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Refining geography teaching : an error analysis.

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CHAPTER 1
INTRODUCTION TO THE STUDY

1.1 Overview

Over the past four decades, there have been numerous discussions on student achievement and school failure (Wiggan, 2007). The decline of student performance in Lesotho does not only concern parents but is also a national issue as reflected in the Minister of Finance and Development Planning (2005/6) speech who was not satisfied with the Cambridge Overseas School Certificate (COSC) results, "compared to other countries, Lesotho is spending a high percentage of its budget on education and training, however, the analysis of Juniour Certificate (JC) and last years' COSC results was not satisfactory" (www.lesotho.gov.ls, accessed, 27 April 2006). In contrast, Heyman and Loxley's (1983) perceive that the level of expenditure in developing countries is low and that accounts for the low level of performance. A lot of research (Vinjevold, 1999; Chimombo, 2005 & Lekhetho, 2005) has been done on the decline of performance with respect to the factors that contribute to it. Nevertheless, one can argue that little or no research has been carried out with regard to student performance in Geography because the subject does not hold as much high regard in Lesotho as do Mathematics and Science which are considered measures of individual intelligence. Thus, the study investigates how Geography teaching could be refined through error analysis at COSC in Lesotho with the aim of improving student performance in future Geography examinations. To achieve this, I carry out an error analysis of June 2006 examination scripts to identify errors leading to the perceived decline of performance in Geography. The study also considers student pass rates in all COSC and core subjects over a period of five years (2001-5) to identify patterns of student performance which will be benchmarked against that of Geography in a neighbouring country such as South Africa (SA) to establish how well COSC Geography studies perform. Interviews with Geography teachers will confirm or disconfirm errors and those with the key informants will elicit strategies that could be integrated into Geography teaching in order to improve student performance in future examinations.

1.2 Background to the Study

Geography forms part of the school curriculum at COSC level in most schools in Lesotho. It is a normal practice that at the end of every year students write public examinations which determine whether students get access to further education or not. Research (Bishop, 1994: 230) shows that "evaluation of achievement is usually done by means of paper-and-pencil/pen

tests or examinations". This implies that the success of every education system is measured by students' performance in examinations as an indication that learning actually took place. Nonetheless, results in Lesotho have shown a decline in student performance in Geography and also in other subjects particularly English Language and Mathematics. So the question is "have results in Geography declined because learning has not taken place?" Evidence from the Examiners' Report (1999) suggests that "the disappointing standard noted in previous examinations was repeated this year. There were very few good scripts, only some 8% or 9% of the entry showed some promise and some geographical ability, and there were too many candidates who had only a superficial knowledge and understanding of the syllabus content". The problem of students showing superficial knowledge in examinations is also experienced in other countries as evidence reveals "this lack of geographical knowledge is more than an embarrassment and a threat to Canada's status in the world community" (http://ccge.org/ccge, accessed, 17 November 2007). The evidence suggests that students go to examinations having not prepared adequately and eventually this contributes to a decline in their performance.

My interest in this study was stirred both personally and professionally. As a Geography student and an educator, I have always been intrigued by this decline in student performance. I did not understand how it came about because Geography has always been my favourite subject and I was good at it. I also perceived it as one of those subjects which deal with concepts most of which are very practical to our daily lives and therefore getting a pass would not become much of a difficulty. I have always believed it was different from subjects like Mathematics and Science which according to Bernstein (1986: 50) have strong classified boundaries and highly specialised knowledge. I have always perceived these subjects as being difficult to understand due to the fact that they are highly classified and do not allow everyday knowledge. This urge has always been within me to go beyond research already done on the decline of student performance with respect to the factors that contribute to it (Vinjevold, 1999; Lekhetho, 2005) and establish what it is in the way students respond to examination questions eventually leads to the decline of their pass rates in Geography. As Willmont & Hall (1975: 154) advanced, from examining the effect of question choice, a declining performance derives from the fact that "candidates work their way through the paper from the early to the later questions and as time goes on their average performance falls off". Allan & Cedric (1975:158) strongly recommend therefore that "undoubtedly, further investigation is needed into the way candidates actually answer questions on the paper". They also gave me

the courage to pursue the study and establish what it is in students' responses that leads to the decline of performance.

Research evidence suggests that students' performance declines because they do not provide correct answers to the examination questions. Srinivas (2005) argues that "errors are an inevitable feature of learning" (www.teachingstylesonline.com, accessed 17 May 2007). However, one of the first steps is to conduct an error analysis of students' scripts. This provides a bench mark upon which to measure the effectivenss of future designs and helps to make sure that past mistakes are not repeated. Students in the United States of America also experience a decline in Geography performance. Research evidence (Stolman, 2002) reveals that although more teachers believe that they are very prepared to teach Geography and that students at grades 8 and 12 are taking more Geography courses, performance remains low because many students do not know basic information such as the name and location of the state where they live. Similarly, a large proportion of grades 8 and 12 students were not able to analyse the information related to an environmental issue, provide reasons for or consequences emanating from the issue. Items that require those steps are rigorous and challenging. To answer them successfully, students must regularly have opportunities to apply content and skills to issues of geographic significance. It becomes easier to devise teaching strategies when teachers are aware and have a clear understanding of students' difficulties. It is against this background that the study considers carrying out an error analysis to help indentify the errors students make in response to examination questions so that teaching strategies could be devised in order to improve student performance.

