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THE EFFECTIVENESS OF METACOGNITIVE STRATEGIES IN WORD RECOGNITION TO IMPROVE READING COMPREHENSION OF LOWER SECONDARY ESL POOR READERS

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DECLARATION

I hereby declare that the work in this project paper is my own except for quotations and summaries which have been duly acknowledged.

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ABSTRAK

Di seluruh Malaysia, para pendidik mula meningkatkan tumpuan kepada pelajar-pelajar yang dianggap mempunyai masalah pemahaman, terutama dalam bahasa kedua iaitu Bahasa Inggeris. Ramai pelajar di dapati lemah dalam pemahaman kerana kurang teliti dengan perkataan-perkataan baru semasa pembacaan sesuatu teks. Oleh itu, ketidakfahaman sesuatu perkataan baru itu menjadi penghalang kepada pembaca yang kurang mahir dalam pemahaman. Mengenal perkataan merupakan satu unsur yang penting demi memahami apa yang dibaca. Sekiranya, pelajar boleh membaca tetapi tidak faham apa yang dibaca, maka pelajar ini akan hilang minat untuk terus membaca dalam bahasa kedua ini. Kajian ini bertujuan untuk mengkaji cara-cara yang berkesan untuk membantu pelajar-pelajar yang lemah dalam pemahaman untuk menambahbaikan kemahiran mengenal perkataan. Kajian ini, sebenarnya merupakan replikasi penyelidikan yang telah dijalankan oleh Spedding dan Chan (1991,1993,1994) pada pelajar yang menggunakan Bahasa Inggeris Sebagai Bahasa Pertama (L1). Dalam kajian ini, sampel yang digunakan adalah pelajar-pelajar yang menggunakan Bahasa Inggeris Sebagai Bahasa Kedua (ESL). Satu kumpulan terkawal diajar dengan cara tradisional manakala kumpulan eksperimental diajar dengan menggunakan strategi metakognisi untuk mengenal perkataan. Subjek-subjek eksperimental dilatih untuk mengamalkan strategi-strategi pembacaan yang berkesan untuk mengenal perkataan baru, iaitu pembayang orthografik dan pembayang konteks. Ujian pra dan ujian pos telah dikendalikan dengan menggunakan tiga petikan pemahaman. Kumpulan eksperimental memperolehi keputusan yang baik dalam ujian pos, maka ia menunjukkan perkembangan yang signifikan dengan penggunaan strategi metakognisi mengenal perkataan baru di kalangan pembaca-pembaca kurang mahir. Walau bagaimana pun, kumpulan terkawal juga memperolehi keputusan ujian pos yang lebih baik daripada ujian pra. Tetapi skor min dan 'standard deviation' menunjukkan keputusan kumpulan eksperimental lebih baik daripada kumpulan terkawal. Keputusan ujian pos antara kumpulan eksperimental dan terkawal tidak menampakkan perbezaan signifikan. Dapatan soal-selidik juga menampakkan pembayang yang sentiasa digunakan oleh pembaca yang kurang mahir dalam mengenali perkataan baru ialah pembayang konteks

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ABSTRACT

Throughout Malaysia, concern is growing among educators about the increasing number of poor readers of English in the secondary school and at tertiary level. It has been found that a large number of students do not know how to recognize an unfamiliar word during the reading process. Thus, this inability hinders the comprehension of the readers, and eventually, these poor readers lose interest to read materials in the second language (L2). This study examined the effective methods to improve the word recognition skill among the poor readers. This study actually replicates the research done by Spedding and Chan (1991, 1993, 1994) experimenting on the L1 learners in Australia. The samples in this study are learners of English as Second Language (ESL). In this study the experimental group was taught to use metacognitive strategies of word identification. These subjects were trained to use the orthographic clues and context clues to recognize unfamiliar words which they encountered in their reading comprehension texts. The subjects in the control group were taught using the traditional methods of word recognition. Pretest and posttest were given to the subjects using three comprehension texts. The results showed that the experimental group benefited from the training with significant improvement in their use of metacognitive strategies in word recognition of unknown words. Nevertheless, the control group too showed some improvement in their posttest scores. The paired samples t-tests revealed that there is a significant difference within the experimental group's score in their posttest, after the training period. However, it was found that there was no significant difference between the groups' scores in the pretest as well as the posttest using the statistical independent samples t-test. The findings from the questionnaire revealed that the lower secondary poor readers prefer to use context clues to identify unknown words during reading comprehension.

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CHAPTER ONE

INTRODUCTION

Researches have provided statistical evidence that metacognitive skills, strategies or knowledge has led readers of second language to comprehend English texts better or proficiently. Metacognitive researches such as those carried out by Stanovich(1989), Flavell(1981), Spedding and Chan(1991), Bruce and Robinson(2000) have provided valuable insights in producing effective methods of teaching comprehension to ESL good readers. Studies on metacognitive strategies of poor readers have been extensively done to help poor readers and poor comprehenders of English. These studies have initiated the study undertaken here on poor readers of English as Second Language (ESL).

This chapter highlights the background, purpose of the study, significance of the study, rationale of the study, research questions together with the definition of terms, and the limitations of the study.

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1.1 Background of the Study

Researches indicate that for the majority of poor readers the basic source of their difficulty is failure to develop accurate and efficient word recognition skills (Spedding & Chan, 1993). Poor readers do not have enough cognitive resources when they become more attentive to the decoding task instead of comprehending the text. The construction of meaning is at risk (Bruce & Robinson, 2000). As the poor readers fail to develop the word recognition skills, they are easily discouraged and hence avoid reading whenever possible. This in turn inhibits growth in reading (Juel, 1988; Stanovich, 1989, 2000). The situation of these poor readers is worsened when they experience repeated failures and can lead to attitudes of "learned helplessness" whereby students give up trying and so perpetuate the failure cycle. This "learned helplessness" is partly due to the unavailability of metacognitive strategies for coping with failure (Bruce and Robinson, 2000).

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We want students to read as widely as possible but when they encounter too many unknown words, comprehension begins to falter. Since students usually do not carry a dictionary close at hand, teachers should provide them with the necessary tools or strategies that they can apply when they come across unfamiliar words while reading.

The recent KBSM syllabus is becoming more challenging in order to create more rounded and versatile individuals. Critical thinking skills have been emphasized to encourage students to use their abilities of metacognition. Therefore, metacognitive strategies have to be made aware to students, whether they are good readers or poor readers.

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1.2 Statement of the Problem

Some adjustments have been made to the Malaysian English Language syllabus, yet the proficiency level of students shows insignificant improvement in the language. Under the KBSM, the syllabus is on topical base and students are unable to learn the language effectively (Pillay and North, 1997 cited in Cecilia Joseph, 1998), and this has resulted in teachers teaching about the topic rather than the language through the topic. The syllabus is so content driven that the activities or tasks given do not rationalize the natural setting. There is no meaningful communication of when and where to use.

As such, students tend to read without understanding the text. Students are required to answer comprehension questions and text completion tasks at the PMR level while the Forms 4 and 5 students need to comprehend well the text read to enable them to answer the comprehension questions and also to summarize the same text. The poor readers who are also poor comprehenders become disabled comprehenders when there are too many unfamiliar words. These poor readers are not aware of reading strategies being employed in the reading process, hence, they fail to comprehend the reading text. Therefore, these poor readers should be taught to use metacognitive strategies to enhance their understanding of the text, and this will enable them to answer comprehension questions effectively. Students are unaware of the abilities they possess, thus they are uncertain in recognizing an unfamiliar word when they come across in their reading, especially the poor comprehenders of English texts. These students should be helped so that they are equipped with the necessary strategies of recognizing new words.

Teachers should give greater thought to utilizing reading comprehension in a meaningful way that will enable the students to acquire comprehension skills rather than

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just listen to the teacher explain difficult words and then requiring the students to answer comprehension questions. Some reading strategies should be emphasized, and coach students to use those strategies such as looking for clues, skimming and scanning.

One possible way is to use metacognitive strategies in their reading comprehension. Teachers of ESL should teach students to learn how to learn. This is one of the elements listed under the Educational Emphases in the recent English syllabus.

Some studies have shown that readers have used some reading strategies consciously or unconsciously. Less proficient or poor readers have used fewer strategies and used them less effectively in their reading comprehension (Garner, 1987; Waxman and Padron, 1987). Studies on monolinguals have indicated that poor readers use less sophisticated and inappropriate strategies during reading (Brown, Armbruster & Baker, 1986). These poor readers are unaware of their abilities to use the appropriate strategies to understand unfamiliar words while reading a text.

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There was a study done by Spedding and Chan (1991) on word recognition using metacognitive strategies of students learning English as their first language (L1). The findings produced a positive outcome of using metacognitive strategies by poor readers of L1 on identifying unknown words which they encounter while reading a text.

In this study the focus is on metacognitive strategies of word recognition to help the moderately adequate decoders and poor comprehenders of English texts, who learn English Language as second language or L2. The experimenter uses only two types of metacognitive strategies of word recognition namely, orthographic clues and context clues. The experimenter would want to know the effectiveness of these strategies on L2

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poor readers, so that they can become good readers as well as good comprehenders of any English text.

1.3 Purpose of the Study

The main aim of this study is to investigate the effectiveness of metacognitive strategies for improving the word recognition skill in reading comprehension texts of lower secondary poor readers.

Several researchers have concluded that poor readers' problem with word recognition may reflect deficiencies in the metacognitive strategies that underlie this skill (Spedding & Chan, 1993). Bruce and Robinson (1996) found that the poor readers of upper primary students were inferior in the use of orthographic clues, morphological clues and context clues.

Metacognitive strategies in word identification probably would enable the students to employ the awareness and regulation of the strategies to recognize unknown words using the available clues (Spedding & Chan, 1991).

This study is based on the research questions below:

Research Questions

1. To what extent do the metacognitive strategies of word recognition improve reading comprehension of lower secondary poor readers of ESL?
2. Which clue do the poor readers prefer to use (orthographic or context) to recognize unfamiliar words in their reading?

