CHAPTER FIVE
RESEARCH METHODOLOGY

5.1. Problem Formulation

The previous chapters have highlighted the importance of addressing access to higher education in South Africa as well as the different variables that make access a challenging task. With the current access practices in South African universities undergoing changes, the need arose to have a closer look at the relationship between variables such as academic literacy, and academic success. Since PTEEP is the current measure that is used in most of the country for academic literacy, few questions about the predictive validity of the PTEEP become pertinent. With this in mind, the present study has as its general aim to measure the validity of the PTEEP language proficiency test, as a predictor of academic literacy, on the University of Witwatersrand Humanity students' academic success. More specifically, however, the following research questions have thus been formulated:

1. What does the academic literacy profile of students in the Wits Faculty of Humanities look like?

2. Does the PTEEP language proficiency test, utilised as part of the alternative admission procedure in the Wits Faculty of Humanities, predict academic success, and to what extent?

3. What contribution can cognitive development theory make in how a future academic literacy test should look like?

5.2. Method

There are many ways of thinking about, and categorizing, the wide variety of methods available for designing, carrying out and analysing the results of research (Varma, 2003). The present study is quantitative in nature. Quantitative strategies have been seen to be a more scientific and objective form of research. According to Mikkelson (1995), quantitative methods in social science research have a high degree of structure and standardization,

a low flexibility in research design, and the research method is seen mainly from the researcher's point of interpretation.

The researcher will make use of secondary data (existing data) that is primarily numeric in nature. Babbie and Mouton (2003) points out that the disadvantage to using secondary data is that the researcher has no control over the production of the data; such data was produced by somebody else. The data consists of percentages obtained from the student's performance on the PTEEP test as well as percentages obtained in the participant's end of first year final results. The cross sectional research approach used in this study may be described as exploratory. The major purpose of exploratory research is the development and clarification of ideas and the formulations of questions and hypotheses for more precise investigation later (Struwig & Stead, 2001). The study of secondary sources is the method that will be used to provide new insights. According to Struwig and Stead (2001), exploratory research can be defined as research into an area that has not been studied and in which a researcher wants to develop initial ideas and a more focused research question. The present studies aims to explore the role cognitive developmental theory may have in constructing a future academic literacy test. To date there is no clear investigations of the contributions that theory can have in such tests. A possible disadvantage of exploratory research is that researchers may allow preconceived ideas to influence the direction of the research.

The study is also descriptive in nature, in that it aims to describe the academic literacy profile of students from the Faculty of Humanity. By descriptive research is meant an investigatory focus that tends to have as its goal the careful mapping out of a situation or set of events in order to describe what is happening behaviourally (Rosenthal & Rosnow, 1991). This focus does not, by definition directly concern itself with causal explanations, except perhaps speculatively. Struwig and Stead (2001) delineate two methods of descriptive research, namely case studies and the statistical method. The present study follows a statistical method as it examines a few variables in a large number

of respondents and different statistical methods; for example, percentages and regression analysis are employed to analyse the data collected.

The present study can also be described using a correlational design. Correlations were conducted in order to determine the association between students' PTEEP results and their first year end academic performance.

The approaches described above were considered to be the most useful for meeting the aims of this study.

5.3 Participants

The research participants consisted of students who gained admission in 2004 by means of the alternative selection procedure utilised by the Wits Faculty of Humanities. A non-probability sampling procedure was used to obtain this sample. This simply means that the probability of any particular member of the population being chosen is unknown (Struwig & Stead, 2001). The specific technique used to conduct non-probability sampling will be purposive sampling. Pedhazur and Schmelkin (1991) reveal that in non-probability sampling, it is not possible to estimate sampling errors. Therefore the validity of inferences to a population cannot be ascertained. However, according to feasibility and economic constraints non-probability sampling is the most appropriate for the present study.

PTEEP tests were offered to and results were collected during the admission process (year 2003) for a total number of 900+ students, as part of a larger study at the University of Witwatersrand. Precision is largely affected by sample size (Pedhazur and Schmelkin, 1991). This number also incorporates the non-response factor where not all participants would have given consent in completing the PTEEP test or not all would be accurately filled in. The fact that not all liable participants could make it on the day of administering the test also had to be taken into consideration. However, for the purposes of this study a total number of 63 students' PTEEP results and First year final marks were utilized, as these fitted into the inclusion criteria of being a first year

candidate for the Wits Faculty of Humanities, writing the PTEEP test, correct biographical details, tests accurately completed, and lastly registering as a first year student in the faculty of Humanities.

Table 1 below describes the biographical breakdown in terms of age and gender of the present sample.

Table 1

Sample Distribution according to Age and Gender

Age Range in 2004		Gender	
18 – 19 yrs	32 (50.8%)	Male	29 (46%)
20 – 22 yrs	19 (30.2%)	Female	34 (54%)
23 yrs and over	12 (19%)		
Total	63	Total	63
Mean Age	20.8yrs		
Minimum	18		
Maximum	41		

5.4. Measure

5.4.1. Placement Test in English for Educational Purposes (PTEEP)

The PTEEP language proficiency test (as discussed in the literature review) will be used as the cognitive variable in predicting academic success. Academic success will be measured by means of utilising the average final year results.

