CHAPTER 4

THE EMPIRICAL INVESTIGATION: PLANNING, METHOD, EXECUTION AND RESULTS

4.1   INTRODUCTION

This chapter discusses the research design used to investigate the selected affective factors, namely, attitude towards English as a subject, self-concept of academic ability in English, the perceptions students had of their teachers of English, and the relationship these factors had with achievement in the school subject English and to other variables such as gender, socio-economic-status, language, fathers education, mothers education, area of domicile, the age at which English was first learnt, and school type attended. The research group comprised urban secondary schools students in Zimbabwe.

 Hypotheses with reference to these variables were formulated. The procedures used to test these hypotheses were also discussed and explained. This included the selection of the sample, a description of the measuring instrument used to collect the data, the procedure used to administer the questionnaire and the analyses and interpretation of the data.

4.2   OBJECTIVES OF THE EMPIRICAL INVESTIGATION

The objectives of the empirical investigation were as follows: -

- to, as a consequence of the literature study, compile a questionnaire with the aim of acquiring an indication of the respondents':-

 - self-concept of academic ability in English (SAAE)

 - attitude towards the subject English (ATE)

 - perceptions of teachers of English (PTE)

 In addition some biographical data was collected from the respondents. This was their gender, their socio-economic status, their intelligence quotient, the area in which they

lived, the type of school they attended, their home language, the education of their parents and the age at which they started to learn English.

- to determine, by the use of appropriate statistical techniques:-

- if there were significant differences between each of the independent variables, SAAE, ATE and PTE, if the following variables were used as dividers: gender, home language, area in which respondents lived, school type, fathers and mothers level of education and the age at which the respondents started to learn English.

- what the relationship was between each of the independent variables SAAE, ATE and PTE and the dependent variable achievement in English.

- which independent variable or combination of independent variables were the best predictors of academic achievement in English.

4.3   PLANNING OF THE EMPIRICAL INVESTIGATION

4.3.1   The research group

The sample consisted of a randomly selected group (with replacement) of 271 school students from five secondary schools which were representative of the type of post–primary school found in present day Zimbabwe. Sixty form four students were selected from each of the schools in the survey by using the following method:-the researcher went to each of the schools and secured class lists of all form four students in that particular school. Each student was then assigned a number. These numbers were then placed in a box and sixty numbers were then chosen by a senior member of the school's staff. The 60 students chosen from each school represented approximately 20% of that school's form four population. The sample obtained finally consisted of 134 female students and 137 male students from different backgrounds and socio-economic statuses. All the schools followed similar syllabuses leading to public national examinations. All the schools used similar methods of assessment in terms of their school based examinations and assessment policies.

It was hoped that all of the 60 students who were selected from each school would take part in the survey, but because of logistical reasons and the unavailability of students on the day the questionnaires were to be completed, only 271 finally completed the questionnaire.

The age range of the students was between 16 and 18 years of age. The distribution of the sample of students in terms of home language, gender and school type, is shown in tables 4.1, 4.2 and 4.3.

Table 4.1 Distribution of students in terms of home language

	Language	Number
1	**Shona**	224
2	**Ndebele**	7
3	**English**	40
	Total	271

The medium of instruction in all the schools represented by the students in table 4.1 was English.

Table 4.2 Distribution of students in terms of gender

Gender	Number
Female	134
Male	137
Total	271

Table 4.3   Distribution of students in terms of school type

School Type	Location	Sample Size
High School co-ed church related	Urban	60
High school co-ed Private	Urban	41
High school girls State	Urban low density	59
High school boys State	Urban low density	58
High school co-ed state	Urban high density	53
	Total	271

4.3.2   Permission to use schools for the investigation

An approach was made to the Manicaland Regional Education Office in the first instance, in order to obtain permission to approach heads of schools in the region (see appendix 3). Once permission was obtained (see appendix 4), letters were then sent to the heads of the five participating schools asking for permission to survey a selected sample of their form four students (see appendix 5).

4.3.3   Construction of items for the questionnaire

4.3.3.1 General remarks

The questionnaire was divided into four parts (see appendix 1):-

Part A   Biographical data and achievement in English

Part B   Attitude towards English (ATE)   (13 items)

Part C   Self-concept of academic ability in English (SAAE) (26 items)

Part D   Perceptions of teachers of English (SPT) (30 items)

The questionnaire items for sections B, C, and D were derived from the literature. The items found in the first part of the questionnaire, that is in section A Biographical Data, demanded background data from each respondent in order to inform the researcher of certain salient facts.

