THE IMPLEMENTATION OF FIELDWORK IN GEOGRAPHY TEACHING IN SECONDARY SCHOOLS

BY

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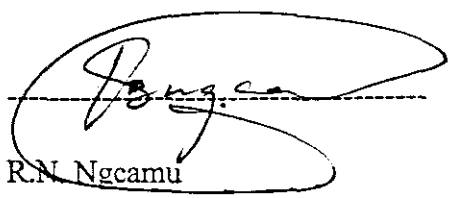
Study Supervisor : Professor N.Gawe
Date Submitted : April 2000

Declaration

I hereby declare that " *Implementation of fieldwork in Geography teaching at Secondary Schools* " is my own work both in conception and execution and that all the sources that have been used or quoted have been duly acknowledged by means of complete references.



R.N. Ngcamu

DEDICATION

This dissertation is dedicated to Beauty and Anthony Ngcamu,

my parents,

Nelisiwe Ngcamu

my wife and

Khayelihle and Nomzamo

my children.

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I wish to express my most sincere gratitude to the following people for their resolute support, indispensable help and contribution in the completion of this study:

- ✯ Almighty God who bestowed me with love, physical and mental health to pursue this study to its completion.

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Abstract

Fieldwork is regarded as an educational activity that takes place outside the classroom. It is a learning experience of outdoors which gives reality to the subject and saves it from being arid and theoretical. As such, fieldwork is regarded by most Geographers as being central to their teaching, research and as intrinsic to the very nature of being a Geographer. Through fieldwork Geography learners can become more participative, purposeful, enthusiastic and more positive in their learning.

This study investigates the implementation of fieldwork in Geography teaching in Secondary schools. A broad overview of the literature on fieldwork in general and fieldwork in Geography education in particular, was analysed. Grade 8, 9 and 10 Geography syllabus was analysed to establish the extent to which the syllabus, as a guideline for teachers, promotes fieldwork in the teaching of Geography. Further more 50 questionnaires were distributed to 50 Geography teachers to find the extent to which they understood fieldwork and to establish whether it was implemented in schools or not.

The principal findings of the study were :

1. Qualification did not mean competence - All the respondents were well qualified and they claimed to be knowledgeable about fieldwork and yet their excuses and explanation of their modus operandi clearly showed that few if any of these teachers undertook fieldwork. Amongst other excuses teachers complained about lack of time, ignorance of syllabus and lack of finances to support field excursions.

2. Poor communication between the school and the parents- The research revealed that there was poor support from parents on the activities pertaining to fieldwork. This was as a result of poor communication between the school and the parents. Parents were not part of the planning of the annual school activities and they were only told when money was needed to undertake field-trips. Hence, there was poor support from their side.

From the findings of this research, it is evident that fieldwork in Geography teaching has an important place in the South African curriculum.

IQOQA

Umsebenzi wasensimini ungumsebenzi wokufunda owenzelwa ngaphandle kwendlu yokufundela. Ungukufunda nokwazi ngezinto ezenzeka ngaphandle okunikeza ingqikithi yesifundo kufake inyama emathanjeni singomi nje sibe wugwadule. Izazi zeZezwe zithatha umsebezi wokufunda ngaphandle njengento ebaluleke kakhulu ekufundiseni kwabo, ekwenzeni kwabo uphenyo futhi bakuthatha njengomgomo nje wokuba isazi ngezwe. Ngezifundo zeZezwe ezenzelwa ngaphandle ensimini abafundi bathola ukuhlanganyela, ukuba nenhloso, nokuba nogqozi nokuthanda imfundo yabo.

Lesisifundo siphenya ngokusetshenziswa kwendlela yokufundisa kweZezwe lapho abafundi befundiselwa ngaphandle kwezindlu zokufundela ezikoleni eziphakeme. Uphenyo olujulile lwemibhalo ngomsebenzi wasensimini jikelele kanye nomsebenzi wasensimini ekufundisweni kweZezwe ikakhulukazi, kwacutshungulwa. Isilabhasi yebanga 8, 9 no 10 yeZezwe yacutshungulwa ukuze kutholakale iqhaza elibambile, njengomhlahlandlela kothisha, ukugqugquzela umsebenzi wasensimini ekufundisweni kweZezwe. Ngaphezu kwalokho amaphepha ohlu lwemibuzo angamashumi ayisihlanu anikezelwa kothisha beZezwe abangashumi ayisihlanu ukuthola ukuthi bayiqonda kangakanani bona lendlela yokufundisa nokuthi ngabe bayayisebenzisa yini ezikoleni zabo noma qhabo.