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1.4 Rationale of the Study

The rationale of the study is to help poor readers to use metacognitive strategies to resolve comprehension failures. Tei and Stewart (1985) have discussed several strategies in their research, and among them is the strategy of searching the text to identify unknown words.

Poor readers are unaware of their purpose of reading and they tend to give less emphasis to unknown or unfamiliar words and phrases. Thus, they become less able to capture the logical structure of the text, and this leads to lack of comprehension of how and why the ideas are interconnected (Owings, 1980 cited in John Arul Philips, 1992). Students cannot learn unless they are able to comprehend what they are reading from the text and at the same time they do not remember unless they understand it.

Researches on the use of metacognitive strategies have been done in the learning of the second language, basically using proficient readers or average readers. In this study, the researcher attempts to examine if poor readers can use the metacognitive strategies of word recognition to enhance their reading ability in comprehending the texts read. Here, the content area teachers have a significant role to play in teaching students to understand a written content during the reading act. One of the elements of teaching is the Educational Emphases: Learning How to Learn, a component relevant in teaching language.

It is important to note here that this study only focuses and discusses, two types of clues of metacognitive strategies influencing word recognition among poor readers of ESL. These clues are namely, orthographic and context clues. Emphasis is not given for

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phonic clues because lower secondary students at their level are capable of identifying sounds of words using syllabic representation.

1.5 Definition of the Terms

1.5.1 Metacognition

The term metacognition was first introduced by Flavell (1979, cited in Flavell, 1981). Metacognition has been defined as "having knowledge and having understanding, control over and appropriate use of that knowledge" (Tei & Stewart, 1985:47). In other words it is defined as 'thinking about thinking' by Livingston (1997) or 'thinking of one's own thinking' by Bentley (2001, cited in Reyhan and Ayse, 2002). Thus, it involves the cognition of one's understanding that controls the appropriate use of the knowledge acquired.

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1.5.2 Metacognitive Strategies

Metacognitive strategies are knowledge used in learning to comprehend texts effectively. It is the behaviour that works to achieve cognition (Flavell, 1981). Flavell (1981) and Devine (1993, cited in Livingston, 1997) said that they are strategies that function to monitor or regulate cognitive strategies.

Metacognitive strategies are sequential processes that readers use to control their cognitive activities, to achieve their cognitive goal that is to understand a text (Livingston, 1997).

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1.5.3 Word Recognition Skill

According to Sandra McCormick (1999:256) word recognition refers to the instant recall of words in which the reader identifies a word. When the reader recognizes a word and can say it without hesitation, it is said that the reader has developed automaticity; that is the reader's brain is able to process the word automatically.

Stanovich, together with West (1989) describe word recognition is the link to the printed representation of a word with its meaning. He says that the higher order skills such as comprehension, vocabulary development and purposeful reading and writing are reliable on accurate word recognition. He added that word recognition is the central to reading (cited in Chard, Simmons & Kameenui, 2000).

Kirby (1984, cited in McCormick, 1999) defines skill as a capacity or ability, which can be expressed in behaviour at any time because they have been cultivated through practice. Word recognition skills will be abilities to recognize the phonic system, orthographic, morphological and context clues in order to comprehend unknown words, hence comprehend the whole text.

1.5.4 Clue

Based on the "Collins Cobuild English Dictionary for Advanced Learners" (2001), clue is defined as something that helps to find the answer to a problem or mystery. In this study, clue is used to help poor readers to understand comprehension texts effectively. The clues facilitate the recognition of unfamiliar words that students come across while reading.

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1.5.5 Reading

Reading is a process where readers interact with the printed materials such as books, newspapers, magazines etc. The traditional view was that reading has been categorized as receptive skill. Recent researches declare that reading is an active process whereby the cognitive attention is given to the reading material. A reader actively processes the information from the text and further think about information read. In this study, reading is concerned with interacting with the text actively and understanding the information or message of the text read.

1.5.6 Comprehension

Comprehension literally means understanding. In order to read a text one should use the comprehension strategy or skill to identify the words to extract the relevant information from the text. Comprehension of a text can be achieved if proper strategies are used, such as summarization, prediction and inferring word meaning from context. Kintsch (1998, cited in Bruce and Robinson, 2000) says that the deeper understanding of text is learning from the text that is from the context. It involves the construction of mental representation and use the information acquired from the text productively in novel environments.

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1.5.7 Poor readers

Goug and Hillinger (1980, cited in McCormick, 1999) state that "the most conspicuous difference between good and poor readers is found in the swift and accurate recognition of individual words." Poor readers are thought to have poor or weak word recognition compared to good readers regardless of whether the words are in context or out of context (Spedding & Chan, 1994). These poor readers have problems in phonic decoding and fluent word identification. Thus, these readers are characterized by very slow rate of word recognition. These students are unable to make sense of what they read

In this study, the poor readers are weak in word recognition skill, but they are moderately adequate decoders. They can decode the English texts with moderate fluency. When these poor readers cannot recognize a word effectively, they become more attentive to the word and contemplate on the word in isolation. This causes them to concentrate on the word alone and ignore the word in context. Thus, it blocks the effective comprehension of the text.

The poor readers in this study are those who are moderately adequate decoders but poor comprehenders. Moderately adequate decoders mean these readers understand the alphabetic principle (that letters can represent sounds) and they can decode the words on the page (Greenleaf, Schoenbach, Cziko & Mueller, 1999). Poor comprehenders are readers who have the ability to decode, however, they cannot tell what words on the page add up to, what sense they make (Greenleaf, Schoenbach, Cziko & Mueller, 1999). Poor comprehenders have a deficiency in vocabulary and common information.

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1.6 Significance of the Study

This study was aimed at improving reading comprehension among poor readers. There are few studies done on learning to read in Malaysia. They have focused on how learners use such strategies in reading, but very limited studies have been done solely on metacognitive strategies used in learning to read (Norhayati, 1998; Joseph, 1998). Norhayati (1998) did a case study. The data was collected from only one student. A student's documentation of the metacognitive strategy does not represent conclusive evidence of the approaches used by other students, as approaches used vary among students.

Besides that, a study on poor readers and ways to rectify their reading ability should be carried out. The researcher believes that this will help teachers to tackle poor readers by training them to use their metacognitive abilities effectively. As such, it is vital to carry out a study in this area, not only does there exist documented data of metacognitive strategies used in the local natural setting, but also data which can be used to compare with the findings from other related studies.

The findings from this study could also motivate the teachers to be optimistic and vary their teaching styles and approaches. This in turn, will give confidence to the students and boost their morale, thus build interest in them to read.

In order to help the poor readers, it is important to teach them to recognize words. This will encourage poor readers to read and comprehend the texts given without fuss. Hence, students will be able to understand the task of reading is the derivation of meaning from the text. They will be able to self-regulate their reading process in order to read comprehension texts. Teachers should bear in mind that the poor readers would be sitting

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for the same papers as the good readers for public examinations. Therefore, the poor readers need the relevant metacognitive strategies to be used in their reading and this can be done through teaching and guiding them to use the strategies.

Finally, the findings of this study will provide room for other researchers to design new methods and approaches to deal with the poor ESL readers, be in schools or higher institutions.

1.7 Limitations of the Study

There are several limitations of this study. First, the population from which the participants are drawn limits the number and type of students who may choose to participate. Samples consisted of only a small portion of the total school population of Form Two students in a particular school, for a relatively short period of time. The time given for training the students in metacognitive strategies to identify unknown words is inadequate. Second, it is possible that clues other than orthographic and context have been used by students to recognize words such as phonic clues that will give impact on the results of this study. Third, this study focuses only on metacognitive strategies in word recognition in reading to understand texts. Admittedly, there may be other metacognitive strategies, used by our Malaysian students, which are yet to be discovered or studied or still under research.

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Metacognition refers to the learner's automatic awareness of their own knowledge and ability to understand, regulate and monitor their cognitive processes. Metacognitive strategies are required in order to facilitate effective comprehension through conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correcting errors and orchestrate the learning behaviour when necessary (Bruce & Robinson, 1996).

Metacognition can be defined simply as thinking about thinking. Understanding and controlling or monitoring cognitive processes would be the most vital skills that classroom teachers can help second language readers or learners develop. The use of metacognitive strategies can trigger one's thinking and can guide the learners to more profound learning and improved performance of poor readers (Anderson, 2002). Second

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language teachers can help students to learn to think about what happens during comprehension of texts, thus enable them to process the language read.

Researchers have suggested that students should be taught how to use the specific reading strategies when reading a text (Anderson, 2002). To be effective, metacognitive strategies should be taught to the students explicitly to ensure effective reading of a text. Strategies such as word analysis (morphological knowledge), use of context clues (semantic and syntactic knowledge), and phonological knowledge should be taught to identify unfamiliar words. These strategies would be of great help especially for poor readers of the second language. It should also be highlighted that no single strategy will work in every instance. It is vital to allow readers to think about how they combine various strategies and facilitate the improvement of strategies used.

It is also very important for ESL students to be aware that they acquire learning strategies inherent of their bilingual status (DeLao, 2001). When the students get this awareness of the strategies, they are able to use those strategies and also transfer a distinct set of cognitive strategies learned in the first language to the second language (DeLao, 2001).

Some studies on reading strategies found that younger and less proficient readers use fewer strategies and less effectively in their reading comprehension (Garner, 1987; Waxman and Padron, 1987). Meena (2001) noted that less successful readers utilize very few strategies or none at all during their reading comprehension. She also concluded that the poor readers have misconceptions about the reading process, thus, they fail to monitor their comprehension and employ very few strategies. A novice reader or poor reader would just 'scratch' the surface of the text and does not stop to examine or revise as

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he/she goes along. The poor readers do not contemplate on the problem in depth or make connections to the relevancy of the text in their lives.

2.1 Related Research in Word Recognition

In recent years a lot of interest is shown in the study of metacognitive strategies utilized by learners from the kindergarten level to tertiary level. Emphasis on the importance of metacognition has been given due consideration to improve reading comprehension, where learners have knowledge and control over their thinking process in reading activity (Bruce & Robinson, 1996). Perfetti (1984) and Stanovich (1982 cited in Bruce & Robinson, 1996) found that word identification plays a significant part to the variance in reading competence.

