the evidence that explicit strategy instruction is effective in improving reading comprehension, this study adopted a strategies approach to reading instruction.

2.4 Factors that can affect the efficacy of RSI

Like any other teaching programme, RSI may be affected by many factors such as classroom size, students, teaching materials, genre effect, students' attitude and motivation and teachers' knowledge about strategies. These factors will be examined in greater detail below

2.4.1 Class size

Class size is one of the factors that can affect the efficacy of RSI. A great deal of research has been done on the impact of class size on education. However, research findings are inconsistent. Some studies show that small class size has a positive effect on learning, and some other studies indicate that class size does not matter (Thompson 2005: 4). However, an analysis of RSI research literature in 1995 revealed that small classes of 15 and 20 students result in learning gains, particularly in reading and mathematics. It was also

found that the benefit of small class size endures in students' general academic performance (Rios 1998: 2).

The National Council of Teachers of English (NCTE) in the USA (2011: 2) maintains that small class size is beneficial to students and teachers in many ways. For instance, students have ample opportunities for active participation. In addition, individual attention is enhanced, and reduced teachers' workload significantly enhances the quality of literacy education. Small classes have been found to enhance students' and teachers' motivation, teachers' morale and self-esteem and contribute to students' good behaviour (Rios 1998: 2). It is believed that RSI, like other content-area instruction, if conducted in a normal class, can be affected by class size. Dillon, Kokkelenberg and Charity's findings, (2002 cited in Al-Jarf 2006: 12), show negative effect of class size on undergraduate students' grades in that as class size increases, the students' grade point average declines. However, Thompson (2005: 5) cautioned that the positive effect of small class size may not be achieved if teachers fail to take advantage of the opportunities of giving students individual attention which is almost impossible in big classes. To this end, he advised teachers to adapt their teaching methods for different sizes of classes.

Based on the foregoing, it can be inferred that large English classes will negatively affect RSI because overcrowded classes de-motivate both students and teachers. In Africa, however, small classes of 15 and 20 will be more of an ideal than a reality for decades to come. It is common to have between 35 and 40 students in a typical classroom in Africa. I had 32 students in each of the two classes but 28 participated in the study. I believe RSI can be used successfully in "large classes" (not more than 40 students) as long as there is active student participation and no disruptive student behaviour.

2.4.2 Genre effects

Another factor that can affect the efficacy of RSI is the genre effect. It has been observed that the text structure of some genres (e.g. expository genres) is more difficult than others (e.g. narrative genres). For instance, researchers found that primary and secondary school students have difficulty recalling or summarizing expository text (McGee 1982; Taylor 1986a; Winograd 1984). Unlike narrative text structures which employ familiar concepts, vocabulary and language (Gersten, Fuchs, Williams and Baker 2001: 284), expository texts may be dense in information, and contain unfamiliar vocabulary and complex concepts (Saenz and Fuchs 2002). Compared to narrative texts, expository text uses more complicated and varied organizational structuring, making it more challenging for students (Kucan and Beck 1997).

Thus, if expository text is perceived to be more difficult to comprehend and if the awareness of text organization affects comprehension (Dickson, Collins, Simmons and Kameenui 1998), it is logical to say that the same set of strategies applied to comprehend, for instance, a narrative text may not be effective in the comprehension of expository texts. But the question is: which strategies are appropriate for which text genre?

In an experimental study conducted on students in a college physics course, students were assigned to one of three conditions: (a) working on physics tasks without the help of an intelligent tutor (Auto Tutor), (b) reading a textbook on the same content for the same length of time with Auto Tutor conditions and (c) reading nothing (Graesser et al. 2003: 3). The findings indicate that students gained substantial learning from the auto tutor, had no gain from reading the textbook and their performance was not different from reading nothing at all. Similar findings were obtained in the area of computer literacy (Graesser et al. 2004: 10). These findings confirm Graesser et al's report (2003: 3) that many readers, including skilled ones, encounter difficulty comprehending technical expository texts.

2.4.3 Vocabulary effects

Adequate word knowledge/vocabulary is needed to be able to apply strategies to comprehend a text. We talk about breadth and depth of word knowledge. The breadth of knowledge refers to the number of words learners know (Nation 2001) while depth of vocabulary is a quality measure (Read 2000); vocabulary knowledge includes "the meaning of the word, "the semantic relationships with other words, syntactic patterning, collocations, pronunciations" and so on (Gass and Selinker 2008: 454). Based on his study which investigated the relationship between ESL learners' depth of vocabulary knowledge and the degree and type of strategy use and success, Nassaji (2006: 394) asserts that there is a relationship between vocabulary knowledge and strategy use. He discovered that students who have strong depth of vocabulary knowledge used certain strategies more frequently compared to those who had weak depth of vocabulary knowledge, stronger students made more effective use of certain types of lexical inferencing strategies than the weaker students, and that depth of vocabulary knowledge contributed significantly to inferential success. In essence, effective use of strategy depends on learners' vocabulary knowledge.

Teachers should help students develop strategies for acquiring new knowledge from the textbooks in their discipline. The ability to use the structure of different genres of texts correlates highly with memory of information and comprehension of course content. That is, "students who have processed the text strategically using their knowledge of expository text structures will recall the texts better" (Richgels, McGee, Lomax, and Sheard 2004:182).

One expects that college students would have a considerable degree of word knowledge in both subject areas and sufficient reading strategies to be admitted to a college, but the reverse is usually the case in the African context. Reading strategies used to comprehend narrative texts may not be helpful to comprehend and interpret expository texts.

Participants in the current study did not receive instruction in text types due to time constraints. The strategies taught during the intervention were chosen because they were perceived to be "effective" in general, not because they are effective to comprehend expository texts specifically.

2.4.4 Effective strategies

As discussed in §2.4, various types of strategies have been identified. These include predicting, making connections, visualising text information, questioning, inferring, determining importance, synthesising, evaluating, rereading, comprehension monitoring, setting purpose for reading and analysing text structure. One of the aims of RSI is to identify a small number of useful/effective/core strategies from the larger pool of strategies. The National Reading Council (NRC) report (in Snow, Burns, and Griffin 1998) and the National Reading Panel (NRP) report (in National Institute of Child Health and Human Development 2000) indicate summarising, predicting, drawing inferences and monitoring for coherence and misunderstandings as effective core strategies. There is obviously an overlap in the classification of strategies and, this in itself can cause confusion for teachers as to the choice of strategies to emphasize.

Majid, Majid and Sadegh (2009:2) maintain that useful while-reading (i.e. on-line) strategies include identifying main ideas and supporting details in a text, identifying the organization of the text, SQ3R (Survey, Question, Read, Recite/Recall and Revise), outlining and underlining. In essence, there are various opinions as to which strategies are "effective". This means that teachers are free to choose strategies that they believe will help their students to attain better comprehension. It can be inferred that effectiveness of strategies depends on the peculiarity of each class with regard to differences in students' abilities.

2.4.5 Motivation

Motivation is important as it determines the amount of effort a student will invest in reading. Wigfield and Guthrie (1997:426) claim that it is unlikely that readers who are not intrinsically motivated will use metacognitive strategies such as "prior knowledge, and self monitoring and they are unlikely to read". Sani, Wan, Awg and Raslee's (2011: 36) findings lend support to this claim. Their study, which investigated the relationship between undergraduates' motivation to read and the reading strategy used while reading, reveals that there is a connection between students' reading motivation and the reading strategy used. In other words, students' motivation to read influences their use of reading strategies. Based on their findings, they recommend that teachers should motivate students to become engaged readers by improving their intrinsic motivation. This is similar to the study conducted by Lau and Chan (2003: 186) that shows that there is a connectedness between students' intrinsic motivation and reading on the one hand and reading strategies they use on the other. In essence, the absence of intrinsic motivation has negative effects on students' reading, reading strategy acquisition, reading strategy use and consequently the efficacy of RSI. Teachers/tutors are encouraged to improve students' intrinsic motivation by providing an array of reading materials and activities that promote students' involvement, social and self-efficacy (Sani et al. 2011: 37).

However, one can only assume that teachers/tutors are themselves intrinsically motivated to apply strategies during reading and to give their students reading strategy instruction. Nine teachers who participated in McKeown et al's (2009: 226) study which compared three approaches to reading comprehension instruction (Basal Approach, Content Approach and Strategies Approach), were reported to demonstrate enthusiasm and commitment throughout the study. Nevertheless, their willingness to participate may be due to many reasons: the provision of extrinsic motivation ($300 stipend for their participation), availability of teaching materials, job satisfaction and learning environment.

In Africa, particularly in Botswana, many English teachers may be hesitant to give RSI a trial even when they know its value. This may be due to feelings of inadequacy in teaching something new. Alternatively, it could reflect their lack of commitment to their job and their students, which is partly a result of poor conditions of service (Oyetunji 2006: 91). This behavior suggests a lack of professionalism. However, it is not a hopeless situation because conditions of service can be improved, and self-efficacy and professionalism can be built into teacher training programmes.

2.4.6. Training of teachers

The National Reading Panel's (2000: 19) research finding in the USA shows that professional development is important in order for teachers to obtain adequate information on reading comprehension strategies, to distinguish the most effective strategies suitable for different students and to present and model strategy use in the classroom. In other words, the success and effectiveness of RSI partly relies on the training of teachers in reading comprehension strategies (McKeown et al. 2009: 229).

The concern is that teachers in general and Botswana teachers in particular, lack a culture of reading. Teachers who do not read extensively may have limited word knowledge, general background knowledge and knowledge of text genres. For this reason, the training of teachers should start by enhancing their intrinsic motivation by telling them what they themselves as well as their students will benefit from RSI. It is only when teachers' motivation is rekindled that the training can be meaningful. If at all possible, the training programme should be carried out by RSI experts in order for teachers to get it right from the start. The training should not be limited to language teachers, since content subject teachers also will benefit from knowledge of RSI. Practically, every teacher is a reading instructor because reading cannot take place without content and the content teachers need to apply effective reading strategies to their own subject matter, whether it is biology, social studies or history (White 2004: 41). Content subject teachers can apply

their knowledge of RSI in their classrooms to assist students to achieve excellent comprehension in academic subject matter. Teachers should help students in vocabulary development by providing books in their teaching subject area that can motivate and satisfy their inquisitiveness (Ediger 2009: 79).

The RSI training should help them to be able to differentiate text genres, apply appropriate reading strategies to different text structures and transfer their knowledge of reading strategies to their students. This kind of in-service training/workshop should be carried out at intervals, possibly twice or thrice a year for a couple of years so that teachers become familiar with it. Indeed, it should become a "habit of mind". The training programme should be evaluated from time to time. This implies that RSI should be integrated into the teachers' in-service and pre-service curriculum. If this is done then by the time they complete their diploma programme they would be used to the modified method of teaching comprehension even in content subject areas and ultimately use their knowledge of RSI to help students obtain sound comprehension of various texts.

In situations where teachers are willing to integrate RSI into daily classroom lessons, training is required for them to implement it effectively. When they apply strategies to their own reading, it enhances their preparedness to teach reading strategies to their students.

2.5 Taxonomy of language learning / reading strategies

According to Yang (2006: 338), reading strategies "are those that help readers to solve the problems in figuring out meanings of printed words". In other words, the application of reading strategies helps readers to overcome problems they encounter while reading. Learning strategies have been grouped into three major categories, these are: *cognitive* strategies, *metacognitive* strategies and *social/affective* strategies (Weinstein and Mayer,

1986: 316; O'Malley and Chamot, 1990: 8). According to these researchers, *cognitive* strategies are more directly linked to tasks and learners' active control of learning materials. Some of the examples of *cognitive* strategies are: rehearsing, elaborating, organizing, inferring and summarizing (Wernke, Wagener, Anschuetz and Moschner 2011: 20). *Metacognitive* strategies are self-regulatory strategies whereby learners are conscious of their own thinking and can coordinate, monitor, and assess their own learning process. In effect, learners are able to monitor their own comprehension while learning is taking place and self-evaluate themselves after completing the learning activity. *Social* strategies include interacting with another person, such as asking questions for confirmation, asking for clarification when confused, asking for assistance while doing a language task, talking with a native speaker of the target language to learn more about the language (Oxford 2003: 14) and group reading. In other words, direct interaction with others (colleagues and teachers) for the purpose of learning is essential in L2 reading. *Affective* strategies include "identifying one's mood and anxiety level, talking about feeling and rewarding oneself for good performance" (Oxford and Ehrman 1995: 371). In essence, *affective* strategies involve learners' control of their understanding and emotional attitude for the purpose of learning.

The current study engaged mainly *cognitive* and *metacognitve* strategies which may enhance the understanding of various types of text. The aim of the study was to instruct students on how to use reading strategies to fix reading difficulties. This requires students to have cognitive knowledge of other reading strategies as well as a firm grip on their thinking as they read for them to realize and know what to do when meaning breaks down, i. e. metacognitive strategies. The following subsection focuses in more detail on metacognition.

2.5.1 Metacognition

In reading, metacognition refers to the readers' self-knowledge of their own comprehension of a text while reading and their control of the processes that lead to comprehension. Garner (1987: 13) argues that successful readers not only have metacognitive knowledge of themselves, but of the task they do and the strategies they use to accomplish it. In effect, successful readers are aware of their own thinking as they read a text; they know the type of the text they are reading and what strategies to use to enhance their understanding of the text.

Graves at al. (1998: 18) maintain that effective reading requires readers to monitor their comprehension while reading and to employ effective fix-up strategies if and when comprehension breaks down. Thus, it appears that readers' inability to use metacognitive skills is one of the major causes of reading failure. Many scholars believe that metacognitive knowledge is central to proficient reading. Proficient readers match strategies to their purposes for reading, but matching strategies to one's purpose needs metacognitive knowledge (Harvey and Goudvis 2000: 16).

It is not sufficient that readers only monitor their comprehension because being aware that there is a problem does not necessarily solve the problem; reflective strategic readers know which strategies to apply when meaning is lost. Knowing *what to do* when meaning is disrupted suggests that readers can access a variety of strategies to get back on track (Harvey and Goudvis 2000: 18-19). In other words, they know what to do when comprehension breaks down.

Meaning is disrupted for many reasons and in many ways. For instance, meaning may go awry because of insufficient previous knowledge with regard to the reading content (this is in line with schema theory), focusing on irrelevant details, or because the readers may fail to connect what they read in the previous chapter or page before taking a break, with

the current chapter or page where they are supposed to continue (Harvey and Goudvis 2000: 19). Teaching students explicitly to use fix-up tools (already in their bank of reading comprehension strategies) will help them to overcome reading problems. In effect, an awareness and understanding of the way one thinks and employs strategies while reading prevents or reduces reading failure. Students who monitor their thinking during reading will most likely apply necessary strategies when meaning breaks down, if they know different reading strategies. Thus, monitoring of one's thinking (metacognition) precedes application of reading strategies to overcome reading difficulty. Having discussed different kinds of reading strategies thus far, we take a brief look in the next section at some of the more controversial aspects of reading strategies.

2.6 Differences in the perception of reading strategies

Despite the strides that have been made in strategy research in the past three decades, there is not uniform consensus in the field. There are some controversial issues in relation to reading strategies that have not yet been adequately resolved. An example is the disagreement among researchers as to the definition of reading strategies. It is not clear how to differentiate *reading strategies* from other processes that might be called thinking, reasoning, perceptual, study or motivational strategies (Paris, Wasik and Turner 1991: 610). For instance, Weinstein and Mayer (1986: 318) describe cognitive strategies as a wide collection of actions, which help in directing "behaviour, emotions, motivations, communication, attention and comprehension". Even though reading might be influenced by each kind of strategy not all researchers would categorize the above mentioned strategies as reading strategies.

Also, the problem concerning the extent of strategy use, whether they are universal or specific, has not been resolved. Levin (1986: 5) contends that strategies include many components that must be carefully examined, whereas Derry and Murphy (1986: 17)

differentiate strategies as common learning plans carried out by using a specific approach. Paris et al. (1991: 610) posit that "strategies are not easy to demarcate when they are embedded in complex sequences of behaviour or hierarchies of decisions." In addition, the issue of intentionality and consciousness has not been resolved. For example, Wellman (1988: 5) submits that "to be a strategy, the method must be used intentionally, so as to affect the goal". By contrast, Pressley, Forrest-Pressley and Elliot-Faust (1988: 102) believe that "strategy functioning at its best occurs without deliberation; it is more reflexive than voluntary". Thus, according to these latter researchers, strategy is more involuntary than deliberate. Still, Barnett (1988: 156) claims that strategies are used both consciously and unconsciously during reading to improve comprehension. Maybe the more one uses them, the more involuntary they become – a kind of habit of mind. And certainly, when one reads a complex and challenging text, maybe one applies them more consciously.

Due to differences in the perception of reading strategies, a number of different classifications of strategy types have been suggested. Some examples of different classifications of strategies by different researchers are presented in Table 2.1.

Table 2.1: Classification of strategy types

Strategy	Researcher
General strategies (e.g. inference and monitoring) *local strategies* (e.g. meaning of vocabulary and the structure of sentence)	Block (1986: 467)
Identifying a purpose for reading, previewing, predicting, asking questions, checking predictions/finding an answer to a question, connecting to background knowledge, summarizing, connecting one part of the text to another, paying	Janzen and Stroller (1998: 255)

attention to text structure and rereading	
Summarizing, sequencing, making inferences, comparing and contrasting, drawing conclusions, self-questioning, problem-solving, relating background knowledge, distinguishing between fact and opinion, finding the main idea, important facts, and supporting details	Colorado (2007:1)
summarizing, sequencing, making inferences, comparing and contrasting, drawing conclusions, self-questioning, and activating background knowledge	Abitat (2007:1)

It has already been observed that expert readers use a variety of strategies to enhance comprehension and memory (Baker and Brown 1984: 361) while novice readers usually aim at interpreting single words, fail to adjust the reading to suit texts and purposes and rarely take time to check their understanding of the content of the text to improve comprehension. Researchers who instructed students on strategies for determining important ideas (Pearson and Gallagher 1983), drawing inferences (Hansen 1981) and asking questions (Gavelek and Raphael 1985) discovered that teaching these reading strategies positively affects students overall comprehension of text.

This study focuses on seven reading strategies: the use of background knowledge, determining main idea, rereading, making inferences, self-questioning, drawing conclusion and summarizing. These have been selected because they have been found to be used by proficient readers (Harvey and Goudvis 2000: 10-11) and because it seems most of the classifications include similar strategies. Each of the strategies examined in this study is described below.

2.6.1 Reading strategies

As already pointed out, there are many reading strategies, but only some will be discussed in some detail in this study. These include the core strategies used in this study, namely, prior knowledge, identifying main ideas, rereading, making inferences, self-questioning, and summarizing.

2.6.1.1 Prior knowledge

Activating prior knowledge is "reminding" (Schank 1999: 21). It is a relevant aspect of "memory and is at the heart of how we understand and how we learn" (Schank 1999: 21). It is a cognitive strategy. Adams and Bruce (1993 in Graves et al. 1998: 6) state that without knowledge, a complex object such as a text is not just difficult to interpret; strictly speaking, it is meaningless. This prior knowledge may include subject specific knowledge, linguistic and vocabulary knowledge, knowledge about texts and genres or general background knowledge about the world and people. Thus, it appears that without background knowledge, understanding a reading text is almost impossible because it provides an orienting frame of reference. Harvey and Goudvis (2000: 10) assert that readers normally bring their previous knowledge and experience to reading and as a result, comprehension is enhanced when they concentrate on the connection they make between the text, their lives and the world. Anderson and Pearson (1984: 267) stress the influence of the use of previous knowledge on comprehension; they claim that it does not only empower readers to fill in incomplete information, but also assists them to create a mental picture that helps for remembering what was read and understood.

Trabasso and Bouchard (2002: 180) examined 14 studies in which readers were encouraged to activate prior knowledge. The studies involved students in Grades1-9. These students' prior knowledge was activated by asking them to think about topics related to the passage being read, by teaching them relevant knowledge, by using

prereading activities, and by asking them to make predictions about what would happen based on their experiences. The findings indicate that activation of prior knowledge improved comprehension in 13 out of 14 studies. Pellegrino (2002: 2) observes that "many students come to school with faulty mental models" (erroneous information) which need to be corrected otherwise students will not be able to access the meaning of the text. In essence, activation of accurate and relevant prior knowledge improves reading comprehension.

2.6.1.2 Identifying main ideas

A main idea is a key concept expressed in the text. Identifying a main idea is a cognitive strategy. Johnston and Afflerbach (1985: 209) describe identifying main ideas as "the essence of reading comprehension". In expository texts the main idea is almost always stated in a topic sentence. According to Paris et al. (1991: 612) identifying the main idea requires readers to comprehend what has been read, make conclusions about the significance of information and consolidate information succinctly. Expert adult readers are said to have the ability to do all these effortlessly while reading compared to unskilled readers (Johnston and Afflerbach 1985: 211). Supporting Johnston and Afflerbach, Harvey and Goudvis (2000: 11) state that proficient readers master main ideas and important information as they read. They are able to distinguish less important ideas from key ideas that are fundamental to the meaning of the text.

Many studies (Baumann 1984; Schunk and Rice 1987; and Williams, Taylor, Jaarin and Milligan 1983) have shown that students can be taught to improve main idea comprehension. Baumann (1984: 101) employed direct explanation to teach 66 Grade 6 learners five steps to construct main ideas: introduction, examples, direct instruction, teacher-directed application, and independent practice. His findings suggest that learners who were exposed to these steps become more skillful in explicit and implicit main idea comprehension than students who received traditional basal lessons.

Also, Schunk and Rice (1987: 291) explained the value of reading strategy to three groups of Grades 4-5 remedial readers in their study. The first group was given general strategy value information (e.g. employing these steps will help to answer questions in passages). These researchers explained specific strategy value information (e.g. employing these steps assists in answering questions about the main ideas in the passage) to the second group and the third group was given both general and specific value information. The findings indicate that the group of students who were given both specific and general strategy value information not only performed better at recognizing main ideas in texts, they also estimated their self-efficacy higher compared to students in the other two groups. Therefore, understanding why the strategy is essential does not only assist learners to identify main ideas, but also gives them confidence that they can complete the given task.

The positioning of a main idea in the text affects its identification. Baumann (1986: 13) observes that learners find it somewhat easier to identify a main idea which appears at the beginning of a paragraph compared to the one which is embedded in the text or which is implied, and needs to be extrapolated from other information. Therefore, apart from developmental reading skill, text features also affect the identification of main ideas.

2.6.1.3 Rereading/backtracking

As the name implies rereading means to reread or read again a part of or a whole text more than once in order to increase understanding of that text. According to Paris et al. (1991: 614), rereading, which they also refer to as an on-line (while reading is going on) strategy, may not be easy if students do not realize that they missed the ‘track’ and if they are not conversant with the text structure, which can guide their backtracking. Students should be taught how to monitor their comprehension while reading so that they are aware when meaning breaks down. If and when readers cannot understand what they are reading, proficient readers slow down, reread and clarify confusions before they continue.

Surprising as it may seem, less proficient readers do not know what to do when they encounter a problem while reading (Harvey and Goudvis 2000: 18). Rereading is a cognitve strategy. Garner, Hare, Alexander, Haynes and Winograd's (1984: 796) study in which remedial readers were given direct instruction on rereading for five days reveals that training in rereading usually improves students' rereading skill and ultimately, their comprehension.

2.6.1.4 Inferencing

Van den Broek (1994: 556) refers to an inference as "information that is activated during reading yet not explicitly stated in the text". It is a metacognitive strategy. It involves putting together what is written and unwritten in the text, readers' prior knowledge from prior learning and readers' personal experiences (McEwan 2004: 35). Inferencing is categorized under the strategies learners use while reading (an on-line reading strategy) (Paris et al. 1991: 613). These scholars claim that inferential comprehension is automatic; they however mention that young children and beginning readers may benefit from strategies that enhance inferences. The focus of research on inferential comprehension is on how both young and beginning readers benefit from training, which enhances inference making during reading (Paris et al. 1991: 613). For instance, some research (Hansen and Pearson 1983; Raphael and Pearson 1985) indicates that children find answering inferential questions more difficult than literal comprehension questions. Harvey and Goudvis (2000: 11) associate inference making with thoughtful readers, who according to them, are able to use what they know, put together the clues from the text and think ahead to draw a conclusion.

Hansen (1981: 401) contrasts two approaches for teaching inferential comprehension. One approach involves training students to use inferential teaching strategy and the other one focuses on helping students to answer inferential questions. Both approaches are effective

as students who learnt under the two approaches performed better in making inference than students in an untreated group.

Raphael and Pearson (1985: 231-232), in their quest to know the effect of training on literal and inferential comprehension, trained high, average and low-reading Grade 6 learners in the question-answer relationship paradigm. Their findings suggest that though students find questions with answers explicitly stated in the text easier than questions with answers implied, training increases students' inferential skills. Similar training by Raphael and McKinney (1983: 82) indicates that training promotes inferential skills. For this reason, children and unskilled readers can be taught to improve their inferential comprehension (Paris et al. 1991: 614).