Izinto ezibalulekile ezatholwa yiloluphenyo:

1. Iziqu noma izitifiketi umuntu anazo azisho ukuthi umsebenzi uyawazi - Bonke othisha abaletha izimpendulo babefunde kakhulu futhi bezitshela ukuthi bawazi umsebenzi wasensimini kodwa incazelo yabo ngendlela yabo yokusebenza yakhombisa ngokusobala ukuthi phakathi kwalabothisha bancane kakhulu uma ngabe bekhona abawenzayo umsebenzi wasensimini. Phakathi kwezinto abakhala ngazo kwaba isikhathi, ukungabi nalwazi lwesilabhasi kanye nokweswela izimali zokuxhasa uhambo lokuya ezindaweni lapho kuzofundelwa khona.

2. Ukungaxhumani kahle phakathi kwezikole nabazali- Uphenyo luveze ukuthi luncane kakhulu uxhaso oluvela ngakubazali uma kulungiselelwa umsebenzi wokuyofunda ngaphandle. Lokhu kwabangelwa ukungaxhumani kahle kwesikole nabazali. Abazali abafakwanga emihlanganweni yokuhlela izinto nemicimbi yesikole yonyaka baziswa kuphela ngesikhathi sekufanele bakhokhela abantwana babo uhambo lokuyofunda ngaphandle.

Kafishane nje, imiphumela yaloluphenyo ikhombisa ngokusobala ukuthi kuyadingeka ukuphumela ngaphandle kwendlu yokufundela uma kufundwa eZezwe ikakhulukazi njengoba uhlelo lokufunda nokufindiswa lapha eNingizimu Afrika luncoma ukuthi abantwana bafunde ngendlela ezobenza ukuba bakuthinte abafundiswa ngakho futhi imfundo yakhe amakhono athize kubo.

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CHAPTER ONE

ORIENTATION TO THE STUDY

1.1. INTRODUCTION

Inquisitiveness is a feature, which characterises all human beings especially young people. Parents and adults in general know how difficult it sometimes can be to cope with the curiosity and inquisitiveness of young children. However, according to (Vakalisa 1996:10) children become less and less curious and inquisitive after they start schooling. As they grow up, their dynamic nature of learning gets eroded in passive classrooms that are not organised around their cultural background, experiences, conditions or interest. Shor, as quoted by Vakalisa (1996) supports this idea by arguing that people begin life as motivated learners, not as passive beings. Children especially, learn by interacting, observing, and experimenting and by using plays to internalise the meaning of words and experiences. Therefore, their inquisitive nature needs to be sustained and not repressed.

Several factors can be attributed to the fading away of this natural desire to discover things. Social and cultural factors play a significant part. However, when teachers search for the cause of this decline in the desire to know, the first place to check should be the methods of learning used in schools. The central question is, how does the school dampen this quest for knowledge? As it has already been suggested, the learning methods, and procedures used to impart knowledge to the learner, need to be examined to establish the extent to which they fall short in developing the learner's thought processes.

The new education system in South Africa; Outcomes Based Education (OBE) encourages the use of participative methods which are learner centred (Bhengu 1997: 1). It advocates for learning methods that give the learner a chance to think creatively and make meaning of the objects observed in the surrounding environment. Respect and appreciation of nature by the learners is one of the outcomes which the new system hopes to develop among the learners. This outcome can only be achieved through well organised classroom activities which make it possible for the learners to interact with the natural environment

Geography as a secondary school subject aims at helping learners understand their immediate environment as well as that of the universe. This can not happen in rigidly planned classroom activities where the teacher and the textbook are the only source of information. Instead the new system calls for the teacher to be innovative and be able to bring about life in the lesson. Learners must be able to give some explanations on what they see on the landscape. The only way of achieving this aim is by taking learners out of the walls of the classroom to the place where they will experience a direct contact with the landscape. By so doing, learners will learn by doing and by observing. This is what chemistry students do in their laboratories. Rogers,Villies et.al (1994:182) summarise this view by stating that the laboratory for Geography lessons is on the field. They further stress that through fieldwork learners are made aware of essential aspects of Geography as a discipline of discovering the facts about the place, of synthesising them and endeavouring to explain them.