All items were worded in readily understandable and comprehensible language. Statements beginning with the letter 'I' was presented to the respondents in order to elicit a response from them on a 4 point numerical scale. For example an item in one part of the questionnaire read, 'I feel that English helps me to think in an abstract way.' The respondent was then expected to choose either number 4 which represented strong agreement, number 3 which represented agreement, number 2 which represented disagreement or number one which represented strong disagreement.

In order to gauge the competence in English of the respondents, their 'O' level mock examination results were used as our achievement in English measure.

4.3.3.2 Items for attitude towards English (ATE)

From the literature study (see chapters 2 and 3), student attitudes towards English (ATE) was selected as one of the affective factors in this investigation. The following were examples of the characteristics of a student who has strong positive attitudes towards English as identified from the literature study:

- admires the English language
- happy to be taught in English
- thinks that English will provide better occupational opportunities
- thinks that a good grasp of English helps performance in school
- thinks that learning English makes individuals feel better about themselves
- prefers to answer questions in class in the English language
- feels that English should be the medium of instruction in schools from grade one

As a consequence 13 items based on these characteristics, were formulated. An example of an item which measured a student's attitude towards English was: 'I feel that English helps me to think in an abstract way.'

The items measuring ATE were formulated as independently from each other as possible in order to avoid inter-relatedness amongst items and to cover the wide spectrum of the questions relating to attitudes towards English as possible.

4.3.3.3   Items for self-concept of academic ability in English (SAAE)

From the literature study (see chapters 2 and 3), the self-concept of academic ability in English (SAAE), was selected as an affective factor. The following were examples of the characteristics of a student with a strong self-concept of academic ability in English as identified from the literature study:

- enjoys reading and writing in English
- enjoys speaking English in public
- is confident in spoken English
- finds homework enjoyable
- enjoys writing short stories
- enjoys reading aloud in class
- easily able to follow the teachers verbal instructions
- likes participating in drama lessons

- enjoys using the dictionary to extend English vocabulary
- able to speak English clearly and fluently in any context

As a result 26 items based on these characteristics, were formulated. An example of an item which measured a student's SAAE was: 'I am able to speak English clearly and fluently in any situation I find myself in.'

The items measuring SAAE were formulated as independently as possible from each other in order to avoid inter-relatedness amongst the items and to cover the wide spectrum of questions relating to the self-concept of academic ability as possible.

4.3.3.4 Items for perceptions of teachers of English (SPT)

From the literature study (see chapters 2 and 3), perceptions of teachers of English (SPT) was selected as one of this study's affective factors. The following examples of the characteristics of a student with positive perceptions of his/her teacher of English were identified from the literature study:

- teachers care about individual students
- teachers show support towards individual students
- teachers show an interest in what individual students do in school
- teachers check and mark work regularly
- teachers use praise to motivate
- teachers encourage participation in class activities
- teachers treat students well
- teachers help troubled students
- teachers encourage regular attendance
- teachers strengthen confidence

As a result 30 items were formulated. An example of an item which purported to measure a student's SPTwas: 'My teachers strengthen my confidence in my school work.'

The items measuring SPT were formulated as independently as possible from each other in order to avoid inter-relatedness amongst the items and to cover the wide spectrum of questions relating to student perceptions of their teachers of English.

4.3.4 The questionnaire

4.3.4.1 The properties of an effective questionnaire

Many studies and investigations of this nature use the questionnaire in order to collect data (Marsh & Yeung 1997 and Mboya 1999). During the design and construction of the questionnaire, the following properties (of the questionnaire) were considered:-

- the questionnaire was organized in terms of layout, in an easy to read and comprehensible manner

- every question or statement was numbered as well as every page

- all instructions were clearly displayed in bold print

- each questionnaire item was carefully constructed in terms of vocabulary and comprehension

4.3.4.2 Format of the questionnaire

The measuring instrument used in the investigation is graphically displayed in table 4.4. The primary questionnaire was divided into the following sections:-

(a) Biographical section, achievement in English and I.Q.
(b) Attitudes towards English (ATE)
(c) Self-concept of academic ability (SAAE)
(d) Perceptions of teachers of English (SPT)