2.6.1.5 Self-questioning (during and after reading)

Self-questioning is another strategy used by proficient readers. Self-questioning strategy keeps readers engaged as they ask questions to clarify understanding and proceed to make meaning (Harvey and Goudvis 2000: 11). These scholars state that self-questioning is at the crux of reflective reading. It is a metacognitive strategy. Research findings suggest that students benefit when they are taught how to self-question themselves as they read. For example, teaching them to ask *I wonder* questions, such as *I wonder what the author meant here, I wonder what will happen nex*t, *I wonder why the character says this* and so on, seems to help them improve in answering questions and identifying main ideas (Rosenshine, Meister and Chapman 1996: 214). Davey and McBride (1986 in Pressley and Block 2002: 299) taught Grade 6 students how to generate questions that combine important ideas in the text being read. The findings indicate that self-questioning improves students' comprehension.

2.6.1.6 Summarizing

Summarizing is referred to as one of the post reading strategies. It helps readers to know how a text is structured and how ideas are related. It is also important for learning and remembering information. It is a cognitive strategy. It requires a reader to recognize and emphasize central and important ideas, generalize and minimize irrelevant details (Trabasso and Bouchard 2002: 182). Based on the studies they examined, the authors report that summarization instruction improves the quality of readers' summaries of text, because readers were able to identify the main ideas, generalize and remove unnecessary words, phrases and sentences. Instruction of summarization also enhances memory for what is read by the way of free recall and answering questions

Brown and Day (1983: 11) assert that older and more expert readers summarize better than younger and less-skilled readers. Paris et al.'s (1991: 614) findings confirm Brown and Day's (1983: 11) assertion; from these researchers' assessment of Grades 5, 7, 10 and college students' summary, they observe that the Grades 5 and 7 students did not include irrelevant information, nevertheless they reported ideas word for word. By contrast, high school and college students merged ideas across paragraphs and presented their summaries in their own words, i.e. they could extrapolate information at a more abstract level. Also, they noted that older readers plan their summaries more, whereas, young readers, except for a few, 'run out of space' before they complete their summaries, which implies a lack of planning and probably difficulty in distinguishing central from less important information.

Paris et al.'s findings (1991: 614) were similar to Taylor's (1986b: 203-204), whose findings suggest that capable summarizers plan before they write, use text structure as a guide to help them select and generalize ideas, record information in their own words and monitor the text to assess their own perfection. In contrast, students who have difficulty in

selecting and generalizing important information are not familiar with cues in expository text structure and are therefore unable to use them as they write.

Nevertheless, Brown, Day and Jones (1983: 974) found that students could be taught to follow the rules that older and more skilled summarizers use. These scholars constrained Grade 5 students to a 20-word summary; there was no difference in the students' performance compared to older students' performance. Rinehart, Stahl and Erickson (1986: 431) also found that training in summary improves students' ability to summarize main ideas, especially main ideas that are explicitly stated in the text. This shows that both text structure and explicitness of the main ideas affect summarizing skills and identification of main ideas as mentioned earlier.

In sum, the importance of strategies in language learning cannot be over emphasized, as they are devices for enthusiastic, self-directed participation, which is vital for developing competence. The use of suitable language learning strategies, especially reading strategies, promotes proficiency and greater self-confidence. Thus, Cheng (in Yang 2006: 315) asserts that in order for students to be strategic readers, they need to know the strategies to apply as well as when, why and how to use these strategies properly and efficiently. Several studies (e.g. Stevenson et al. 2007: 146) have shown that knowledge about reading strategies significantly improve students' reading comprehension. Having discussed various aspects of reading strategies, I now move on to a discussion of pedagogical issues in reading strategy instruction, focusing on teachers' activities in the classroom.

2.7 Pedagogical issues in reading strategy instruction research

The teaching of reading strategies is not a straightforward task, as there seems to be no standardized specific way or guideline to follow in carrying out such teaching related

activities. For example, teachers' decisions as to what strategies to teach, which activities to use during instruction, how long and how frequent the period of instruction should be, are some of the methodological issues that RSI is yet to address.

According to McKeown et al. (2009: 221), it is unclear how teachers arrive at the decision on which strategies to teach students and how to apply the strategies during reading. Also, they noted that RSI uses different sets of activities for the same strategy label. This may cause some confusion. For instance, from the analysis of eighteen studies that show positive results from instruction in summarising they observe the use of various tasks and activities. They highlighted guidelines that students are supposed to follow to construct a summary. In one study on summarizing, the following instructions were given: (a) "select the main information (b) delete trivial information and (c) relate to supporting information." whereas in another study, students were asked to respond to direct questions on the content for them to draw inferences about a character's actions. This is confusing in that these activities are addressing different strategies. Although the first set of activities does not help students, especially weak students, to actually distinguish main from trivial information it is appropriate for summarizing whereas the activity given in the second study may be used to elicit information on inferencing. This kind of inconsistency makes it difficult to know which strategies are effective and what makes them so. In effect, if an entirely different set of activities is to be used for a particular strategy, it should be relevant and capable of contributing to the mastery of such strategy. It seems as if each strategy serves a specific function and is best served with a set of activities that bear relation to it. In essence, this is a question of validity – explanations and activities must be relevant to the purpose of each specific strategy.

In addition, there is no standardization with regard to teachers' instructions to students, what students are expected to do and how the interactions between teacher and students and among students should proceed (McKeown et al., 2009: 222). There are no specific guidelines from RSI as to the spacing and timing of instruction. RSI does not provide

standardized duration of the study, the frequency of direct instruction and guided practice, and the number of passages that students should read. All these issues/considerations are vital to students' learning and the success of the study. In addition, teachers who may want to introduce one or two of the "effective" strategies in their class are left without guidance as to the number of times to teach their choice of strategies and the amount of practice to give to students and the number of weeks or months students should be guided to use that strategy before they are considered capable of using the strategies independently (Dewitz, Jones and Leahy 2009: 109).

In spite of a lack of specific information on the teaching of strategies, the explicitness of instruction, which is one of the two major characteristics of strategy instruction, has been shown to improve comprehension. Some of the previous studies in RSI which show the effectiveness of explicit instruction are provided below.

Pani (2004: 357-358) used mental modelling to teach a word attack strategy in reading comprehension. He modelled his mental processes while he tried to guess the meanings of unfamiliar words in a text by thinking aloud. The study participants consisted of English language secondary school teachers in an institute which provides in-service training to the teachers of state schools, the English Language teaching Institute in Bhubaneswar, India. The training was conducted over a period of three months with the aim of improving the teaching of reading comprehension in schools. Data was collected through transcripts of group discussions, mental modelling of the tutor, and retrospective notes of the tutor. The results indicate that explicit mental modelling can be used to improve comprehension via word attack skills

Bauman and Bergeron's study (1993: 411-415) was meant to investigate whether or not very young children can benefit from explicit instruction on story structure to improve their ability to identify and recall vital story elements. The study participants were four classes of Grade 1 students. Two classes (the story groups) were given explicit instruction

in identifying key elements of stories, e.g. characters, setting, problem, events and solutions, while the other two classes did not receive explicit instruction in identifying key elements of stories, but listened to and read the same stories. A focus group was used to collect data from the group. Findings indicated that students in the explicit story groups performed better in that they "provided longer, more coherent and more sequentially organized retellings with more central story ideas" compared to students in the other two classes. From these findings it can be inferred that explicit instruction improves comprehension.

Salataci and Akyel (2002: 4-11) examined the effect of strategy instruction on reading in L1 (Turkish) and L2 (English) of some Turkish EFL students. The participants comprised 20 Turkish students enrolled in pre-intermediate level classes of one year intensive English course at the foreign language department of the Turkish Medium Istanbul Technical University. The participants were given instruction on the use of background knowledge, prediction, rereading, how to identify main ideas and how to summarize. Explicit instruction was given 3 hours a week for 4 weeks. Think-aloud protocols and a semi-structured interview and the reading comprehension component of the Preliminary English Test (PET) were used to collect data. The findings indicate that the explicit reading strategy instruction received by the participants in English language affected their use of reading strategies in Turkish and English and that their reading comprehension was improved as their scores in PET increased.

Antoniou and Souvignier (2007: 43-49) examined the effect of explicit teaching and self-regulatory strategies on reading comprehension. A total of 73 Grade 5 students with learning disabilities from special and integrative schools of the Rhein-Main area in Germany participated in the study. The students were randomly assigned to a control group and an experimental group. The experimental group students received explicit instruction in some strategies: predicting, prior knowledge, summarization, identification of text structure and self-regulation techniques. The control group students received

traditional reading instruction whereby students read silently or aloud or the teacher read to them, after which students were given some questions to answer to test their understanding of the text. The study lasted one year. Measuring instruments included the Wuerzburger Leise LeseProbe Test (WLLP) - a decoding speed test meant to measure students' decoding ability, a reading strategy questionnaire and a reading comprehension test. The findings indicated that explicit training had positive effects on reading comprehension, reading strategy knowledge and reading self-efficacy of students with learning difficulties.

2.8 Reading comprehension assessment tools

This sub-section discusses ways of assessing reading comprehension assessment and different assessment instruments. This is necessary because students need to be assessed in order to know what strategies they use, how well and how often they use them while reading. The assessment of reading comprehension certainly provides useful information on how best to research this phenomenon.

Readers' comprehension strategies can be assessed in two different ways, these being on-line and off-line. On-line comprehension assessment occurs during the actual reading process and tends to be computer-based, tapping strategies such as questioning, locating, evaluating, synthesizing and communicating. On-line reading comprehension assessment tools include: On-line Reading Assessment (ORCA), Formative Assessment of Student's Emerging Knowledge of Internet Strategies (FASEKIT) and so on. Students respond with on-line communication tools such as e-mail messages or blog posts (Coiro 2009:61). Presently, tertiary institutions in Botswana have not yet started assessing students on-line but it may be considered in the near future.

Off-line comprehension assessment on the other hand occurs after the reading event and tends to be print-based, tapping into strategies such as identification of main idea, inferencing, clarifying, summarizing, and so on. Some of the major measuring instruments used for off-line/book-based students' comprehension strategies are: verbal protocols, questionnaire and written tests. Each of the three off-line instruments is discussed below, but only two of them were used in this study.

2.8.1 Verbal protocols

Verbal protocols (also referred to as think aloud protocols or protocol analysis) are described as rich data sources which contain individuals' spoken thoughts that are related to working on a task (Macceca 2007: 105). For example, when subjects work on a particular task, they either think aloud as thoughts occur to them by explaining what they are trying to do and the type of problems they experience or do so at times specified by the researcher (Education Encyclopedia 2007: 2). McDonough and McDonough (1997: 191) maintain that individuals are not only aware of some of the decision processes that they experience in learning and using a language (e.g. how they speak/construct a message), but they actually pay attention to them. On this ground, they posit that verbal reporting methods rest on the assumption that the awareness of these processes are real 'phenomena' in their own right. A think aloud can be used as a research data collection method by which researchers explore individual invisible cognitive processes and use the information thus collected for research purposes. It can also be used for training students to become proficient readers by modelling to them the types of behaviors good readers engage in or strategies they use as they read. Teachers explain strategies used by good readers and model how the strategies are used. This involves a lot of classroom practice. A think aloud used for training students helps them improve their understanding of reading and how to use strategies (Macceca 2007: 105). It is therefore used as an instructional procedure and can be used with students at any level (Tierney and Readence 2000: 358; Chamot and El-Dinary 1999: 320). In addition, it has been observed that

thinking aloud gives students another way of self-assessment as it assists them to improve on their awareness of whether they comprehend what they are reading or not (Baumann, Seifert-Kessell and Jones 1992: 155).

The main advantage of verbal protocol data according to Education Encyclopedia (2008: 2), is that they provide the richest information concerning the 'contents' of 'working memory' when a task is being performed. Baddeley (2000: 418) describes working memory as a brain system which provides interim storage and management of the information needed for complicated cognitive tasks such as understanding language, acquisition of knowledge, and analysis. It involves storage and processing of information concurrently. Also, because protocol analysis provides chronological observation over time, it therefore shows changes that take place in working memory in the period of task execution.

Even though verbal protocols are said to be effective for pinpointing the strategies that skilled readers employ to overcome the difficulties they encounter while reading (Collins, Brown and Larkin 1980: 392), they have some limitations like most research methods. One of the limitations is that they cannot be used for some L2 students because these students may not yet have adequate L2 proficiency to express their thought patterns while reading. Another limitation is the concern that it is unlikely that processes that are somewhat habitual or mechanical and performed outside the subjects' conscious awareness will be included in verbal protocols (Education Encyclopedia 2007: 3). In other words, verbal protocols may not provide the whole picture of the knowledge and processes usually used to execute a task. Another concern is that it is not yet clear how long the students' gains from think alouds are sustained and whether 'think-alouds' work with various students and texts. Apart from that, what students say while thinking aloud may or may not mirror the effectiveness with which the mentioned strategy is used or the fundamental idea for using a strategy (Tierney and Readence 2000: 361). Moreover, some students may be unwilling to express their thoughts and experiences.

Again, compared to other methods, the data collection and data coding is energy sapping and time consuming (Education Encyclopedia 2007: 3). Verbal protocols have to be taped or videoed, transcribed and analyzed. Sometimes just an hour of taped protocol can take three hours or more to transcribe and analyze. Despite the limitations, the number of studies that make use of the approach keeps increasing and this suggests a high level of validity of verbal protocols (Pressley and Afflerbach 1995: 23). Besides, Ericsson (2002: 3) maintains that the validity of verbal protocols is high if the data are gathered as the subjects perform the task.

2.8.2 Questionnaires

A questionnaire is a research tool used to collect information from individuals about themselves or about a social unit such as a school. It can be used to obtain information indirectly from readers via self-reports. It is said to be standard when individual respondents respond to identical questions or items and the responses are coded the same way. This is important so as to ensure that differences in responses to questions or items are a reflection of differences among respondents rather than differences in the processes that generate the answers (Siniscalo and Auriat 2005: 3).

A questionnaire can be used to collect information such as facts, opinions, level of knowledge, attitudes and perceptions. In the school context, the data collected by means of a questionnaire can be categorized into different "characteristics of schools, teachers or students, learning or teaching processes, the outcome of education" (Siniscalo and Auriat 2005: 4) (e.g. students' achievement), and so on.

Malhotra (2011: 176) opines that a questionnaire is important because it is one of the main means used to collect quantitative primary data. He believes that it makes possible the collection of quantitative data such that data analysis is facilitated. For example, there is the possibility that items or questions in a questionnaire are framed in manners that

ensure that the internal consistency and coherence of data to be collected is not compromised. In addition, Malhotra (2011: 177) asserts that a questionnaire enhances speed and accuracy of capturing and promotes data processing. In designing a questionnaire it is important to keep in mind the characteristics of the respondents, for example their educational background and experience should be considered; the language and context of the questions or items should also be familiar to the respondents in order to obtain relevant and accurate information.

This study examined the effects of strategy intervention on students' strategy use, comprehension levels and students' L2 academic performance. The questionnaire used in this study was an existing strategy questionnaire constructed by Mokhtari and Reichard (2002) and believed to be appropriate for the participants in the current study. The respondents in this study all responded to the same questionnaire and their responses were coded in the same way. Further details of the questionnaire are provided in Chapter Three.

2.8.3 Comprehension test

The common reading comprehension assessment entails asking students to read a passage of either an expository or narrative text that is levelled appropriately for them, and then asking some detailed questions about the content of the text. The questions may be literal (i.e. explicit), inferential (i.e. implicit) or evaluative. It is necessary to mention that a good comprehension test comprises all the question types enumerated above. For example, in addition to explicit questions about facts directly presented in the text, students could be asked to answer inferential questions about information which was implied by the text. Reading comprehension test questions can be in different formats: multiple choice questions, fill-in questions, cloze activities or open-ended questions.

There are two major types of comprehension tests: norm-referenced and criterion-referenced tests. A norm-referenced test compares students to each other. It is especially

useful in selecting relatively high and low members of a group because the students are compared as to who knew the most or least or scored the highest or lowest marks (Linn and Gronlund 2000: 43) e.g. Test of English as a Foreign Language (TOEFL), Graduate Record Exam (GRE) and Scholastic Aptitude Test (SAT). A criterion-referenced test on the other hand, compares students' performance to a specified standard. It measures how well the students have learned specific knowledge and skills based on the instructional objectives, it is mastery-oriented, and thus it describes what students know, understand and can do. This kind of assessment can be used to inform future teaching and learning needs (Green 2002: 2) as students' performance is compared to their previous performance. It is appropriate for an assessment of what concepts and skills students have learned from a segment of instruction. Examples of criterion referenced tests include the Progress in Reading Literacy Study (PIRLS) tests.

The comprehension test used in this study was a criterion-referenced test meant to compare the students' performance before and after the strategy intervention with the intention to observe the effectiveness of the strategy instruction. It was an expository text and the presentation of questions in the comprehension test took a combination of some of the examples mentioned above, i.e. multiple choice, fill-in and open-ended questions. The test will be explained in more detail in Chapter Three.

2.9 Summary

In conclusion, in this chapter the theoretical framework (social cognitive theory) in which this study is situated was described together with other related theories. Both the perceptual and methodological issues in language learning strategies were discussed, previous studies on RSI were reviewed, differences between skilled and less skilled readers were explored, factors that may affect reading strategy instruction were discussed and the strategies that were included in the current study were identified. Major themes that evolved from discussions in this chapter are: (a) the reading process is culturally based (b) meaning-making is at the heart of the reading process, the success of which

rests on the provision of relevant reading instruction, instructional material and activities, readers' ability to choose appropriate strategies that foster understanding of a particular text, especially when meaning breaks down. Furthermore, (c) readers' active participation is not an option but a requirement to fix reading problems if and when they occur and to respond to author's ideas and (d) reading strategies can be taught to improve students' reading proficiency.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

Chapter One highlighted the problem statement, aims, methodology and structure of the dissertation. It also presented the theoretical and conceptual framework that guided the study. Chapter Two reviewed literature on reading theories and on reading strategies. The purpose of this chapter is, firstly, to provide a description of methodological issues relevant to the study, such as similarities and differences between quantitative and qualitative approaches, validity and reliability in research, and principles and ethics guiding research. Thereafter, the research participants, the data collection procedures, the data collection instruments and data analysis of the pilot study will be given. Finally, the nature of the intervention program will be discussed. In sum, this chapter describes the empirical study which was primarily a quantitative study and which comprised a pilot study and the main study. The section below discusses the two major research approaches

3.1 Quantitative and qualitative research approaches

There are two basic approaches to doing research: quantitative and qualitative. Each approach has evolved to fulfill specific research aims and functions, and specific methodological styles and conventions have developed within each tradition. Each of these approaches will be discussed briefly.

3.1.1 Quantitative approach

Quantitative research focuses on measurements of the characteristics displayed by people and events that researchers study. It generates numerical data or data that can be

converted into numbers, for example the National Census, which counts people and households (Thomas 2003: 6). Central to quantitative research is the understanding of how and why variables are related to each other. Thus, it is used to answer questions about relationships between measured variables (Punch 2003: 17). Quantitative research uses methods adopted from the physical sciences that are designed to ensure objectivity and generalizability (Thomas 2003: 6). Thus, this kind of research generates statistics through the use of large-scale survey design, using instruments such as questionnaires or structured interviews or instruments designed to test a specific construct, such as locus of control, reading comprehension or spatial skills. It is sometimes referred to as the traditional or positivist approach. Some common research designs in quantitative research are: experimental designs, surveys, correlational design and causal comparative designs.

3.1.2 Qualitative approach

Qualitative research focuses on understanding people's beliefs, experiences, attitudes, behaviour and interactions. It is an approach used to answer questions about the complex nature of a phenomenon, usually with the purpose of describing and understanding a phenomenon from the participants' point of view. The concern is understanding and interpreting real-life events and stories, as well as people's attitudes, experiences and behaviour. It places more importance on data being gathered in natural or real-life settings as the 'action' happens, for instance in playgrounds, in communities, etc. Data collection is through observations and interviews are usually presented in a narrative form (Thomas 2003: 2). It is sometimes called interpretative or constructivist approach. Some research designs in qualitative research are case studies and action research.

3.1.3 Similarities and differences between quantitative and qualitative approaches

Quantitative and qualitative research methods are both similar and different in some ways. According to Taylor and Trumbull (2000: 171) both methods are similar in the sense that

both approaches require the definition or identification of a problem(s), statement of research questions, and the methodical collection and analysis of data. In addition, McLaughlin, McLaughlin and Muffo (2001: 16) state that theory is used in both quantitative and qualitative methods, but in different ways: qualitative research develops theories in the sense that it investigates phenomena in detail from the bottom-up, so to speak, and raises questions that lead to theory building. For example, a case study conducted to investigate the way three or four students read texts can lead to questions about how a class of students uses reading strategies. In contrast, quantitative research tests hypothesis e.g. that have been formulated within a specific theoretical framework. It seems that both research paradigms are equally significant because developing ideas is important, but testing and utilizing ideas for the development of society is also of great value.

Some distinctive characteristics provide differences between quantitative and qualitative methods. For example, the focus of quantitative research is to give a vivid report of a phenomenon and to examine relationships between variables. In this regard, quantitative researchers make assumptions in advance, using existing principles; these assumptions are nevertheless expected to lead to precise predictions and the testing of hypotheses. On the other hand, qualitative researchers seek to develop understanding of individuals in real life settings that cannot be objectively established, though they also make assumptions based on the peculiarities of individuals and cultures. Therefore, value judgement is possible during and after data analysis. Thus, qualitative researchers make use of inductive methods while quantitative researchers utilize deductive methods (Taylor and Trumbull 2000: 171).

Taylor and Trumbull (2000: 172) assert that a quantitative researcher attempts to study phenomena by breaking them into variables, in most cases to examine the relationships among the variables. Punch (2003: 11-12) alludes to the issue of seeking relationships between variables in quantitative research and argues that the crux of quantitative

research is the investigation of relationships between variables. In other words, quantitative researchers seek to discover how and why diverse variables are associated with each other, and also to gain insight into and understanding of phenomena. On the other hand, qualitative researchers perceive phenomena as a whole and attempt to study in great detail possible aspects of a given situation so as to give a comprehensive description of a phenomenon. Thus, qualitative researchers engage and concern themselves with building theory based on collected data while quantitative researchers are preoccupied with testing theory.

Taylor and Trumbull (2000: 172) argue that quantitative research is regarded as being valid and objective in that, to a large extent, the researchers' values do not overtly interfere with its process. That is, quantitative researchers do not seem to be concerned about influencing the opinions of participants under study. Although personal subjectivity can never be eliminated, the methodological conventions that require research to be reliable, valid, replicable and evidence driven are attempts to at least minimise researcher subjectivity. Another characteristic of quantitative research is generalizability. This refers to the fact that generalizations made from quantitative research findings are not limited to the sample of the study, but are applicable to the entire population from which the sample was taken, as long as the sample shares similar characteristics with the population and the sample is big enough to represent the entire population.

Lancy (2001: 2) contends that a quantitative study can be carried out within a short period ranging from a few hours and some days while a qualitative study may be more time consuming and last for several weeks. Hatch (2002: 7) states that quantitative research uses instruments like questionnaires, checklists, scales, tests and the like while qualitative research uses the researcher as instrument, for data collection and data interpretation through observation, interviews, artefacts, and so on.

In the current study I was interested in examining the relationship between strategy use, reading comprehension and academic performance so a quantitative approach was used. This approach assisted in determining the association between strategy training and L2 students' comprehension and academic performance. I wanted to investigate the effectiveness of an explicit strategy instruction programme and this lends itself to a quasi-experimental using pre- and posttests. In other words, the quantitative approach was deemed suitable for the purpose of this study. In short, a quantitative research is believed to be an appropriate way to obtain information about the relationship between what the students bring to the intervention and what they can subsequently do.

3.2 Experimental research design

Gay and Airasian (2003: 355) assert that the testing of hypotheses to authenticate cause-effect relationships is known to be the basis of experimental research design. According to them, experimental research is the most genuine way of analyzing the links between variables. This type of research relies on random sampling, requires the researcher to manipulate one or more independent variables (i.e. treatment/causal variables), control other related variables, and monitor the effect on the independent variables on one or more dependent variables.

One distinguishing characteristic of experimental research from other types of research is the manipulation of the independent variable. The independent variable is the treatment or feature believed to bring about a difference to a dependent variable. The difference may be measured by a test or some other quantitative measure (Zikmund 2003: 271). Compared to other research types, experimental research, if well conducted, is the most structured that produces the most reliable evidence with regard to cause-effect relationships (Gay and Airasian 2003: 355). For the purpose of this study, a specific type of experimental design, referred to as a quasi-experimental design, was used to assess the effect of strategy training on L2 students' academic performance. So, at this junction, it is

appropriate to describe the quasi-experimental design before dealing with the validity of experimental design.

3.2.1 Quasi-experimental design

According to Campbell and Stanley (2005: 23), the term ‘quasi’ is used to describe an experimental design which does not rigidly follow all the principles guiding true experimental research designs. This kind of research is often used in the educational context. For instance, in quasi-experimental design, the experimenter does not have complete control over the secondary variables (Broota 2006:10). The manipulation of independent variables and the random assignment of subjects which are normal in true experimental design, are not possible in quasi-experimental research because it makes use of intact groups (i.e. already existing groups). It has been observed that one sure way a researcher can know for certain that groups are actually comparable and that observed differences in results are not the result of unrelated factors or pre-existing differences is through random assignment (Shuttleworth 2008: 1). Because quasi-experimental studies use intact groups rather than random sampling, one cannot draw conclusions with as much confidence in quasi-experimental studies as from studies which use “true” experimental designs (Broota 2006: 10). However, in this study, an effort was made to follow some of the principles guiding true experimental research designs by keeping variables constant, using pre- and posttests before and after the intervention, and using the same subjects throughout the study.