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Some of the recent studies have highlighted that metacognitive strategies in decoding and phonemic awareness are vital in promoting reading competence (Bruce & Robinson, 1996). Other findings show that word recognition skills are mediated through phonological decoding hold implication for the poor readers (Doctor & Coltheart, 1980). It has been said that some poor readers will fail to comprehend if they have inadequate phonological awareness skills. According to Perfetti (1984) and Stanovich (1982 cited in Spedding & Chan, 1991), poor readers face problems at the word recognition level, especially those with learning difficulties.

Stanovich (1982, 1986, cited in Spedding & Chan, 1991) has proposed that there are two basic mechanisms that can be used for identifying words. He has identified those mechanisms as phonological information and phonological processing, and the other as

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direct recognition of the printed words' meaning on the basis of visual representation. Stanovich (1986, cited in Spedding & Chan, 1991) further highlighted that beginning readers rely on phonological information to identify words. However, with age, skilled readers turn to direct visual processes for the recognition of familiar, high frequency words. Stanovich (1986, cited in Bruce & Robinson, 1996) stressed that phonological information is normally used for low frequency words.

Spedding and Chan (1991) confirmed that word recognition using metacognitive strategies would involve the reader recognizing a suitable clue, such as visual configuration, picture clues, semantic clues, syntactic clues, phonetic analysis, structural analysis and context. Therefore, the reader must be able to make use of the clue to help in word recognition process; monitor the response so that it proves to be sensible, and must select an alternative clue if it does not make sense. Poor readers commonly are less strategic in using these clues and are often unaware of the strategies they did use (Bruce & Robinson, 1996). If poor readers come in contact with unknown words, the student may initially decide whether to refer to work out the word or ignore the word. The student would try to use the visual configuration of the word, if failed, then resort to break the word into syllables and sound these syllables. If this too fails, then the student might decide to look it up in the dictionary (Spedding & Chan, 1991).

Hosenfeld (1977, cited in Meena, 2001) has identified different types of reading strategies used by successful and unsuccessful readers. She used a think-aloud procedure to determine the strategies. The unsuccessful readers tend to lose the meaning of sentences when decoded, read in short phrases, pondered over inconsequential words, seldom skipped unimportant words, and have a negative self-concept (Meena, 2001).

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Other studies on reading strategies too found that poor readers use fewer metacognitive strategies in their reading comprehension (Garner, 1987; Waxman & Pardon, 1987). The poor readers are ignorant in activating the metacognitive skills possessed by them. Thus, teachers should help poor readers in utilizing such skills. Paris and Meyers (1981) paid particular attention to children's strategies in getting the meaning of difficult vocabulary words. It was found that poor readers are more concerned with the pronunciation of words rather than meaning, unlike good readers who resort to dictionary to get the meaning of words. Overall, poor readers engaged in a few spontaneous study behaviours, failed to ask questions, take notes or use a dictionary as often as good readers.

Hostetter (1994, cited in Hartman, 2001) reported that students who were trained in metacognitive tutoring improved in reading comprehension and did better than those students who did not receive metacognitive tutoring.

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Devine (1983, cited in Reyhan & Ayse, 2002) has investigated L2 readers' conceptualization about their reading in the second language. Devine's findings indicated that less proficient readers tend to focus on reading as a decoding process rather than as a meaning-making process. The findings by Syaywitz and Syaywitz (1996) proposed that learners are given adequate decoding strategies, effective reading can be predicted by the strategies that the readers employ when interacting with text, in order to enhance understanding, remembering and/or to monitor comprehension. In studies of children with poor phonological language skills in kindergarten, they were better word readers in the second grade if they received code-based instruction compared to context-based instruction (Brown & Felton, 1990 cited in Felton, 1993).

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For proficient reading both word recognition and comprehension skills must be developed to a level of proficiency. The amount of programmatic emphasis for individual child should vary between these two areas depending upon individual needs.

Bruce and Chan (1991) found that the particular metacognitive strategies in which the upper primary poor readers were inferior in were the orthographic clues, morphological clues and context clues. Their study revealed that the poor readers were less strategic in using their metacognitive abilities than the average readers in applying such clues during reading.

It was proposed that automaticity of decoding should be developed to remediate comprehension problems, thus word recognition tasks will have less attention. Bruce and Chan (1991) had mediated a metacognitive training programme for students with poor word recognition skills using:

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i) instruction in task specific strategies for word identification and in techniques to monitor and control the use of those strategies

ii) retraining to help students to self-regulate and develop meatacognitive self-appraisals about themselves towards their success and failure

iii) create a socially interactive learning environment where the teachers will help students to gradually take control of their own learning.

It has been noted by researchers of second and foreign language (L2 and FL) that automaticity in word recognition of a reader plays crucial role in reading (Taguchi & Gorsuch, 2002). Taguchi and Gorsuch (2002) agreed that automatic word recognition is essential for fluency of L2 reading, as it does in L1 reading. If L2 readers are less developed in their word recognition skills, they may become slow readers. When such

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hindrance occurs there is a possibility that students become poor readers, and unlikely to read much or with enjoyment (Taguchi & Gorsuch, 2002). Thus, these students will not be able to acquire the skills required. Smith (1988, cited in Taguchi & Gorsuch, 2002) reported that when readers tend to read slower than 200 words per minute, they are incline to read the text in "isolated units rather than as meaningful sentences," thus, text meaning is distorted.

When students are less developed in their word recognition skills, they will be attending to every word in the text (Taguchi & Gorsuch, 2002), and lack of this skill hinders the readers to comprehend the text better as well as inhibits the construction of meaning of the text read.

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2.2 Researches on metacognitivie strategies of word recognition

2.2.1 Related Review on Orthographic clues

The main point in this study is that poor readers failed to develop accurate and efficient, word identification skills (Bruce & Robinson, 1996). The automatic word recognition, or the orthographic stage words enable students to recognize words accurately and effortlessly via visual or orthographic representation of the prints or word parts (Bruce & Robinson, 2000). Some researchers claim that the automatic word recognition enables higher-order thinking skill among students in comprehension process, thus these students operate efficiently in word recognition (Spedding & Chan, 1993).

The effective use of the metacognitive strategies using orthographic clues has helped in word recognition skill among poor readers, but it is dependent on the adequate

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exposition of the print so that word representation would ultimately be stored in the memory data of the brain (Bruce & Robinson, 1996).

Poor readers are often unaware of orthographic clues. Good readers usually use structural analysis to identify meaningful parts in words. Students with reading problems do not know how to use structural analysis or they are unaware of how endings on words and they merely skip those words during reading.

Based on the result obtained by Bruce and Chan (1991), it was found that 'Compare with known words' (orthographic clues) was a most useful strategy for improving the word recognition skills, besides the morphological clues. They claimed that the metacognitive training is an effective way to achieve this word recognition skill.

Ehri (1991, cited in Chard, Simmons & Kameenui, 1998) reviewed 16 studies which revealed that the orthographic sensitivity follows automaticity. Chard, Simmons and Kameenui (1998) came up with four main areas of convergence which bear implications for word recognition. They reviewed some researches on word recognition, and reported that reading comprehension and other higher order reading activities are dependent on strong word recognition. This strong word recognition requires students' understanding that words can be 'spoken' or 'written', print corresponds to speech, and words are composed of phonemes. They also concluded that alphabetic understanding (i.e. reader's understanding that words are composed of graphemes and letter-sound correspondence) facilitates word recognition, and finally, phonological recoding combined with word frequency mediates word recognition.

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Gough, Juel and Griffith (1992, cited in Hartman, 2001) argued that children learn to associate letters and letter strings with parts of words. Therefore, the implication is that the concepts of print are important in early stages of print awareness.

2.2.2 Related Review on Context Clues

Comprehension should precede production in language teaching and learning process. Asher (1969, cited in Adams, 1990) stated that there are strategies to enhance the understanding of the texts read. In order to establish this understanding, the first task to be undertaken is that the teacher should assist students to understand and recognize the word and the meaning of the unfamiliar words.

Adams (1990) states that about three thousand new words are learned by students per year. About three hundred of these are learned by direct instruction, which leaves about 2,700 words are largely learned via context and wide reading.

Wallace (1992) proposed that there are four ways to enable students to read meaningfully. Teachers must help students to acquire the vital reading skills such as skimming for general ideas, scanning for specific information, and guessing or predicting meaning of words using contextual clues to enable them to comprehend the key words in the text.

These four ways are listed below:

i) to explain the meaning in simple English

ii) to ignore the words

iii) to get the students to look up for the words in the dictionary

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iv) to get students to guess or infer from the clues given.

Therefore, he emphasized that the teaching of unknown words through contextual clues should be a vital part in language learning. Nation (1990, cited in Wallace, 1992) suggests a practical strategy for guessing unknown words in texts, consisting of four steps:

i) find the part of speech of the word

ii) examine the wider context

iii) guess the meaning

iv) check that the meaning is correct

Rubin (1982, cited in Wallace, 1992) describes contextual clues as specific items of information that helps the reader to get to the meaning of a particular word. She categorizes contextual clues as:

i) context clues displayed by definition, description and explanation

ii) context clues displayed by example and comparison/contrast

iii) context clues displayed by an emphasis or synonyms

iv) context clues displayed by homographs

Stanovich (1986, cited in Bruce & Robinson, 1996 and Adams, 1990) stress that when it comes to word recognition, the poor readers are unable to recognize a word straightaway, and they need context to help in word recognition. Stanovich (2000) further suggests that poor readers have less cognitive capacity for comprehension processes because they must devote much cognitive attention to word recognition. On the other hand, Pressley, Borkowski and O'Sullivan (1984) confirmed that proficient comprehension is dependent on word-level skills and background knowledge together with comprehension strategies.

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Based on several researches on word recognition, Bruce and Robinson (1996) reported that students have limited capacity to attain new words or unknown words, and they suggest that the remaining unknown words are learnt intentionally or incidentally from context while reading or listening. They also discuss that contextual strategies are used by students to acquire new words incidentally from large amounts of reading.