The following, according to Yeld (2003), are among the criteria used in the design of the PTEEP:

- A theme or topic is chosen that will be new (or treated in a novel fashion) to candidates;
- This theme must be interesting, non-controversial, complex, and teachable;

- A variety of texts must be provided;
- The topic must allow for progressively more complex tasks to be developed; and
- Tasks must as far as possible be modeled or mediated.

In order to ensure that the tests are appropriate for use across a range of institutional contexts, the text development team for the PTEEP is drawn from a number of institutions and disciplinary areas.

Table 2 below provides a summary of the different skill clusters that the PTEEP assesses, together with an explanation of that specific skill area:

Table 2

Explanation of PTEEP skill clusters

Skill Assessed	Explanation of Skill Area
Vocabulary	Students' abilities to derive/work out word meanings from their context
Metaphorical Expression	Students' abilities to understand and work with metaphor in language. This includes their capacity to perceive language connotation, word play, ambiguity, idiomatic expressions, and so on
Extrapolation, application and inferencing	Students' capacities to draw conclusions and apply insights, either on the basis of what is stated in texts or is implied by these texts
Understanding the communicative function of sentences	Students' abilities to 'see' how parts of sentences/discourse define other parts; or are examples of ideas; or are supports for arguments; or attempts to persuade
Understanding relations between parts of texts	Students' capacities to 'see' the structure and organisation of discourse and argument, by paying attention – within and between paragraphs in text – to transitions

	in argument; superordinate and subordinate ideas; introductions and conclusions; logical development
Understanding text genre	Students' abilities to perceive 'audience' in text and purpose in writing, including an ability to understand text register (formality/informality) and tone (didactic/informative/persuasive/etc.)
Separating the essential from the non-essential	Students' capacities to 'see' main ideas and supporting detail; statements and examples; facts and opinions; propositions and their arguments; being able to classify, categorise and 'label'
Understanding information presented visually	Students' abilities to understand graphs, tables, diagrams, pictures, maps, flow-charts
Understanding basic numerical concepts	Students' abilities to make numerical estimations; comparisons; calculate percentages and fractions; make chronological references and sequence events/ processes; do basic computations
Undersatanding the importance of 'own voice'	Students' ability to own their ideas, and/or creativity of thought and expression.

(Extracted from Yeld, 2003).

5.5. Procedure

The researcher worked in consultation with the faculty advisors and faculty researchers in order to gain access to the data that was part of a larger study at the University of the Witwatersrand. The PTEEP data results that was collected, in 2003, for the larger study followed principles of informed consent, protection and confidentiality. Ethical clearance had already been obtained for the project through the Humanities Ethics Committee. However, on receiving

the data for analysis, anonymity could not be maintained, as the use of biographical details, such as student number's, names and identity numbers, was necessary in tracking the participant's PTEEP results and their first year end results. The researcher then matched all the protocols to complete the database needed to run statistical analysis for the present study. The researcher, however, will not use any of the respondents' names when reporting on the findings of the study, thus assuring confidentiality. Furthermore no individual analysis will be conducted, only group trends will be determined thus ensuring the protection of each participant.

5.6. Data Coding

One of the aims of the statistical analysis of the data for this study is to provide a description of the academic literacy profile of students in the Wits Faculty of Humanities. Even though academic success for the purposes of the present study is defined as a mark above 50%, the university defines academic success using a coding system. It should also be noted that the full range of participant's overall first year marks were used in the analysis, as a lack of variation could have affected the overall results of the study (see table 10 for breakdown of students' marks according to academic success as defined by the present study and as defined by the university's coding system). The quantitative data was collected and coded according the university's coding system as well, where the overall result obtained at the end of each participant's first year (2004) results was either a 'P', 'C' or 'F'. 'P' means that that particular student has passed all of the elected subjects/modules (50% and above). 'C' means credit, the student did not pass all the elected subjects/modules, and is either allowed to proceed to the following year, or is excluded from the following year unless they appeal for a readmission. An 'F' means an outright fail of that academic year (2004), with no readmission to the following year.

5.7. <u>Data Analysis</u>

As this study is exploratory-descriptive in nature, descriptive statistics as well as inferential statistics, such as correlations and regression analysis was used to provide statistical summaries of data. The purpose of these statistics is to provide an overall, coherent and straightforward picture of a large amount of data (Struwig & Stead, 2001). A computerised statistical package, namely SPSS, was used to complete the statistical analysis. In all analyses, students' percentages for each item were used.

5.8. <u>Summary</u>

This chapter highlighted the description of the sample, the method, procedure, and measure used in order to achieve the aim and more specifically, the research questions to be answered in this study. The findings of the present study and a discussion thereof are reported in the following chapter.