Worobey (2006:23) argues that a quasi-experimental design requires a minimum of two intact groups of subjects: the control and intervention. Thus, two intact groups were used and these were randomly assigned to control and intervention groups respectively. Vockell (1983:174) holds that comparing the pretest performance of both groups helps in ruling out selection as a threat to internal validity. For instance, if the two groups perform similarly before the treatment, but differently after the treatment it is then possible to

attribute the difference to the treatment. In light of this, in the current study the control and the intervention groups' pretest scores were compared to ascertain internal validity by using Levene's test of homogeneity.

Limitations aside, if the weaknesses of the quasi-experimental design are recognized, such studies can be a potent device, especially in circumstances and or fields where true experiments are impossible" (Broota 2006: 10), for example, in social and behavioral sciences and education. In much of the educational context, for example, researchers make use of existing groups (e.g. students already assigned to particular classes) for comparison or intervention purposes rather than assigning students to groups randomly in order not to disrupt school timetables and organization. Besides, in quasi-experimental design the experimenter does not need to carry out extensive pre-screening and randomization so the time and resources required for experimentation are reduced (Shuttleworth 2008: 1). Quasi-experimental studies are as good as experimental studies except that they are less powerful with regard to drawing causal relationships between independent and dependent variables (Broota 2006: 10).

Vockell (1983: 191) points out that quasi-experimental studies can often be conducted with less disruption to ongoing school programme and the existing class time-table. In the current study, I was interested in conducting a study that focuses on relationships between variables (vis. reading strategy use and reading comprehension) in the existing classes without interrupting the class routine. For this research context, the appropriate research design was thus a quasi-experimental design, which accommodates studies conducted in natural settings. Thus, I believed that the quasi-experimental design was appropriate to examine the effect that reading strategy training has on L2 students' academic performance.

3.2.2 External and internal validity of experimental design

Zikmund (2003: 271) states that if related factors that may affect performance are not controlled, they are threats to the validity of an experiment as the results obtained may not be due to the manipulated independent variable only, hence, the results cannot be generalized widely. The validity of the experimental research is measured according to two criteria: internal validity and external validity. Lodico, Spaulding and Voegtle (2006: 190) explain that internal validity has to do with threats or factors apart from the independent variable that affect the dependent variable such as cross cultural differences in perceptions**.** For example students' responses to a treatment may be as a result of the treatment and / or the influence emanating from different value systems within cultural groups from which they originate. In essence, comparable explanations that affect the results of an experimental study, but which are not part of the independent variable, deal with internal validity. Thus, the degree to which an experimental study results are accredited to the independent variable and not to any other comparable explanation is the degree to which an experimental study is internally valid.

On the other hand, external validity deals with the extent to which the study results can be generalized to groups and settings other than the ones used for the experiment. That is, those threats or comparable explanations that would not allow the results of the study to be generalized to other groups and or settings are the focus of external validity such as environment of geographical location. An experimental study is said to have high validity if its results can be replicated in different settings by other researchers (Lodico et al. 2006: 190).

Gay and Airasian (2003: 359) contend that using very rigid controls over subjects and conditions comparable to that of a laboratory-like environment in an experimental study for the purpose of enhancing internal validity, weakens its generalizability potential. Equally, if an experimental study is conducted in a more natural environment it may be

difficult to control extraneous variables. Thus, these authors state that it is better to seek a balance between control and realism. By using the quasi-experimental design, external validity is taken care of as this design promotes realism and is particularly designed for use in natural settings; in other words, it is non-disruptive and non-artificial.

One of the factors that may threaten the internal validity of an experimental research is maturation (Lodico et al. 2006: 191). For example, if the rate at which the subjects mature differs, especially in physical, mental or emotional functioning during the course of the study, it may affect the outcome of the study. Salkind (2000: 166) however, argues that maturation effects are mainly observed when children are being studied due to their fast growth rates. The subjects in the current study consisted of two groups of mature students. Thus, it was assumed that there would not be major changes in their physique, intelligence and emotions. Nonetheless, should changes occur, it would happen to both groups and most probably at the same rate.

Also, the intervention took place within six weeks (from September to November, 2008), a period which was too short for maturational effects to take place. However, it is possible that maturation effects, in terms of the learning that happens during the course of an academic year resulting from students' attendance in school and class, could have affected the outcome of this study. The t-test, which was used to test the difference between the intervention and control groups, would help to pick up maturational from intervention effects. The period between pre- and posttests may also affect the outcome of a study. The longer the period, the more likely there will be reduced memory effects with regard to performance on the pre- and posttests. Because this study involved a relatively short intervention period this likelihood was minimized.

Testing, in this case pretesting, may also pose a threat to internal validity because a pretest of participants on what is being measured on the posttest may result in improved performance (Lodico et al. 2006: 190). If the improved performance is as a result of the

exposure of the subjects to the pretest rather than the intervention treatment, then such improvement would be seen in both groups even after the treatment. However if the intervention group improves and the control group does not, then it means the improvement can be ascribed to the treatment. In addition, Zikmund (2003: 273) asserts that a change in the wording of questions of an instrument (e.g. a test or questionnaire or procedures) to measure the independent variable can pose a threat to the validity of the research results. In the present study, the same sets of instruments were used for pretest and posttest, for this reason such a threat is ruled out. Based on the above, it seems that the quasi-experimental procedure controls many of the major threats to internal validity.

Based on the foregoing, the quasi-experimental design, which accommodates the use of existing groups of subjects in their natural setting, in this case the college setting, was used. This included a treated group (i.e. intervention) and an untreated group (i.e. control), and pretests and posttests. Vockell (1983: 174) claims that an untreated control group is the most common quasi-experimental design. He adds that the pretest is important when the subjects are not randomly assigned to groups as it helps in controlling the internal validity of the study. In this regard, both the intervention and the control groups were given the same pre- and posttests.

3.2.3 Validity and reliability of test instruments

Lankshear and Knobel (2004: 161) state that it is important that a quantitative study instrument is both valid and reliable. Issues relating to the validity and reliability of test instruments in general, and to the specific test instruments used in this study (vis - the strategy questionnaire and reading comprehension test) are discussed below.

3.2.3.1 Validity

Lodico et al. (2006: 190) state that validity is concerned with whether a test measures what it is meant to measure. Punch (2003: 43) believes that validity has to do with how respondents can sincerely and carefully respond to questions, which he claims depends not only on the respondents' disposition and mind condition, but also on their ability to answer the questions asked in the instrument. The strategy questionnaire that was used in this study has been used by other researchers in testing strategies and has been accepted as being valid. In other words, building on almost thirty years of research into reading strategies, there tends to be scholarly consensus on the validity of questionnaire items that tap into different kinds of reading strategies. In addition the adapted questionnaire and the reading comprehension passage used for this study were closely scrutinized to ensure that all the strategies under study were captured and the items/questions clearly formulated. Moreover, in order to strengthen the validity of the instruments the strategy questionnaire items as well as the comprehension questions were arranged into clusters, with each cluster representing a strategy type, thereby increasing the possibility of correctly measuring the concepts under study.

3.2.3.2 Reliability

Reliability is the degree to which scores on a test are consistent or stable over time (Lankshear and Knobel (2004: 161). This is to say that an instrument is regarded as reliable if it produces similar results on occasions when it is administered to the same respondents. Punch (2003: 42) argues that the reliability of an instrument depends on whether questionnaire items/questions or comprehension test questions can be steadily and candidly responded to, by means of scales and alternatives given or more productive exercises such as written comprehension test, and the respondents' manner as they respond to the instruments. This implies that it is almost impossible for an instrument to be totally reliable even when the responses of the participants can be predicted each time the instrument is administered as it may be influenced by the respondents' temperament

or physical well being at the time of testing. That notwithstanding, there is every possibility that a valid instrument will be reliable. In other words, the reliability of an instrument relies on its validity. Statistical procedures that test for reliability include, for example, the Alpha Cronbach model of internal consistency, the split-half and the Guttman model, all of which provide reliability estimates.

Before I describe the study in detail let us look at some of the principles and ethics guiding research.

3.2.4 Research ethics

Ethics is the use of moral principles while dealing with others to ensure respect and fairness and to promote healthy relationships (Sikes 2004: 25). This is to say that, as a matter of necessity, researchers should know and apply the basic principles guiding ethical decisions to avoid creating uncomfortable situations by exhibiting and uttering unacceptable behavior and words when they are with participants. Also, the research should not be stressful or harmful in any way to the participants.

Based on the above, an effort was made to adhere to basic ethical principles in conducting the study. Leary (2001: 330) posits that it is obligatory for all researchers to protect participants' rights and welfare. He believes that obtaining informed consent is one of the sure ways to protect participants' rights. I first obtained informed consent of and from the college authority (see Appendix A) and the research participants before they participated in the study. I was open and honest with the students by telling them the purpose of the study and by giving them relevant information to motivate them to participate effectively. Leary (2001: 335) opines that obtaining informed consent is an indication that a researcher respects participants' privacy and gives them the required information that could assist them to make personal decision to agree or decline to participate in the study. In effect, participants were not forced to participate and their anonymity was respected.

The test conditions under which the strategy questionnaire and reading comprehension test were administered were conducive. The tests were administered in comfortable, well lit venues. The participants were not tired or under stress and I ensured that the participants understood what they needed to do. Also, I was with them during the pre- and posttests should there be need for clarifications on any aspect of the instruments. Their performance was discussed with them after the posttest.

3.3 The Studies

The study was conducted in two phases, a pilot and a main study. There were three research questions that guided the main study and they are as follows:

1. Does strategy intervention have an effect on students' use of strategies during reading?
2. Does strategy intervention have an effect on students' reading comprehension?
3. Does strategy intervention have an effect on students' academic performance?

The pilot study and the main study are similar in two ways: the same set of instruments was used for both studies, and the coding and scoring of the instruments were the same. However, the main study is different from the pilot study in terms of the aims, the number of participants, the data analysis and the fact that an intervention was given in the main study. The pilot study will be described before the main study.

3.3.1 Pilot Study

The main aim of the pilot study was to test the research instruments and to undertake an exploratory analysis of the data. That is, the pilot study was carried out to facilitate the achievement of the study aim by testing the research instruments and developing some

exploratory analysis with the data thus captured. The focus here was on the test instruments, the data collection procedure and data analysis.

Pilot testing the instruments is necessary so as to modify any aspect of the instruments that may confuse participants during the actual study, therefore enhancing their validity and reliability (Punch 2003:43). Besides the piloting of the test instrument, this pilot study was also used to do some exploratory data analysis with the intention to improve data collection procedures, the research questions and analysis for the main study if need be.

The following questions are central to the main study. They were also used to guide this preliminary study, which was carried out to enhance the actual study but the focus here was more on testing and refining the research instruments.

1. What is the students' reading strategy profile?
2. How do students perform in the reading comprehension test?
3. Is there a relationship between strategy use and reading performance?

3.3.1.1 Participants

One of the teacher training colleges (in Gaborone), other than the one selected for the actual empirical study (i.e. in Lobatse), was used for the pilot study. The second year students specializing in Languages (English and Setswana) were selected. This is because the same category of students from a sister college was used for the actual empirical study. I obtained permission from the principal of the college before I met with the students. I collected the class list and randomly picked ten students from the list. Three times a week (Tuesday – Thursday) the students observed a compulsory two hours of study period in the afternoon. I tested the participants during this study time in August 2008. They completed the questionnaire on the first day, and the comprehension passage

was done the following day. Eight of them completed both the questionnaire and the comprehension passage as two of them did not turn up on the second day.

3.3.1.2 Instruments

In this section, the research instruments that were used in the study will be discussed. Two instruments were used: a strategy questionnaire and a comprehension test.

A. The strategy questionnaire

According to Vockell, (1983: 78) a questionnaire is a research instrument used for gathering statistical information. He asserts that if a questionnaire is well designed, it is effective for gathering information that reveals the respondents' attitude, "personality trait and other internalized characteristics". Compared to an interview, a questionnaire does not take much time; it is less expensive and allows the collection of data from a much larger sample, but it can be time consuming if the number of respondents is large and geographically scattered (Airasian and Gay 2003: 282). Questionnaires on strategy use are best used as opportunities to help increase students' strategy awareness (Baker 2002: 86) and to assess their strategy use (Mokhtari and Reichard 2002: 225). In the light of this, the strategy questionnaire was used with the intention of evaluating the extent to which students, according to their self-reports, were using strategies covered in this study during reading and which kinds of strategies were used the most or least. It was also used in a pre-posttest design to determine whether the strategy intervention had any effect on the students' self-report about strategy use.

The use of a questionnaire to collect data on strategy use is based on the assumption that if students are aware of reading strategies and use suitable ones while reading, their performance will most likely be positively affected. Even if they are familiar with reading strategies, they may or may not use them during a reading task and if they do, they may or

may not be able to use them effectively while reading and they may also use ineffective strategies

If participants do not understand questionnaire items or if they are confused as to what is expected of them, their responses may not reflect the actual level of their understanding of the relevant concept, that is, the reading strategy. In effect, the instrument may not serve the purpose for which it is meant and then the items may need modification. However, it is important to point out that participants' ability to understand and answer questionnaire items is not the only factor that influences participants' responses. There are other factors too, for instance, the respondents' disposition and state of mind at the time of testing, their ability to answer the questions asked in the instrument (Punch 2003: 43) or the desire to look good in the eyes of a researcher. On the other hand, the participants' inability to understand the questionnaire items may suggest that they are not familiar with reading strategies and / or do not use them.

The questionnaire used in this study was a 30-item strategy questionnaire developed by Mokhtari and Reichard (in Mokhtari and Reichard 2002: 253) but was adapted to the given study situation. This particular strategy questionnaire was used because it has been used in many studies to assess and improve students' strategy use and has proven to be valid and reliable, (the original reliability score was .89). The original questionnaire contains thirty positive items. However, if items are always phrased as positive statements (e.g. *I identify the topic sentence of each paragraph*) then respondents may perceive them as desirable behaviours and respond accordingly. Some of the items in this study were thus rephrased and expressed in negative statements (e.g. *I consider it a waste of time writing a summary of what I read*), in order to track inconsistency in participants' responses and to minimize the problem of respondent acquiescence. In addition, some items were deleted and new ones were added so as to cover all the strategies under study: vis. identifying main ideas, inferencing, rereading, self-questioning, drawing conclusion,

summarizing and use of background knowledge. The revised questionnaire contains 36 items (refer to Appendix B).

B. The comprehension test

In order to test reading comprehension, an expository reading passage of approximately 1000 words was selected from a prescribed textbook. The selected passage contained 9 paragraphs with each paragraph consisting of approximately 100 words. I assumed that the participants would be able to read and answer questions on this 1000-word passage fairly comfortably within 30 minutes because as mature students they are expected to read about 200 - 250 words per minute (McNair, 2011: 1). Thus, the text passage conforms to the level of the students' required reading. The passage is titled *African Tradition*, a topic selected for its relevance to the participants.

Ogle and Blachowicz (2002: 260) contend that an informational reading task is more effective than a fiction literacy task to measure students' literacy achievement because students do more expository reading both in and outside the school. Moreover, the topic of the passage is one that would be familiar to African students. The question items tap into some reading strategies, and an effort was made to ensure that the comprehension questions cover all the strategies under study. There are 23 questions in the comprehension test, which are presented in different formats, such as requiring participants to give short answers, choosing from the given alternatives, underlining appropriate sentences and writing a short paragraph (refer to Appendix C).

3.3.1.3 Data collection procedure

Before the instruments were administered, the students were informed about the purpose of the study. This is in line with research ethical principles (Sikes 2004: 25), to ensure that

students' rights are not infringed. The questionnaire and the comprehension passage were administered to eight randomly selected students within an intact group. I personally administered the instruments to the students during the class study period to establish a rapport with the respondents and give clarifications on unclear items (Gay and Airasian, 2003: 283). The instruments were administered on two consecutive days. Students completed the questionnaire on the first day, and the comprehension passage was done the following day.

The questionnaire was administered before the comprehension test on the assumption that a less taxing exercise will encourage participants. In addition, it was deemed important to assess the level of the participants' strategy use based on *self-reports* before assessing their reading performance, which reflects their ability to apply some of the strategies. The administration of the sequence of the instruments proceeded smoothly. It was however observed that participants spent a long time on the comprehension test. This suggested slow reading rates and lack of ease in reading expository texts.

3.3.1.4 Data coding and analysis

The data for the strategy questionnaire were coded, ranked and analyzed. The participants' responses to the comprehension test were also coded, captured and analyzed. The Statistical Package for the Social Sciences (SPSS) version 19.1 was used for the analysis of the study data.

Questionnaire: The respondents described what they do when they read by responding to the statements on the questionnaire. The responses vary on a five-point scale defined by the categories: I never do this (1), I do this only occasionally (2), I sometimes do this about 50% of the time (3), I usually do this (4), I always or almost always do this (5). The scale number also reflects the score/value assigned to that particular response. The participants responded by circling the appropriate scale number (see Appendix B). To

minimize reader acquiescence (i.e. simply agreeing with the statements) the statements consist of both desirable and undesirable reading behaviours or positive and negative statements. For coding purposes, all respondents' choices in positive form were entered. The negative items (for instance, items 2, 6, 10, etc) on the questionnaire were transformed to positive, but in reverse order. This was done by rearranging the options (1 -5) against the statements in descending order (5 -1). The 36 items in the questionnaire are assigned to seven macro strategy categories each representing a different macro strategy, as shown in Figure 3.1 below. A students' strategy score was thus added up and computed out of a possible total raw score of 185.

Figure 3.1: Macro strategy categories and scores for the questionnaire

1.	Identification of main ideas: **1, 5, 12, 17, 21, 28, 35**	**(7 items x 5 = 35)**
2.	Inference: **4, 7, 9, 15, 20, 29, 33**	**(7 items x 5 = 35)**
3.	Use of background knowledge: **3, 8, 16, 18, 26, 34**	**(6 items x 5 = 30)**
4.	Rereading: **2, 6, 14, 22, 23, 27, 31**	**(7 items x 5 = 35)**
5.	Drawing conclusions**: 11, 21, 25, 32**	**(4 items x 5 = 20)**
6.	Self-questioning**: 13, 19**	**(2 items x 5 = 10)**
7.	Summarization: **10, 24, 30, 36**	**(4 items x 5 = 20)**
		Total = 185

Reading comprehension test: For the comprehension test the participants read the passage (see Appendix C) and answered 23 questions based on the passage. Each of the 23 questions carried 1 mark except questions 18, 21 and 23. Question 18 (background knowledge) carried two marks while questions 21 (main idea) and 23 (summarizing) required longer, more variable answers, with total marks of 4 and 5 respectively. The total mark for the test was 33. A set of guidelines was set up before to identify acceptable responses in each of those two cases, and were marked accordingly. The comprehension

test was marked by the researcher. The classification of the questions in the reading comprehension text is shown in Figure 3.2 below.

Figure 3.2: Macro strategy categories and scores for the reading comprehension

1. Identification of main ideas: **questions 1, 9, 11, 19** **(5 marks)**
2. Inference: **questions 4, 5, 7, 8** **(4 marks)**
3. Use of background knowledge: questions **3, 12, 13, 14, 15, 18** **(8 marks)**
4. Drawing conclusions: **questions 2, 16, 17, 22** **(4marks)**
5. Self-questioning: **question 6, 10, 20, 21** **(7 marks)**
6. Summarization: **question 23** **(5 marks)**

Total = 33 marks

3.3.1.5 The pilot study results

The pilot study results are presented according to the research questions, as shown below:

1. *What is the students' reading strategy profile*?

This was an exploratory research question to find out what kind of strategies students use and to what extent they use strategies while reading. In this regard, the pilot participants' responses to the questionnaire are displayed in Table 3.1 below. Because only 8 students participated in the pilot study the individual marks of all eight students are given in the table in order to provide a more nuanced picture of their performance. Please note that 'Total' row refers to total raw scores per student derived from the Likert scale response and the 'Mean' column reflects the mean from the Likert scale from 1-5. The total mean refers to the total mean raw score.

Table 3. 1: Pilot participants' response to the questionnaire

*P	Identification of main ideas		Inference		Background knowledge		Drawing conclusions		Rereading		Summarizing		Self-questioning		Total **(185)**	Total mean **(37)**
	Total **35**	Mean	Total **35**	Mean	Total **30**	Mean	Total **20**	Mean	Total **35**	Mean	Total **20**	Mean	Total **10**	Mean		
1	31	**4.42**	25	**3.57**	25	**4.16**	18	**4.5**	26	**3.71**	16	**4**	7	**3.5**	**148**	**27.86**
2	28	**4**	29	**4.14**	26	**4.33**	15	**3.75**	28	**4**	20	**5**	9	**4.5**	**155**	**29.72**
3	26	**3.71**	32	**4.57**	29	**4.83**	17	**4.25**	30	**4.28**	19	**4.75**	10	**5**	**153**	**31.39**
4	25	**3.57**	27	**3.85**	30	5	14	**3.5**	26	**3.71**	9	**2.25**	3	**1.5**	**134**	**23.38**
5	30	**4.28**	26	**3.71**	29	**4.83**	16	**4**	27	**3.85**	15	**3.75**	8	**4**	**151**	**28.42**
6	27	**3.85**	30	**4.28**	28	**4.66**	14	**3.5**	32	**4.57**	18	**4.5**	9	**4.5**	**158**	**29.86**
7	29	**4.14**	33	**4.71**	26	**4.33**	17	**4.25**	30	**4.28**	14	**3.5**	7	**3.7**	**156**	**28.91**
8	30	**4.28**	27	**3.85**	30	**5**	14	**3.5**	26	**3.71**	16	**4**	7	**3.7**	**150**	**28.04**
Total	226	**32.25**	229	**32.68**	252	**37.14**	125	**31.25**	225	**32.11**	127	**31.75**	60	**30.4**	**1205**	**227.58**
Mean		**(4.031)**		**(4.085)**		**(4.643)**		**(3.906)**		**(4.014)**		**(3.969)**		**(3.8)**	**150.625**	**28.447**

**Participants*

Table 3.1 suggests that the participants were not only aware of reading strategies, but they also claimed to use them. Seven of the participants claimed to use most of the strategies under study. Their average raw score in each of the strategy categories was between 3.5 to 5, indicating that they *usually* used the strategies while reading. Only one participant (number 4) used five out of the seven strategies. He did not use summarizing and self-questioning strategies while reading because his/her average points (1.3-2.25) fell within "*I never or almost never do this* and *I do this only occasionally*".

On the face of it, the results suggested that the students were aware of reading strategies. Almost all of them claimed that they used strategies while reading, which implied that they knew that strategies were used while reading. Moreover, participants did not ask for explanations or clarifications when they were responding to the questionnaire, which

suggested that they were familiar with strategy concepts and that the questionnaire items themselves posed no problems.

2. How do students perform in the reading comprehension test?

The comprehension test taps into strategy application while reading, and Tables3.2 and 3.3 below show the pilot participants' performance in the comprehension test.

Table 3. 2: Performance in reading comprehension

Participants	Raw score (Maximum=33)	Percentage %
1	17	51.5
2	10	30.3
3	18	54.5
4	17	51.5
5	20	60.6
6	12	36.4
7	10	30.3
8	19	57.6
Mean	15.3	46.5
Standard Deviation	4.069	
Median	17	
Mode	17	
Minimum	10	30.3
Maximum	20	60.6

Table 3.2 suggests that on the whole the scores were low, with a mean of 46.5%. Only one student obtained above the 60% level, three of them fell within the 30% bracket, while the other four obtained around 50%. This kind of result was not unexpected, given the time and effort they spent on the passage. The group's test mark in each of the strategies is shown in Table 3.3 below:

Table 3.3: Group performance in the different strategy categories

Strategy	Maximum score	Raw score	%
Identifying main ideas	40	18	45
Inferencing	32	24	75
Background knowledge	64	28	43.8
Drawing conclusions	32	27	84.4
Self-questioning	56	30	53.6
Summarizing	40	06	15

Table 3.3 reflects performance according to different categories of strategy application. The comprehension test results in particular suggest that participants on the whole have difficulty applying most of the strategies covered in this study. However, the high scores in *inferencing* and *drawing conclusion* categories suggests some sort of anomaly, one possibility being that the questions were probably too easy. All the same, it was decided to leave the test questions intact so they were not rephrased or changed.