As Gough and Juel (1991) noted, as the processing speed increases, the readers can recognize words by attending to the word meaning, to use the contextual information to facilitate the construction of meaning and reflect widely on the content that is read.

In conclusion, several studies have been conducted in relation to metacognitive strategies and word recognition and these studies statistically have shown ways and means of improving reading comprehension among readers, be they good or poor readers. There are specific metacognitive strategies for assisting the poor readers to achieve their objectives of reading. One of the few studies in which students were trained to attribute success to both effort and effective use of the strategies was that of Spedding and Chan (1993).

Summary

The researches carried out on word recognition using clues such as orthographic or recognizing the print and context clues have shown workable outcome among the poor readers. It was found that such strategies help students to use their ability metacognitively to recognize unknown words. The metacognitive strategies indeed help the poor readers

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to be aware of which clues to use in order to understand and recognize the unfamiliar words and the text as a whole.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter outlines the methodology and instruments used in facilitating this study. This study emphasized on the use of metacognitive strategies of word recognition. An experimental design was used to carry out this study. The subjects were selected from a semi-urban school known as Sekolah Menengah Kebangsaan Tasek Damai, Ipoh, in Perak. There were 39 students in this study. These subjects were randomly assigned into experimental (n=20) and control (n=19) groups.

The instruments used to determine the effectiveness of the metacognitive strategies in word recognition were tests and a questionnaire. The tests included pretest and posttest using three comprehension passages (Appendix A). The treatment was given to the experimental group after the pretest. A set of questionnaire (Appendix B) was administered to determine the clues frequently used by the experimental samples to recognize unknown words.

In this study, the researcher has replicated the methods used by Spedding and

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Chan (1991) using two selected clues: orthographic and context clues. The researcher decided to use only two clues as strategies to identify unfamiliar words, so that the poor readers would be able to use the clues effectively while reading the comprehension texts, otherwise, they will be confused if too many strategies or clues are taught at one time.

3.1 Method

An experimental design was employed to facilitate this research to determine the effectiveness of metacognitive strategies of word identification. Pretest and posttest were carried out to explore the possible effects of the strategies used in ESL (English as Second Language) reading comprehension. A control group and an experimental group of poor readers were randomly assigned from a number of thirty-nine poor readers to focus on student's metacognitive behaviours and processes as they use the metacognitive strategies taught in comprehending English texts, especially in subjects like English Language and Science. These poor readers were identified as poor comprehenders but moderately adequate decoders by their English Language teachers (based on diagnostic test), thus, they were assigned to this experiment to help them comprehend the reading materials effectively. They need a sound strategy to identify unknown words; therefore, they should be taught the readily available metacognitive strategies to enhance their comprehension.

The research was conducted over a period of three weeks. The control group was taught the traditional methods of word recognition. The traditional method of word recognition consists of writing the difficult words from the instructional passage on the

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board and asking pupils to pronounce each word and give its meaning. The researcher or the students read aloud the text. The researcher, then, explained the difficult words and asked simple questions to recall main ideas in order to test students' comprehension level. In other words, most of the time this control group was 'spoon-fed' to retrieve the semantic information at word level.

On the other hand, the experimental group was trained and taught the metacognitive strategies of word recognition using the orthographic clues and context clues while reading a text.

Besides, a questionnaire (Appendix B) was administered for both control and experimental groups about reading to understand a text before the actual study took place. The questionnaire revealed that the students were not aware of using their skills of metacognition to orchestrate the comprehension process of the text read. A list of 20 questions was given to students based on their experience in recognizing unfamiliar words during the reading process. All the training sessions were conducted by the researcher in the language laboratory during their English Language period.

3.2 The Null Hypothesis

Poor readers in the lower secondary Form Two level do not show any difference in their comprehension score when using metacognitive strategies of word recognition or when using traditional methods of word recognition in their reading comprehension.

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3.3 Subjects

The participants of this study consisted of 39 Form 2 students from a semi-urban area school in Ipoh, Perak. They are currently studying in Sekolah Menengah Kebangsaan Tasek Damai, Ipoh, Perak. Their age ranged from 14 to 15 years. The subjects were poor readers selected from two classes, namely 2M and 2K. They were identified as poor readers of ESL by their English Language teachers based on their performance of the diagnostic test carried out at the end of January (2005) that is before the study was undertaken. These subjects came from very low socio-economic status families with a monthly income: RM500-RM900 (80%) based on the questionnaire (Appendix B). They learn English as a second language, and these subjects are moderately adequate decoders but poor comprehenders of English texts. There were 20 students in each control and experimental group at the beginning of the study. One of the subjects from the control group was transferred to another school, leaving with 39 subjects. The subjects were divided and assigned randomly into two groups: control and experimental groups. The control group consisted of 8 boys and 11 girls, while the experimental group comprised 5 boys and 15 girls.

The experimental group was taught the metacognitive strategies using two clues: the orthographic clues and the context clues, before they started the comprehension task. The experimental group was trained to use the orthographic clues and context clues to comprehend texts effectively. The control group was taught using traditional methods of teaching to recognize unfamiliar words. The traditional methods used here were explanation of the unknown words by the experimenter and look for the dictionary meaning by the subjects.

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Table 3.1
Distribution of subjects according to race

Race	Male	Female	Total	%
Malay	13	16	29	74.36
Chinese	0	0	0	0
Indian	4	6	10	25.64
Others	0	0	0	0
Total	17	22	39	100

Table 3.1 shows the statistical composition of the subjects according to race. The analysis shows 29 students (74.36%) are Malay, followed by 10 students (25.64%) from Indian background.

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Table 3.2
Distribution of subjects according to primary education

School	Total	%
SRK	33	84.62
SRJK(C)	0	0
SRJK(T)	6	15.38
OTHERS	0	0
TOTAL	39	100

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From Table 3.2, it is identified that 33 (84.62%) out of 39 students were from Sekolah Rendah Kebangsaan, while 6 (15.38%) from Sekolah Rendah Jenis Kebangsaan Tamil. There were no students from other institutes or schools.

These subjects speak English as a second language besides their mother tongue (Bahasa Melayu, Tamil, Telugu and Malayalam). Based on the questionnaire (Appendix B), 85% of the subjects come from semi-urban areas and 15% from the nearby villages and estates. 99.6% of the subjects speak Malay to their teachers and the rest 0.4% speak English to their teachers; at home the Malay subjects speak 100% Bahasa Melayu and 98.8% of the Indian subjects speak Tamil, Telugu and Malayalam to their parents. Only a small percentage of 1.2% speaks English at home.

For the UPSR, 70% of the subjects achieved Grade C, 25% obtained Grade D and the rest 5% Grade E. Based on the final year examination (2004), 0.5% of the subjects obtained Grade B, 13% Grade C, 40% Grade D and 46.5% Grade E. In relation to their achievement in their school yearly assessment, the subjects were found to be weak in their English Language.

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3.4 Instrumentation

Three comprehension texts were selected based on their level of proficiency in the second language. The instructional materials were 200-300 (Appendix A) words in length. Each reading text consists of 6 multiple choice short answer comprehension questions to test their comprehension skill based on the metacognitive strategies identified during their reading.

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The subjects were encouraged to read the passages given and when they come across a difficult or unfamiliar word, they have to use either the orthographic clues or context clues. 'Compare with known word' was used for orthographic clues and 'Consider the context' for context clues. The subjects, then, recorded the words and the clues used in the table provided (Appendix C). The subjects worked individually and some worked collaboratively with classmates.

Next, the subjects were told to take turns to read a paragraph one at a time. Whenever they encounter unfamiliar words, they were encouraged to use clues taught to identify the words, while the researcher provided guidance, feedback and coaching.

Instruction took place for four 40-minute sessions per week. In other words, a total of 160 minutes of English weekly was used to conduct the study for three weeks.

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3.4.1 The Questionnaire

The questionnaire administered consists of two sections:

i) Section A: Biodata

ii) Section B: Clues used to identify unfamiliar words

Section A is the student profile questionnaire that was administered prior to conducting the study to provide information on students' education, language background, language spoken in school and at home and socio-economic status of the family in order to understand the results of the study in context.

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Section B consists of the reading strategy, a 19-item Likert scale questionnaire used to indicate the extent to which the subjects perceived themselves as using the described strategy for word recognition:

1 Always

2 Often

3 Sometimes

4 Seldom

Items on the questionnaire included: orthographic clues, context clues, phonic clues, use of dictionary and assistance from friends and teachers.

The researcher went through the questionnaire (Appendix B) with the subjects in order to make sure that there was no discrepancy in the understanding of the questions. The researcher translated verbally the questions and statements into Bahasa Melayu for the subjects to have a better understanding of the requirements of the questionnaire and also to get better response from them. As the subjects were familiar with the researcher, the subjects felt confident and ready to answer whatever questions forwarded to them.

3.5 Procedure

3.5.1 Treatment for Experimental Group

A pretest was given before the treatment was carried out. Scores were recorded. Then, the subjects in the experimental group were trained to identify words through the application of metacognitive strategies, namely, orthographic clues and context clues.

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The experimental group was coached to use the clues on orthographic and context in order to recognize unfamiliar words.

In order to aid the above training, subjects were required to monitor and control their use of the orthographic clues and context clues strategically, using two techniques that is the use of 'Compare with known words' and 'Consider the context' (Bruce and Chan, 2000). Experimental subjects were coached to:

i) Look for clues (orthographic or context),

i) Be flexible

iii) Ask: Does it make sense?

The first training session was concentrated on orthographic clues to identify the unknown words. The subjects in the experimental group were given some selected words (Appendix D) in isolation such as pseudoword. This was done to test the effectiveness of 'Compare with known words' (orthographic clues) in helping poor readers to recognize unfamiliar words. Here, the researcher adopted the method above which was used by Spedding and Chan (1993) in their study on poor readers.