The discussion above has called for an examination of teaching methods in schools so as to establish the extent to which they encourage learners to be curious about what they see. For the purpose of this study, the researcher decided to look closely at the implementation of fieldwork as one of the participative methods used in

secondary schools. Secondly, the researcher focused on Geography because of the exposure and past experiences he has had in this subject.

1.2. STATEMENT OF THE PROBLEM

Sauer as cited by Gold and Jenkins (1991:22) declares that the principal training of the Geographer should come, wherever possible, by doing fieldwork. Many others, from all levels of geographical education, have strongly articulated similar views (including Wooldridge, 1960 ;Saarimen, 1969; Brown, 1968; Everson, 1998; Spencer, 1988; Brunsden, 1984; Tranter, 1985; Kent and Lambert, 1995). Much of this literature, however, consists either of general philosophical treatises on the value of fieldwork or specifically relates to individual exercises. The educational aims and objectives of fieldwork are rarely examined and there is very little evaluation of outcomes of field excursions. This means that there is virtually nothing or very little information available for a new Geography teacher needing guidance on how to justify and design a field excursion.

Geographers have long regarded fieldwork as being central to their teaching, research, and as something intrinsic to the very nature of being a geographer. Gold and Jenkins (1991:21) argue that fieldwork is as rooted to the subject Geography as clinical practice is to medicine. Teaching of Geography without fieldwork feigns the interaction of person and the environment. A grave disservice to the subject is thus rendered. The researcher's experience is that fieldwork has been neglected in the teaching of Geography especially in secondary schools. His past experience as a Geography teacher at secondary school is that very little is done to develop fieldwork. Indeed many schools do undertake field trips that are normally called "trips of the year". These trips usually take place towards the end of the academic year when normal classroom sessions have ceased and learners are only waiting

to write examinations. Usually there are no goals stated for such trips, no purpose given and no follow-up is made. Yet the researcher believes that such outings could be used for more educational benefits especially by Geography teachers.

Failure to use these outings productively leads to shallowness in the learners' understanding and in their perception of the spatial phenomena. They are " told " about the nature and denied the real experience. A practical subject may be reduced to abstraction with learners resorting to rote learning and lacking initiative, creativity and purposefulness. The absence of these traits in individuals could lead to a society that is not self-reliant

1.3. FORMULATION OF THE PROBLEM

In this study the following question will direct the research work:

How effectively is fieldwork implemented in the teaching of Geography in secondary schools.

1.3.1. SUBSIDIARY PROBLEMS

In trying to answer the above question, it becomes necessary to examine the following subsidiary questions :

⇨- How qualified are Geography educators to conduct fieldwork ?

⇨- How much teaching experience do secondary school Geography teachers have?

⇨- How much importance or value do teachers attach to fieldwork ?

⇨- What procedures are followed by Geography teachers when undertaking fieldwork?

⇨- What are the attitudes of Geography teachers towards fieldwork?

⇨- What are the constraints to the proper implementation of fieldwork in Geography?

1.4. OBJECTIVES OF THE STUDY

The main objectives of this study are as follows :

1. To establish whether fieldwork as component of Geography is implemented in secondary schools or not.
2. To investigate the procedures followed by teachers when undertaking fieldwork
3. To determine the constraints of fieldwork implementation in secondary schools.
4 To develop a model that Geography teachers can use when undertaking field trips.

1.5. MOTIVATION OF THE STUDY

Literature abounds on fieldwork dating as far back as the work by Jones (1968:15-30) which put more emphasis on the purpose of fieldwork and the forms of fieldwork both in primary and secondary schools. Kriel (1996:20-45) looked at the effectiveness of fieldwork at secondary schools, Gold and Jenkins (1991:21-35) concentrated on the origins and characteristics of fieldwork. In addition Kent and Lambert (1995:22-47) discussed how fieldwork features in environmental education.

The review of this literature reveals that very little has been done on the implementation of fieldwork in both primary and secondary schools. This study, therefore, attempts to fill that void. The researcher chose to undertake the research study in secondary schools firstly, because of his past teaching experience at secondary schools which revealed how neglected fieldwork was, in the teaching of

Geography. The so-called educational excursions were undertaken mainly for recreational rather than educational purposes. The researcher seeks to find a way of making teachers more aware of the value of fieldwork and by so doing motivate them to engage rigorously in fieldwork.

One of the objectives of this study is to develop a model for undertaking field trips. The researcher believes that when a model has been designed, teachers and learners will find it both educational as well as recreational to undertake field trips. Teachers need to be prepared to face and deal with the Outcomes Based Education. Being an exploratory method, fieldwork is in line with this new system of education.