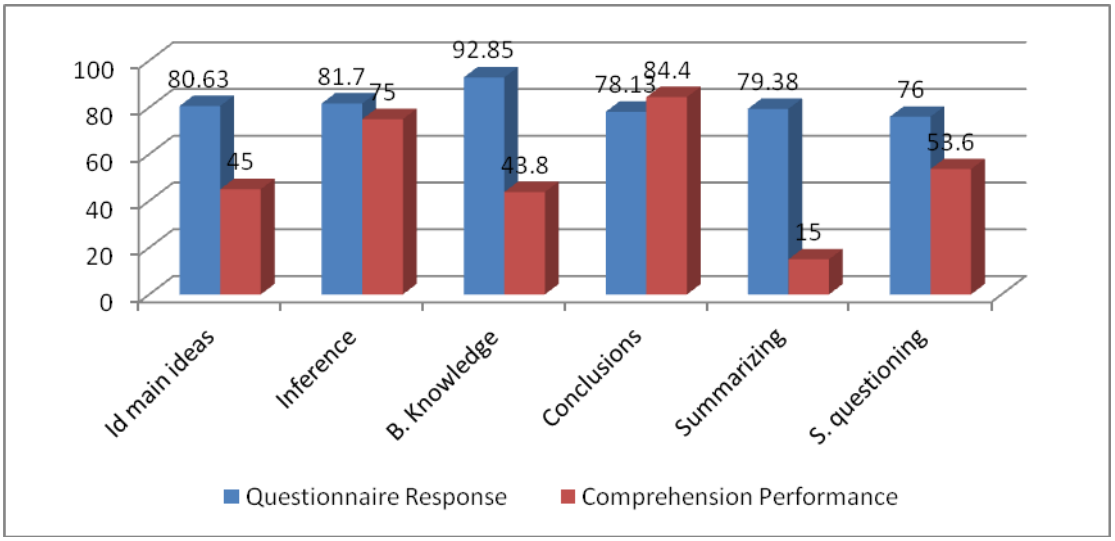
The results suggest that these participants were good at using only two strategies effectively: inferencing and drawing conclusion. If they knew how to use most of the strategies effectively they would surely have scored higher than the marks obtained. In essence, if strategies are used effectively, this should be reflected in students' reading performance.

3. Is there a match between strategy use and reading performance?

At a glance it is clear from the Figure 3.2 below that there is discrepancy between what these students claimed to do and what they actually did. Contrary to the respondents' claim that they use most of the mentioned strategies while reading, their performance on the reading test indicates that they really only use two of the six strategies covered in the reading test: inference and drawing conclusion. The application of a correlation test to the two set of marks would have been appropriate but the number of students was too small.

In effect, on the face of it the participants' self-assessment of strategy use is inconsistent with their performance.

Figure 3.3: Comparison of the group's response (on questionnaire) and reading test marks



3.3.1.6 Discussion of the pilot study results

As stated earlier, the main aim of the pilot study was to trial the research instruments and do some exploratory data analysis. The research procedures went smoothly and the students did not seem to have any problems responding to the questionnaire items or understanding the comprehension questions. The pilot study yielded two main findings: (1) According to their responses on the questionnaire the students seemed to be familiar with strategies and claimed to use them. (2) Based on the results of the reading comprehension test, the students' level of comprehension was low. It is clear that the students performed better on two strategies but I left the questions as they were because I thought that the instruments were valid to a considerable extent and because the pilot study group was a small number.

The participants' performance in the reading comprehension test suggests that they were not conversant with reading strategies otherwise they would have performed better on the test. The discrepancy between the students' perception of themselves as reflected in their responses on the questionnaire and their actual performance as revealed in the test marks may be due two reasons: firstly, the general tendency of respondents wanting to "look good" thus, rather than responding to the items candidly, some respondents prefer to give the researcher a good impression. Secondly, some students may have a tendency to overestimate their abilities, a tendency which Edwards, Kellner, Sistrom and Magyari (2003: 1080) found to be common among poorer performing students. Kruger and Dunning (1999: 1126) and Zubin and Gregory (2007: 89) assert that overestimation of one's ability is due to lack of skill to judge correctly, which again deprives an individual of the metacognitive capability to realize it. In effect, the ability to judge correctly is the same as recognizing one's ability to do so. Therefore, this discrepancy may have been arisen as a result of low reading levels and lack of strategic awareness on the part of the participants.

I assumed that the participants understood the questionnaire items because they did not ask for clarifications, thus, it could not have been that the items were confusing. Again, I assumed that the questionnaire is valid to a considerable extent even though it was adapted slightly. The questionnaire has not only been tested and proven valid, but has also been used in many other studies (e.g. Mokhtari and Reichard 2002: 251).

The comprehension test was considered appropriate to the respondents' level and the questions were also not out of the ordinary. The comprehension passage was taken from one of their prescribed textbooks which indicates that it is an authentic text for these students. The respondents took a longer time to complete the comprehension test than I had anticipated. In my opinion this suggested they were slow readers who struggled to read expository texts.

I observed that much of the time during the comprehension test was spent on the summary question. This was not a reflection of a problem with the summarizing task per se, but was rather an indication of the students' reading problems which included difficulties with summarizing. In this case, one may conclude that the participants' poor performance in summarizing is not unconnected with their low performance in main idea identification. In effect, the ability to identify main ideas makes summarizing easier. Summarizing was one of the strategies under study, and so rather than eliminating the question on summarizing in the main study, it was decided that more time would be allocated for the comprehension test in the main study.

Despite potential problems with the questionnaire data (i.e. giving inflated perception of strategy use) it was felt that the strategy questionnaire was useful as it could provide a window into students' perceptions of their strategy use. The general idea that there is need for triangulation in data collection was clearly evident in the pilot study so, the questionnaire was retained and used together with the comprehension test for the main study. The pilot group shared many similarities with the student population chosen for the main study. For example, the same criteria were used to admit them into the diploma teaching programme, both were sets of in-service students and both were in their second year. The only known difference was that they were studying at different locations in the country.

To summarize the pilot study findings: There was a discrepancy between responses on the questionnaire and the comprehension test, but it was felt that this discrepancy did not arise from problems with the research instruments, but seemed rather to reflect a gap in the participants' ability to assess their own strategy use with greater accuracy and their actual reading comprehension levels.

3.4 Main Study

To recap, the aim of the main study was to implement a RSI programme to see whether it would have a beneficial effect on strategy use, reading comprehension and academic performance. The three research questions that informed the study were:

1. Does strategy intervention have an effect on ESL students' use of strategies during reading?
2. Does strategy intervention have an effect on ESL students' reading comprehension?
3. Does strategy intervention have an effect on ESL students' academic performance?

In the following section the research participants, the research tools, the research procedure and the data analysis for the main study are discussed.

3.4.1 Research Participants

As mentioned in Chapter One the main study was conducted at Lobatse College of Education. The participants were in their second year of a three-year course leading to the award of a Diploma Certificate in Primary Education. All of them were Setswana speakers and using and learning English as a second language. The two classes (a control and an intervention class) specialized in languages, that is, English and Setswana. There were thirty-two (32) students between the ages of 23 and 35 years, consisting of thirty-one (31) females and one (1) male in each class. Out of the thirty-two students only twenty-eight (28) female students completed both the pre and posttests (the questionnaire and the comprehension test). As can be seen, nearly all the participants in the main study were female adults of Botswana nationality. It is necessary to note that the ratio of male and

female in this study is typical of classes of teacher trainee specializing in languages in Botswana Colleges of Education.

3.4.2 The control and intervention groups

The two classes, which were the only classes of students in the college who specialized in languages, were randomly assigned to the intervention and the control groups. Ideally, the intervention would have been done during morning sessions but the school schedule could not be changed. Thus the intervention sessions took place in the afternoon sessions during study periods.

3.4.3 Data collection procedure

The main study took place between September and November 2008. The same set of instruments used for the pilot study was used for the main study: the questionnaire and comprehension test were administered to both the control and intervention groups. The questionnaire and comprehension test were administered on separate days during study time, as mentioned earlier, because the school activities could not be altered. The two instruments were used for both the pre- and posttests as it was felt that there was sufficient time in between to minimize memory effects. Prior to the administration of the instruments, the researcher gave a brief explanation to both groups of students on what to do with the two instruments. The administration of the instruments followed the same pattern used in the pilot study (§ 3.3.1.3). As observed during the pilot phase, almost all the participants completed the questionnaire in 30 minutes, but spent almost two hours on the comprehension test; they also struggled on the summary part of the test. The data from the two instruments were coded, captured and analyzed in the same way as described in the pilot study.

After the pretests were done, the intervention group received RSI treatment for a period of six weeks. The posttest was administered to both groups at the end. The training was not given to the control group simply because the aim was to see whether strategy instruction would have a positive effect on the intervention students' performance before recommending its implementation in all the classes. The control group observed the study period in class for the entire six weeks; they were engaged in the activities typical of a study period in the college, e.g. studying and writing assignments. It was the duty of the class representative to ensure that the study time was observed. The posttest was administered to both groups at the end, after the intervention programme.

3.4.4 The design of the reading strategy programme

A strategy intervention programme is meant to equip students with reading strategies that they can apply while reading to better understand what they read. As indicated in Chapter Two explicit instruction has been found to be one of the major factors that accounts for students' success in reading comprehension (Beers 2003: 59; Pearson and Duke 2002: 247). In view of this, I needed to find a means of teaching strategies explicitly and the approach, Students Achieving Independent Learning (SAIL), seemed to be suitable because of its explicitness and because of its emphasis on using strategies as a means to an end, i.e. to achieve to comprehension. In the SAIL method, the teacher uses explicit instruction, modelling and discussion to teach comprehension strategies (Pearson and Duke 2002: 248). It focuses on the application of strategies and gives several opportunities to practise so that students become independent in the strategy use**.**

As indicated in the literature review (§ 2.2), in SAIL emphasis is on the interpretation of texts rather than coming up with "right answers" (Pearson and Duke 2002: 249). Of course, once the text is well understood, it is expected that the reader will be able to select the appropriate answers after intervention. Thus, in this approach students are taught to attend to their own *reading processes,* the *context* in which they are reading and the *text*.

I adopted this method in the hope that it would enhance the understanding of the strategies being taught. Teachers are required to talk explicitly about each strategy and its usefulness. They model the strategy by "thinking aloud" about their own use of the comprehension strategy in the students' presence after which students are encouraged to discuss their comprehension of the text and the strategies they are employing to obtain comprehension. The four steps involved in SAIL are discussed below.

(a) **Explicit instruction:** Explicit instruction is given in the first step. Explicit instruction is a plain, clearly stated instruction. It means helping students understand an intricate task such as identifying main ideas in a text. It requires teachers to clearly state a teaching objective and follow a defined instructional sequence (McEwan 2004: 22). Explicit instruction is different from other approaches to comprehension in that it uses a strategy to indicate a technique that readers themselves learn to control as a way to gaining better understanding of a text. In contrast, other approaches use a strategy to indicate a technique that teachers control to direct student reading e.g. the technique referred to as "what we know", what we want to know, and "what we learned" (K-W-L). Also, it is different in the sense that it is deliberate and direct in teaching individual strategies, on the idea that giving clear information on how strategies work will help "struggling readers to control their comprehension" (Duffy 2002: 30-31).

(b) **Modelling:** The second step is modelling. Modelling is a means of "showing students how a good reader would apply a particular strategy" (McEwan 2004: 24) during reading. It is a process whereby teachers model by thinking aloud "what happens in the brain of a skilled reader during reading" (McEwan 2004: 24), especially during the process of solving reading difficulty so that students can see when and how to use a particular strategy, to see strategic reading in action and what they can benefit by doing so (Duffy 2002: 32).

(c) **Guided practice:** The third stage is guided practice which refers to the stage in which students and teachers together practise the strategy taught. Here the teacher scaffolds the students' effort, supports their thinking and gives them feedback during small or large group discussions (Pressley and Block 2002: 32). That is, the teacher guides students to try out the strategy with the teacher's full support.

(d) **Individual application:** The fourth step involves giving students opportunities to practise independently. After students share their thinking processes with one another, they are encouraged to apply the strategy independently while the teacher provides feedback continually (Harvey and Goudvis 2000: 13). As students become more competent in applying the strategies during reading, teachers gradually reduce the support and allow students to take over the responsibility for completing a reading task a stage commonly referred to as 'the gradual release of responsibility' (Harvey and Goudvis 2000: 13).

3.4.4.1 Intervention procedures

I started the intervention programme on the 22nd of September 2008 and stopped on the 7th November 2008. Classes were conducted twice a week over a period of six weeks and each class session was 80 minutes long. It is important to note that the shape of this intervention programme was determined by structural factors at the college that were beyond my control. This was disadvantageous in the sense that implementation of the intervention in the morning sessions when students are fresh and active would have been better than in the afternoon when many students seem tired and sleepy, a situation that may require more work and effort on the part of the researcher. Furthermore, more than six weeks could have been spent on the implementation of the intervention programme if not for time constrains brought about by the college schedule.

The texts used in the intervention included fiction and nonfiction excerpts taken from prescribed textbooks, newspapers and magazines. The strategies were taught in the following order: use of background knowledge, self-questioning, drawing inferences, drawing conclusions, determining the main ideas and summarizing. The re-reading strategy was integrated into all the other strategies.

I taught the strategies in that order because I believe that the first and easiest thing for them to do is to become aware of their connection to the text. As they read they may come across a part of the text that may generate question(s), so self-questioning was taught next. Thereafter inferencing was taught because it occurs at the meeting point of questioning, connecting and the text. Drawing conclusions was taught after inferencing. Although students may draw conclusions as they read, conclusions often occur after reading a text. Identifying main ideas was taught before summarizing because the former provides the foundation for the latter. Besides, summarizing was the last to be taught because it requires the use of all the other strategies to produce a meaningful summary.

The teaching of the strategies followed the four steps described above. Firstly, each strategy was taught by introducing the passage to be read, explaining the strategy to be learnt, when it would be used in the passage and what students needed to pay attention to in order to use the strategy effectively Secondly, I modelled how to think when using the strategy. Thirdly, I involved students in a general class discussion on the passage and the strategy, students practised in groups of four while I gave them the necessary guidance as I moved between groups. Lastly, students took turns to lead a group discussion on sections of the text as they practised and modelled the target strategy. The four steps were implemented in a single lesson.

For example, the use of background knowledge was presented in the following order:

I first described what background knowledge is in reading. I explained what our background consists of: experiences, opinions and emotions. I mentioned the usefulness of bringing what we already know to reading: it helps us to better understand what we read. I began to read a text (nonfiction) on "Mount Kenya" (Radford 1981) which began as follows:

> Mount Kenya is a magnificent isolated peak rising to a height of 17,040 feet. It lies about 130 miles north of Nairobi by road, and within a few miles of the Equator. The base of the mountain rivals that of Kilimanjaro in size, the drive around it by road being a journey of over 100 miles. The lower slopes of Kenya are forested, like those of Kilimanjaro, and both are extinct volcanoes, but there the likeness ends. Mount Kenya is a great jagged tower, supported by a number of equally jagged ridges, while between the ridges the rock faces of the tower are festooned with snow and hanging glaciers. The top of Kilimanjaro, on the other hand, is like a smooth, rounded dome.

While reading the above paragraphs I modelled how to access and connect our previous knowledge to what is being read by thinking aloud e.g: *What does the first sentence remind me of? It reminds me of Oste Mountain along Lobatse road'*. After reading I encouraged them to add their own thoughts. Afterward, in groups of four, students were asked to read a nonfiction text on "The Hot Deserts" (Ngoh and Prerira 1984a) and discuss and write down what memories the passage brought to their minds. Each group's responses were generally discussed in the class. Then students were asked to take turns to lead a group discussion on aspects of the text as they practised and modelled the strategy of using prior knowledge.

In the next lesson the self-questioning strategy was introduced and the same procedure used. A passage (historical fiction) on "Attacked by Indians" (Bevan and Grant 1984a) was used to model this strategy. The students also practised with a poem "The streets of Laredo" (Bevan and Grant 1984). Students were asked to mark parts of the text where

they had questions, write down clues that make them question the author, the content, the event and or the ideas in the text, write down their questions and their predictions based on their previous knowledge. It should be noted that I used texts that the students used in class because they had access to the books. Even though some of the texts might not have been totally suitable for the purpose at hand, the fact that they were readily available was an important consideration.

A fiction text on “Invitation to Fight” (Ngoh and Prerira 1984b) was used to model inferencing and a newspaper article (Cox and Lucantoni 2003) was used for practice. It was assumed that this kind of text would motivate them to infer what is not explicit in a text. Students were asked to highlight sentences or words which they did not understand as they were reading and explain how they inferred the meaning of such sentences and words, they were asked to explain some sentences in the text (e. g. *give the article a title that indicates the view being expressed*).

The text “African Thunderstorm” (Bevan and Grant 1989) was used to model how to draw conclusions. Students were given a text “Walukaga the blacksmith” (Bevan and Grant 1984b) to read and answer questions, some of which required students to express their own opinions or ideas based on the information in the text.

An article “Bridging the gap in education” (Wilkinsson 2008) was used to model how to determine the main ideas in a text. A newspaper article “Impoverished family gets relief” (Tshwarelo 2007) was given to students to read and write down what the story is about, and to note any striking ideas and the most important thing(s) to remember about this story.

Summarizing was modelled with a text consisting of a letter (Bevan and Grant 1984a). I used the topic sentence in each paragraph to summarize the content of the passage and wrote these on the board as I read, I summarized the topic sentences after I finished

reading the letter. For practice, students were asked to summarize the main ideas written in the previous lesson. In addition they were given a text on "School Bullies" to read and summarize, using their own words. Samples of students' summary work were discussed in class. The text was taken from the same textbook I used to model summarizing.

Even though each strategy was introduced one at a time it has been observed that strategic students use more than one strategy at a time. They continuously relate background knowledge, make inference, question ideas in the text, etc. In effect, strategies do not occur in isolation as all of them work together to help readers construct meaning (Harvey and Goudvis 2000: 20). In view of this, I linked a strategy taught on one day with a strategy taught on another day to build the knowledge that strategy use is a coherent thinking process. The connection between each new strategy and what students already know was therefore made clear to students and the fact that readers use more than one strategy while reading was regularly reinforced. The first 20 minutes of each session was used to introduce, explain and model the strategy to be taught, students used the next 40 minutes to practise in groups and the last 20 minutes was used by individual students to reflect on and practise the strategy.

The intervention classes took place during the students' study periods so the control group spent the same amount of time studying throughout the intervention period. A summary of lessons conducted in the intervention programme is given below.

The intervention programme

Week	**Strategy**	**Activity**
Pretests		**Administered to both groups**
One Lesson 1	Background knowledge	- Stated clearly the purpose of the lesson. - Described the strategy and it usefulness.

		Gave students copies of the text to be used for the lesson. - Modelled how to connect background knowledge to the text to show that reading is an interactive process. - Practised it with students using a different text. - Students practised in groups of four and then individually. Comment: This lesson was interesting and students participated actively. Because students understood and applied this strategy I introduced another strategy in the following lesson to avoid boredom.
Lesson 2	Self-questioning	- The first 30 minutes was used to revise background knowledge using different passages from one of their English textbooks. - Introduced and described self-questioning - Modelled and practised it with students There was no time for students to practise it in groups.
Two Lesson 3	Inferencing	- Revised background knowledge by reading aloud the text to be used for the lesson and asked students to connect their experiences to the text.

Lesson 4		- Revised self-questioning. - Students practised in groups and then individually using different paragraphs in one of their textbooks. - Introduced inferencing, and described it. Explained why the first two strategies (background knowledge and self-questioning) would be needed plus what is explicit and implicit in the text to make inferences. - Modelled and practised it with students - Students practised in groups. There was no time for individual practice because students took long to follow this lesson.
Three Lesson 5	Inferencing	- Revised inferencing with the same text that was used the previous lesson to ensure that students understood how to use it to gain comprehension before giving them unfamiliar text. - Students practised in groups; feedback was given as they worked in groups listening to one another think aloud. - Students practised individually. Students struggled with unfamiliar texts.
Lesson 6	Drawing conclusions	- Revised inferencing. - Introduced drawing conclusion. - Explained that readers need to go

		beyond getting the facts in text, they must think about what those facts mean to them. - Combination of one's background knowledge, experience or idea and the information from the reading text are needed to figure out what the author intends readers to know but not explicitly stated in the text. - Revised background knowledge with the text for the day. - Modelled and practised it with students. - Linked inferencing and drawing conclusion strategies. - Students practised in groups. Students used background knowledge and self-questioning strategies during practice. No time to do individual practice.
Four Lesson 7 Lesson 8	Drawing conclusions Main idea identification	- Revised the strategy with students - Students practised in group to motivate them into active participation. More time was spent on group practice because it was observed that students needed more time to practise with one another. - Students practised individually while I gave them support. - Revised all the strategies taught the previous weeks.

		- Introduced main idea and described the most important idea in a paragraph or a section of a passage, usually the first or last sentence in a paragraph to which other sentences refer or the first and last paragraphs of a passage. - Modelled it and showed how other strategies help in identifying main ideas, e.g. asking yourself questions why a sentence is important, looking for cue words to infer (e.g. *therefore*, *so*, *thus*, etc,) rereading the paragraph for clarification, etc. Emphasized that effective use of inferencing and drawing conclusion strategies helps in indentifying main ideas. - Practised with students. No time for individual practice.
Five Lesson 9	Main idea	- Revised main idea. - Students practised in groups and individually.
Lesson 10	Summarizing	- Summarizing was introduced and described: restating the meaning of a passage read in one's own words. - Comprehension of the whole passage is important, then divide the passage, then write out the most important parts or ideas in the passage e.g. sub-topics or

		topic sentences, reread the passage to check if you have left out any important points, then pull all the points together in your own words , briefly. You may need to re-write many times. - Modelled and practised it with students. No time for individual practice.
Six Lesson 11	Summarizing	- Revised the strategy. - Students practised in groups and individually. More time was given for group practice. Students were given a passage to summarize and to submit before the next lesson. - Discussed students' assignment and gave feedback.
Lesson 12	All strategies	- Revised all strategies taught. - Students practised strategies taught individually with a passage. More time was given to identification of main idea strategy. Support was provided as necessary. Summarizing the passage using own words was a challenge. - Encouraged students to continue to practise these strategies during their regular reading.
Posttest		Posttests administered to both groups.

3.4.5 Analysis of data

In this study, descriptive and inferential statistics were used to analyze the data collected from the main study.

Before applying descriptive statistics to the main study, items in the questionnaire were grouped into seven clusters: inference, background knowledge, self-questioning, identifying main idea, rereading, drawing conclusion and summarizing. The same thing was done with the comprehension passage questions, (see Figures 3.1 and 3.2) because it is better to group items which address the same issue into a cluster and then get a total scores across an item cluster to strengthen the reliability of the scores (Gay and Airaisans 2003: 290). These seven clusters were reflected in the intervention programme.

To recap, the main study research questions were:

1. Does strategy intervention have an effect on ESL students' use of strategies during reading?
2. Does strategy intervention have an effect on ESL students' reading comprehension?
3. Does strategy intervention have an effect on ESL students' academic performance?

To answer these questions, paired sample t-tests (for significant differences within control and intervention groups respectively) and independent sample t-tests (for significant differences across control and intervention groups) were used for all three research questions. That is, the two sets of scores (pre- and posttest scores) of students in the intervention group were compared to see whether the performance of the group improved after the treatment. The same was done to the pre- and posttest scores of subjects in the control group to see whether there was a difference in each subject's performance.

Thereafter, an independent sample t-test was used to analyze the pre- and posttests data from the questionnaire, comprehension and the first and third terms scores in English language examinations to determine whether there was a significant difference between the intervention and control groups' means scores. In addition Cohen's d was used to test for effect size, i. e. to determine to what extent the intervention programme did affect the students' reading comprehension.

In line with most research in the social and human sciences, the probability level selected for this study is p = .05 (that is a 95% level of confidence). Gay and Airasian (2003: 450) assert that a test of significance assists in making a decision whether to reject the null hypothesis or not, and in concluding that the difference is significantly greater than that of a chance. They state that the purpose of using the t-test is to know whether two means are significantly different at a chosen probability level. The Statistical Package for the Social Sciences (SPSS) version 19.1 was used for tests of significance as it contains the entire programme needed for the analysis of the results of this study.

3.5 Conclusion

In this chapter, the research design was explained, the findings from the pilot study were presented, the justification for the choice of quantitative research technique was provided and the procedures used to implement and complete the main study were described. The experimental procedures were outlined and the principles and ethics guiding a quasi-experimental study were reviewed. The quasi-experimental investigation and a strategy questionnaire and a reading comprehension test used as the main instruments to collect data were described. Lastly, the data collection, data reduction and data analysis were described. The next chapter presents the analysis and interpretation of data drawn from the strategy questionnaire and reading comprehension tests as well as the English examination results.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

Chapter Three focused on the research methodology and the pilot study. The aim of this chapter is to describe the data gathered from the main empirical study and to present the results of the data analysis according to the three research questions outlined below. To recap, the aim of the study was to investigate the effect of reading strategy training on L2 students' strategy use, comprehension and academic performance. In the first part of this chapter, the results are presented for each research question. The findings are presented in two parts. The first part presents findings at pretest time (before the intervention) and the second part focuses on findings after the intervention. In the second part of the chapter, the findings are discussed. The chapter ends with a concluding section drawn from the findings.

The three research questions that drive the study are:

1. Does strategy intervention have an effect on L2 students' use of strategy during reading?
2. Does strategy intervention have an effect on L2 students' reading comprehension?
3. Does strategy intervention have an effect on L2 students' academic performance?

