

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

A discussion of the method of data collection including the instrumentation, selection of subjects and method of data analysis will be considered in this chapter.

#### **3.1 Research tools**

##### **3.1.1 The use of comprehension questions in this study**

This research was carried out using comprehension questions to analyse the level of this group of learners' critical reading on the basis of how they answered the questions that were given based on the selected texts. Although Carver (1978 : 293) sees "... the traditional comprehension exercise ..." as being "...artificial", nonetheless it was felt that the use of comprehension questions of the higher order skills was seen as a basic indication of the critical reading ability of these students. They would serve as "... a more direct measure of reading comprehension ability ..." (Gardner and Smith, 1987) where these students were concerned. Besides the students were familiar with the technique of answering open-ended questions which formed a part of their reading comprehension lessons and examination format.

Comprehension questions of the higher order skills as listed in Barrett's Taxonomy were taken to measure learners' critical reading abilities. Literal comprehension questions were included because they are as Charles (1975 : 129) says, "... essential and prerequisite to thinking on any level." All the questions were open-ended because it was felt that students would not be limited in giving their responses to the questions unlike multiple-choice questions (MCQ) where responses are structured and restricted. In addition the element of guesswork cannot be discounted with the use of MCQs and with the use of open-ended questions, it was hoped that this problem could be eliminated and learners could be encouraged to support their answers with logical reasons and it is the ability to reason which will be to quote Charles (1975 : 128) again, "...clues to the thought processes used, the depth of understanding, and the level of thinking attained by the pupil." The responses given to the questions would give an indication of how the learners drew upon whatever critical reading skills they had to answer them.

Answers to the questions of all of the given texts were analysed according to these levels of reading comprehension: literal, inferential, evaluative and appreciative. In the researcher's investigation of reading comprehension research it was discovered that a research using the terms introduced by Pearson and Johnson 1978 (Lopez, 1997:30) (refer to Section 2.3) which analysed the types of questions could be adopted to analyse the students' answers because it suited the purpose of the research. Four levels were included including the irrelevant or incomplete category. Thus, the terms which are adapted for use in this research is included below:

**Text Explicit (TE) answers** – answers are cued directly from the questions.

**Text Implicit (TI)** answers – answers to the question is found in different parts of the text. The reader must locate and infer from the information given.

**Text-Script Implicit (TSI)** answers – the reader must scrutinize the information found within the text and based on his/her prior knowledge or schemata and conclude to arrive at the answer to the question.

**Irrelevant (IR)** answers – answers which are not relevant to the question and incomplete answers.

### **3.2 Selection of subjects**

The subjects selected for this study were Form Five Science students within the range from medium to slightly above average proficiency levels based on to their PMR English Language results. Thirty-six students were included in this study which comprised the entire enrolment of the Form Five Science stream of the school. These students were selected based on the fact that they were able to read more proficiently and were considered more advanced academically than students in other classes as they were streamed based on their PMR examination results. Another reason for their selection was because they were available as subjects for this study and it would not cause too much interruption to their on-going lessons since they did the tasks of answering comprehension questions during their English Language periods with the researcher.

### **3.3 Choice of materials**

The reading materials chosen were based on two types of texts: narrative and expository. These texts were chosen based on the criterion mentioned in Section 2.4 where the former was agent oriented and the latter subject oriented. The different kinds of texts used may give rise to a difference in stimulating critical reading abilities of the students. The texts contained vocabulary and content which were familiar to the students. The topics in the narratives were about a short stay in the jungle and a haunted place which ensured that the subject was within the students' knowledge and experience. The first expository text dealt with the subject of drugs which was something most of the students had heard of as well as read about and have some knowledge of. Another expository text was based on objects of status symbols which the students could observe and identify in their surrounding.

### **3.4 Implementation of the research**

A pilot test of the four proposed kinds of texts was also carried out before the actual implementation of the research. The pilot test was carried out with eight other students of same proficiency level from the best of the Art Stream classes. The eight students were picked by their English Language teacher based on their PMR English Language results. The eight students did not encounter any difficulties in answering the questions.

Then the subjects were given the four narrative and expository texts, which were reproduced from their Form Five workbooks, together with six related comprehension

questions each comprising both literal and higher level questions to be answered. The use of the different levels of questions as mentioned earlier was aimed at finding out how the students performed in responding to them. All the chosen texts were of medium length and because the questions asked were of the open-ended kind where time was needed for thinking them through before answering. Six questions were considered sufficient within the time frame of one period consisting of forty minutes given to read the text and to answer the questions following Lucas'(1990 : 29) advice that if too many questions were included, the students would be "...demotivated..." and "bored with the text by the time they are halfway through the exercise" (Lucas, 1990 : 29). They may also lose focus of the given task and become restless. The gathering of data in this way was done over a period of four reading lessons.

### **3.5 Method of data analysis**

The data was analysed question by question in every text using terms adapted from readings gathered from Pearson and Johnson 1978 (Lopez, 1997:30) regarding designing of comprehension questions. The terms used included categories such as **text explicit (TE)** answers, **text implicit (TI)** answers and **text-script implicit (TSI)** answers. Another category not found in the terms adapted but which was included was the **irrelevant (IR)** answer category. This category consisted of answers that were irrelevant or incomplete or where no answers were given.

These answers were analysed based on Barrett's Taxonomy of Reading Comprehension Skills. A frequency count of how many TE, TI, TSI and IR answers as well the number

of A, B and C scorers who gave such kinds of answers would be used as well. The analysis of the students' answers would be compared against their English Language examination achievement. This would be taken as an indication to see if the students' ability to answer the different levels of comprehension questions was influenced in any way by their PMR scores.

### **3.6 Collection of data**

As mentioned earlier, 36 students from the Science class were selected for this study. They were each required to answer six comprehension questions for every one of the four texts. Literal questions required students to focus on ideas and information that were found directly in the text. Skills of the higher level comprehension included inferential comprehension where the students were instructed to use explicit text information together with personal experience and knowledge to form hypotheses and make inferences. Questions that were set to test this aspect of their comprehension skill include inferring sequence, supporting details, comparisons as well as cause-and-effect. In inferring sequence, students were required to hypothesize as to what might have happened in addition to information found directly in the text, especially with reference to narrative texts.

Where the evaluation component was concerned, the students had to compare information and ideas in the text material presented with their own knowledge and experience to give their own opinions. The questions in the evaluation component take into account judgements of reality and fantasy, judgement of adequacy and validity and

judgement of worth, desirability and acceptability. Questions on appreciation were also asked where students needed to respond to the text according to their own criteria such as identification with characters or incidents.

### **3.7 Limitations in using comprehension questions**

The comprehension questions were classified under different categories of the comprehension skills according to Barrett's Taxonomy of Reading Comprehension Skills for the convenience of analysis for this study. However, the skills sometimes overlapped as indicated in a finding by Thorndike quoted by Sullivan (1978 : 711) which says "...that different comprehension skills overlap and are part of a larger factor called 'reasoning in reading' ". Despite the fact that they sometimes did overlap, yet the difference between literal comprehension questions and those of the higher comprehension levels was quite evident from the questions set for each of the text.

The students' responses, whether text explicit, text implicit, text script implicit or irrelevant to the different kinds of questions would be carried out in detail in the next chapter.