Some unfamiliar words with the embedded parts of familiar print were shown to the subjects, for example the pseudoword 'nound' (Appendix D). The subjects were required to identify the word and say it loud. If the subjects failed to recognize the print, the researcher would flash a word with the same embedded print within it such as the word 'round'. This was done in order to motivate the subjects to respond. In order to encourage the subjects to get it right the first time, 5 points were awarded for the correct response. The subjects were allowed to accumulate the points in order to reimburse for a

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gift at the end of the training. The highest scorer would be given a small gift as a token of appreciation.

The second session of the training was aimed at exposing the subjects to use context clues to recognize an unknown word while reading. The experimental group was facilitated to use the clues such as anaphoric and cataphoric clues to identify the unknown words in the sentences provided and get to their meanings.

Some words were shown in isolation to the subjects before reading the sentences. The subjects were required to read the words and figure out the meanings based on the context. If the subjects can identify the word correctly they were awarded 5 points. If the subjects failed to identify the words in isolation, they were shown the sentences containing those words.

For example:

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1. (a) Educational aid to the needy has been an annual project of this **club** (is an organization)

   (b) The **club** was used to hit the wolf.(is an object)

2 (a) It was a difficult **period** for the family after his father's death. (shows time).

   b) The English **period** is at 8.40a.m. (shows lesson)

Subjects take turns to identify the words. Five points was awarded for correct or near correct pronunciation (due to L1 interference, especially, students from the Tamil primary schools) and meaning of the words.

The researcher was a bit relaxed with pronunciation of the word and allowed the subjects to recognize the words within the context. Therefore, the context provided the

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clues to identify the words which the subjects found difficult to recognize and say them out when those words were presented in isolation (Spedding & Chan, 1993).

Besides that, students were advised to read while out of the school, at home or even entertainment places. They were told to read the cereal box, the TV guide or the menu in a restaurant. The experimental group was told to bring samples of such reading materials to school in order for other students to practice using the two clues taught in the classroom.

Then, the researcher used the narrative-based and factual-based texts (Appendix A) for the above training. Students were asked to predict the texts using the title. This can help them to look for the words related to the texts. When students read difficult words correctly, they were asked to verbalize the clues they used to work out those words. For example, one of the students said, "I recognized the word 'companion' by comparing with known word that is 'company.' When a student cannot figure out a difficult or unfamiliar word, help was requested from the other students to help their friend. Other students gave suggestions on how to get to the meaning of the word such as using context or word parts.

3.5.2 Control Group: Traditional Methods of Teaching

On the other hand, the control group was given the same words in isolation (Appendix C). These unfamiliar words were written on the board. The subjects were unable to identify the unfamiliar words shown. Then, they were provided the sentences to encourage them to identify the new words. Some of them tried to pronounce the words

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given, and got it right on the first try. They were praised for their effort; yet they could not get to the meaning of the words correctly. Therefore, the researcher had to guide them to get to the words by providing the meanings of the words. Sometimes, the control group referred to the dictionary as an easy resort to solve the problem.

3.6 Data Collection

Prior to the experiment, the experimental group and the control group were given a pretest on three comprehension passages (200-300 words [Appendix A]). They were required to answer 6 multiple-choice questions (MCQ) based on each passage. They were allotted 40 minutes to read and answer the comprehension questions. The subjects were instructed to select the best option to the questions given. In fact, the instruction was given bilingually by the researcher to ensure a clear understanding of what had to be done. A pretest was carried out before the treatment, then, a posttest was carried out after the third week of teaching for both experimental and control groups.

3.7 Pilot Study

Before the researcher administered the comprehension test with the samples, she carried out a pilot study on ten Form Three students in the same school. This was to determine if the test items were suitable to the students. The researcher chose the Form Three students because the level of their comprehension competence does not differ much from the Form Two students. Form Three students were given the same final year exam paper sat by the

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Form One students (present Form Two). The Form Three students showed similar competency as the present Form Two students in their comprehension scores. This pilot study helped her to improve on her questions as well as the questionnaire wherever necessary.

3.8 Data Analysis

Frequency distributions of the various clues were computed and cross-tabulation was made with various frequencies and reading performances of the students.

The researcher used the Paired Samples t-test and Independent Samples t-test procedures contained in SPSS programme. The analysis in its most basic form is a statistical method of testing for significant differences between means and standard deviation of two groups. The effectiveness of the strategies used could be determined by the level of significance using the paired and independent samples T-tests, and it will further determine whether the null hypothesis be accepted or rejected, viz: Poor readers in the lower secondary Form Two level do not show any difference in their comprehension score when using metacognitive strategies of word recognition or when using the traditional methods of word recognition in their reading comprehension..

The statistical procedures used to ascertain the nature of relationships between word recognition using orthographic clues, and word recognition using context clues were computed using frequency and percentage.

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CHAPTER FOUR

DATA ANALYSIS

4.0 Introduction

In this chapter analysis of the data is presented. Some measures were taken prior to the intervention of employing the appropriate strategy in word identification during the reading process. These measures were taken to ascertain the effectiveness of metacognitive strategies using of clues such as orthographic and context in word recognition. At the same time, such strategies would develop awareness among students to utilize these clues to enable them to comprehend better.

4.1 Analysis of Data

Table 4.1
Phases of the study

Subjects	Phase 1 (Pretest)	Phase 2	Phase 3 (Posttest)
Control Group (n=19)	Comprehension test given.	Regular classroom reading using traditional methods	Comprehension test given.
Experimental Group (n=20)	Comprehension test given before treatment.	Treatment: Metacognitive strategies in word recognition.	Comprehension test given after treatment.

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The results of the comprehension tests (pretest and posttest) for both groups were obtained and presented in the tables 4.2 and 4.3 below:

Table 4.2
Pretest and Posttest Results of the Comprehension test For Control Group

Control Group	Pretest	Posttest
1	55	33
2	22	67
3	83	89
4	50	44
5	89	39
6	83	83
7	89	67
8	72	50
9	50	61
10	56	33
11	50	61
12	72	39
13	78	83
14	50	83
15	50	72
16	67	72
17	78	83
18	50	67
19	33	33
Mean	61.95	61.00
SD	18.95	19.44

The table above (4.2) shows the result of the control group for pretest-posttest, and the mean and standard deviation for both tests. The control group was taught using the traditional methods of teaching. It should be noted that there exist difference between the mean scores of the pretest-posttest that is approximately -0.95 (M=61.95-61.00) with a decrease in the mean score of the posttest compared to the pretest.

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Table 4.3
Pretest and Posttest Results of the Comprehension Test For Experimental Group

Experimental Group	Pretest	Posttest
1	50	72
2	67	50
3	61	67
4	72	56
5	50	50
6	38	72
7	78	78
8	49	78
9	67	67
10	67	83
11	33	56
12	61	72
13	67	61
14	11	50
15	50	72
16	72	72
17	67	61
18	49	56
19	67	61
20	50	67
Mean	56.30	65.05
SD	16.04	9.96

The subjects in the experimental group achieved a gain from pretest to posttest on the comprehension scores showed in Table 4.3. The difference between means is approximately 8.75 (M=65.05-56.30) with standard deviation of 16.04 for pretest and 9.96 for the posttest can be seen in the table below: Table 4.4. The mean difference was in the expected direction and the t-test (Appendix F) indicate that the gain was statistically significant at $\alpha = .05$ level. The result as indicated in Tables 4.3 and 4.4 shows that there is a significant difference in reading comprehension scores obtained on the comprehension test after the treatment.

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Table 4.4
Mean and Standard Deviation of the Pretest-Posttest Results

	Experimental		Control	
	Mean	**SD**	**Mean**	**SD**
Pretest	56.30	16.04	61.95	18.95
Posttest	65.05	9.96	61.00	19.44

To see if the difference between the pretest and posttest scores for the groups were statistically significance, two paired samples t-tests (Appendix F) were calculated with the level of significance set at $p<.05$.

For the experimental group, the difference between the pretest score and posttest score of the comprehension test was found to be statistically significance: *t* observed = -2.44 and *t* critical = 2.093, $df = 19$, $p<.05$. The difference between the pretest and posttest of the control group was found to be statistically not significant: *t* observed = .177 and *t* critical = 2.101, $df = 18$, $p>.05$.

Therefore, the observed difference is $t = -2.44$ which is greater than the value required ($t = 2.093$) to reject the null hypothesis at $p<.05$ level of significance.
Thus, the first research question has been answered: the use of metacognitive strategies of word recognition has shown improvement in the reading comprehension of the poor readers within the experimental group.

To determine whether there were significant differences between the experimental and control groups' scores for the pretest and posttest, an Independent samples t-test was conducted with $\alpha = .05$.

The analysis of the independent samples t-test computed that the Levene's test has probability greater than .05($p>.05$), assumed that the population variances were relatively

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equal (Appendix G). The *t* observed = 1.006, *df* = 37, p<.05, where two-tail significance for the pretest scores between groups (control and experimental) showed no significant difference *p* = .321(p>.05). The *t* critical= 2.042 is more than the observed value, indicating that the pretest is not significant at the level *p*<.05. Thus, the two groups came from the same population because no significant differences exist.

The independent samples t-test for the posttest indicated that Levene's test has probability less than *p*<.05, that there is variance between the experimental and control groups' posttest scores (Appendix G). However, consulting the *t* observed = -.825, *df* = 37, two-tail significance *p* = .415 (*p*>.05) revealed that no significant difference occurred between the groups in their posttest scores. Therefore, the null hypothesis is accepted. The researcher concluded that statistically there is no significant difference in the use of metacognitve strategies or traditional methods in word recognition by the poor readers of ESL.

To sum up, the treatment given to the experimental group revealed that there is significant improvement in the comprehension scores of the subjects. But when compared between the experimental group and control group scores in their posttest, it was found that there were no significant difference shown using metacognitive strategies or traditional methods in word recognition.

