CHAPTER 3 RESEARCH METHODS AND DATA COLLECTION

3.1   Introduction

This study will be carried out using two different texts to gauge the subjects' understanding of the reading texts depicting different cultures. This study will also attempt to establish the relationship between subjects' reading habits and its influence upon the understanding of the reading texts. Questions in the form of semi- structured interviews will be asked to find out if the subjects had any prior knowledge about the topics and if it had activated their schemata to better understand the content.

The two expository texts that will be given to the student are entitled "Top-spinning"; a popular traditional game usually played in the villages in Malaysia. Top-spinning competitions have now been included as an event to attract tourist to Malaysia. The second text, "Curling", a game which is predominantly played in Scotland and England. This game is a popular outdoor sport activity, which is played during the winter months. The two texts depict how two different culture specific games, which are played as a pastime activity and also in competitions. These two texts will be used in evaluating the role of schema. Subjects in this study will read the texts before a recall and telling assessment is carried out. From the data of subjects' recall evaluation, and relating it to their reading habits, the researcher will be able to answer research question one and two.

1. Does cultural familiarity help in the understanding of a reading text?

2. Does prior knowledge play an important role in the understanding of a reading text?

3.2   Selection of subjects

Participants in this study will be selected from Form Four. 16 subjects will be selected. The 16 subjects will be categorised into two groups. One group will comprise high proficiency subjects (A for English Language in PMR) and the second group will comprise low achievers (D for English Language PMR). The criteria used to determine the subjects' proficiency levels would be the results of the PMR examinations. The PMR examination can be considered a valid assessment tool to gauge the subjects' proficiency because it is a standardised examination. Although, the PMR examination does not specifically test reading abilities, but the grade obtained is an overall indication of the subjects' proficiency levels in the English Language. The subjects will read the two texts and recall and retell the content of the text.

3.3   Suitability of reading text

The two texts that will be used in this study will depict two different cultures. The first text "Top-spinning" depicts a Malaysian traditional game closely associated with the Malay community in Malaysia. A simpler version of top spinning has assimilated into the multiracial population of Malaysia and is played by school children. The text used in this study will depict the traditional version played by adults as a competitive sport. The game is played between teams. This expository text will provide the reader with details about how the game is played. The second text, "Curling" will outline the details of another culture specific game played on ice in Scotland and Canada during winter. Both the texts will give the reader some facts about the sporting equipment used in the game. The reader will be informed about the

place and method of playing the game. Hence in the subjects' recall assessment, the subjects will be required to retell these details about the game as a means to show understanding of the text.

Various considerations were taken into account before the selection of the two texts was made. A text, which is lengthy, may pose some difficulties for the subjects, especially in maintaining concentration to understand the content. On the other hand an easy text will pose very little challenge to the good subjects. To overcome this problem, in attempting to establish the effects of structural features on interest, the Flesch "Reading Ease" formula, (Burmeister, 1978:34) was used to evaluate the two text. The two texts were of almost the same length, (Top-spinning –202 words, Curling- 197 words), the Flesh reading ease, (Top spinning – 68.5, Curling- 67.8). Taking into consideration the Flesch readability results, it can be assumed that both the texts are almost of the same level. Three TESL graduate teachers also read the text and it was decided that the text would be suitable to be used in this study.

3.4   Prior knowledge assessment (Free Association test)

Before the two texts is to be administered to the subjects. They will be given a prior knowledge test (Please see APPENDIX 7 & 8)to determine that the subjects have not read the text before. Although, this can be determined by asking the subjects but in doing so there is a possibility of the subjects giving inaccurate responses, as they might not be honest in saying if they have read the text or otherwise.

A free association test will be conducted to assess prior knowledge, which will give an indication of subjects'' level of prior knowledge relating to the text. Langer (1980, 1981) first used the free association test to assess prior knowledge of the subjects. It was later developed as a measure of prior knowledge. The subjects will be

given a list of words / phrases from the text. The subjects will be told to write down any words or phrases that they think will relate to the word / phrases on the list. They will be told to attempt all the words / phrases but if any word is difficulty to understand the meaning, they should not respond. Five unrelated concepts are included to ensure that the free association test will not act as a schema activation device. The subjects will be asked to reflect upon the meaning of each word phrase and write down all the related words that come to their mind in the space provided. The two lists of words were given to three TESL graduate teachers to assess the suitability of the words. The independent evaluators were of the opinion that the words given in the free association test are suitable and are unlikely to activate the subjects' schema prior to reading the texts.

The test will be marked based upon responses given by the subjects. Two marks will be awarded for a precise definition or detail and accurate explanations based on the student's own knowledge, one mark will be awarded for some knowledge of the word (if the meaning relates to the word given) and no marks will be awarded for irrelevant or no response. From the responses it was noted that the high achievers were equal in their prior knowledge about each topic.