1.6. DEFINITION OF TERMS

1.6.1. FIELDWORK

Fieldwork is any educational activity that takes place outside the classroom. It may take place in the school grounds or in a local park, or in fact, anywhere where practical outside activities are possible (Hurry,1991:102). Moller (1989:134) states that fieldwork and field excursions are terms used synonymously to refer to learning through direct experience of reality. He further argues that field excursion cannot be taken as an entertainment.

According to Saarimen (1969:211) fieldwork is defined as the learning process out of doors which gives reality to the subject and saves it from being arid and theoretical.

From the above definitions, it is clear that common features of fieldwork are that it must be outside the classroom (learning process out of doors) and learning

must take place through direct experience of reality. For the purpose of this study, the definition by Hurry (1991) will be operational. An important point in this definition is that Hurry (1991) does make mention of the fact that fieldwork could take place even on the school grounds.

This definition, in a way, challenges the perception that fieldwork can only be done kilometres away from school and thereby taking one or more days. This study uses the term; fieldwork, field excursions, and field trips synonymously.

1.6.2. CURRICULUM 2005

Curriculum 2005 is the new curriculum proposed by the national Department of Education that is being introduced in South Africa at present. This Curriculum is based on the ideal of lifelong learning for all South Africans irrespective of age, gender, colour, race, ability or language. The curriculum effects a shift from one which has been content based to one which is based on outcomes (Bhengu,1997:1). Critical thinking, rational thought and deeper understanding form the central principles on which the new education system is based. Under this new curriculum, the learners are responsible for their own learning although educators still play a major role of facilitating the process of learning.

1.6.3. OUTCOMES BASED EDUCATION

Outcomes based education (OBE) is a flexible, empowerment oriented approach to learning (Bhengu,1997:21). OBE is the new system of education that aims not only to increase the general knowledge of the learners, but also to develop their skills, critical thinking and understanding. OBE approach focuses not only on what you learn, but on how you learn as well. In other

words, the process of learning becomes more important than the knowledge itself. Skills development ensures that one continues to generate one's knowledge freely. This approach calls for educators and trainers to change their teaching approaches and adopt with understanding the new approach in line with OBE in order for them to be able to help learners attain both broad and specific outcomes.

1.6.4. EXPOSITORY VERSUS PARTICIPATORY APPROACHES

It is important at this stage to make a distinction between participatory and expository approaches. This is important firstly, because fieldwork as a teaching method needs to be classified in either of these two approaches. Secondly the relationship needs to be drawn either between participatory approach and OBE or expository approach and OBE.

According to Brandes and Ginnis (1986:2) expository methods are concerned primarily with the transmission of knowledge and skills from the expert teacher to the apprentice pupil. The cognitive and practical domains tend to be emphasised much more than affective, while the authority to make and carry out decisions is placed almost entirely in the hands of the teacher. Learning is, to varying degree passive. Obedience, reward and punishment are features of the teacher learner relationship, while mistrust, conflict, even fear are often accepted as part and parcel of the system. Examples of such teaching methods include amongst others, telling, lecture or narrative method. This approach is sometimes referred to as teacher-centred or subject-centred approach.

Participatory approach, on the other hand, is defined by Vakalisa (1996:3) as a learning process where involvement of pupils or active participation of pupils in the teaching-learning situations is encouraged. Brandes and Ginnis (1986:3) state that in participatory approach, learners are encouraged to participate fully in, and take responsibility for their own learning.

From the above definitions, it is clear that fieldwork as a teaching method falls under participatory approach that is closely related, by definition, to Curriculum 2005.

1.6.5. SECONDARY SCHOOL

From the primary school, which terminates at grade 7 in the new system of education, pupils are admitted to the secondary school from grade 8 to 12. The first three years constitute the junior secondary phase (that is grade 8 - 9) and the next three years the senior secondary phase (that is grade 10 - 12). For the purpose of this study, both junior and senior secondary phases were used to draw a sample of respondents.

1.6.6. TEACHER

Duminy and Sohnge (1987:6) define the teacher as the competent person who performs the educative act of teaching - educative teaching and learning is guided by the academically and professionally trained teacher.

In this study the concept "teacher" refers to a person who is employed to teach at a school regardless of whether that person is academically or professionally trained or not. The researcher opts to operationally define the concept "teacher"

on the basis of teachers' categories based on qualifications. (categories extracted from Piek, 1992:165).