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Table 4.5
Word Recognition with the help of orthographic clues and context clues Experimental Group-based on checklist

Passages	Frequency				%			
	Pretest		Posttest		Pretest		Posttest	
	Ortho-graphic	Context	Orthog-raphic	Context	Orthog-raphic	Context	Ortho-graphic	Context
1	4	16	0	20	20.00	80.00	0.00	100.00
2	7	13	2	18	35.00	65.00	10.00	90.00
3	7	13	0	20	35.00	65.00	0.00	100.00

The above Table 4.5 shows the frequency and percentage of both orthographic clues and context clues used by the subjects in their reading comprehension of the three passages given. These figures were computed from a checklist (Appendix C) given to the subjects to determine the clues used to recognize unfamiliar words in the passages given. The checklist was given after the training programme. All the words were selected by the subjects as newly encountered words (Appendix C). The result indicates that 80% of the experimental subjects used the context clues to recognize new words for Passage 1, while 65% for Passage 2 and another 65% of them used these clues for Passage 3 for the pretest. In the posttest almost all of the subjects favoured the use of context clues to identify the unknown words in order to get to the meaning of the texts; 100% used it for Passages 1 and 3, while 90% used this clue for Passage 2.

Orthographic clues were also used by the subjects, that is, 20% to 35% of them applied this strategy to recognize unfamiliar words in the pretest for the three passages. In the posttest, the number of subjects who used orthographic clues has reduced to 0 percent that none of them used this clue for Passages 1 and 2, but 10% of them used it for

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Passage 3. The data above show that the subjects less preferred the strategy 'Compare with known words'(orthographic clues) to recognize new words, even though they have been taught to use the above strategy. It was thought to be sufficient if the subjects (being poor readers) were only taught the orthographic clue 'Compare with known words' and not other clues which are available such as recognizing words through syllables (e.g. st/art) and root words.

This means that the preference to use context clues is relatively greater than the preference to use orthographic clues to decode and recognize unfamiliar words. This may have been because of the added maturity of the older students to gain more readily from the metacognitive strategies of word recognition and also the familiarization of the strategies during the training session.

Which clue do the poor readers prefer to use to recognize unfamiliar words during reading? This question will be answered by the statistical result presented below.

Table 4.6
Word Identification using orthographic clues (Questionnaire-based)
Experimental Group

Response	Frequency	%
Always	2	10
Often	2	10
Sometimes	9	45
Seldom	7	35
Total	20	100

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Table 4.7
Word Identification using context clues (Questionnaire-based)
Experimental Group

Response	Frequency	%
Always	12	60
Often	1	5
Sometimes	6	30
Seldom	1	5
Total	20	100

The above Tables 4.6 and 4.7 show the response of the subjects to the questionnaire given (Appendix B). The responses were obtained prior to the treatment. It was noticed that these subjects used both clues to recognize unfamiliar words that they encountered during reading of the texts. It is indicated that these subjects prefer to use the context clues more than the orthographic clues. Out of the 20 students, 9 (45%) of them use the orthographic clues sometimes and 7 (35%) of them seldom use such strategy to recognize unfamiliar words. Probably, the subjects were unaware of their metacognitive abilities to use such strategies available when they encounter new words while reading. On the other hand, the context clues were used by 12 subjects to recognize unfamiliar words, that is 60% of them preferred to use this all the time, 30% of them use this clue sometimes, and 5% often and another 5% seldom practice using context to identify unknown words. The above explanation answered the second research question.

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Summary of Findings

The results of this study confirmed that the treatment has benefited the subjects in the experimental group to a certain extent. The use of the orthographic clues and context clues has helped the poor readers to comprehend better in the second language (L2). The scores in the pretest and posttest of the three passages clearly indicate that there is improvement in the subjects' comprehension skill. On the other hand, the control group did show a slight decrease in their scores of the posttest using the traditional methods of word recognition.

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CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

5.0 Introduction

This chapter presents the conclusions, interpretations, pedagogical implication of this study, limitations of the study and recommendations for future research. This study focused on word recognition using metacognitive strategies by the poor readers of ESL.

Throughout this study 39 respondents from SMK Tasek Damai, Ipoh, were chosen for the purpose of this study. This chapter will also provide the result of this study, interpretations and implications for better understanding of students who face reading problems in general, and comprehension specifically. This study will provide suggestions for further research into metacognitive strategies of word recognition.

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5.1 Discussion and Conclusion

In this study, initially, 40 Form 2 students were taken as samples; one was transferred leaving with 39 subjects. These subjects are learning English as second language and they were identified as poor readers and poor comprehenders. They were from Sekolah Menengah Kebangsaan Tasek Damai, Ipoh and participated in a three-week metacognitive program of word recognition. The samples were grouped as experimental (20) and control (19). Both groups filled out a pre-treatment questionnaire (Appendix B) before the training and a checklist (Appendix C) of the clues used during reading comprehension after the training programme.

To summarize the findings of this study, the researcher returns to the two research questions. The first question is concerned with the effectiveness of metacognitive strategies on reading comprehension in word recognition, using orthographic and context clues. Results of the analysis revealed that there is a significant effect on the use of word recognition clues of metacognitive strategies for experimental group after the treatment. It was found that the metacognitive strategies of reading comprehension produced significant results in the scoring of the comprehension texts (Passages 1 to 3 [Appendix A]) pretest and posttest. The training seemed to create awareness among the subjects in the experimental group to utilize their abilities metacognitively to recognize unknown words. It has shown an effective way of encouraging students to use the clues taught to comprehend the texts better than before as indicated statistically by the level of significance of the pretest and posttest. On the part of the strategies used to recognize unfamiliar words while reading, the study showed that most of the poor readers prefer to identify an unfamiliar word in the texts using context clues. Stanovich (1991) reported

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that emergent and less proficient readers use more context clues to help them identify unfamiliar words. This is true in this study whereby the poor readers seek the help of context to recognize new words (based on the checklist: Appendix C).

It should be noted that the use of metacognitive strategies of word recognition develops a very effective way of identifying unknown words among the poor readers. It helped these poor readers of ESL to develop their abilities in word recognition of unfamiliar words in comprehending the texts.

The poor readers of ESL were found to have lack of consciousness on the demands of their task; hence they are less likely to use self-regulatory mechanism to monitor their reading abilities in order to complete their comprehension tasks (Spedding and Chan, 1996).

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Based on the checklist (Appendix C) given to the subjects, it was found that they prefer to use more context clues than orthographic clues in word recognition while reading. This finding answered the second research question. The subjects used 'Compare with known words' which was taught for orthographic clues. They also identify unfamiliar words using clues from the context or 'Consider the context' such as noting the definition of the word (most probably provided in the text), restatement or synonyms or gist clues. Based on the questionnaire (Appendix B), 16.39 % always use orthographic clues, while 19.13% always use context clues. This figure could be misleading as the poor readers in this study are not aware of using the clues correctly. Some of the subjects admitted that they could not determine the clues to be used to identify certain words. Most of the subjects responded as 'sometimes' of using orthographic clues or context clues. Based on the checklist (Appendix C), some of the

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subjects could have used phonological recode to recognize unfamiliar words (Adams, 1990) as they were taught phonic clues during their primary education, but this too relies on the correct pronunciation of words by the subjects.

Metacognitive instruction of using the strategies in word recognition was also found to be more likely to promote metacognitive abilities among the students than the traditional methods of word recognition. In particular, it was found that the treatment given to the experimental group in the use of orthographic and context clues appeared to facilitate their improved abilities in word recognition. However, there is no significant difference between the two groups, which did not support the findings of Spedding and Chan (1991, 1993, 1994), and Bruce and Robinson (1999, 2000). They claimed that there was improvement in the comprehension scores of the subjects after the training period on metacognitive strategies. The reason may lie on the importance given to the language, where English is used as L1 by the subjects from Australia (Spedding & Chan, 199; Bruce & Robinson, 1996), whereas, the subjects in Malaysia learn English as a second language. Thus, there is little emphasis given to English compared to their mother tongue, and this led to poor comprehension of the English texts. Nevertheless, this training programme has made the students aware of their own strategy use, by increasing their familiarity with the reading strategies and how they are used, as well as providing practice in strategy use.

In the present syllabus for secondary schools, there is lack of comprehensive effort to include metacognitive strategy training within the scope of the curriculum. The English Language syllabus does include a section on strategies, however, it does not state

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explicitly how this aspect is to be imparted to the students and help them to identify unfamiliar words the students come across while reading a text.

The most basic one is the phonological clues (phonic), followed by orthographic clues, and context clues. Students should be trained to use such clues to become effective readers of comprehension texts. This in turn will help the students to improve their writing skill and accomplish their writing tasks proficiently. Poor readers typically do not think about or reflect upon what they have read. They almost never seek for any additional information about a topic read. In order to encourage poor readers to read widely, teach students to use the metacognitive strategies that work well for poor readers, and help them to develop their metacognitive abilities of how and when to use these strategies in word recognition. Further research is needed to verify the effectiveness of this approach to be implemented in the regular classroom situations.

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Whatever the strategy or combination of strategies that are used to identify unfamiliar words, students need to have some means of sustaining reading. Based on the study, the researcher believes that the more practice children have at reading, the more skillful readers and comprehenders they will become. If children have an effective strategy for decoding words, then more texts could be read and this in turn will develop their vocabulary in that particular language. In order to overcome the problem of reading text with more unfamiliar words, the student needs to be able to have at least one workable strategy for dealing with problem of unfamiliar words.

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5.2 Pedagogical Implications

The findings of this study point to the importance of activating the poor readers' awareness of metacognitive strategies of word recognition during the reading process. They should be made aware of their abilities to tackle various reading comprehension passages. These findings too have significant pedagogical implications for classroom teachers. Placing greater emphasis on metacognitive strategies would help poor readers to use such strategies to read effectively any kind of reading text.

Generally, the use of metacognition in learning on the whole is not really widespread among the students. It has been found that the students do not use their metacognitive abilities to actively monitor and process their own reading. The results of this study indicate that these students are still far from being self-directed or self-regulated and autonomous in their reading task. The teachers should equip the poor readers with the necessary metacognitive tools of word identification for achieving automatic and fluent word recognition abilities for successful reading comprehension. Such strategies should be taught in schools to help the majority of poor readers to be adequate decoders as well as proficient comprehenders. To read with understanding a variety of texts for a variety of purposes is a core literacy standard. The poor readers should be taught to read for deeper understanding of the text that is the ability to use the information acquired from the text productively. Therefore, the text information should be integrated with the students' prior knowledge, be it narrative or factual texts. This can support comprehension and problem–solving in different situations.