Section A

The following variables were used in section A of the Biographical Section of the questionnaire: -

- age
- gender
- socio-economic status
- father's level of education
- mother's level of education
- home language
- area of domicile
- age when students began to learn English
- intelligence quotient

Table 4.4 Variables measured and measuring instruments

Variables	Measuring Instruments
Attitudes towards English	**Attitude towards English questionnaire**
Self-concept of academic ability in English	**Self-concept of academic ability in English questionnaire**
Perceptions of teachers of English	**Modified and adapted from Mboya's perceived teacher behaviour inventory questionnaire [PTBI] – 11**
Intelligence Quotient	**Obtained from schools**
Achievement	**Previous school examination results**

The measuring instruments alluded to in table 4.4 were largely constructed by the researcher and the sources mentioned in table 4.4 were used as guidelines in terms of formulation. All the items used were the researcher's own having gone through a process of change and adaptation.

Table 4.5 Distribution of items measuring the various variables in the questionnaire

Variable	Items	Total
Attitudes towards English (ATE)	**13,14,15,16,17,18,19,20,21,22,23,24,25**	**13**
Self-concepts of academic ability in English (SAAE)	**26,27,28,29,30,31,32,33,34,35,36,37,38, 39,40,41,42,43,44,45,46,47,48,49,50,51**	**26**
Student perceptions of their teachers of English (SPT)	**52,53,54,55,56,57,58,59,60,61,62,63,64, 5,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80, 81**	**30**
Total		**69**

4.3.4.3   Instructions for the completion of the questionnaire

In order to achieve as much accuracy as possible, the questionnaires were administered by the researcher with the aid of a senior teacher in every one of the schools visited. It was explained to the students that the questionnaire was not a test and that there were no right or wrong answers. They were asked to respond to the items as honestly as possible. Students were also reminded that the questionnaire was confidential and that their names would at no time be revealed to anyone, since in any event their names would not appear on the questionnaire. The instructions to be followed, which appeared on every questionnaire, were carefully explained to the students.

After completion of the questionnaire by the respondents, they were all asked to check the accuracy and legibility of their answers and that they had left no question unanswered.

4.3.4.4   Preliminary evaluation of the questionnaire; reliability and
              validity

4.4   METHOD

4.4.1   Statistical techniques

4.4.1.1   Item analysis

Firstly an item analysis was conducted on each of the three affective factors (sections B, C and D of the questionnaire) that is :-

Section B: attitude towards English (ATE)

Section C: self-concept of academic ability in English (SAAE)

Section D: perceptions of teachers of English (SPT)

The aim of the item analysis was to establish whether each item made a significant contribution to the total of a particular section for which it was meant. Where an item made no significant contribution, or contributed negatively to the total, that item was

omitted from that section. In this way the maximum reliability coefficient was obtained for each section and for the measuring instruments as a whole.

4.4.1.2   Determining of norms (stanines)

By determining norms for the measuring instrument, a researcher obtains an indication of an individuals position relative to the sample (for example below average, average or above average), and if the instrument is used on a later occasion, the researcher is able to interpret the scores obtained in terms of the results obtained by the test sample (Mulder 1989:201). Stanines (standard scores divided into 9 categories), was used to determine the norms for the measuring instrument.

4.4.1.3   Analysis of variance

Analysis of variance was used in order to determine the relationship between the three affective factors (sections B, C and D of the questionnaire), and also to point out possible differences in these factors if variables like gender, home language, area of domicile, school type and level of parental education were used as dividers. F-tests, t-tests and Bonferroni tests were applied for hypotheses testing (see paragraph 4.4.2 for the hypotheses).

4.4.1.4   Correlation coefficient

The Pearson's product- moment correlation coefficient (r) was calculated (the scores in question were expressed as continuous scores), to determine the relationship between each of the three affective factors and achievement in English.

4.4.1.5   Regression analysis

The method of stepwise regression analysis was conducted in order to determine the influence of the independent variables (the three affective variables plus some biographical variables), on the dependent variable or criterion (achievement in English). The method of regression analysis enabled the researcher to state which independent

variable and combinations of independent variables were the best predictors of achievement in English. These predictions were expressed in terms of the percentage of variance in the dependent variable that is explained by individual and combinations of independent variables.

4.4.2 The testing of hypotheses

A total of eight main hypotheses were tested in this investigation. The main hypotheses were divided into sub-hypotheses. These appear below and are stated in directional form.