1.3 Research Problem

The research problem deals with curriculum development particularly, how teaching may be refined and modified through the use of error analysis in order to improve students' academic performance in examinations with particular reference to the teaching of COSC Geography in Lesotho. Following Stenhouse (1976:5) one of the purposes of development as an applied branch of curriculum study, has as its objective "the betterment of performance through improving teaching and learning". This is the primary focus of research in this study, to establish corrective measures towards errors with the intention of making sure that past errors are not repeated and improve performance in examinations. The research problem concerns improving results in a small sample of schools within a wider context of declining performance in general across all COSC subjects in Lesotho. This research, neither focuses on

implementation nor evaluation issues, but aims to contribute to better understanding of curriculum development processes particularly regarding teaching context issues with reference to schools in Lesotho.

1.4 Objectives of the Study

The aim of the study is to investigate how teaching may be refined through the use of error analysis to improve students' performance in COSC Geography examinations. To achieve this aim, the following objectives were set:

- To identify the patterns of students' performance at COSC Geography between 2001 and 2005,
- To identify the errors that students make in response to Geography examination, and
- To identify ways in which errors could be corrected to improve student performance in examinations.

1.5 Research Questions

The proposed study will be guided by the following research questions

- **What patterns of performance are found at COSC in Geography between 2001 and 2005?**

In addressing this question, students' pass rates in all COSC and core subjects for a period of five years *i.e.* 2005-1 will be used to identify the patterns of student performance. Geography will be located within the identified patterns of student performance in all COSC subjects and core subjects. The pattern of performance for Geography will then be benchmarked against the pattern of performance in a neighbouring country such as S.A over the same period to establish how well/poor students perform in the COSC Geography examinations in Lesotho.

- **What errors do students make in Geography examination questions?**

Using the 2006 mid-year Geography examination scripts, error types will be identified and this data will be used to show the errors students made in answering Geography examination questions. Interviews with Geography teachers will confirm or disconfirm identified errors and if there are any other errors teachers have identified, these will also be added.

- **How can errors be corrected to improve students' performance in COSC Geography examinations?**

This question will be addressed through the use of data collected from the interviews with Geography key informants. The question requires the key informants to suggest teaching strategies that will be integrated into Geography teaching and the intention is to correct errors and improve student performance in Geography examinations.

1.6 Rationale

A lot of research is done with respect to factors contributhing to the decline of performance (Chabisi, 2000; Tlebere, 2005; Nyanayaba, 2005; Lekhetho, 2005; Vinjevold, 1999). Other studies have considered performance with regard to racial differences (Wiggan, 2007; Ferguson, 1998a; Ferguson, 1998b). Little or no research has been done to look into the errors students make which eventually lead to their decline in performance hence my interest to find out how these can be corrected to improve performance. Eventually, this study may be useful to Geography education. It will also contribute to the currently limited literature on errors that students make in responding to Geography examinations. When teachers understand the errors students make, this gives them the leverage to devise teaching strategies so that such errors are not repeated in future and to make sure student performance is improved. Furthermore, the findings of the study will contribute to better understanding the curriculum development processes particularly with respect to schools in Lesotho and most importantly, they will provide an insight for curriculum developers which can be used to inform educational policy and practice in Lesotho.

1.7 Overview of the Research Report

In order to investigate the research problem, the following divisions have been decided on:

Chapter 2 reviews literature on central aspects of the problem and provides the theoretical framework that will be used to guide the study.

Chapter 3 outlines the research design and methods used to collect and analyse data. In this chapter I justify the methods selected for the collection and analysis of data. The discussion advances the justification for prioritising qualitative over quantitative approach. The research methods are discussed with respect to their capability in eliciting the required information. The sampling procedure is also provided. Chapter 3 also provides a discussion on ethical considerations in qualitative studies and how data was validated as well as how the study was limited.

Chapter 4 provides an interpretation of the findings. There are three sections: the first, gives an interpretation of the patterns of student performance with respect to all COSC subjects and core subjects and then the pattern of performance in Geography is benchmarked with S.A Matric Geography. The second section provides an interpretation of the frequency of errors students made in the examination. And finally, the key informants' suggestions regarding teaching strategies for the correction of errors are interpreted, shedding some light on how student performance could be improved in future.

Chapter 5 provides a concluding discussion of the main findings of this research and how the study ties the findings with the wider debates and makes future recommendations towards improving student performance in Geography and for further research.