As the subjects are moderately adequate decoders, they can be trained to use appropriate higher order comprehension skills that could facilitate better comprehension.

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This will further enhance the students' abilities in applying the metacognitive strategies they have learned. If effort is not taken to train the students to be proficient readers, many poor readers may not be able to read newly encountered words. Students at the upper secondary level too are handicap in word recognition skills. Thus, teachers should begin training their students to use appropriate strategies in word recognition at the lower secondary or at lower primary level.

It should be pointed out that teachers tend to ignore and undermine the poor readers' abilities to comprehend proficiently various types of reading texts. If we teachers do not make the poor readers aware of their metacognitive abilities, these poor readers cannot achieve the objectives of their reading; they become less motivated, experience low self-esteem and less persistence at academic tasks, thus, end up disappointed and will totally avoid reading in the second language. Such metacognitive strategies, if students are exposed to it, will instill confidence in the students. Hence, it will inculcate interest in reading more English texts.

At least in lower primary there are remedial classes for slow learners (Year 1 – 3); there is no such class for secondary school students. Recently, the Ministry is concerned with the increasing number of students who lack the basic skills of reading, writing and calculating, as automatic promotion was given to all Form 3 students despite their performance in Peperiksaan Menengah Rendah (PMR). An intervention (3R) programme has been implemented for the lower secondary students. In the school where the researcher conducted the study, remedial classes are carried out by the school counselors. In order to carry out this programme effectively, specially trained teachers should be appointed to help these poor readers, so that they can focus on improving reading for

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students with persistent reading and comprehension problems. Remediation must therefore, focus on activating the poor readers' metacognitive abilities by assisting students to acquire them. Although this programme was implemented four years ago in the school where this study was undertaken, the time constraint and lack of financial support hamper the noble intention of carrying out this programme efficiently and effectively.

5.4 Limitations of the Study

The preliminary study was aimed at exploring the effectiveness of the metacognitive strategies of word recognition using two particular clues: orthographic and context clues. One limitation is the number of samples taken is small in view of the time constraint. It might be difficult in getting a significant difference with such small samples. The time allocated for this study, that is three weeks, is not sufficient to carry out a proper coaching of the students. The study was carried out within a limited time. There was not enough time for coaching the students adequately to master the metacognitive strategies of using the orthographic and context clues. More time should be devoted to training or coaching the subjects to have a significant improvement in the reading comprehension of the experimental subjects. The *p* value approached significance in the statistical analyses of the comprehension tests indicating that the experimental group achieved a better result. This suggests that with more time of coaching and practice, the experimental group would perform significantly better than the results documented in this study. However, there was no significant difference between the control and experimental groups in their

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posttest scores after the treatment. It is evident that the control group did not achieve better scores in their posttest. The traditional methods of teaching did not contribute much to the word recognition process; hence, there was a decrease in the posttest scores.

Another limitation is the samples obtained were from one school (because of time factor), a semi-urban school. Samples from different schools could have given a more significant result as the samples will vary according to their language proficiency. The samples here were also restricted to a specific age group (Form Two). Large samples with different age could examine the relationship among these variables at different maturity level such as younger readers and older readers.

Subjects were trained only for three weeks. Within these limited time, subjects have to acquire the abilities to use the strategies taught. As poor readers, it is quite soon for them to really identify the appropriate clues to be used during their reading activity.

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The instrument used to measure the scores of the groups too should be different for both pretest and posttest. In this study, the experimenter used the same passages for the tests carried out. The subjects became familiar with the texts, thus, rereading of the same texts might have helped them (control and experimental groups) to understand better.

Another limitation could be the reliability of the instrument itself based on the low correlation obtained in the paired samples t-test (Appendix F) for both groups.

5.4 Recommendations for Future Research

To obtain more evidence, it is recommended to carry out this training programme for a substantial period of time, so that more activities could be given to enable them to apply

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the strategies effectively in their comprehension tasks. This will also give more time for students to activate, explore and employ their metacognitive abilities using the strategies recommended.

For future study, selection of samples should be from different schools and consist of both younger and older students. Samples taken from different schools with varied age will give a more valid result compared to the samples of same age group such as poor readers, young readers and age-matched readers.

Different strategies should be used in future studies in word recognition. In this study, only two strategies were used, basically, orthographic clues and context clues. Other strategies would be morphological clues, phonic clues and several rereading of the texts. Only one orthographic clue was used in this study that is 'Compare with known words', but there are other orthographic clues available which can be used strategically for reading comprehension, for example, using root words, affixes and rime spelling patterns.

In order to provide a more significant result between the control group and experimental group, it is suggested that metacognitive strategies should be combined with other reading strategies such as reciprocal teaching, re-reading and close reading.

5.5 Summary

This report investigates lower secondary Form Two students' metacognitive ability used in their reading comprehension. It addresses the question: *To what extent do metacognitive strategies of word recognition improve reading comprehension of lower*

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secondary ESL poor readers? and *Which clue is preferred by poor readers to recognize unknown words in their reading?*.

The metacognitive strategies in word recognition should be utilized by teachers to help the poor readers of English. The lack of reading strategies of these students inhibits their comprehension of the texts read and dims the interest of the students to further read to understand a text. Therefore, some interventions have to be implemented to improve the student's comprehension skills. The metacognitive strategies in word recognition render as effective tools to assist the poor readers. Poor readers should be taught to use the clues while reading. As such, it is felt that although there is a vast potential to teach metacognitive strategies in the classroom, it is not actually being exploited to the fullest. Probably the teachers are also not aware of the availability of such metacognitive strategies to be taught to students, whether good or poor readers of comprehension texts.

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It would appear that the metacognitive strategies of word recognition used in this study facilitated the experimental subjects' use of the orthographic clues and context clues. The technique of 'Ask does it make sense?' combined with the cue 'Consider the context' was designed to cue subjects to use context as an aid to comprehension. Based on the percentage obtained from the questionnaire of the frequency of using the clues taught in this study, poor readers are more inclined to use the context clues. In addition, at the secondary level, students become more proficient in the use of decoding strategies. Therefore, they are more likely to use context to monitor their comprehension rather than as primary method of word recognition (Bruce & Robinson, 1999).

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From a developmental perspective, the increase in metacognitive abilities among the poor readers in their word recognition skill represents an acquired repertoire of general skills for managing comprehension problem.

Although the result within the experimental group showed significant difference between pretest and posttest, there was no significant difference found between the control group and the experimental group scores. The control group subjects also improved their result in the posttest. This improvement was possibly because of the researcher's guidance in asking questions and explaining to them the unfamiliar words, but this does not necessarily made them aware of the reasons for using certain strategies. As such there is no significant difference between the use of metacognitive strategies and traditional methods of teaching to recognize unfamiliar words. Students should be helped not just to learn to read, but to become aware of how they learn to read and comprehend the texts. They need opportunities to become aware of the language and concepts associated with learning to be better decoders and comprehenders of English.

In essence, metacognitive strategies alone could not provide an aid to the poor readers to recognize unfamiliar words for better comprehension of the texts read. A combination of metacognitive strategies with other reading comprehension strategies should be recommended such as reciprocal teaching, close reading or re-reading. This would have given more success in the poor readers' word recognition skill and more successful comprehension would have taken place.

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APPENDIX A

Comprehension Passages

Passage 1

Read the passage and answer the questions that follow.

It was a warm, sunny morning and there was I on an assignment with my companion, Raul who was snapping away with his camera.

Walking, running, crawling, rolling on a mat or dressing ourselves are actions we take for granted, but it is not so for these children. For them, these simple tasks require a lot of effort. Yet, they were enjoying themselves immensely – laughing and racing. Winning wasn't important, but it certainly added to the enjoyment of the sports.

There was the obstacle race, pushing a wheelchair race, bursting the balloons and dressing. The events encouraged self-help skills and hand and eye co-ordination. Above all, "fun" was the key-word, and the grounds of the Spastic Children's Association rang with their laughter.

There were some unconquerable "spirits" among them. Wong Chin, 19, a former student of the school, now represents the school in international meets for the disabled. Another student, Khairul Hamdan, encountered difficulty in walking, a year ago. Now he walks with ease. His teacher, Kasturi Krishnan, said that Khairul is now more matured, confident and independent.

The school has started sports therapy sessions for all students. The more mobile children are taken to the field three times a week. The severely handicapped ones are taken to the field once a week. In the field they roll, crawl and feel the ground.

Some parents have nothing but praise for the programme.

"My youngest son, Adi, has been talking about the sports for a week. He even wanted to practice at home. I find him more alert now," said Puan Zaidah.

Tan Yi Yin, a first timer, took part in the obstacle race and filling a bottle with water. Her mother, Ong Bee Keow, insisted that her daughter is faster now, and that it had helped improve her skills.

"They love to come out, participate and *mingle*. Their self-help skills and motor skills have improved too," added Kasturi.

I came away impressed by what the centre is trying to do for the children. Perhaps, they may come out with another winner like Wong Chin in the near future.

1. What was the writer's companion, Raul, doing at the sports?

   A Assigning work
   B Scolding people
   C Enjoying the sun
   D Taking photographs

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2. The passage suggests that the children had no difficulty in

   A walking
   B laughing
   C rolling on a mat
   D dressing themselves

3. Khairul has all the qualities **except**

   A he is timid
   B he has no more difficulties
   C he behaves more grown-up
   D he does not have to depend on others

4. The sports therapy programme has helped the children to

   A love their parents more
   B practice very hard to win
   C praise the programmes of the school
   D be more enthusiastic and independent

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5. The word *mingle* in the passage means

   A to take part
   B mix with others
   C help to improve
   D go away with others

6. A 'handicapped person' is a person who

   A is healthy
   B plays golf
   C suffers from incurable diseases
   D suffers from physical or mental disability

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Passage 2

Read the passage carefully. Then, answer the questions that follow.

Good afternoon friends. Firstly, I would like to welcome the new Form One students to our school. Every student here is required to join at least one school club. I am going to talk, about the Aid for Animals Club. I will be glad to answer any questions later.
The aim of this club is to help animals especially strays and abandoned animals and to promote love for animals among the members. Membership is open to all students from Form One to Five.