3.5   Evaluating understanding

When a text is read, the primary goal is to understand the content of the text. Understanding a text is a complex process whereby the reader tries to reconstruct the meaning of a written message, which has been encoded in the print form. In order to understand a reading text adequately the reader has to reconstruct meaning which is equal to the intended meaning that the writer is trying to convey in the printed form. This can be seen as a "top-down" or "bottom-up" process of understanding the text.

However in the context of this study a "bottom-up" method of processing will hamper relevant schema being activated to understand the text adequately as much effort is wasted in trying to understand the individual words in the text. When someone is reading the text, it involves understanding the words in print, storing the meaning in the mind and retrieving it to make sense. If output from the reader is in agreement or represents the encoded message in print then it is a confirmation that the reader has understood the reading text. The interpretation is not in selective chunks of words but extends to cover a more holistic understanding.

Traditionally, tests to measure understanding have been in the question answer format, in which subjects' understanding of the text is assessed by a prepared set of questions after oral or silent reading. Goodman and Goodman (1978) are of the opinion that questions asked to achieve this objective tends to focus on specific knowledge rather than the holistic understanding of the text. The limited number of questions focuses on a limited area of the text. In the same light, Wood (1985) posits that comprehension assessment with its question answer format is inadequate because it focuses on limited number of questions.

In the presence of the above criticism regarding the use of a question-answer format as a measure of comprehension, some researchers have reiterated the need for other types of measure to gauge the understanding of a reading text by research participants. Goodman and Goodman (1978) have proposed the use of both recall and impromptu questions. This procedure involves subjects' who will read the text unaided. The subjects' will orally retell the text after reading it. To further strengthen the evaluation of the subjects' understanding of the text, an additional procedure that will involve asking a few oral questions should be used. The oral questions will be open-ended to enable the assessment of the amount of recall by the

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subjects and to pinpoint the existence of prior knowledge within the subjects. The assessment of the amount of recall is done by comparing the audio tape recording of the subjects' recall session with the content of the writer's original text based on the procedure of matching recall points to that of content points from the text.

Goodman and Goodman (1978) are of the opinion that an oral recall procedure is a better measure of readers' understanding of the text because:

> The retelling provides information about the reader's ability to interrelate knowledge, to draw conclusions, and to develop concepts or misconceptions. Although the retelling score is imperfect, it adds to the picture of the subject's development of efficient and effective reading strategies. The work being done in discourse analysis in retellings adds justification to our procedure and may provide new and better ways of quantifying retellings. (p.546)

Adding on to their views about an oral recall exercise to evaluate understanding, the recall exercise might activate schema relevant to the text, which is already stored in the student's memory. Subjects' may add on this extra information when retelling the story as a show of clear understanding of the story. M.S. Johnson (1982) states that in engaging "verbal production" (recall), as a measure of textual understanding, it represents what the reader understood from the textual material. Therefore the subjects will have to read and relate the content to their existing schema and understand the text before retelling the content in their own words. Researchers such as, Carrell (1983) has used the written recall procedure to evaluate the understanding of reading text of ESL students in the target language. However, in the Malaysian context, most students' lack writing skills and this might render the results inaccurate.

In this study, the method of evaluating the subjects' understanding of the text is by relating the content of the text to their schema and they will be tested using the oral recall strategy.

In the use of recall to measure understanding the primary criteria is the "material remembered and expressed in a coherent fashion. This can be taken to mean that the text has been comprehended" Smith & Jackson (1985:625). Therefore, it can be assumed that there exist a close relationship between remembering and understanding. There can be an element relating input to relevant schema and hence understanding is enhanced. In this same vein, Rumelhart and Ortony, (1977) state;

> In a sense, our memories are natural side effects of the comprehension various aspects of the input are associated with a configuration of schemata, and these instantiated schemata constitute our interpretation of the input. What gets stored in memory is, in effect, a copy or partial copy of these instantiated schemata, that is, what gets stored is not the input itself but the interpretation that was given to that input as a result of the comprehension process.
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> (P.116)

There is a growing wave of assumption related to the core assumption of the view presented above. It is safe to assume that what is remembered is the product of the comprehension process. Moreover, there are clear signs to say that what is remembered, as a result of reading is the "meaning". The work of Bartlett (1932) for instance showed that both in storage and retrieval process of information from text, retrieved "ideas" and basic meanings than with memorised chunks. Therefore, the storage and retrieval process can be considered as a measure of understanding. Having said that, there appears to be some doubt that recall as a measure of comprehension can be in fact recall by memory and understanding which may not have taken place. However, for purposes of this study the researcher is of the opinion

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that the processes involved in comprehension and in memory are fused together and it is difficult to separate one from the other completely. It will be impossible to do so. Osman (1985), stated that "investigators who have examined the processes involved in comprehension generally support the view that memory is an integral part of the comprehension process" (p. 24)

To brush aside this doubt, this study made use of immediate recall. The subjects who participated in this study will be asked to recall what they understood from the reading of the text immediately. Their response will be tape-recorded. The subjects will be allowed to listen to the recorded recall and given a chance to add any extra information they may have omitted. This act can be viewed as the schema which has been activated during the audio listening session and relates to any details still held in memory and needed to be added on.