4.1 Sample profile and response rate

As described in Chapter Three, the data were collected from two existing groups of students who were randomly assigned to a control group and an intervention group. In

both groups there were 28 subjects, giving a total of 56 participants. The response rate was good. All the 56 participants completed the questionnaire and wrote the comprehension test before and after strategy intervention.

During the 6-week period of intervention an attendance register was kept to observe regularity of participants' attendance. A total of 23 (82%) participants in the intervention group attended all the 12 training sessions during the study periods, while only 5 (18%) missed a few days due to various health and social reasons. In such cases, an effort was made to arrange for meetings where they were provided with what they had missed during the 'regular' class. This was done to ensure internal validity and reliability of results. The participants in the control group observed their normal study periods during the entire time that the intervention group was engaged in strategy training.

4.2 Profile of students before intervention

Before implementing the intervention programme I first needed to find out what kinds of *reading strategies* the students were using and to what extent they were actually using these strategies while reading. To this end, a reading *strategy questionnaire*, which relies on students' self-report, was administered to both control and intervention groups. A Likert scale was used to assess the extent to which respondents did or did not take action on given strategies during reading as shown below.

Scale	I never or almost never do this	I do this only occasionally	I sometimes do this (about 50% of the time)	I usually do this	I always or almost always do this
	1	2	3	4	5

The mean and the standard deviation were computed for each set of strategies using responses based on this scale. As the scale shows, the higher the mean score the more

often the strategy was used by the students, e.g. a score of 4.5 for a given strategy means that most subjects indicate that they *usually* use the given strategy. A lower mean score such as 1.5 reveals that most respondents indicate that they *never or almost never* use the strategy. The reliability score for the reading questionnaire was .77 (Cronbach‘s alpha), showing a satisfactory reliability index.

The pretest responses to **the strategy questionnaire** by both groups of students are provided in Table 4.1 below. The table shows that most of the students in both groups claimed to *sometimes / usually* use many of the strategies during reading based on self-reports.

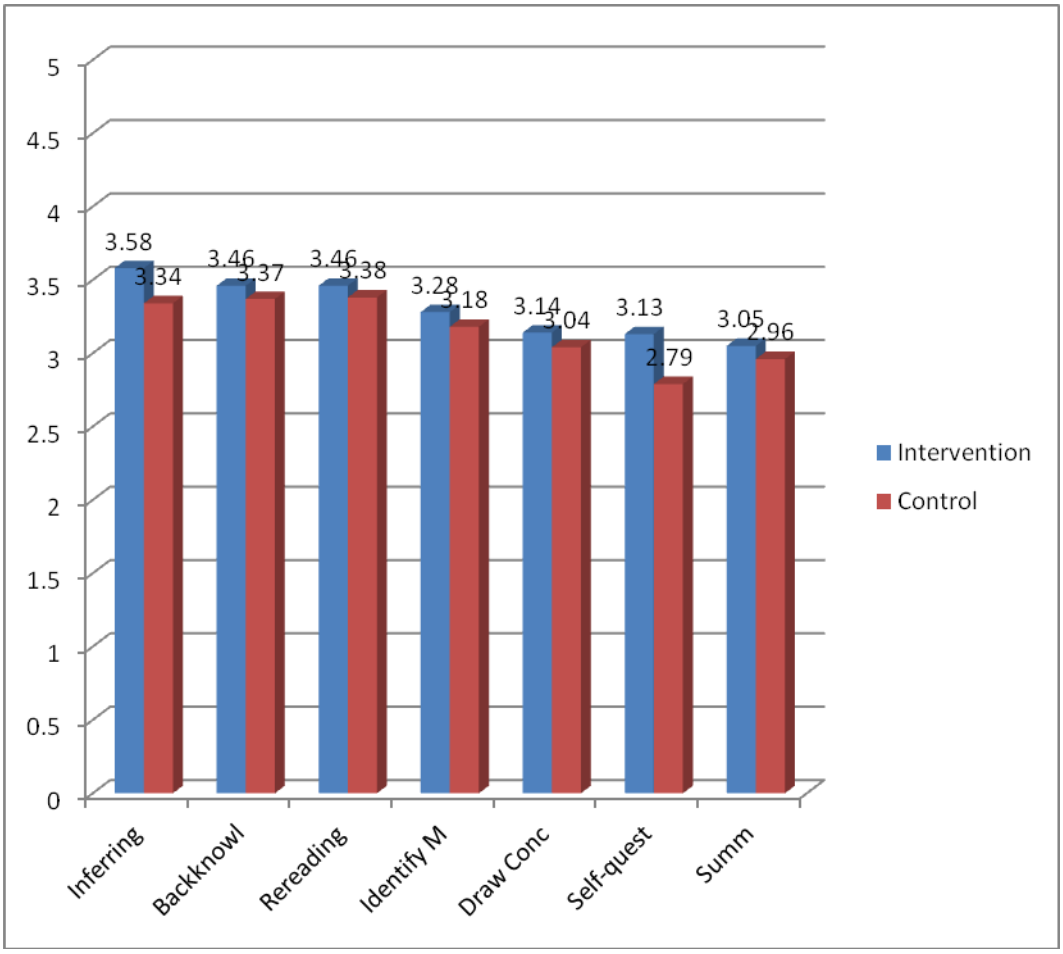
Table 4.1: Control and intervention groups' strategy use at pretest time

Strategy	Group	1	2	3	4	5	Strategy Mean	SD	Total Raw Score
Identifying main ideas	*Control*		14	57	29		3.1	0\52	
	Intervention			68	32		3.2	0.48	
Inference	*Control*		4	57	39		3.3	0.58	
	Intervention			43	53	4	3.5	0.46	
Use of background knowledge	*Control*		4	46	50		3.3	0.55	
	Intervention			43	53	4	3.4	0.55	
Rereading	*Control*		7	54	35	4	3.3	0.52	
	Intervention			50	50		3.4	0.45	
Drawing conclusions	*Control*		11	51	38		3.04	0.59	
	Intervention		11	39	46	4	3.1	0.63	
Self-questioning	*Control*	7	21	43	25	4	2.7	1.02	
	Intervention		10	43	36	11	3.1	0.89	
Summarization	*Control*		18	61	21		2.9	0.61	
	Intervention		14	61	21	4	3.05	0.67	
Overall strategy mean	***Control***						**3.1(62%)**		**119.5**
	Intervention						**3.3(66%)**		**115.3**

The overall profile derived from the pretest strategy questionnaire suggests that students are aware of reading strategies and that they often use them in reading.

Since the students claimed to be aware of reading strategies and apply them during reading I was interested in knowing their preferences in reading strategies. In light of this, these students' preferences in reading strategies were ranked as shown in Figure 4.1 below.

Figure 4.1: Ranked strategies at pretest time



As can be seen, of the seven strategies covered in this study the most commonly used strategy reported by both the control and intervention groups were *inferencing*, *rereading*

and use of background knowledge, while *identifying main ideas, drawing conclusion, self-questioning* and *summarizing* were the less preferred strategies according to their self-reports. The latter are strategies that help in meaning-making and are critical at tertiary level yet they are the students' least preferred strategies.

The next step was to assess the students' comprehension levels. This was done for two purposes. Firstly, to find out whether or not my observation that the students were weak readers was empirically supported. Secondly, because the strategy awareness profile relies on self-report claims, I needed to triangulate the questionnaire data with actual assessment data of the students' comprehension of expository texts.

For **the comprehension test**, the participants' scores in questions that capture each strategy were computed to provide a mean score per strategy category. A high mean score indicates that most of the participants in that group performed well in the application of those strategies. For instance, for *inference making* the total obtainable score is 4 and when the marks of all participants were totaled the mean was 3.6 for the control group at pretest time. Table 4.2 on the following page shows the students' mean scores in the reading comprehension test as well as the percentiles.

Both the intervention and control groups' mean scores in reading comprehension test were generally low, with means of 46.2% and 45.1% respectively. As in the strategy use reports (cf. Table 4.1), both the intervention and control groups showed similarity in performance in the reading comprehension test, as displayed in Table 4.2. To find out whether or not the two groups were indeed similar at pretest time, Levene's test of homogeneity was applied to the comprehension test mean scores: Levene's $F = .001$ ($df = 54$), $p = .976$**.** The results indicate that there was equality of variance between the two groups at pretest time. In other words, there was initially no significant difference between the control and intervention groups.

Table 4.2: Control and intervention pretest mean scores in reading comprehension test

Strategy		Control Group		Intervention Group	
		Mean	SD	Mean	SD
Identifying main ideas	5*	1.6	1.06	2.07	0.97
Inferencing	4	3.6	0.48	3.03	0.63
Background knowledge	8	6.4	0.87	5.5	1.40
Drawing conclusion	4	0.8	0.99	1.2	1.09
Self-questioning	7	2.2	0.87	2.3	1.09
Summarizing	5	0.3	0.48	0.7	0.51
Overall Mean	(33)	15.2	2.91	14.8	2.85
Overall mean (%)		**46.2%**		**45.1%**	

*****Total possible raw score given after each strategy. The total raw score was 33.

To summarise, the profile from the pretest measures suggests that although the students in both groups claimed to use reading comprehension strategies regularly, their actual performance in the reading comprehension test was quite low. In other words, there seemed to be a mismatch between what they claimed to do during reading and what they actually did. The findings after the intervention are presented below.

4.2.2 The effect of strategy instruction on students' strategy use

As mentioned earlier, the reading strategy questionnaire relies on self-reports and it covers all the strategies examined in this study. The first research question and hypothesis that deal with students' strategy use are the following:

> *Does strategy intervention have an effect on L2 the students' strategy use during reading?*
>
> **H1**: *There is a significant difference in strategy use between the intervention group who received explicit strategy instruction and the control group.*

Descriptive statistics are presented in Table 4.3 below with the standard deviation for each strategy presented in brackets.

Table 4.3: Control and intervention pre- and posttest mean scores in strategy use

Strategy	Control Group		Intervention Group	
	Pretest mean	Posttest mean	Pretest mean	Posttest mean
Identifying main ideas	3.18 (0.52)	3.28 (0.35)	3.28 (0.48)	3.38 (0.48)
Inferencing	3.34 (0.58)	3.55 (0.48)	3.58 (0.46)	3.83 (0.44)
Background knowledge	3.37 (0.55)	3.51 (0.49)	3.46 (0.55)	3.65 (0.50)
Rereading	3.38 (0.52)	3.53 (0.42)	3.46 (0.45)	3.94 (0.52)
Drawing Conclusion	3.04 (0.59)	3.21 (0.57)	3.14 (0.63)	3.42 (0.70)
Self-questioning	2.79 (1.02)	3.04 (0.93)	3.10 (0.89)	3.04 (0.93)
Summarizing	2.96 (0.61)	3.03 (0.62)	3.05 (0.67)	3.63 (0.57)
Overall mean raw score	119.5	120.9	115.3	129.3
Overall mean %	66.3%	67.2%	64.06%	71.8%
Percentiles (Raw scores) **25th**	109	112	105	121
50th	121	123	116	127
75th	128	127	126	137

Table 4.3 shows students' self-reports on strategy use before and after the intervention. The intention was to identify possible differences in their reports between pre and post intervention periods. There are two main trends that emerge from the table below. Firstly, although both groups showed an increase in strategy use, the students in the intervention group tended to consistently show higher scores than the control group. Secondly, on the

whole the strategy use scores show fairly robust responses most of the students in both groups claimed that they *sometimes* use a given strategy or *usually* use a strategy.

A paired samples t-test was performed on each group's overall pre- and posttest mean score to find out whether there was a significant difference between their pre- and posttest performance. For the control group, t = -740 (df = 27), p = 0.466 indicating no significant difference between this group's pre and posttests performance. In contrast, for the intervention group, t = -4.385 (df = 27), p = 0.000, indicating a highly significant difference between this group's pre and posttests.

Furthermore, an independent samples t-test was performed on the two groups' posttest scores to check whether the differences between the control and intervention groups' posttest scores were statistically significant or not. The result of the independent samples t-test was: t = 2.511 (df = 54), p = 0.015. The results indicate a significant difference between the control and intervention groups' strategy use after the intervention, with the intervention group significantly outperforming the control group. In light of the results, the null hypothesis is rejected at the 0.05 significance level. In effect, based on their self-reports on the strategy questionnaire the explicit instruction had an effect on students' strategy use.

In order to look more closely at variation within each group, I analyzed the students' responses in terms of percentiles. Students at the 25^{th} percentile were the weaker students, while those at the 75^{th} percentile were the stronger ones. Students at the 50^{th} percentile were students in the average range in the reading comprehension test. Figures 4.3 and 4.4 below show the mismatch between these two variables.

As can be seen from the average raw response scores in percentiles in Table 4.3, the intervention students at all three percentile groups improved in their posttest scores,

suggesting an increased awareness and use of strategies. However, there was very little change in the control group across the percentile group.

4.2.3 The effect of strategy intervention on students' reading comprehension

As indicated earlier, the comprehension test was used for the purpose of triangulating the data gathered from the questionnaire. The intention was to find out the extent to which the research subjects actually applied the strategies in reading. In other words, their performance in the comprehension test should confirm what they claimed to use in their responses to the questionnaire. Below are the second research question and the hypothesis:

> *Does strategy intervention have an effect on the L2 students' reading comprehension?*

> **H2:** *There is a significant difference in reading comprehension between students in the intervention group who received explicit strategy instruction and the control group.*

Descriptive statistics are presented in Table 4.4 on the following page with the standard deviation for each strategy given in brackets and percentiles to show differential performance within the groups. Figure 4.2 on the following page gives a graphic representation of the two groups' results.

Table 4.4: Control and intervention pre- and posttest mean scores in comprehension

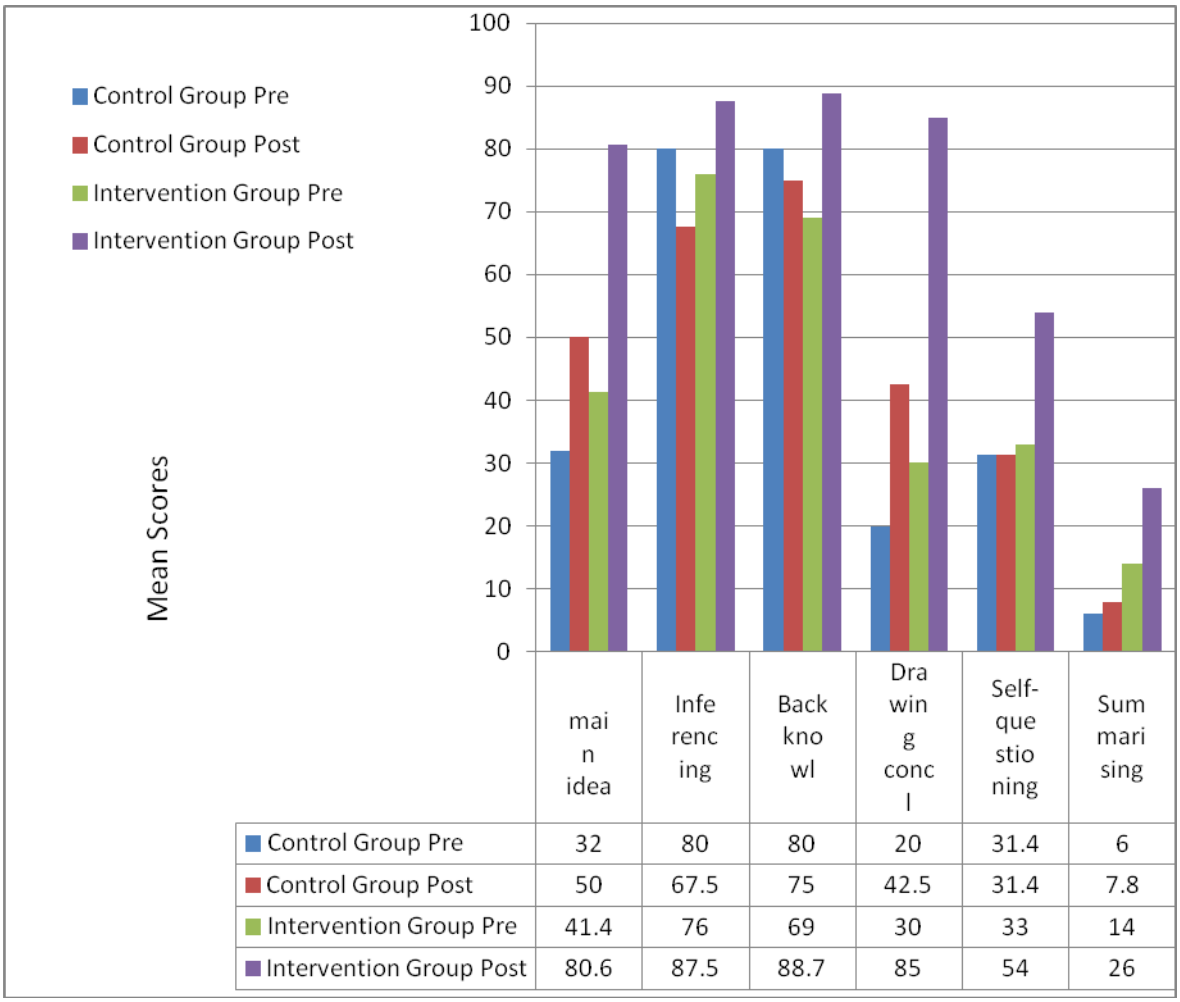
Strategy	Control Group		Intervention Group	
	Pretest mean	Posttest mean	Pretest mean	Posttest mean
Identifying main ideas * 5	1.6 (1.06)	2.5 (1.17)	2.07 (0.97)	4.03 (0.79)
Inferencing 4	3.6 (0.48)	2.7 (0.85)	3.03 (0.63)	3.5 (0.74)
Background knowledge 8	6.4 (0.87)	6.0 (1.15)	5.5 (1.40)	7.1 (0.89)
Drawing Conclusion 4	0.8 (0.99)	1.7 (1.42)	1.2 (1.09)	3.4 (0.79)
Self-questioning 7	2.2 (0.87)	2.2 (1.16)	2.3 (1.09)	3.9 (1.34)
Summarizing 5	0.3 (0.48)	0.4 (0.49)	0.7 (0.51)	1.3 (0.90)
Overall mean **Overall score (33)**	15.2 (2.93)	16.7 (3.58)	14.8 (2.80)	23.3 (2.29)
Overall mean (%)	46.2%	50.8%	45.1%	70.7%
Percentiles **25th** **50th** **75th**	42.4 45.4 50.7	45.4 50.0 56.8	37.1 45.4 51.5	66.6 69.6 75.0

*Possible total raw score is given for each strategy

On the surface it appears that both groups improved. The intervention group seemed to have improved on all the strategies while the control group gained improvement in three strategies. However, further testing was needed to check for significant differences. Therefore, a paired samples t-test was applied to each group's pre- and posttest mean scores. For the control group, $t = -1.746$ ($df = 27$), $p = 0.09$, indicating that there was no significant difference in comprehension in their performance between the two testing periods. However, for the intervention group, $t = -16.177$ ($df = 27$), $p = 0.000$, indicating a highly significant difference between the group's pre- and posttest scores.

Figure 4.2 below gives a graphic representation of the two cohorts' pre and post performance in the comprehension test.

Figure: 4.2 Intervention and control groups' pre-and posttests scores in comprehension



	main idea	Inferencing	Back knowl	Drawing concl	Self-questioning	Summarising
Control Group Pre	32	80	80	20	31.4	6
Control Group Post	50	67.5	75	42.5	31.4	7.8
Intervention Group Pre	41.4	76	69	30	33	14
Intervention Group Post	80.6	87.5	88.7	85	54	26

In order to compare the effect of strategy instruction on the two groups' reading comprehension, an independent samples t-test was applied to the two groups' posttest mean scores, t = 8.170 (df = 54), p = 0.000. The results indicate a highly significant difference between the control and intervention groups' performance in reading comprehension after the intervention, with the intervention group outperforming the control group. Once again, it is instructive to look at performance variation within each group according to the percentiles. Within the control group, there was some

improvement across all three percentile levels, with the weaker students (25th percentile) showing the least improvement. However, within the intervention group there was quite remarkable improvement across all three percentile levels with the weakest student making the most gains (37 – 66%). It is also important to note that at pretest time, the strongest students in the group (at the 75th level) showed mediocre performance, at 51.5% yet at posttest time their performance started approaching (at 75%) what in Botswana would be considered distinction performance. These kinds of results serve as a poignant reminder of how much potential can be unleashed through an intervention programme.

Based on the results, the null hypothesis is rejected. This implies that explicit strategy instruction had an effect on students' reading comprehension.

To test for effect size, Cohen's d was applied to the data using the pooled standard deviation. The result was 2.19, indicating a strong effect. The pre- and posttest scores of the students at the different percentile levels also bear testimony to the impact the RSI had on the intervention group of students.

The students' mean scores in the reading strategy questionnaire (self-reports) and the comprehension test were compared to see the difference between self-reports and the practical use of the strategies. To do this, the raw scores were converted to a percentage to enable easy comparison across the two measures. Please note that these figures are an attempt to visually illustrate the mismatch between self-reports on the questionnaire and actual performance.

As observed during the pilot study (§ 3.3.1.5), Figures 4.3 and 4.4 show a discrepancy between students' claims about what they do and what they actually do. This will be discussed later in this chapter.

Figure 4.3: Control group comparative results for questionnaire and comprehension post-test mean scores

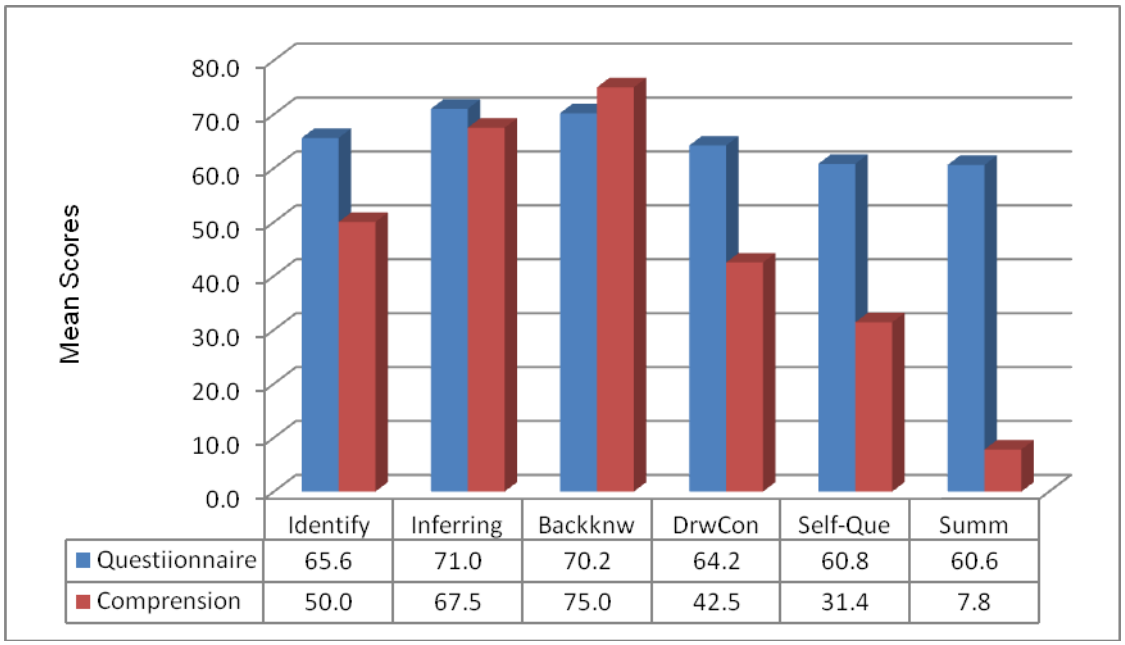
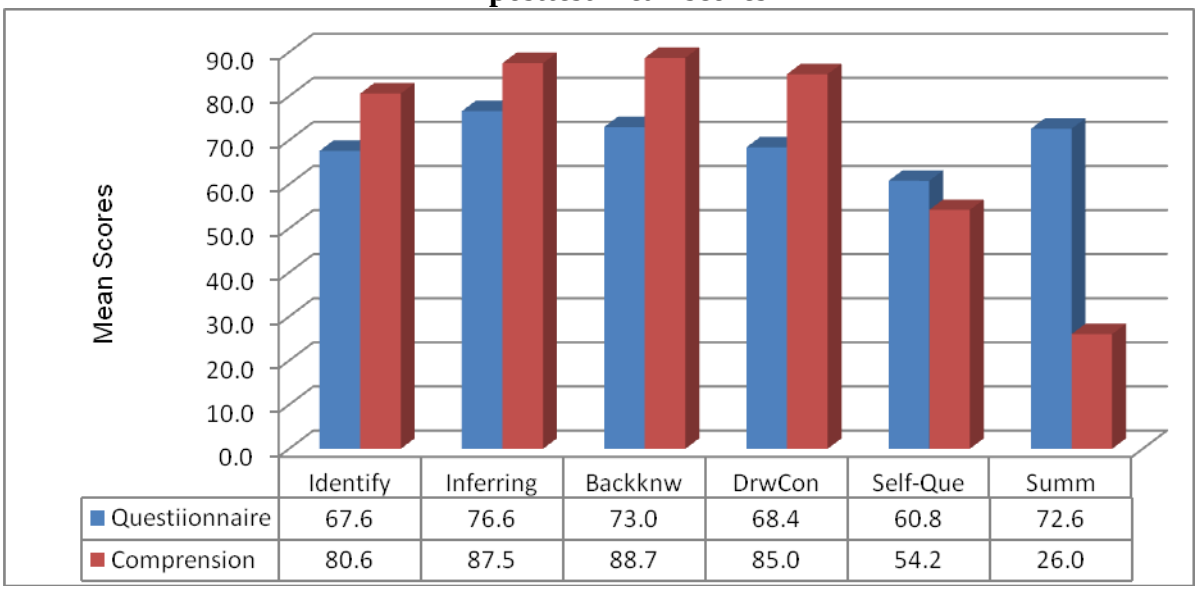


Figure 4.4: Intervention group comparative results for questionnaire and comprehension posttest mean scores



4.2.4 The Effect of strategy instruction on L2 students' academic performance

Although the intervention programme seemed to have a positive effect on the students' strategy use and reading comprehension, did these effects also transfer further 'downstream', so to speak, and affect their academic performance? The students' first and third term examination scores in English were used to assess the effect of strategy instruction on L2 students' academic performance. The first term examinations in L2 were written before the strategy intervention and the third term examinations took place after the strategy intervention. The following are the research question and hypothesis:

Does strategy intervention have an effect on L2 students' English academic performance?