One of our activities includes raising funds through projects such as jumble sales and collection of recyclable items. The money collected from such projects is donated to various animal-care centres. This year we hope to organize a cat show and an *ayam serama* beauty competition in addition to our usual projects.

Our members help to care for the animals at the *animal shelters*. We volunteer our services during the weekends and school vacations. We have fun playing with the cute cats and dogs which need our attention. Some of our members have adopted them as pets too!

We also visit other places where animals are kept like zoos and bird parks. This year we plan to visit the elephant conservation centre in Perak and the *orang utan* sanctuary in Sarawak. The Police Dog Unit has agreed to put on a demonstration for us next month.

Friends, if you are interested in the activities I have mentioned, you are welcome to join the Aid for Animals Club. You need not be crazy about animals. All you need is a kind heart and sympathy for our furry and feathered friends. Thank you.

1. The main purpose of the talk is to

   A encourage the new students to join the club
   B get the students to adopt animals as pets
   C talk about the animals kept in zoos
   D raise funds for abandoned animals

2. The main objective of the Aid for Animals Club is to

   A treat sick animals
   B promote love for animals
   C clean and tidy up the animal centres
   D visit the *orang utan* sanctuary in Sarawak

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3. The club is open to students from

A Form One only
B Form Five only
C Form One to Form Five
D Form One and Form Five

4. To raise funds, the club members carry out the following activities **except**

A visiting bird parks
B having jumble sales
C putting up animal shows
D collecting recyclable items

5. We need to protect animals because

A they have the right to live
B people can keep them as pets
C students can join the club and take care of them
D club members can organize *ayam serama* beauty competitions

6. animal shelters as used in paragraph 4, probably means

A forts to protect animals
B habitats to save animals
C places for animals to stay
D homes for abandoned animals

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Passage 3

Read the dialogue carefully and answer the questions that follow.

Anis: Asma, I wish to visit you this holiday. I've never been to your house. Could you tell me the way to your house?

Asma: I'll be glad to tell you, and of course, you're most welcome to my house.
Anis: Thank you Asma.

Asma: We're now at your house. Go to Jalan Pelangi which is in front you. Walk along this road and you can see Taman Pelangi on you left and the flats on right. Continue walking till you reach a junction. Turn left into Jalan Apin. On your right is a market and on your left is a clinic.

Anis: Is there any other landmark along the road?

Asma: No. The market and the clinic are the only two landmarks. Is that clear?

Anis: Yes, I understand.

Asma: As you proceed, you'll reach a T-junction in front. On your left is a big building.

Anis: What is the name of that building?

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Asma: Sorry. It's Tiger Bank. There's only one bank along this road. During office hours, you'll see many people going into the bank. There is a parking lot near the bank.

Anis: Oh, I see.

Asma: Continue walking till you reach another junction. Turn right into Jalan Pairin. On the left is an orchid farm and on the right is the post office. Walk straight until you come to a T-junction. Turn left. Continue walking till you see a double-storey wooden house. That is my house.

Anis: Thank you Asma for the direction.

Asma: You're welcome. Make sure you will be at my house this holiday.

Anis: I'll be there.

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1. Who will be visiting Asma this holiday?

   A Anis
   B Ashraf
   C Safiyya
   D Faheem

2. Before reaching Jalan Apin, Anis has to pass through

   A the market
   B Jalan Pairin
   C Jalan Pelangi
   D the post office

3. Which landmarks are situated along Jalan Apin?

   A The clinic and the market
   B The flats and Taman Pelangi
   C The bank and the police station
   D The post office and vegetable farm

4. Asma said sorry because she had forgotten to mention

   A the bank
   B the clinic
   C a landmark
   D the landmarks

5. Which of the following statement is **not true** about Tiger Bank?

   A It is a busy bank
   B Parking is charged at this bank
   C There is parking lot near the bank
   D It is the only bank along Jalan Yoke Ling

6. Along Jalan Pairin are

   A the post office and the bank
   B the orchid farm and the bank
   C the parking lot and the market
   D the post office and the orchid farm

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APPENDIX B

Section A

QUESTIONNAIRE:

This questionnaire consists of two sections: Section A and Section B. The reason behind this questionnaire is to find out what cues you frequently used and how you use these cues to identify unfamiliar words in your reading activity. Your honest and accurate answer will be studied and will help in the development of English Language teaching in your school. Your answers will not be read by your teachers and will have no influence on your test marks. Therefore you should not be influenced by what your friends feel or think. Please state your opinion.
Your cooperation is very much appreciated. Thank you.

Soal-selidik ini mengandungi dua bahagian: Bahagian A dan Bahagian B. Tujuan soal-selidik ini untuk mengetahui kaedah pembacaan yang sering digunakan oleh anda untuk mengenali perkataan baru atau yang belum diketahui. Anda diminta memberi maklumat yang betul bagi menjayakan penyelidikan ini supaya satu kemajuan dapat dikecapi dalam pengajaran Bahasa Inggeris di sekolah ini. Segala jawapan yang anda beri adalah sulit, dan ini tidak akan membawa sebarang kesan kepada keputusan peperiksaan anda kelak.
Kerjasama anda amat dihargai. Terima kasih.

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1. Name: ☐ **2. Form:** ☐

3. Sex: **Male** ☐ **Female** ☐

4. Race: **Malay** ☐ **Chinese** ☐ **Indian** ☐ **Others** ☐

5. Age: **14 years** ☐ **15 years** ☐

6. Place of residence: **Town** ☐ **Village** ☐ **Estate** ☐

7. Mother tongue: **Malay** ☐ **Chinese** ☐ **Tamil** ☐ **Others** ☐

8. Second language: **Bahasa Melayu** ☐ **English** ☐

Chinese ☐ **Tamil** ☐

Others (state)_____

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9. Grade obtained for English in UPSR: Put a tick (/)

A	
B	
C	
D	
E	

10. Grade obtained for English in your final examination (Form 1)

Put a tick (/)

A	
B	
C	
D	
E	

11. Language use for communication:

Language	**English teachers**	**Family members**	**Friends**
Malay			
Chinese			
Tamil			
English			
Others			

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12. Family income monthly:

Income	Number
Above RM2000	
RM1000-RM1900	
RM500-RM900	
Below RM500	

As for the data collected by questionnaire, it will be analysed by employing basic statistical procedures such as the frequency and the percentage.

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Section B

Questionnaire

Always - 1

Often - 2

Sometimes - 3

Seldom - 4

Strategies used to assist word recognition in reading process

No					
1.	I activate knowledge of context from titles	1	2	3	4
2.	I guess or infer meanings using anaphoric clues or cataphoric clues	1	2	3	4
3.	I translate words into L1	1	2	3	4
4.	I reconstruct meaning from familiar words read	1	2	3	4
5.	I understand individual words through sound of words	1	2	3	4
6.	I use a dictionary to get to the meaning	1	2	3	4
7.	I look for a little word within the bigger word using affix	1	2	3	4

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	analysis				
8.	I match the sound with the letter sets	1	2	3	4
9.	I recognize the words using contextual clues	1	2	3	4
10.	I learn unfamiliar words from teacher's explanation	1	2	3	4
11.	I use sound of letters to identify a word	1	2	3	4
12.	How frequent you use sound to identify a word when reading?	1	2	3	4
13.	I learn to recognize a word when I read with friends	1	2	3	4
14.	Carve-out words help me to identify difficult words	1	2	3	4
15.	Context of the passage provides clue to recognize a word	1	2	3	4

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16	Compare known words to identify unknown words	1	2	3	4
17	I ask my friend	1	2	3	4
18	I just skip the word	1	2	3	4
19	I ask my teacher	1	2	3	4

20. Do you want to be an efficient reader and master the comprehension skill? Why?

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APPENDIX C

CHECKLIST

Tick (/) the appropriate clues used to recognize new words:
Passage 1

	Words from text	Compare with known words (Orthographic Clues)	Consider the context (Context Clues)
1	Companion		
2	Granted		
3	Immensely		
4	Obstacle		
5	Encouraged		
6	Co-ordination		
7	Unconquerable		
8	Encountered		
9	Handicapped		
10	Praise		
11	Mingle		
12	Impressed		

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Passage 2

	Words from text	**Compare with known words (Orthographic clues)**	**Consider the context (Context clues)**
1	Abandoned		
2	Shelters		
3	Conservation		
4	Strays		
5	Irritating		
6	Leaking		
7	Occasionally		

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Passage 3

	Words from text	**Compare with known words (Orthographic clues)**	**Consider the context (Context clues)**
1	Landmark		
2	Proceed		

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APPENDIX D

Orthographic and Context Clues

Words and pseudowords given during the practice.

A. Orthographic clues: beauty, meauty

nound, round, sound

grundred, hundred

crapple, apple

mupple, supple

vivide, divide

krune, prune

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B. Context clues: 1. bear

a) She saw the huge **bear** near the bush.

b) He cannot **bear** the pain.

2. wind

a) The **wind** blew her hat away.

b) Please **wind** up the car windscreen.

3. mine

a) The old **mine** was closed down last week.

b) That bag is **mine**.

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4. period

   a) It was a difficult **period** for the family after h father's death.

   b) The English **period** is at 8.40 a.m.

5. club

   a) Educational aid to the needy has been an annual project of this **club**.

   b) This **club** was used to hit the wolf.

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APPENDIX E

Descriptive Statistics

Descriptives

Descriptive Statistics: Control Group

	N	Minimum	Maximum	Mean	Std. Deviation
PRETEST	19	22.00	89.00	61.9474	18.95455
POSTTEST	19	33.00	89.00	61.0000	19.43651
Valid N (listwise)	19				

Descriptives

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Descriptive Statistics: Experimental Group

	N	Minimum	Maximum	Mean	Std. Deviation
PRETEST	20	11.00	78.00	56.3000	16.04303
POSTTEST	20	50.00	83.00	65.0500	9.96032
Valid N (listwise)	20				

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APPENDIX F

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APPENDIX G

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