3.6   Reading habits

The instrument used in this study to collect data about the subjects' reading habits is a questionnaire comprising 10 questions. According to Fraenkel and Wallen (2000), information is collected from a group of people in order to describe some aspects or characteristics of the population of which that group are a part of. It is designed to find out several aspects of the subjects' reading habits. Some areas that will be explored are,

1.   The type of reading materials available

2.   Time spent reading by the subjects.

The questionnaire is to find out about the reading habits of the subjects involved. The same questionnaire was administered to all the subjects. The response to the questionnaire will be analysed and matched with the marks the subjects obtain

in the recall protocol. This will bring to light the effects of the subjects' reading habits and its influence upon their ability to recall what they have read. The findings will enable the researcher to establish if there appears to be a relationship between knowledge gained from reading and its influence on vocabulary knowledge. However, there is a possibility that other factors such as interest in a culture or particular sporting event may influence recall capabilities in this study.

3.7 Procedure

3.7.1 Recall protocol

The recall assessment will be carried on an individual basis. The 16 subjects will be divided into two groups. High proficiency and low proficiency in the English Language. The subjects were told to meet at the school library and the librarian's room will be used to carry out the recall/telling assessment. The school library is considered a suitable place to conduct the assessment due to the following reasons. The reason as to why the school library was chosen as the place to conduct this study is,

1. The place in question was found to be most comfortably as it is fully air-conditioned with proper lighting. As Malaysia lies in the region of the Equator and the heat especially here in the Klang district is rather unbearable, we needed to find a cool atmosphere to make our subjects feel at ease when participating in this study.

2. As the study was one to discover about the factors influencing the understanding of reading text, it was thought that the library being a place of reading should be an inspirational place to conduct the study.

3.   The library is a familiar place to the subjects hence they are quite comfortable with its surroundings.

The subjects will be told of the purpose of their presence in the library. They will be briefed on the purpose of the study. All the subjects will be assured that the procedure is not a test and the analysis will not affect his or her performance in the school examination. The results will be kept confidential. The subjects will be briefed in both the Malay Language and in English. The briefing will take about four minutes. There is no need to rush through the procedure and risk not being able to get the required results. The subjects will not be stressed in any way to enable the subjects to adopt a state of readiness.

After the short briefing about the purpose of the exercise and what is expected of the subjects is made clear, an experimental text is given to the subjects to read silently. A short newspaper report will be given. The purpose of this practice session is to familiarise the subjects with the recall procedure. Three subjects will "act" out the recall and retell process in front of the other subjects participating in this study. The practice session will take about 11 minutes.

The recall assessment using the two selected texts will be carried out after a fifteen-minute break. The subjects will be called individually into the librarian's room and given the first passage (Top-spinning) to be read silently. Just before the subjects start reading, they will be told that they should try to understand as much as possible about the text. The time allocated for this exercise is about eight minutes. The recall attempt will be audio taped using a cassette tape recorder. Probe questions may be asked at the end of the reading session of both the texts. Probe questions to establish the subjects' understanding of certain words in the text will be asked quickly and a response obtained, if the subjects are able to respond. The recall attempt that will be

recorded will be played back for the subjects to listen and the subjects will be given a chance to add on any details that they had forgotten to mention earlier. The same process will be carried out for the second text.

3.7.2 Questionnaire

The questionnaire will be administered to the subjects as soon as they have finished the recall assessment. The first five questions would be "warm up questions". The data obtained from the remaining questions will give an indication about the reading materials the subjects read. When this information is related to the earlier recall /retell protocol data, it will give an indication as to the influence of reading habits upon cultural familiarity in their understanding of the reading text.

3.7.3 Semi- structured interview

The semi-structured interview will be conducted immediately after the recall procedure and questionnaire administration session. Here again the researcher will be looking out for any indication that the subjects are relating information from their schematic knowledge in trying to understand the meaning of the two texts.

3.8 Instruments

In this study the data will be obtained using three different modes of data collection to triangulate the findings in an attempt to establish the role of schema in understanding reading texts. As Freeman (1998:97) states, triangulation brings data from three different sources to focus upon a central point, which in this case will be the factors which will influence the subjects' understanding of a reading text. The three modes of data collected would be analysed by looking for patterns, which relate

to content familiarity, prior knowledge and reading habits in helping the subjects to understand the text.