H3: *There is a significant difference in L2 English academic performance between students in the intervention group who received explicit strategy instruction and the students in the control group.*

The students' first and third term examination scores are presented below.

Table 4.5: Control and intervention groups' 1st and 3rd term examination scores

Examination	Control Group		Intervention Group	
	1st Term	3rd Term	1st Term	3rd Term
Mean	61.14	61.46	60.54	64.57
Standard Deviation	9.05	9.18	9.85	10.55

On the whole, the students' academic performance was fairly average, as reflected in their mean scores in Table 4.5. Although on the face of it, the intervention group's performance did increase, inferential statistics tests were applied to the scores so as to check whether or not strategy intervention had a statistically significant effect on students' academic

performance. A paired sample t-test was applied to each group's first and third term mean scores so as to compare the two sets of the examination scores. For the control group, t = -3.68 (df = 27), p = 0.513, indicating there was no significant difference between the group's first and third term performance in L2 examinations. On the other hand, for the intervention group, t = -3.668 (df = 27), p = 0.001, indicating a statistically significant difference between the group's first and third term performance in L2 examinations.

An independent samples t-test was performed on the groups' first and third term examination scores. For the first term examinations, t = .240 (df = 54), p = 0.811, and the for third term examination, t = -1.176 (df = 54), p = 0.245. The results indicate no significant difference between the groups' first and third term examination performance. In essence, the results permit the acceptance of the null hypothesis. Thus, there is no statistically significant difference in the examination performance of students who received explicit strategy instruction compared to students who did not.

4.3 Discussion of results

There are four main trends that emerge from the results in the current study: fairly high response to reading strategy questionnaire, a mismatch between the questionnaire and comprehension responses, generally low performance in reading comprehension, and the short-term strategy intervention made a difference to examination performance. Each of these is discussed below.

4.3.1 A mismatch between questionnaire and reading comprehension responses

Before the intervention, the students' self-reports on strategy use suggested that students were familiar with the selected reading strategies. However, a comparison of the self-reports and the actual use of the strategies as reflected in the reading comprehension

results revealed a discrepancy between the two variables. The students' claims about their knowledge and use of the reading strategies did not tally with their comprehension performance, which was meant to reflect students' demonstration of strategy application in reading. If students believe that they use reading strategies, it is expected to show in their reading comprehension performance. The students claimed to use all these strategies most of the time, but their performance in reading comprehension suggests that they only use some of the reading strategies effectively (e.g. use of background knowledge and inferencing). Therefore, the questionnaire results (self-reports) were inconsistent with the comprehension performance. In essence, if used alone, the questionnaire results seem to give a false impression of students' abilities with regard to strategy use.

Some of the factors that may be responsible for these contradictory findings may be, firstly, the tendency of some participants to want to give the researcher a "good impression". Secondly, it may be that the participants did not have the habit of regular introspection about their strategy use during reading, resulting in their imperfect self-assessment, a phenomenon referred to as the Dunning-Kruger effect (Zubin and Gregory 2007). Thirdly, although the questionnaire items were modified to strengthen their reliability and validity, the problem generally associated with questionnaire usage, namely the desire to give socially accepted answers, may have contributed to a skewed portrayal of the participants' perception of their strategy use. The study shows contradictory results because the students performed poorly in the comprehension test.

As pointed in Chapter Three (§3.3.1.6), like the pilot study students, the participants in the main study also seemed to overestimate their strategy use. One may then ask: Of what use is a reading strategy questionnaire? Does it accurately capture what students do during reading? The following sub-section seeks answers to the questions raised.

4.3.1.1 The usefulness of a strategy questionnaire.

Given the discrepancy that obtained between what the students claimed to use and their actual performance on the reading comprehension test, one tends to wonder whether a strategy questionnaire can be used to obtain useful information. From the questionnaire responses it does seem that students are aware of these strategies and that they seem to realize that these are important in reading. However, awareness is one thing; the application of the appropriate strategies is another. If the students were aware of and use the reading strategies covered in this study as they claimed, why would these not be reflected in their reading comprehension performance? There are three possible reasons for this, all of which are related to methodological issues.

Firstly, there is the issue of reliability and validity generally associated with questionnaires, which again rely on the participants' disposition at the time they are responding to the questionnaire and their ability to accurately answer questions asked in the questionnaire (§3.2.3). The original strategy questionnaire had a reliability rating of .89. It has been reviewed and tested many times and has proven to be reliable. It has been used and critiqued by other scholars in the field (Mokhtari and Reichard 2002: 249). The questionnaire was modified slightly for this study and piloted first. Its reliability in the main study was a satisfying Cronbach alpha of .77. In addition, all the items in the questionnaire are all related to strategy issues, so the instrument is also valid. Moreover to strengthen the validity of the modified instrument, items were categorized in clusters with each cluster addressing a particular strategy to ensure that the instrument measured what it is meant to measure. For this reason, one can claim that, to a considerable extent, the instrument is reliable and valid.

However, as results from this study suggest, such an instrument may be less reliable when used with participants whose reading levels are not very strong. In such cases, there may be a greater tendency to give socially desirable answers. It might be the case that when

students have high reading comprehension levels, the chances are that they read strategically, therefore there is more likely to be a fairly strong match between their responses on a reading strategy questionnaire and a reading comprehension test. In contrast, when students have low reading comprehension levels, the likelihood is that they lack strategic reading skills, thus there might a mismatch between what they think they do (self-reports) and what they actually do, especially if they are not aware that they lack these skills as suggested by the Dunning-Kruger effect. There is clearly a need for more research in this area. When used in developing countries like Botswana where reading levels are not generally high, the use of a reading strategy questionnaire must be treated with caution and it must be followed by triangulation of data.

Thirdly, given the fact that the students were required to give their names on the questionnaire (although their confidentiality was assured) this study did not allow for the total anonymity of the respondents, thus increasing the students' tendency to create a favourable impression on the researcher. From the way the items in the questionnaire are phrased, it becomes clear to a participant that strategies are desirable things to do, so the students may feel obliged to create an impression that they are indeed doing desirable things. Nevertheless, the fact that students were not ignorant of reading strategies provided a foundation on which to further build up their reading abilities. Students may have been exposed to strategies in their support courses. In other words, students' awareness of the reading strategies probably enhanced their understanding of the strategies during the intervention.

One clear message that can be inferred from this aspect of the findings in this study is that caution must be taken in claiming that a questionnaire of this nature can give us accurate information about the kinds of strategies that students use, especially when the students do not have very strong reading comprehension abilities. This is one of the reasons for using multiple instruments to examine the same phenomenon from different perspectives, to serve as a system of checks and balances, as this study has shown. In light of this, for

future purposes, it is important for studies designed to assess the cognitive responses to a research issue using questionnaires, to be cautious of erroneous responses that may skew the research results. One possible way to mitigate the effect of such responses is to pilot test the instrument many times on a large scale in order to enhance the reliability of the instrument.

Lastly, the discrepancy in both studies, namely, the pilot study and the main study, between the participants' responses on the questionnaire and their actual performance on the comprehension test may be an indication that a strategy questionnaire needs to be constructed differently so that there is a stronger alignment between responses on this kind of questionnaire and responses on a comprehension test.

4.3.2 Low performance in reading comprehension

Compared to the questionnaire responses the participants' performance in reading comprehension was generally low. As indicated earlier, the comprehension passage was taken from one of the students' prescribed textbooks (§3.3.1.2), therefore the reading passage was supposed to be appropriate for their comprehension level. In other words, their poor performance in reading comprehensive suggests that they performed below the expected level of comprehension and that they were not strategic readers as indicated in their self-reports. The questionnaire scores portrayed the participants as strategic readers, yet their performance in the comprehension test gave a contrary picture.

When investigating the reading abilities and strategy use of students research of this nature should be triangulated, either by using more than one quantitative measure, as in this study, or by combining quantitative and qualitative measures. The inclusion of qualitative research such as tracking students, doing case studies, finding out from one-on-one interviews over time what students really think and do will increase the value or strength of this kind of study. A single quantitative approach is not the only way to

research this topic. As shown in this study, triangulation of data helped to see that a combination of instruments is likely to give a more accurate view of the participants' abilities than responses from a questionnaire alone. It was the comprehension test that gave a more realistic picture of the participants' abilities without which one would have been left with a rather misleading profile based on questionnaire data.

The participants' preferences in reading strategies are also indicative to some extent of their general reading performance. Participants in both groups' most preferred reading strategies were *use of background knowledge, inferencing* and *rereading*. The participants' preference for the use of background knowledge suggests that they were capable of bringing their past experience into what they are reading and connecting it to the text. However the results on the comprehension test suggest that although participants may think that they have brought their previous knowledge/experience to the reading of the passage, the application of this strategy was not always effective because it was not supported by successful use of other relevant strategies, otherwise they would have gained/achieved a better understanding of the passage (§2.2.4.1) particularly before the intervention.

4.3.3 Did the short-term intervention make a difference?

Even though the intervention programme was of relatively short duration (6 weeks), the short strategy intervention showed a significant effect on students' strategy use and reading comprehension. The participants' performance after the intervention reflects some improvement in performance of participants who received the strategy instruction. The results reveal that the intervention group showed a consistent improvement in all the reading strategies assessed in this study and their comprehension performance improved significantly. The results showed a significant improvement between the intervention group's first and third term performance in L2. However, it appears that the period was too short to make an impact on the students' academic performance in English as the

results showed no significant difference between the intervention and control first and third term examination performance. All the same, the improvement made by the intervention group suggests that if students are taught how to be strategic readers they could overcome reading failure, obtain information independently, achieve better performance in content areas and ultimately become more successful lifelong learners. It also indicates that potentials are being wasted. Many students may never be able to perform at the level of their potential if they do not get help. If students made such progress within a short intervention, a longer period of intervention may have more enduring, long-term effects and impact also on academic performance.

4.3.4 Strategy intervention takes time

An independent sample t-test results of the intervention and control groups' L2 end of year examination scores show that in the long run the short-term intervention did not make a difference in strategy application while 'reading to learn' for examination purposes. This was anticipated because the length of the intervention was probably too short to have an enduring effect on students' academic performance. A longer period (e.g. 12 weeks) of intervention or an intervention programme integrated throughout the year may show a more lasting improvement on their academic performance; it would give me more time to spend on teaching the strategies and also give the participants more opportunities to practice. Clearly, there is no quick fix in teaching students what strategies are, how and when to use them to be proficient readers.

Although it would have been preferable to carry out the intervention programme for longer than six weeks, the college calendar did not allow it. For example, one major college activity that takes students from class and college for several weeks is practical teaching. It may not be possible to have a 12-week uninterrupted intervention programme in a Botswana College of Education because of the program structure. For this reason, it is advisable to consider other models, e.g. integrating strategy use into regular reading

instruction or into regular language courses throughout the academic year. Other issues emanated from the current study are discussed below.

Another way to test the effectiveness of a strategy intervention programme is to do both an immediate posttest and then a few months after the intervention do a delayed posttest to monitor long-term effects. Although I had initially hoped to do this, it was eventually not possible because my contract came to an end and soon after my contract ended the college was closed down.

4.3.5 Most preferred strategies

Inference making is associated with thoughtful/proficient readers (§2.2.4.4). Although the participants did well on the questions testing their ability to make inferences, their overall strategy application was poor. Although strategies do not occur in isolation (Harvey and Goudvis 2000: 20), single strategies can be applied in particular contexts. The participants' ability to make inferences did not seem to activate the application of other strategies. It is surprising to note that the participants' ability to know when meaning breaks down and what to do did not make much of a difference to their good understanding of the passage.

The re-reading strategy is used by skilled readers (§2.2.4.3) when there is a breakdown in meaning making. Thus, the results depict a picture of participants who recognise and know what to do when meaning breaks down. However, the participants took a long time to complete the reading passage, and many of them did not finish it. Given that the average reading rate at college level is between 200-250 words per minute (McNair, 2009: 1), the participants were expected to comfortably complete the reading of 1000 word passage and answer the questions in 90 minutes, However, many did not finish in the allocated time. This is an indication that they were slow readers. Thus, the re-reading strategy is not effective if it does not enhance understanding and if readers are reading so

slowly that they do not actually have time to re-read effectively. In essence, the participants' choice of re-reading as one of their preferred strategies (based on self reports) is misleading.

It is not clear why the participants failed to grasp the meaning of the text which was taken from one of their prescribed textbooks. One explanation may be that they were slow and unskilled readers and were reading below their expected level, therefore they did not know how to effectively use reading strategies for a text that was beyond their reading level (though not beyond a first-year college level). Alternatively, they did not use rereading as a strategy as they claimed, perhaps because the participants did not know how to monitor their comprehension, and did not realize that when meaning is disrupted they need to select an appropriate strategy to fix it.

4.3.6 Less preferred strategies

The participants' lower preference for *identifying main idea, drawing conclusions* and *summarizing* may have contributed to their poor performance in the comprehension test.
The participants' lower preference for the above strategies confirmed what I observed in students that I have taught in Botswana. The students struggle to "get the bigger picture" when they read. Identifying main ideas and drawing conclusions contribute to the ability to summarize. Thus, students who cannot identify main ideas in a text also have problems comprehending the text. In other words, because they did not use those strategies, they were not conversant with how to use them effectively while reading. More importantly, the said strategies are critical for success at any level, particularly at tertiary level, especially when reading expository texts. The ability to identify main ideas in any text is the crux of reading, and the ability to identify main ideas also enables students to summarise important information in a text, which is helpful when reading to learn. Therefore, students at tertiary level who lack the know-how of using strategies while

reading may face challenges in their studies and may fail to progress if they do not get necessary help at the appropriate time.

During normal classes, I noticed that many students ignore questions on summarizing. This could reflect avoidance behaviour, which suggests a lack of confidence or mastery in this domain. For example, in most cases, students who attempt to answer such questions give inaccurate answers compared to the original copy; some write scanty, incoherent sentences and some just "lift" paragraphs from the original copies. A good summary reflects students' ability to identify main ideas and draw conclusions. Their performance in identifying main ideas and drawing conclusions showed considerable improvement in the posttests. Therefore, it is necessary to teach these two reading strategies before summarizing.

4.3.7 Maturational effect on students' performance

It may be argued that during the duration of a term (which is when the intervention took place), students are expected to show progress in their studies, and that improvements in reading comprehension would therefore not be unreasonable. On the surface, both the questionnaire and comprehension test results may seem to exhibit maturational effects, with the improvement made by both groups after the intervention. From a maturational point of view, this was to be expected, despite the relatively short period of intervention, but when the difference was statistically tested the improvement made by the intervention was significant but for the control group it was not significant. This suggests that the stronger changes in the intervention group could be attributed to the intervention.

4.3.8 Students' response to the intervention programme

The participants were enthusiastic about this intervention programme. This was reflected in their regular attendance and eagerness to learn. A few of them who missed some of the

lessons due to social and other related issues availed themselves when I initiated and arranged make-up lessons. The participants may have been motivated by what they could gain from the programme as they were informed of the benefits of strategy use at the onset of the intervention programme. Based on my own local teaching experiences, this display of enthusiasm is uncommon among Botswana students. Even when an exercise or activity will benefit them, some of them would prefer to spend their time elsewhere unless it is made compulsory for them to attend or partake in such activity.

4.4 Conclusion

This study sought answers to three questions focusing on the effect of strategy training on students' strategy use, reading comprehension and L2 academic performance. In this chapter I presented the results of the study, identified the main findings and I pulled together important themes from the questionnaire responses and test scores. The results of this study indicate that strategy training has an effect on students' strategy use and reading comprehension. The control and intervention groups' participants, who were homogeneous in terms of comprehension levels before the intervention, showed a significant difference after the intervention, a difference that can only be attributable to the given intervention.

Also, the results showed an inconsistency between the participants' positive claims about their use of strategies in reading and a demonstration of such claims in practical terms. In reality their low reading performance suggests that they are simply not strategic readers. There is an important methodological lesson to be learned from this, namely the importance of data triangulation. In this case, it helped to test the consistency of data from two different instruments meant to complement each other. Thus, data triangulation increases the chances of giving a more objective description of the participants' responses compared to a study which relies on questionnaire alone.

Lastly, the results reveal that a short-term reading strategy intervention does not have a spill-over effect on L2 students' academic performance. This suggests that more time is required for explicit teaching and practice of reading strategies for the training to have an enduring effect on student' performance in L2.

CHAPTER FIVE
A CRITICAL REFLECTION ON THE CURRENT STUDY

5.0 Introduction

Originally the study was intended to include a qualitative component where, after the intervention period, a few of the intervention students would serve as case studies for observing how they applied their newly acquired strategies during reading. However, my teaching contract was terminated soon after the intervention programme and then the college closed shortly afterwards. These realities led to an alternative decision to reflect consciously and critically on the intervention experience instead.

Reflecting on research of this nature is important because the area of focus, Reading Strategy Instruction (RSI), is one of the research areas that has not received much attention in Botswana. In addition, reflecting on how the intervention was conducted will provide useful information that can lead to enriched research work in related areas in the near or distant future. This chapter therefore focuses on my reflections on the participants' response to the intervention, the lessons learnt from the study and areas that did not receive attention during the intervention.

5.1 The participants' response

The students seemed to appreciate the intervention sessions. The attendance was impressive: only a few participants did not attend all the sessions at the scheduled times, but did take the trouble to attend the make-up sessions afterwards. The participants' excitement was reflected in their eagerness to learn how to apply the strategies in reading. They said they were never taught what to do when they encounter reading difficulty, and some of them believed that their reading would have improved if they had been taught

strategies in secondary schools. I used their positive responses to stimulate new ways for them to think about reading challenges and the role that they, on a personal level, could play as future teachers. I suggested that strategy instruction should be a part of literacy instruction right from primary schools, thereby encouraging them to consider that when they became reading teachers they should teach reading differently so that right from the onset their students would get to know what good reading involves.

The class atmosphere was different from the usual one in formal lectures. It was an informal setting, and students were free to express themselves. In a typical classroom, whether in the secondary school, public secondary schools in particular, or tertiary institutions, many Botswana students are usually quiet, they rarely make contributions to the lesson and they seem to understand everything in a lesson because they seldom ask questions. If asked whether or not they understand the lesson, they tend to chorus “yes”, but when the teacher asks them questions on the lesson taught, many of them will not respond. Thus, the teacher is left wondering how much of the lesson they really understood. However, during the intervention sessions, the students showed enthusiasm and many of them spoke freely, especially when they shared background knowledge among themselves as they worked in groups. During class discussions the students also recalled their experiences in the L2 classroom in their primary and secondary school days and since they had come to the college. Because the students had similar experiences in their different schools and in the college a summary of their experiences gathered through billiographic information, informal interviews and field notes is given below.

- All of them attended public primary and secondary schools, either in villages or towns.
- Many of the participants did not like English because they believed it is “hard” (their description) and because they perceived it as a language of reading, thus they did not use it often.

- Teachers usually shouted at them, called them names and even punished them if they did not know an answer to a question and this happened frequently. These punishments, they recalled, included standing in one corner of the classroom for five minutes, detention at break or lunch time, and writing out a word/phrase/sentence several times.
- Reading in the L2 was often associated with stress, punishment, derision and humiliation. Some of the participants were punished if they could not read, and their classmates made jest of them. Some were detained during break time and made to read on their own.
- For all of them a reading lesson meant learning vocabulary (though they had never been taught vocabulary strategies) from a given passage, having a couple of students read some paragraphs after which the whole class read silently, answered some questions and exchanged exercise books for marking. In other words, 'doing' a comprehension was regarded as 'learning how to read and answer questions'.
- Many of them recalled that their lowest marks were in English and mathematics.
- None of them had been taught reading strategies/comprehension strategies in primary or secondary schools.
- None of them read for leisure, but when they got to senior secondary school they habitually flipped through newspapers (parts of which are written in Setswana) and advertisements. In effect, they did not read them, at best they probably glanced at the headlines. This kind of newspaper reading does not provide students with additional reading practice, opportunities to learn new words or newspaper genre conventions. They cannot become well informed about local or international current events though this kind of skim reading.
- Some of them admitted that they had problems coping with the volume of reading they had to do when they came into the college (§ 1.1.3) and that they often found reading challenging.

- None of them were exposed to books other than their textbooks and because textbooks were never enough for each student to have one, two or more people shared a book.
- Some said that they did not like reading a text that is full of technical terms or what they referred to as "difficult" words, which prevented them from understanding the text.
- Many of them complained that they did not have personal dictionaries to look up words they did not understand while reading and that the only option they had was to go to the library to consult a dictionary, otherwise they skipped such words or stopped reading if they were confused. One would have assumed that at this stage of their career they would regard investing in a dictionary as important.
- Many of them admitted that they found dictionary meanings sometimes complicated and therefore frustrating.
- A few of them went to the school library a few times to borrow books which were never read. The libraries were neither well equipped nor well managed.
- Some of the students claimed that they went to the library in the college, particularly when they needed information for their assignments and during the examination period in order to study.

English is the official language in Botswana (§1.1.2) and, it is the language of instruction, therefore all textbooks are written in English except Setswana textbooks. This means that the reading that students did was functional reading done in English, and usually for study purposes. From students' expressions it can be inferred that they did not like reading, many of the participants never developed an interest in reading (§ 1.1.3), and they seemed to have poor intrinsic motivation, which is one of the characteristics of poor readers (Lau and Chan, 2003: 186) and had low self-efficacy, which is typical of passive readers. Their experiences in the L2 classroom and a long history of poor performance in L2 reading appear to have contributed to their lack of motivation and belief in their own ability. They had all these challenges, but very few seemed to take control of their learning or adopt

active, effective ways of dealing with them. Thus, a great deal of untapped academic potential was being dissipated. It is essential that teachers use 'learning strategy instruction' to build up students' self-efficacy and equip them with new ways of approaching learning/knowledge acquisition. In retrospect, some weeks into the intervention several of the students started building up confidence in their ability to read. This suggests that this kind of intervention programme should include vocabulary strategies, it should assist students to take charge of their vocabulary learning and build their dictionary skills.

5.2 Instructional lessons learnt

My experience as a teacher researcher during the six weeks of reading intervention gave me an opportunity to learn valuable pedagogical lessons which without doubt will inform my instructional style in the L2 reading classroom and help me to manage similar programmes better in the future.

The intervention sessions were fixed and could not be done at any other time/period other than the study periods as appeared on the school timetable. Therefore, for the six weeks the intervention lessons were conducted in the afternoon after lunch break. I believe that students are generally fresh in the morning session in terms of thinking and concentration. Some students doze off during the lesson in the afternoon especially during summer due to hot weather; and there is a tendency for the body to relax and feel lazy after a meal in the afternoon especially after a morning that was full of activities. Although many of the participants looked active and excited throughout the intervention period, there were some complaints about the heat (because the intervention took place in summer) and the tiredness associated with it. The lessons would have been better conducted in the morning session but the college authority agreed to study periods which were in the afternoon. I believe the time a lesson is conducted matters and it is capable of influencing students'

participation. Thus, if I were to do the intervention again, I would prefer it done during the morning session.

On reflection, it initially felt awkward teaching strategies explicitly. I had to practice many times in preparation for a lesson. Therefore, it was not surprising to see many of my students' somewhat bemused facial expressions during the first couple of sessions. They did not identify with the teaching method, especially the modelling part, some of them giggled as I modelled, and it took some of them at least two sessions to come to terms with it, even then some of them struggled during practice. One of the students said "this style is for the elementary learners". A few of them thought they could learn the strategies in a more mature way. However, with time they grew to like it and thought it was a fun way of learning how to read to learn. In the end, many of the students said that the style was more effective than the traditional method. In future, I will explain to the students beforehand about the modelling method: telling them what it entails and why it is effective will probably help them overcome initial resistance to it. Although teaching strategies explicitly requires more preparation time than the traditional method of teaching reading comprehension, it is one method I would prefer to use in the L2 reading classroom because of its effectiveness.