4.4.2.1 Hypothesis one

Hypothesis one predicts the relationship between each of the three affective factors and the gender of the students.

1A: There is a significant difference between male and female students regarding their mean attitudes towards English.

1 B: There is a significant difference between male and female students regarding their mean self-concepts of academic ability in English.

1C: There is a significant difference between male and female students regarding their mean perceptions of their teachers of English.

Rationale

From the literature study (see 3.3), it was evident that some differences existed between males and females in terms of attitude towards school in general (Chivore 1986:233). It was suggested that generalised attitudes towards teaching and the teaching profession, are positive and that in Zimbabwe teachers enjoy a fairly high status and that students are attracted to the profession. Chivore (1986:233) also observed that there were significant differences between males and females in terms of their attitudes towards the profession.

In terms of student self-concept of academic ability in English, research (see 3.2) tended to focus more on the general differences in self-concept between males and females and suggests concurring views. In a review of several studies Burns (1979:196) revealed that males possess more positive self-concepts than females because of the identification process. Other studies of a similar nature (Hansford & Hattie 1982) revealed similar conclusions.

Research by Masutha and Ackermann (1999), Dartez (1990) and Homburger (1991), into the area of student perceptions of their teachers (see 3.4), also revealed gender differences and suggested that females tended to perceive school and their teachers as being more supportive, within the environment of the school, than their male counterparts do. They tended to be more comfortable and apparently less concerned with confrontational issues in the classroom.

4.4.2.2 Hypothesis two

Hypothesis two predicts the relationship between each of the three affective factors and the students' home language.

2A: There is a significant difference between students possessing different home languages regarding their mean attitudes towards English.

2B: There is a significant difference between students possessing different home languages regarding their mean self-concepts of academic ability in English.

2C: There is a significant difference between students possessing different home languages regarding their mean perceptions of their teachers of English.

Rationale

First language speakers of English may be expected to hold different attitudes towards the language since it is a language which they are thoroughly familiar with and this may possibly be reinforced by its official legitimacy within the context of the school.

A research study of Hofman (1977:282–288), entitled 'Language Attitudes in Rhodesia,' suggested that Shona and Ndebele interviewees (university and college students), regarded English instrumentally and their mother tongues as the normal language of discourse. He said that there is 'ambivalence' towards English among the indigenous people and that the language of the dominant group remains the key to better jobs and wider communication. Differences in self-concept of academic ability of students of different home backgrounds were also suggested by Mpofu (1999: 15) where he alluded to the self-concepts of a range of students in multi-cultural Zimbabwean primary schools.

As far as student perceptions of their teachers were concerned in terms of differences in language background, no specific research in this area had to date been conducted in the Zimbabwean context.

4.4.2.3   Hypothesis three

Hypothesis three predicts the relationship between each of the three affective factors and the different areas where the respondents live.

3A: There is a significant difference between students living in different areas regarding their mean attitudes towards English.

3B: There is a significant difference between students living in different areas regarding their mean self-concepts of academic ability in English.

3C: There is a significant difference between students living in different areas regarding their mean perceptions of their teachers of English.

Rationale

Where students live that is the area in which they reside, in Zimbabwean terms, either means a high or low density suburb. High density suburbs are historically associated (pre-independence), with areas reserved exclusively for those of indigenous origin. Referred to as townships before independence, they largely served as dormitory townships for workers employed in industry and commerce in the commercial and industrial areas adjoining them. The plots are small therefore the houses are close together and the areas are characterized by a high density of population. Urban drift, which occurred pre and post independence, filled these suburbs generally but not exclusively with people of low socio-economic status.

As far as area of domicile is concerned, no specific research within Zimbabwe has been conducted within this area to date.

4.4.2.4   Hypothesis four

Hypothesis four predicts the relationship between each of the three affective factors and the different school types attended by the respondents.

4A: There is a significant difference between students attending different school types regarding their mean attitudes towards English.

4B: There is a significant difference between students attending different school types regarding their mean self-concepts of academic ability in English.

4C: There is a significant difference between students attending different school types regarding the mean perceptions students have of their teachers of English.

Rationale

Schools were often seen as influential contributors to student success, attitudes and motivation. Some were also perhaps more concerned about pastoral and well-being dimensions than others (Purkey 1975: 37).