(1) Unqualified teacher refers to one who has no professional teaching qualification (category aa-za). That is, matriculation or below.

(2) Under-qualified teacher refers to the teacher with less than three years of training-academic and profession inclusive (category A-B). That is M +1 and M +2.

(3) Fairly qualified teacher refers to the teacher with a qualification of three years of training- academic and profession inclusive (category C). That is, M + 3.

(4) Well-qualified teacher refers to the teacher with a qualification of four years of training - academic and profession inclusive (category D upward). That is, M + 4.

(5) Highly qualified teacher refers to the one with a qualification of five years and above of training - academic and profession inclusive (category E). That is, M + 5 and above.

1.7. HYPOTHESIS

Hypotheses are projections of the possible outcomes of the research and are not biassed pre-statements or conclusions (Dreyer, 1985 : 50). Bailey (1987:41) defines hypothesis as a proposition that is stated in a testable form and predicts a particular relationship between two or more variables . In other

words, if we think that a relationship exists, we first state it as a hypothesis and then test the hypothesis in the field.

Thus the hypotheses in this study are as follows :

1. Availability of time and financial problems hinders the undertaking of fieldwork
2. Most Geography teachers do undertake fieldwork in Geography lessons.
3. Most Geography teachers do not adhere to the fieldwork principles when undertaking it.
4. Most Geography teachers think that it is the responsibility of the head of Department to take initiative for fieldwork to be undertaken.

Reviewing of literature and information gathered through questionnaire will support all or some of the above hypotheses or will reject some of them. Leedy (1989:7) maintains that hypotheses are never proved nor disproved; they are either supported or rejected by facts collected. This therefore means that acceptance or rejection is dependent on facts ultimately revealed.

1.8. RESEARCH METHODS AND PROCEDURES

This section is concerned with the procedures employed in collecting the data. For the purpose of this study, questionnaires and literature survey were used. Mason and Bremble (1978:302) argue that the researcher should select, from those available, instruments that will be supportive of the research objectives. In line with this argument, after a considerable in-depth study of various research tools, *inter alia*, observation techniques, interviews, sociometry, questionnaires, focus groups, schedules and opinions, it was realised that questionnaires would be suitable both

to the nature and purpose of the study as well as to the financial and time constraints associated with this study.

Secondly, the researcher collected data through a systematic and critical study of available documents pertaining to the problem. This involved an intensive study of the existing literature from published books, newspapers, unpublished dissertations and any other published documentation which had information concerning the topic.

1.8.1 SAMPLING

1.8.1.1. SELECTION OF RESPONDENTS

Gay (1976:85) defines sampling as the process of selecting a number of individuals for a study in such a way that the individuals represent the group from which they were selected. The individuals selected comprise a sample and the larger group is referred to as a population. Behr (1983: 11) states that the sample is used for the reason that the population may be too large, or simply unavailable for the study so a relatively small section from within the population has to be selected. Wallen and Fraenkel (1991:30) support this idea by stating that the actual population (target population) to which the researcher would like to generalise is often not available. The population to which the researcher is entitled to generalise, therefore is the accessible population. They further state that the former is ideal choice and the latter is a realistic choice.

The drawing of a sample from a large target population has an advantage in that it saves the researcher time and expenses of studying the population are minimized. For the purpose of this study, the entire population comprised of 170 secondary schools, spread over in five districts of Empangeni Region.

The researcher decided to undertake this study on two (2) districts and the choice was based on accessibility. The two chosen districts are Mtunzini and Umfolozi district. Mtunzini district houses 4 circuits with 39 secondary schools and Lower Umfolozi district houses eight (8) circuits with 61 secondary schools. Therefore, the total number of secondary schools that formed a target population is 100 (from both Mtunzini and Lower Umfolozi districts). Due to the financial and time constraints, the researcher could not make use of the total target population, so 50 secondary schools from both districts were randomly selected to form the sample of the study.

Though the selection of the sample schools was based on their accessibility, care was taken that 50 percent of the respondents were drawn from each of the two selected districts. One Geography teacher from each sample school participated as a respondent. In the selection of respondents, random sampling procedure was used. Bailey (1987:87) states that in a random sample, each person in the universe has an equal probability of being chosen for the sample and every collection of persons of the same size has an equal probability of becoming the actual sample. A detailed discussion of the sampling procedure used is in Chapter three.