5.3 Motivational factors

Looking back, I believe there were two major factors that stimulated the students' interest to learn during the intervention programme, these were the instructional method and a supportive learning environment.

Many studies have shown that reading strategy intervention is effective in helping students improve their reading proficiency (§ 2.3.2). However, RSI currently provides little insight about what precisely in the instruction is responsible for the difference.

Looking back, two factors which I believe made a significant difference are the *explicit instructional method* used in this study, modelling in particular, and a *supportive learning environment*. As a result of the explicit modelling during the intervention the students could see what good reading involves, something that they never had an opportunity to either observe or practise in their primary and secondary school days. The art of connecting text to previous experience, self-questioning about the text, using context and other available cues to guess the meaning of words instead of always consulting a dictionary, the need to reread some parts of the text to access meaning, the importance of monitoring comprehension while reading, pausing and backtracking when meaning goes awry in order to fix it, all these strategies seemed to provide an example of what good reading involves to the students and helped raised their metacognitive awareness.

As Heslin and Klehe (2006: 706) point out, modelling can raise self-efficacy when observers share similar characteristics (e.g. age and gender) with the models. Being able to observe and practise with classmates and individually affected their perceptions about reading in the L2 and their belief in their own capabilities to use some of the strategies learnt to achieve comprehension. Reading in the L2 was no longer a big task but something that could be broken down into steps and used as a learning tool. Their interest in reading was stimulated and self-efficacy boosted, which in turn increased their motivation to read.

The positive classroom atmosphere that was maintained throughout the intervention and the support they received in terms of feedback also increased their sense of efficacy. The students' display of enthusiasm during class instruction, especially after they came to terms with the instructional method, suggested that they were becoming intrinsically motivated to use the new strategies. It has been noted that students may learn new strategies but may not use them if unmotivated (Lau and Chan, 2003: 178). The teaching of specific strategies to overcome reading failure gave them a sense of control in L2

reading, they could see themselves becoming independent learners who had the ability to obtain needed information through reading.

5.4 Methodological factors

During the intervention programme, several factors emerged that led me to consider how I would plan and present RSI differently in future. These included issues which ultimately point to a need for more refined test instruments and appropriate instructional materials.

It became clear during and after the intervention programme that the time frame within which this study was conducted was a major issue: the 6-week period was rather short in that it did not accommodate other necessary activities. Although there is no standardised length of time for RSI, it is a general belief that it takes time with respect to implementation and application before its effect shows on students' reading proficiency. Because the current study took place within six weeks, no time was given to the assessment and building of some of the prerequisite skills. Thus, some of the things that could receive attention in this kind of intervention programme in the future are discussed below.

The relationship between reading ability and responsiveness to RSI is an area that needs to be investigated more carefully. Given that the students who participated in this study did not seem to bring into the intervention the necessary prerequisite skills, devoting more time to building prerequisite skills would have been more beneficial to the students. For example, the assessment of the literacy levels of students with respect to decoding, comprehension, word knowledge, fluency and metacognition would provide useful information that one needs to know before introducing reading strategy intervention. The amount of students' word knowledge is pivotal to reading comprehension (Wallace, 2007: 190) because reading is as effective as the depth and scope of a learner's word

knowledge. An assessment of students' word knowledge may suggest the need for an explanation of some "unfamiliar" words to enhance decoding and comprehension. In this regard, lessons on vocabulary strategies could be included in language lessons that run concurrently with a RSI progamme. One's knowledge about students' word knowledge may provide information that will inform the selection of texts that are appropriate to the students' reading levels. Even though some of the texts used for instruction, including the text used for pre- and posttests, were taken from the students' prescribed textbooks, many of the students struggled to comprehend them, particularly before the intervention. Dictionaries were made available though these were not enough to give to each student, but each group had a dictionary. Students' several attempts to look up words in the dictionary rather than using the context to guess meanings, were an indication of low word knowledge level, an area which should have been dealt with before the intervention if there was time, or concurrently.

Another aspect that may be useful to explore is the students' fluency rate. Based on my experience with the students, they did not like reading aloud in class. Getting volunteers to read actors' parts in plays during literature lessons was not automatic, a few students may volunteer, usually the same set of students, but when there were more parts to play than those who volunteered it was a struggle, and some would not want to take part for no obvious reasons even when instructed to do so. Many of my students were generally slow readers and sometimes pronounced words incorrectly, some of them did not pay attention to punctuation, the results of which can lead to distortion of meaning and hinder comprehension. As Antunez (2002: 4) points out, if readers read fluently and accurately, "they are more likely to comprehend and remember" what they read than if they read with difficulty. This is because dysfluent reading is an indication that readers' attention is spent on word recognition (McKeown, Beck and Blake 2009: 221) rather than comprehension. Spending some time on skills building would have been beneficial to students. Although research does not always demonstrate that instruction increases reading fluency, fluency does seem to increase comprehension (Gersten, Fuchs, Williams and Baker 2001). It

would be appropriate to incorporate re-reading and reading aloud into RSI, especially for weaker readers. As Paris (2007: 193) contends, a reader who is not fluent has a variety of reading-related challenges which include limited word recognition, prior knowledge, vocabulary knowledge and genre knowledge. In future, the students' fluency rate is one of the areas that I would want to check before I select instructional materials for an intervention of this kind. Competency in oral reading fluency is not an option for trainee teachers if they are expected to instruct their student effectively. Thus, including strategy instruction on oral fluency would have been appropriate for my students.

Underlining and highlighting important text concepts is one of the effective ways to indicate a need to re-read and use strategies to enhance comprehension (Herding and Corderman 2010: 564). Although underlining and highlighting text concepts is part of teaching strategies for main idea identification, it should be emphasized in RSI when dealing with weaker readers. My students are more likely to pay attention to parts of texts that are underlined or highlighted, especially if they are aware that such sections will assist them to access the meaning of texts and to summarise a text afterwards. Thus, in future it would be a good idea to expose students to text with such features and observe it effectiveness on students' comprehension.

Apart from the teaching method, I realized that almost all the texts used during the intervention, including the text used for pre- and posttests, did not contain illustrations. If I were to run an intervention programme again I would consider using texts that contain graphic/visual information because the use of illustrations motivates students to read and supports comprehension (Hibbing and Ranking-Erickson, 2003: 761). In expository texts especially, tables, graphs and figures support text information yet students often ignore them because they know how to 'read' them. It would be appropriate that RSI incorporates strategies to enhance visual literacy. Considering the participants' attitude to reading and their reading proficiency levels, I believe the use of graphic texts will likely increase their interest, level of interaction with texts and stimulate their critical thinking.

However, if students do not know how illustrations and texts inform each other it may lead to misinterpretation or neglect of either of the two texts by students (Risko, Walker-Dalhouse, Bridges and Wilson, 2011: 337). Therefore, I think including strategies on utilizing graphic information should be an important component of a RSI programme because when students are able to make connections between illustrations and written texts they are likely to gain a better understanding of what they read.

Gagen (2007: 7) points out that comprehension is critically important to developing proficient reading. The observation that my students performed poorly in reading and comprehension motivated this study (§ 1.5) and thus an assessment of their comprehension levels according to grade level would have provided useful information that might have informed the planning and implementation of the intervention. Even though students' comprehension was tested in this study to know students' comprehension levels before and after the intervention, the results did not affect the choice of the texts used and strategies taught during the intervention. As observed by Irvin, Buehl and Radcliffe (2007: 99) the readers' first task is to understand the meaning of a text before proceeding to explore meanings implied by the text. Struggling readers, like some of my students, may need some help to achieve comprehension in the first place. Thus, ideally, students' comprehension levels should be assessed before giving them strategy instruction. The knowledge of students' comprehension is essential in order to meet students' needs with regard to the strategies to focus on during an intervention and the level at which the texts should be pitched. Using texts that are too difficult for their reading level would not result in effective understanding and application of strategies.

Another factor that drew my attention and that relates more to pedagogy than methodology is that of metacognition. I came to realize that the students would benefit from a proper introduction to metacognition during the intervention. Readers who are aware of, monitor and actively control their cognitive actions will possibly gain greater

comprehension of a text (Swanson and Alexander, 1997 in Reid and Lienemann 2011: 149). Proficient reading involves knowing when, how and where to use a particular reading strategy. If readers know reading strategies but are unaware of cognition and how to regulate it, their knowledge of strategies will not yield much dividend. Thus, I believe that instruction to enhance readers' metacogntion is an important prerequisite to RSI.

Although the participants in a study of this nature are expected to have acquired these skills during their primary and secondary education, it is highly likely that they might not have mastered these skills due to many factors including ineffective teaching methods, school/home environment, lack of availability of reading materials and individual differences. However, there was practically no time to explore beforehand the students' skills that are necessary for reading. In essence, assessing and giving instruction in those skills are a good foundation for RSI. There was not much time to concentrate on building such foundation skills in this study.

Reading strategy instruction takes time. One semester is not sufficient to improve students' reading proficiency (Shen and Huang 2007: 116) and it is therefore not realistic to expect RSI positive results within a short time (Farrell 2001: 635). If at all possible I believe that (i) a time frame that allows for the prior assessment of decoding, word recognition and reading fluency skills and (ii) the use of immediate posttests as well as delayed posttests to evaluate a lasting effect of the intervention on students' comprehension competency are required for a study of this nature. Thus, a longer period of time will give room for an in-depth examination of this research topic and will also provide opportunities for students to practice integrating these skills into every reading session. In other words, the use of such strategies must become a habit of mind.

If I were to conduct this study again I would also consider using a test instrument such as verbal protocols/think-aloud interviews despite its downsides (§2.4.1), in addition to the questionnaire and reading comprehension for three reasons. Firstly, it is useful to observe

the students' processes during their activity of text comprehension and this can only be possible if a think aloud interview is used as it provides a window into the readers' thinking. Secondly, it is important to have insights into how students attempt to access the meaning the author is trying to convey and to identify which strategies students use most and their effectiveness in helping students to achieve comprehension. Working with a few of the participants on a one-on-one basis with a think aloud interview would afford me opportunities to note what students know and can do and record those thoughts that may influence their search for comprehension, how students interact with the text by the use of strategies, identify their strength and areas of need, and monitor the rate at which each student is progressing throughout the intervention period. Thirdly, the use of think aloud interview data in addition to questionnaire data enables researchers to probe more deeply into the students' metacognition, that is, their conscious awareness of sense making strategies and how these strategies help them as readers. It also enables one to observe some other aspects of students' reading proficiency including fluency, pronunciation, word knowledge and their other reading behaviours.

Another aspect is the use of similar items for pre- and posttests. Newton (1999: 2) contends that repeating the same text questions for both pre and posttests is not effective when comparing two scores and that retaining part of the original test questions/items may make a difference. In future I would attempt to combine some items/questions in the original test with a set of new ones or construct an entirely different test testing the same strategies to rule out the effect students' familiarity with the test items/questions or rote learning may have on their performance.

In sum, the students' responses to the intervention was an indication of their yearning for learning. Many valuable lessons that were learnt during this period will help in teaching reading more effectively. Attention was not given to the assessment and building of foundation skills because of the inevitably short period of time (due to the school calendar) within which the study was conducted. A longer period of time is required for

this kind of intervention to have maximum effect. The final chapter gives a summary of the study, highlights the findings, discusses the contribution of this study to L2 reading research, describes the limitations, puts forward recommendations and finally proposes areas of further study, particularly in Botswana.

CHAPTER SIX
SUMMARY AND RECOMMENDATIONS

6.0 Introduction

Chapter One provided the problem statement, aims, methodology and structure of the thesis. Chapter Two reviewed the relevant literature while Chapter Three described relevant methodological issues and positioned the study within the broader field of strategy instruction research. In Chapter Four, the study results were presented and discussed. Chapter Five discussed my reflection on the study and the lessons learnt from the study. This final chapter summarises the study, highlights the main findings and discusses the implications of the major findings for educational practice. It also acknowledges the limitations of the study and makes recommendations for future research, particularly in strategy intervention in Botswana Colleges of Education and other educational settings with similar characteristics.

6.1 Summary of the study

The study set out to investigate the effect of reading strategy training on L2 students' strategy use, reading comprehension and academic performance. The rationale for the study was set out in Chapter One. The motivation for the study arose from my own observations: as a lecturer at a teacher training college I noticed that several of my students could not read aloud fluently and had problems comprehending English materials suitable for their level. Not only did they fail to improve on their L2 proficiency even after spending a year in the L2 classroom, they also struggled in content subjects. This is because difficulties with reading indicate that reading to learn from textbooks, journals, magazines, the internet, and so on is a challenge. Also, reading is a powerful source of

input for L2 learning. In addition, recently Arua et al. (2005: 13) initiated an awareness of students' negative attitudes to reading in Botswana schools. Especially now that quality education is at the core of Botswana vision for 2016, the need for students to become strategic readers cannot be ignored. The nation is intensifying its efforts by improving educational facilities, workers' salaries (including teachers), and infrastructures, in order to be an educated and informed nation by the year 2016.

The improvement of the trainee teachers' literacy levels and communicative competence is important in this 21st century for individual survival in and outside the school (Cook-Gumperz 2006: 28). Like any other country, Botswana also needs a highly literate group of teachers to survive and also for the vision to become a reality. The quality of the trainee teachers determines the quality of the education they will give to their potential students. If effective reading is the bedrock of success in all school subjects (Arua et al. 2005: 13), then school teachers should do everything possible not only for students to develop an interest in reading but also for them to become proficient readers. However, at the time this study was conducted, some of the trainee teachers at Lobatse College of Education were not proficient readers. Ironically, these are the future teachers who are supposed to develop primary school students' reading skills, motivate them to read, develop in them a positive attitude to reading and instruct them in reading comprehension.

Primary education is so fundamental that the kind of foundation laid for learners determines how far they can go in their education. If teachers are not equipped to instruct students to be proficient readers, the chances of the nation becoming an educated and informed nation are quite slim. For this reason, the study was conducted to explore the effect of strategy training on strategy use, reading comprehension and L2 academic performance of the trainee teachers.

Chapter Two positioned the study within a broader theoretical framework. The review of the literature revealed that the ability to read effectively empowers individuals as reading

is a means to an end. For example, it enhances and contributes to their personal growth and contributes to good academic performance. The literature review showed that reading strategies can be taught and that reading strategy instruction is one of the major contributing factors to successful reading (§2.4.2). This is because reading strategy instruction is characterized by explicit instruction, modelling, guided practice and individual application (§3.3.3) facilitates knowledge about and effective application of strategies while reading.

Chapter Three dealt with the methodological aspects of the study. The quasi-experimental design was found to be appropriate because the purpose of the study was to examine the effect of an independent variable (reading strategy training) on a dependent variable (i.e. reading comprehension and L2 students' academic performance), using intact groups (i.e. no random assigning of students to particular groups). This design makes use of two existing groups of students (that serve as a control and an intervention group). Thus two groups participated in the study with 28 students in each of the two groups. The participants were second year students pursuing a Diploma Certificate in Primary Education at Lobatse College of Education, Botswana. They were Setswana speakers specializing in Setswana and English, thus they were learning English as a second language. They were all female students between the ages of 23 and 35 years.

Two instruments were used: a reading strategy questionnaire to collect data on students' strategy use and a reading comprehension test to measure their comprehension levels. The questionnaire contained 36 items and the comprehension test contained 23 questions. The two instruments covered the strategies which were selected for inclusion in the study namely: use of background knowledge, inferencing, rereading, self-questioning, identifying main ideas, drawing conclusions and summarizing. The instruments were administered to both the control and intervention groups before the intervention (pretests) and then again after the intervention (posttests). The intervention group was explicitly

taught the seven strategies twice a week during study periods for six weeks. The steps taken to teach each of the strategies were described in §3.3.3. The control group observed their normal study time during the entire period of the intervention. After the intervention both groups responded to the questionnaire and wrote the comprehension test (posttests).

The description of the analysis of both the pilot and the main studies was presented in Chapter Three. A report on the pilot study was also presented in the same chapter. The findings of the pilot study indicated a mismatch between students' strategy use and their reading comprehension levels. That is, the majority of the participants did not use all the strategies while reading as they claimed in their responses to the questionnaire.

The purpose of the main study was to investigate the effect of strategy instruction on students' strategy use, reading comprehension and L2 students' academic performance. I used a t-test to test for significant differences between the control and intervention cohorts in the main study data. A paired samples t-test was used to determine whether there was a significant improvement between the pre and posttests scores of the groups. An independent samples t-test was used to determine the difference between the intervention and the control groups' posttests scores. The major findings as they relate to the questionnaire and comprehension test data are presented below.

6.1.1 The effect of strategy intervention on students' reported strategy use

The two groups had the same level of strategy use and reading comprehension before the implementation of the intervention (cf. Tables 4.1 & 4.2). The strategy questionnaire captured students' strategy use. Levene's test of homogeneity indicated that the difference between the intervention and the control groups was not significant at pretest time. In effect, both groups had the same level of strategy use before the strategy intervention.

Following the intervention, the two groups improved on their performance in strategy use according to the students' self-reports, but the improvement made by the control group was statistically insignificant whereas the improvement by the intervention group in all the reading strategies examined in the study was significant (cf. Tables 4.3 & 4.4). This improvement is attributed to the intervention. The comparison between the students' self assessment and their performance on the reading test showed inconsistencies. I did not set out to examine this but it emerged from triangulating the data.

6.1.2 The effect of strategy intervention on the students' reading comprehension.

The results showed that the intervention students improved greatly on the comprehension test scores after receiving the short instruction. The improvement made by the students stresses the importance of strategy training in enhancing students' reading comprehension. The two groups were similar in comprehension ability before the intervention was implemented, but there was a significant difference in their ability after the intervention. Despite the short period of intervention, the intervention group improved significantly in both their strategy use and reading comprehension after the intervention.

The finding that the intervention cohort improved lends support to Yang's (2006: 339) findings which suggest that L2 readers can apply reading strategies to solve reading failure that due to insufficient language knowledge in comprehending a text. Based on his findings he promoted the teaching of reading strategies in schools. In effect, teaching reading strategies to students does seem to enhance understanding**.** The Cohen's d analysis yielded a large effect size. This corroborates the significant differences that emerged between the two cohorts in their posttest comprehension results according to the t-test. Had it been possible to do a delayed posttest further down the line to see to what extent the students retained the effects of the RS instruction this may have helped clarify

in what way RSI was impacting on students. Clearly more research is needed with regard to determining the efficacy of reading intervention programmes.

6.1.3 The effect of strategy intervention on L2 students' academic performance

Findings from this study revealed that strategy intervention had no effect on L2 students' academic performance. Although there was a significant improvement between the intervention group's first and third term examination scores, a comparison of the control and intervention groups' third term examination scores, which was written after the intervention, showed no statistically significant difference (see Table 4.5). Given the 6-week duration of the intervention, it is possible that the implementation of the strategy intervention timeframe was too short for more distal effects to emerge or develop. If the period for administering the intervention had been longer and students were given more time to practise, there is every possibility that effects would have started manifesting themselves. Clearly this is an aspect of strategy instruction that requires further research.

6.1.4 Students' self-assessment skills

Through the use of two different instruments to triangulate the data inconsistencies emerged between students' strategy self-reports and their comprehension performance, which in turn revealed a lack of accurate self assessment skills. This more realistic picture would have been impossible to establish from the questionnaire alone. This study showed that many of the students lack accurate self-assessment skills. It was observed that all the students, including those in the pilot study, had difficulty in assessing themselves accurately. The pilot study group claimed to use all the strategies covered in this study but, based on their performance in the reading comprehension test, the application of the strategies did not support their claim. A similar trend was observed in the main study, as both the control and intervention groups claimed to use all the strategies, yet their

performance suggested that they applied only two of the strategies. The inconsistency in students' self-assessment and their actual performance confirmed that they lacked the skill to assess themselves accurately. This is linked to metacognitive ability, namely, the ability to think about, monitor and control one's own thinking. In effect students lacked metacognitive ability otherwise their self-assessment would have been more realistic since the ability to assess correctly and the ability to realize it are one and the same, according to the Dunning-Kruger effect (Kruger and Dunning 1999).

6.2 Pedagogical implications

The study has some practical implications for L2 reading strategy instruction in Botswana Colleges of Education and other educational settings that share similar characteristics. This study showed that reading strategy intervention can have a beneficial effect on students' strategy use and reading comprehension. Therefore, it can be hypothesized that students with low-proficiency level in reading will benefit from an explicit strategy instruction that shows them how and guides them to use appropriate strategies in different contexts. They should also teach students how to self-monitor their comprehension while reading (Maghsudi and Talebi 2009: 120).

A typical English reading lesson in many Botswana schools goes through pre-, during-, and post-reading procedures, in which students are given a passage to read. Students may read it silently, take turns to read it aloud or the teacher reads it to them after which they do various kinds of comprehension-testing exercises that implicitly require a limited number of reading strategies (e.g. skimming and scanning) which are not explicitly taught. This approach to teaching reading actually tests rather than teaches comprehension. It is important to note that students do not naturally acquire the target strategies through implicit learning. That is, students learn reading strategies and how to use or apply them in reading through explicit instruction. Teachers need to make the

comprehension process more visible; in effect, teaching comprehension is all about making the comprehension process more visible and strategy instruction facilitates this. ESL teachers in primary and secondary schools and colleges might need to integrate explicit strategy training into the regular reading instruction procedures (Chamot 2005; O'Malley & Chamot 1990; Zhang 2008). For instance, teachers can embrace a teaching method that involves a comprehension task and strategy application and assessment, with emphasis on strategy assessment. This pedagogy might help in increasing students' strategy use and ultimately facilitate their competence in using strategies in various situations and may increase their self-confidence, motivation and feelings of self-efficacy. However, for teachers to teach strategy instruction, they need to learn it themselves so as to interact with students at the appropriate time and place while reading a text with them. (Zhang and Wu 2009: 49).

Furthermore, the students' over-estimation of their perceived knowledge is an indication that they lack self-assessment skills and indeed metacognitive skill in general. Students' inability to assess their perceived knowledge and ability correctly might require teachers to emphasize students self-assessment skills. This cannot be taught directly, but as teachers promote strategy use, students' self-efficacy improves and hence their ability to assess their own reading and thinking processes and progress. An accurate self-assessment skill is not only an important component of competence but it is also crucial to achievement (Zubin and Gregory 2007: 89). Research findings suggest that learners who are competent in metacognitve self-assessment and consequently aware of their abilities are more strategic and perform better than those who are unaware (Rivers 2001: 286). In effect, metacognition aids skill development: the better one is at something, the better one can evaluate one's own performance and that of others. Therefore, teachers should teach students how to self-evaluate themselves accurately and how to become better readers at the same time. In light of this, it important for teachers to be role models by evaluating students objectively and giving them honest feedback (Zubin and Gregory 2007: 89), and instill in students the habit of reflecting on how a task should be done and what has to be

accomplished to get it done. This may enhance accurate self-assessment skills and increase students' awareness of their knowledge and abilities and self-efficacy.

In this study the finding showed that the short strategy intervention period had no effect on L2 students' academic performance in the third term examinations. This finding does not necessarily mean that strategy instruction is not effective in improving strategy application, but rather its effect is perhaps more distal and takes longer to manifest. The findings suggest that the first skills to change after intervention are strategy awareness and use and reading comprehension, while transfer effects to L2 and academic performance may become evident later, with continued practice of using the different strategies. Thus, the length of time given to intervention and the amount of opportunities to practice strategy are important factors. In short, there is no short cut to the teaching and learning of reading strategies, the implementation of strategy intervention requires time and students need sufficient time for exposure to various comprehension text passages and exercises to practice for more lasting effects.

The majority of primary school teachers in Botswana 'uses local languages in the classroom, have low English competence and are currently not able to teach English well' (Arua et al. 2005: 26). Thus, pupils carry their language problems to secondary school where teachers, in an attempt to address these language problems, resort to using local languages. The rationale that originally prompted this study was my assumption that one of the possible ways of addressing this problem is to assist trainee teachers to become effective language learners by training them in the use of reading strategy, which one of the language learning strategies that enhance communicative competence and one of the ways to improve the level of literacy. Previously research has suggested that if lecturers assist in these ways then students will learn better and invariably improve on their L2 proficiency and perform better in other subjects. Indeed, the results of the current study provide empirical support for this position.

It is important to note that when reading strategies are used appropriately they are without doubt indispensable to comprehension. All reading strategies are important and it is therefore difficult to decide which strategies to include in an intervention programme. I would venture to suggest that there are some strategies that are core strategies and should therefore be given attention. Some of the strategies that I believe should be taught include the following:

- activating background knowledge: this helps students recall and connect what they already know about what is being read, which in turn almost always facilitates understanding, stimulates motivation and enhances attention. This is to say that "the interaction between the reader and the text is the foundation of comprehension" (Cooper 2000).
- inferencing: it assists students to understand what is not explicitly stated in the text.
- re-reading: it increases exposure to the text which in turn enhances comprehension.
- self-questioning: it helps students in the processing of what is being read.
- monitoring comprehension: it is important that students are able monitor their understanding of what is being read. Knowledge of other strategies may not do students any good if they cannot track their understanding while reading and apply strategies to clarify reading failure.
- identifying main ideas: in reading to learn from expository texts it is critical to grasp important information and distinguish primary information from the myriad of details in a text.
- summarizing: this relies on main idea identification and enhances students' writing skills.