However, research within the Zimbabwean context (Riddell 1989: 491 and Murphree, Cheater, Dorsey & Mothobi 1975:169), suggested that school type is less influential than factors such as for example socio-economic status.

4.4.2.5 Hypothesis five

Hypothesis five predicts the relationship between each of the three affective factors and the level of father's education.

5A: There is a significant difference between the mean attitudes towards English of students whose fathers have different levels of education.

5B: There is a significant difference between the mean self-concepts of academic ability in English of students whose fathers have different levels of education.

5C: There is a significant difference between the mean perceptions students have of their teachers of English whose fathers have different levels of education.

Rationale (see rationale in paragraph 4.4.2.6)

4.4.2.6 Hypothesis six

Hypothesis six predicts the relationship between each of the three affective factors and the level of mother's education.

6A: There is a significant difference between the mean attitudes towards English of students whose mothers have different levels of education.

6B: There is a significant difference between the mean self-concepts of academic ability of students whose mothers have different levels of education.

6C: There is significant difference between the mean perceptions students have of their teachers of English whose mothers have different levels of education.

Rationale

The importance of being brought up in a nurturing environment has been well documented. Parental education can be one of the bases of that environment. According to Marjoribanks and Mboya (1997), the educational attainment of parents, an important factor within the variable 'parental status', has been given insufficient prominence in terms of the way in which students perceive themselves, within the context of the school.

In another study conducted by Marjoribanks and Mboya (1998b), and that of Marjoribanks (1994), the importance of family, status within the family and by implication parental education, were seen as important factors in shaping the perceptions of the adolescent. Marjoribanks and Mboya (1998b) defined the mothers and fathers social status and by extrapolation their education, separately, since they may differentially affect perceptual outcomes.

4.4.2.7   Hypothesis seven

Hypothesis seven predicts the relationship between each of the three affective factors and the age at which students first started to learn English.

7A: There is a significant difference between the mean attitudes towards English of students who first started to learn English at different age levels.

7B: There is a significant difference between the mean self-concepts of academic ability of students who first started to learn English at different age levels.

7C: There is a significant difference between the mean perceptions students have of their teachers of English of students who first started to learn English at different age levels.

Rationale

A proportion of this study's respondents came from backgrounds where English is the first language but the majority of the respondents come from a Shona or Ndebele background (the languages spoken by the majority of Zimbabweans).

Since English is the language of communication in many Zimbabwean contexts and because of traditional and colonial legacies (Ashcroft et al 1989, Lemmer 1996), English with its positive value orientations that of 'middle-class……individualism, competition, self-advancement……' (Mpofu 1999: 115) became embedded within Zimbabwean society and the lingua franca of Zimbabwean education (Hofman 1977). Therefore students are obligated to start to learn the language at the age of 9 (grade 3) of the primary school. By secondary school English is not only the language of teaching but is also taught as two separate subjects; English Language and English Literature.

4.4.2.8 Hypothesis eight

Hypothesis eight predicts the relationship, in terms of correlation coefficients, between each one of the three affective factors and the students' achievement in English.

The following hypothesis was tested:-

There is a significant correlation between the students' achievement in English and each one of the three factors: self-concept of academic ability in English, attitude towards English, and perceptions of teachers of English.

Rationale

In general terms the three factors:- student attitudes towards English, student self-concepts of academic ability in English and student perceptions of their teachers of English have been linked by researchers, to academic performance.

Much research has centred on self-concept and performance. In reviewing a number of studies Hamachek (1995) suggested that there was a moderately strong relationship between self-concept of ability and school achievement and the research studies of Marsh, Kong & Hau (2001), also suggested strong links between academic self-concept and specific school subject areas.

4.5 RESULTS

4.5.1 Introduction

This investigation focused on affective factors with regard to their relationship to achievement in English. These affective factors were discussed in Chapters one, two and three.

A questionnaire was developed in order to collect the necessary data. In addition a number of statistical techniques were employed in order to process the data. These were an item analysis, stanines (where the norms were determined), t-test, F-test, and Pearson's product moment correlation coefficient regression analysis. The item analysis was done in order to establish whether each item in the questionnaire made a contribution to the total (purpose) of the particular section (of the questionnaire) for which it was meant. Hypotheses relating to performance in English and some biographical variables were formulated and a measuring instrument comprising of an 81 item questionnaire was developed in order to measure the following:-