The first instrument used in this study will be a recall and retell assessment procedure. Subjects' recall of the two texts, which will be audio, recorded, will be checked against this pausal / idea units (Please see APPENDIX 3 and APPENDIX 4). By relating the scores obtained by the subjects in this study, with the information obtained using instrument two and three, it is hoped that recurring themes or patterns appear in relation to the understanding of the text.

The second instrument is semi- structured interviews (Please see APPENDIX 5), which will involve the preparation of an interview guide that lists a pre-determined set of questions or issues that are to be investigated during an interview. This guide serves as a checklist during the interview and ensures that basically the same information is obtained from a number of people. The interview will shed some light on the subject's response to the two texts. The emerging patterns will reveal the subjects' interest in specific areas or culture in relation to their recall scores.

The third instrument is a questionnaire (Please refer to APPENDIX 6), which is intended to shed some light on the reading habits of the subjects in this study. The data collected from the questionnaire would give an indication about the books, magazines and other reading materials preferred by the subjects. By comparing the data from these three sources, the researcher intends to establish the accumulation of content knowledge (cultural) and prior knowledge through the subjects reading habits have a direct influence in understanding of reading texts.

3.9   Data Analysis

3.9.1   Recall protocol

In scoring recall protocols, Carrel (1983) suggests two possible criteria that can be employed – a loose and strict criterion. In the loose criterion, distortions are allowed – cases in which most or part of the meaning is correctly recalled or paraphrased, but which include some distortions are allowed. Paraphrases are accepted as correct.

For the purposes of this study it was decided that the loose criterion would be implemented. The reasons being:

1)   The investigation was concerned with the overall comprehension of the text information rather than the exact reproduction of specific details in the text.

2)   The recall was conducted in the English Language after reading text in the English Language. The subjects who participated in this study were from different ethnic groups and a few uses their mother tongue (L1) extensively in every day conversation. This was assumed as a hindering factor when trying to produce error free speech in the English Language.

The strict criterion was not used in this study in scoring the recall protocols for number of pausal units and idea units recalled. In short, the scoring procedure of the recall protocols is as follows: Each recall protocol was scored against the list of pausal unit or idea units, which will be predetermined. One point was awarded for each unit correctly recalled by the subject as long as the gist of the unit was reproduced. This would allow for cases in which most or part of the meaning was correctly recalled or

paraphrased, but which included some distortion of the original meaning. These distortions should not in any way damage the essential meaning of the pausal / idea unit. If the student did not give the essential meaning, the unit was scored as missing and no point was given. For instance, for the pausal / idea unit, "They tie an oiled rope, about 20 to 30 feet long to a tree ". A response such as " They tied an oiled, about 20 to 30 feet long to a tree ", is seen as a gross distortion that damaged the essential meaning of the unit. On the other hand, a response such as "They tied an oiled rope 10 to 30 feet long to a tree" is considered a slight distortion and would be scored as correct.

The pausal/ idea unit recall score will be matched against the list of pausal section and ideas to identify the amount of recall done after reading and understanding the texts. The text on top spinning has an approximate count of 32 pausal / idea units and the text on "Curling" has an approximate count of 35 pausal / idea units. The list of pausal / ideas units were given to three English Language teachers who are TESL graduates. They were told to assess the suitability of the pausal / ideas units. The three teachers agreed that the division of pausal / ideas units were acceptable after bearing in mind the proficiency levels of the subjects in this study. Pausal / ideas which were too long might pose some difficulties to the subjects.

3.9.2 Questionnaire

The information gathered from the subjects in response to the questionnaire will be analysed in the form of recurring themes pointing towards the accumulation of prior knowledge relating to research question one. Research question one suggests that cultural familiarity play a role in the understanding of a reading text. Reading texts related to a specific culture or sports could help subjects understand the familiar

text. Hence the data obtained from the response to the questionnaire will also be compared to the data in the recall protocol to substantiate the assumption that subjects did possess cultural familiarity which helped in the understanding of reading text. The questionnaire will be analysed to determine several aspects of the subjects reading habits. Some areas, which will be assessed are, gender and the race of the subjects and their preferred choice of reading materials. Time spent reading per day and its influence on recall of familiar and unfamiliar text.

3.9.3   Semi structured interview

The semi-structured interview will shed some light on some of the possible ways the subjects used to relate prior knowledge to the text to enable understanding. Hence, when the data is compared in tandem with the data gathered from the two other instruments used in this study, it is hoped that the pattern that emerges would give an indication that cultural familiarity and prior knowledge they subjects possessed had helped them to understand the reading texts. The data will enable the researcher to make a connection to establish that students possessed cultural familiarity and prior knowledge about the content of the text.