It is important to note that the choice of strategies depends on the type of text being read. The two basic types of texts are expository and narrative. The main purpose of expository

texts is to communicate, describe, or explain non-fictional information. Many ESL students find it more challenging than narrative texts "because they have specific text structures (e.g. sequence, compare and contrast, cause and effect, problem and solution, description, enumeration, categorization, and so on) and contain technical vocabulary, and require readers to have background knowledge" (Reutzel and Cooter 2007). Some examples of expository texts include textbooks (concept/content-specific books i.e., math, science, social studies, etc.), biographies, essays, scientific reports, encyclopedias, reference books, newspaper and journal articles, government documents and so on. Because of the nature of expository texts, they require critical reading and thinking strategies, thus strategies such as vocabulary strategies, activating background knowledge, inferencing, rereading, self-questioning, monitoring comprehension, identification of main ideas, drawing conclusions and summarizing are likely to aid the understanding of such texts. In contrast, narrative texts tell stories, they have a beginning, a middle and an end, main (and secondary) characters, setting, plot or conflict, and resolution. Narrative texts include realistic and historical fiction, myth, fairytales, plays and legends. Strategies that can enhance understanding of narrative texts are: activating background knowledge, identification of main elements of story grammar, e.g. identifying setting, characters, problems in achieving their goals, inferring motives for their goals/actions and the theme of story.

As mentioned earlier, students are typically never taught how to read texts in school (§5.1) and so they struggle when they attempt to read to learn. Strategy instruction could even begin as early as second grade by familiarising children with elements of story grammar and exposing them to narrative as well as expository texts. I believe it is better to catch them young because they are enthusiastic about learning at that age, it will benefit them if they get the right instruction right from the foundation phase of primary school and because strategic reading takes time to develop and become a habit of mind.

6.3 Limitations of the study

Although care was taken in the design and implementation of this study, (for instance, keeping variables constant and using the same subjects throughout the study, administering pre- and posttests, implementing the intervention study, etc.), the study was not without some limitations, which are highlighted below:

- Firstly, the use of the questionnaire to elicit data via self-reports could be regarded as a weakness because a mismatch between the self-reports (questionnaire responses on strategy use) and the comprehension test scores (the actual application of strategies) emerged. One cannot be completely sure that the strategy questionnaire used in this study gave precise information on the subjects' strategy use.
- Secondly, due to the relatively small scale of this study, only students from one of the six colleges participated in the study thus caution must be used in generalizing findings to students in other Colleges of Education in Botswana and those in similar contexts.
- Thirdly, due to the many activities going on in the college at the time this study was conducted it was difficult to include a qualitative component to this study to deepen the quantitative findings – this is an aspect that could be included in future studies of this nature.
- Lastly, leaving the control group completely out of this intervention programme was a problematic issue. I had planned to give this group strategy instruction immediately after finishing with the intervention group, or at the latest, the following year. However, this plan did not materialize due to time constraints, work pressure and circumstances at the college that militated against doing the same to the control group. Students were out for several weeks for teaching practice, as indicated earlier, and my three year contract ended at the end of that year and was not renewed which denied me access to the students.

6.4 The significance of the study

Conducting reading strategy research in the context of multilingual developing countries to inform tertiary level programmes and student skill development will likely help curriculum developers to make constructive decisions with regard to the improvement of programmes. This study makes a contribution to studies on reading ability in Botswana by showing that an RSI programme - even a short 6-week programme - makes a significant difference to the reading levels of teacher trainees and can also raise their awareness and use of strategies during reading.

Collecting different sets of data to arrive at a fuller picture of the use of strategies during reading emphasizes the importance of triangulating data in this kind of study. Although there were intervention benefits, they did not yet translate to academic performance which suggests that strategy instruction should rather be integrated into English instruction throughout the academic year in order to consolidate and automatise strategy application.

Some secondary school students in Botswana find it difficult to understand English because they lack reading strategies (Arua et al. 2005: 21). All of the trainee teachers are products of Botswana secondary schools and simply attending classes and participating in their diploma courses do not seem to help improve their L2 proficiency levels. The findings from this study suggest that by helping them raise their awareness of reading strategies and showing them how to apply such strategies during the reading process can make a significant contribution to improving their L2 reading ability. When trainee teachers learn how to read successfully it is assumed that they will learn more effectively and better and therefore, with time, also improve on their academic performance.

It is hoped that the findings of this study can contribute to local reading knowledge, which might justify the need to include reading strategy training programmes in the L2 syllabus of trainee teachers, thereby preparing them to give a quality assistance to their pupils in L2 reading when they themselves become teachers. RSI could be a starting point for

language as well as content-area teachers. The findings of this study could serve to stimulate curiosity and interest to know more about strategy instruction approach to teaching reading comprehension.

This study could also serve as a reference point for researchers in the African context, who are interested in investigating strategy intervention in relation to students' performance at primary, secondary and tertiary level. English for Academic Purposes (EAP) lecturers who teach skills directed at enhancing communicative skills may find the current study results useful. Findings from this study could also be of interest to people who handle adult literacy programme in the African context. Providing RSI in such programmes may also yield positive results.

6.5 Recommendations

Based on the findings the following recommendations are put forward.

- Curriculum planners in Botswana Colleges of Education should consider the introduction of reading strategy programmes to enhance students' reading comprehension and academic performance. A starting point will be to source experts to organize workshops on reading strategy instruction for language as well as content subject lecturers because every lecturer is in effect also a reading teacher. After all, there is no reading without content. Lecturers cannot transfer to students the knowledge they themselves do not have. They need to be taught the comprehension process before they can teach their students. Once lecturers are familiar with the rationale and procedures of an explicit RSI programme, they can implement such interventions for students in all Colleges of Education in Botswana. Lecturers' workshops should not be a once-off event but rather be done several times through the year until all the lecturers are able to effectively carry out reading strategy instruction in their various classes.

- Reading strategies to be considered for inclusion in RSI include: identification of main ideas, inferencing, activating use of background knowledge, re-reading, self-questioning, drawing conclusions and summarizing. The choice of strategies can also be based on particular students' needs.

- ESL and Tswana language teachers in both primary and secondary schools in Botswana should adopt the strategy instruction approach to teaching reading because it makes the comprehension process more visible and explicit. In addition, implementation of RSI in Tswana should be embraced by schools, e.g. Botswana primary schools where Tswana language is used as a medium of instruction because it may be easier to implement these strategies in the home language first. RC strategies are not language specific and research has shown that they can be transferred to any language text when reading (Yamashita 2002; Koda 2007 and 2008). With time teachers should consider integrating explicit strategy training into the regular reading instruction procedures to assist students to gain an in-depth understanding of any type of reading material.

- Extensive reading has been found to enhance L2 proficiency (Renandya 2007; Yamashita 2004, 2008). Thus, L2 teachers should endeavour to find ways of motivating extensive reading activities and implement them concurrently with RSI so as to improve L2 students' proficiency and reading fluency and skill. If skill is enhanced then it is easier to apply strategies. If one is reading slowly and effortfully at about 90 words per minute, it is very difficult to apply any kind of strategy (McGuinness 2005). Therefore, students should be provided with reading activities that will stimulate and sustain their interest in reading, strengthen their skill and promote the application of strategies during reading.

- Since reading in a foreign or second language is both a language and a reading problem (Hudson 2007; Koda 2007), it is important to help students form good

reading habits by explicitly teaching reading strategies that will help students solve comprehension failures and thus increase their self-efficacy as well as an interest in reading and nurture a positive attitude to it. They need to associate reading not with effort or failure but with success.

- Existing school libraries should be equipped with appropriate, diverse and adequate reading materials to motivate reading rather than textbooks as it is the case in many Botswana school libraries. If a school library is not furnished with different, interesting reading books it will not appeal to students and even those who like reading may be discouraged by the lack of exposure to interesting books. The libraries should be well ventilated, properly organized and should be conducive to reading purposes. Library periods should be incorporated into the class timetable to ensure that students observe it. However, if the library period is not formalized, unmotivated students (and teachers) may take advantage and use that as an excuse for not attending.

6.6 Suggestions for further research

Research on reading comprehension is scarce in Botswana. At the time of this study, no record of previous studies in Botswana on how to improve reading comprehension, specifically RSI, could be found. It is clear that more research is needed on how to assist students to gain reading proficiency. To this end, the following are suggestions for further studies:

- Investigating the long term effects of reading strategy intervention on both L1 and L2 reading comprehension. A careful examination of the transfer effects of strategy intervention from L1 to L2 and vice versa is needed. In essence, it is important to investigate whether students are able to transfer strategies learnt to access the meaning of texts from one language to another.

- Investigating the effect of RSI on general academic performance and achievement in all content subjects. Are students able to apply their knowledge of reading strategies to comprehending subject matter in social studies, history, biology, and other content subjects? We need to have a deeper understanding of the transfer effects of reading strategy knowledge to content subjects.

- Examining the effect of reading strategy instruction on different types of texts. Further investigation is needed for different types of strategies needed for different kinds of genres. Does one teach main idea identification for narrative texts? A story schema strategy would seem to be more appropriate for narratives. Strategies that relate to character portrayal and stylistic effects are also important in narratives but not in exposition.

- Examining the effect of RSI on students' vocabulary size and vocabulary depth, fluency, and metacognition. We need to better understand the relationship between RSI and other aspects of L2 proficiency and L2 reading ability. It is also important to investigate the effects of these factors on the efficacy of strategy instruction. It is likely that students who have shallow vocabulary knowledge and low fluency rate will have limited word recognition, prior knowledge, genre knowledge and metacognitive knowledge of themselves. It is likely that such students may not benefit as much from strategy instruction until they have improved in key areas of reading. These are interesting areas that await further research.

- Comparing the participants' self-reported (questionnaire) use of strategies and the actual demonstration of their ability in the application of the strategies (comprehension) showed a discrepancy between the two variables. This implies that it is necessary to triangulate data in order to obtain a valid result and to establish the relationship between variables. Future research should incorporate

think-aloud protocols or interviews to further examine students' actual strategy use so as to strengthen the reliability and validity of results.

6.7 Conclusion

Some students' failure to improve on their L2 proficiency despite spending a year in the L2 classroom at Lobatse College of Education gave rise to this study. As shown in this study, students' difficulties in using reading strategies to correct reading and comprehension failure is one of the main factors responsible for students' lack of progress in L2. In line with studies conducted in other contexts, it is evident in this study that strategy intervention improves students' strategy use and reading comprehension.

This study shows that strategy intervention requires time for implementation and several opportunities for students to practice before it can have a lasting effect on students' L2 academic performance. Also, this study shows that students lack self-assessment skill, as seen in the differences between students' self-reported responses of their strategy use and the practical demonstration of the same. Evidence from other studies shows a relationship between the ability to self-assess accurately and strategic reading.

Given the above, curriculum planners in Botswana and other African countries where strategy intervention has not been incorporated into teaching should seriously consider it. Effective reading is not an option for a country like Botswana - or any other nation - that aspires to become an educated and informed nation and that does not want to lag behind in the global information age. Effective reading can be taught and explicit strategy instruction is one of the ways to achieve reading proficiency. Let me end with the words of Steven Pinker (in Optiz and Eldridge 2004: 772): "Babies are born with the instinct to speak, the way spiders are born with the instinct to spin webs. You don't need to train babies to speak; they just do. But reading is different." Reading comprehension has to be taught and it cannot be left to chance.

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Appendix A: Letter of Consent

REPUBLIC OF BOTSWANA

LOBATSE COLLEGE OF EDUCATION
Private Bag 96, Lobatse.
Tel: 5330364 Fax: 5330901

2

September 2008

Dear C O Oyetunji

PERMISSION TO CONDUCT A RESEARCH – C O Oyetunji

This serves to inform you that your request to conduct a research in Lobatse College of Education that will provide information which will contribute to the improvement of students' performance has been granted.

You have been granted permission to conduct your research entitled: **The Effect of Strategy Training on L2 Students' Performance**
You are however reminded that since you will be collecting data from the students, you are requested not to disrupt normal classes.

Thank you

I Molefe
For / Academic Principal

Appendix B: Strategy questionnaire

The purpose of this questionnaire is to obtain information about what you do when you read. The information provided will be used purely for academic research, and will be treated anonymously and privately. Please answer the questionnaire as honestly as possible.

PERSONAL INFORMATION

1. **Name**: ----------
2. **Female** ☐ **Male** ☐
3. **Class**: ----------

DIRECTIONS: Listed below are statements about what people do when they read either academic or school-related materials such as textbooks or library books. Five numbers follow each statement (1, 2, 3, 4, 5), and each number means the following:

1= I never or almost never do this.
2= I do this only occasionally.
3= I sometimes do this (about 50% of the time).
4= I usually do this.
5= I always or almost always do this.

After reading each statement please **circle** the number (1, 2, 3, 4 or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements.

Strategy	Scale				
1. I skim the text first by noting characteristics like length and organization.	1	2	3	4	5
2. I find it time consuming to use a dictionary to look up words that I do not know. It slows down my reading.	1	2	3	4	5
3. I use facts in the text and my previous knowledge to help me understand the text.	1	2	3	4	5
4. I use information in the text to understand what is not directly stated.	1	2	3	4	5
5. I prefer to read for overall meaning rather than					

pay attention to individual words.	1	2	3	4	5
6. Once I start reading, I continue till I come to the end. I do not like to interrupt my reading by going back and re-reading parts of the text.	1	2	3	4	5
7. I always read the title, subheadings, references, and so on.	1	2	3	4	5
8. I use previous knowledge to guess what is not explicitly stated in the text.	1	2	3	4	5
9. When I do not understand what a sentence means I think about the other sentences in the paragraph to help me understand it.	1	2	3	4	5
10. I consider it a waste of time writing a summary of what I read	1	2	3	4	5
11. I guess at information not explicitly stated in the text to increase my understanding.	1	2	3	4	5
12. I decide what to read closely and what to ignore.	1	2	3	4	5
13. I thought up questions to test how well I understand what I'm reading.	1	2	3	4	5
14. I go back and read things over when I don't understand what I'm reading.	1	2	3	4	5
15. I use context clues to help me better understand what I'm reading.	1	2	3	4	5
16. I think about what I know to help me understand what I'm reading.	1	2	3	4	5
17. I do not like to 'spoil' my textbooks so I do not write notes in them or underline sentences.	1	2	3	4	5
18. To avoid confusion, I don't bring what I know into what I'm reading.	1	2	3	4	5
19. I ask myself questions on the text while I'm					

reading to enhance my understanding.	1	2	3	4	5
20. I skip reading tables, diagrams, flowcharts, etc. because they slow down my reading and distract me.	1	2	3	4	5
21. I use the major points of the text to increase my understanding of the topic.	1	2	3	4	5
22. I check my understanding when I come across conflicting information.	1	2	3	4	5
23. I skip the part I don't understand when I'm reading.	1	2	3	4	5
24. I summarize the main concept of what I read.	1	2	3	4	5
25. I judge what I'm reading from my own perspective.	1	2	3	4	5
26. I use what I know to understand the text.	1	2	3	4	5
27. When parts of the text becomes difficult, I re-read the difficult parts to increase my understanding.	1	2	3	4	5
28. I use typographical aids like **boldface** type and *italics* to identify key information.	1	2	3	4	5
29. Based on the evidence presented in the text, I use previous knowledge to help me understand what is not explicitly stated in the text.	1	2	3	4	5
30. I consider writing down all important ideas in the text unnecessary.	1	2	3	4	5
31. I paraphrase (or restate ideas in my own words) to help me better understand what I'm reading.	1	2	3	4	5
32. I use written or visual cues to understand something that is not directly stated.	1	2	3	4	5
33. I read table, figures and pictures in the text to increase my understanding.	1	2	3	4	5
34. I bring my knowledge of the world into what I'm reading to better understand the text.	1	2	3	4	5

35. When I read to prepare for an assignment, I read only those parts of the text that I think are relevant to the assignment question.	1	2	3	4	5
36. After reading, I write a summary to reflect on key ideas in the text.	1	2	3	4	5
	1	2	3	4	5

Thank you for your co-operation

Appendix C: Comprehension test

Read the passage below and answer the questions that follow.

The Value of Religion

1. African peoples are deeply religious. Religion has given African peoples a way of understanding the world in which they live. This is important, because that understanding of the world affects their experience of life. It supplies them with answers to the questions which arise for all human beings. To say this does not mean that they are the correct or the only answers. They are simply answers which people have found practicable and meaningful to themselves. People cannot live without asking questions about their existence and the existence of the world, and about their own experiences of being alive.

2. African peoples have found answers to these questions within their African Religion, even if some of the questions may not be satisfactorily answered. By giving people a way of interpreting the world, a way of understanding their own existence, African Religion has equipped them emotionally, intellectually and culturally to go through life and face its many experiences. If what gives them answers and solutions was suddenly abolished, people would feel lost in this vast universe. Religion acts as a light and guide people as they go through life and reflect upon it.

3. Today science has become the main source of our knowledge of the physical universe. But for all its great contribution to human knowledge and learning, science has its own limitations. There are questions which it cannot answer. For example, the question of whether or not God exists, the question of suffering and pain of the world, the problem of what happens after death and the destiny of the soul, the question of the purpose of human life, and so on. These questions are left to religion to answer, and sometimes philosophy helps in supplying answers. But most people in the world cannot understand philosophy or science, whereas almost everyone is able to follow or obtain something from religion. It is religion, therefore, which tries to solve these profound questions for everyone. Without it we certainly would be more ignorant than we are concerning these and many other problems.

4. Part of any religion system is its moral values which regulate and harmonize human life. It is religion which tells us what is right and what is wrong, what is good and what is evil, what is just and what is unjust, what is a virtue and what is a vice. We saw that African Religion has many moral values within the family and within the community. No society can exist without morals. Religion enriches people's morals, for the welfare of the individual and society at large. It is morals which build relationships between people and between them and the world around.

5. In many religions of the world, including African Religion, it is recognized that people have both physical and spiritual parts. It is only religion which nourishes the spiritual part of people. That does not mean that religion ignores the physical side. In fact, true religion is concerned with both the physical and spiritual welfare of people. To feed the spiritual half of man, religion provides spiritual insights, prayers, rituals, ceremony, sacrifices and offerings, dedication, devotion, trust in God, and other religious exercises. African Religion has many rituals of every kind. These are the channels for the contact between people and the spiritual world, between people and God. Through them, people stretch out their spiritual parts towards the invisible world and the things of the spirit. This spiritual hunger for peace, joy, comfort, security, hope, love and so on, can only be satisfied by religion.

6. We have said that African Religion has provided throughout the centuries the answers to the problems which people faced. It has also inspired the great ideas of our peoples concerning, for example, the moral life (courage, love, endurance, helpfulness, sense of kinship, and so on), cultural achievements (music, art, carving, dance and architecture), social organizations (such as the family, marriage, kinship, clans and age sets), political systems (such as idea of divine rulers), and the building of the past civilizations of our peoples.

7. Some of these great ideas passed unrecorded, because many of our peoples did not use the art of writing; but the little information and evidence which remain show that religion inspired them to do great things, to build great cities, to accomplish great works of art, and so on. Some of the ideas have been handed down through various skills and traditions. Without religion our history would have been greatly impoverished. The same applies to the history of other countries, where other religions like Christianity, Islam, Hinduism, Shintoism, and so on, have influenced the thinking and living of people. Religion inspires people to produce the best, the greatest, and the noblest that is in them.

8. Religion helps people to communicate in two directions. First, there is social communication. People meet together for a common purpose, for example to pray together, to perform a ritual together, to sacrifice together, and so on. They also meet indirectly through having common myths, legends, values, traditions, morals and views of the world. Because of religion they are able to understand one another, to communicate ideas and feelings and act more or less as a social unit, even if there may be other differences. At least in theory, religion gathers people together both in action and in religious commitment. This can be thought of as the horizontal direction of religious communication.

9. Secondly, there is vertical communication between man and God, as well as between people and the spirit beings. African peoples are very aware of the invisible world, which is an essential dimension of their views of the universe. These two worlds are close to each other. Therefore African peoples feel that they have to communicate with that invisible world as well. It is religion which turns their life in that direction so that they can communicate with God, with the spirit and particularly with the living

dead who form part of their family. They are also able to penetrate the forces and powers of nature, which often they imagine to be personal forces.

(Adapted from *Introduction to African Religion* Second Edition by John S. Mbiti 1991)

1. In each of the paragraphs below, underline the sentence (only one) that you think forms/carries the main idea of the paragraph.

African peoples are deeply religious. Religion has given African peoples a way of understanding the world in which they live. This is important, because that understanding of the world affects their experience of life. It supplies them with answers to the questions which arise for all human beings. To say this, does not mean that they are the correct or the only answers. They are simply answers which people have found practicable and meaningful to themselves. People cannot live without asking questions about their existence and the existence of the world, and about their own experiences of being alive.

African peoples have found answers to these questions within their African Religion, even if some of the questions may not be satisfactorily answered. By giving people a way of interpreting the world, a way of understanding their own existence, African Religion has equipped them emotionally, intellectually and culturally to go through life and face its many experiences. If what gives them answers and solutions was suddenly abolished, people would feel lost in this vast universe. Religion acts as a light and guides people as they go through life and reflect upon it.

2. Which of the following is a conclusion that could be made from paragraph 1 and 2?

(a) Religion is the only answer to human questions
(b) People are curious by nature
(c) Religion is an essential part of life
(d) Religion helps African people to better understand the world in which they live.

3. In paragraph 3 the writer states "science has become the main source of our knowledge of the physical universe." Give one example that you can think of to illustrate what the writer means here.

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4. Towards the end of paragraph 3 the writer refers to "*these profound questions*". In this context what does *profound* mean?

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5. Give an example of a profound question with regard to religion.

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6. Of the following questions, which is the most relevant question that could be asked after reading paragraph 3?

(a) Who was the founder of African religion?
(b) What do spirits do to people?
(c) How do African people welcome the birth of twins?
(d) If God exists, what kind of being is God?

7. In paragraph 4 the writer uses the word *vice.* What does this mean?

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8. Write down, in the space below, possible clues in the paragraph that suggest the meaning of vice.

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9. Look again at paragraph 4 and then select the option below which best paraphrases / summarises this passage:

(a) The effect of religion on moral values
(b) Religion and society
(c) Life after death
(d) Morals, customs, laws and tradition

10. Of the following questions, which is the most irrelevant question that could be asked after reading paragraph 5?

(a) How does the spiritual part of people function?

(b) How come religion is the only thing that can satisfy people's spiritual hunger?
(c) In what ways does religion nourish the physical part of people?
(d) Why does African Religion have no scriptures or holy books like other religions?

11. If we were to insert the subheading ***Religion inspired great idea* into the text, where would be the appropriate place to put it?**

(a) Between paragraphs 5 and 6
(b) Between paragraphs 6 and 7
(c) Between paragraphs 7 and 8
(d) Between paragraphs 8 and 9

In paragraph 6 the writer states that religion has inspired great ideas in people. In this regard, think of how this relates to people in your own community and then answer questions 12-14

12. Name a shrine in your community where rituals, sacrifices and other ceremonies are conducted.

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13. Which of the following (a-d) is the place where the ancestors reside to control the activities of the villagers in Botswana?

(a) Tsodilo Hills
(b) Kgale Hills
(c) Moremi Hills
(d) Lentswe Labaratani Hills

14 Which of the following is given the authority to control the affairs of people in a village?

(a) the Chief
(b) the King
(c) the President
(d) the Advisor

15. In paragraph 7 the writer refers to four other main religions of the world. Write down any two countries in which the following religions are practiced:

Islam is practiced in _____

Hinduism is practiced in _____

16. What conclusion can be drawn about the fact that many people did not use the art of writing in paragraph 7?

(a) There were insufficient writing materials
(b) People did not care about record keeping
(c) Many people were not educated
(d) It was easier to use other means of keeping record

17. What conclusion can be drawn about people meeting together to pray, perform rituals, etc. in paragraph 8?

(a) Religion is a way of life
(b) People carry out religious duties freely
(c) Religion binds people together
(d) African tradition is complicated

18. Apart from Christmas Day and Good Friday, list two (2) public holidays in Botswana, which are for marking religious events.

(a) _____

(b) _____

19. Which of the options below (a-d) would be an appropriate heading for paragraph 8 and 9?

(a) The unifying force of religion
(b) The role of communication in religion
(c) Humankind and the spirit beings
(d) Prayers, rituals and sacrifice

20. Of the following questions, which is the most relevant question that could be asked after reading paragraph 9?

(a) What is the meaning of taboo?
(b) Do African people really communicate with their dead family members?
(c) What is the place of people in the universe?
(d) Why have Indian religions failed to make converts among Africans?

21. Write down two questions that came to your mind as you read the passage.

(a) _____

(b) _____

22. Which is the most logical conclusion that a reader could draw from this passage as a whole?

(a) Humankind is older than religion
(b) Religion existed before humankind was created
(c) Religion is as old as humankind
(d) Humankind started practicing religion a century ago.

23. Summarise the passage in not more than 50 words.

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Thank you for your participation!