1.8.2. THE REQUEST FOR THE PERMISSION TO COLLECT DATA

With the aid of the supervisor, the letter requesting to undertake research study was written and mailed to the Department of Education KwaZulu Natal Province. A reply came after a month, giving permission for the research to be undertaken. The contents of the requisition letter included the name of the researcher, the institution in which the researcher was studying, purpose of the study and the areas where the study was to be carried out. This letter was presented to the management staff of each school where researcher sought help.

1.8.3. THE PILOT STUDY

Wallen and Fraentel (1991:339) define a pilot study as a small scale study conducted before an actual study in order to reveal defects in the research plan. Authors like Gay (1976), Tuckman (1976), Mason and Bramble (1978), Walford (1995) are of the opinion that before a researcher administers his research instruments in the field, it is essential that he undertakes a preliminary trial of the research instruments.

Bell, French and Zawacki (1989:65) contends that all data gathering instruments should be piloted to test how long it takes recipients to complete them, to check that all questions and instructions are clear and to enable the researcher to remove any items which do not yield relevant data. Mouly (1970:191) asserts that the pilot study questionnaire must be initially given to friends who are familiar with questionnaire construction. Thus the draft of the questionnaire was given to 10 friends and colleagues at the University of Zululand who have expertise in questionnaire construction and all of them have worked as secondary school Geography teachers. These people were of great help and due to their suggestions and criticisms some of the questions or items were rephrased and others discarded. This critical exercise also helped in detecting discriminability of questions, ambiguity, poor wording of instructions as well as areas that could have been sensitive to the respondent.

1.8.4 THE QUESTIONNAIRE

The questionnaire was the major tool in this study. Borg as cited by Sibisi (1989:723) says that the questionnaire is the same as the paper and pencil test. There are no characteristics that differentiate between a test and a questionnaire.

Nisbete and Entwistle (1970:44) maintain that the questionnaire is a form of an interview on paper. He further adds that the procedure for the construction of a questionnaire follows a pattern similar to that of the interview schedule. Burt and Burber (1996:22) refer to the questionnaire as self-enumeration because the respondent completes the questionnaire without assistance from the researcher.

The questionnaire contains questions that are aimed at getting specific data on a variety of topics. Sax (1979: 244) believes that the questionnaire attempts to elicit the feelings, beliefs, experiences and activities of different respondents. Mlondo as cited by Nzimande (1993:137) adds that a questionnaire seeks information on opinions, attitudes and interest of the respondent in the area being investigated. This is in line with this study as it sought attitudes and opinions of Geography secondary school teachers on the undertaking of fieldwork.

In designing the questionnaire, considerable attention was given to the following:

☞-content of the questions, work order, form of responses, for example a cross(X) or a tick (✓), multiple response as well as format and presentation of the questionnaire (Best, 1977:159-162, Isaac and Michael, 1981:34, Shaw and Wheeler, 1985 : 304, Hitchcock and Hughes, 1989:207).

☞-Helmstadter (1970:58) rightly advises that the language in each questionnaire instrument should be adjusted both to the level of the group to which it would be administered and the precision of the data needed. This was also given attention by the researcher.

The choice of the questionnaire survey for this study was motivated by the following:

➪-the questionnaire survey consumes less time. For example, in this study, it took not more than 25 minutes for the teachers to complete the questionnaire.

➪-this survey method seemed to be more efficient, practical and enabled the researcher to the reach a large sample within the shortest possible time.

➪-the questionnaire method affords a considerable measure of objectivity in the responses received from the population sample. It eliminates the possibility of embarrassment to the respondent. All respondents receive the same set of questions phrased in exactly the same way. This allows greater uniformity of the responses and greater reliability.

1.8.5. CONSTRUCTION OF THE QUESTIONNAIRE

For the purpose of this study, only one set of a questionnaire was constructed and directed at Geography teachers in secondary schools. The funnel-sequence was used to construct the questionnaire. In the funnel technique broad and general questions are asked first, and then the funnel is narrowed by asking more specific questions (Nyikana 1988). This technique was chosen because it put the respondents at ease and information was elicited without hesitancy.

As it has been mentioned early on, the content of questions, word order, form of response, format, presentation of the questionnaire and the level of the respondents were the factors considered during the construction of the questionnaire.

The questionnaire consisted of 2 sections. **Section A** consisted of stems dealing with demographic information like, gender, age, educational level, teaching experience, and grades in which Geography was being taught. These questions were asked so as to ascertain whether gender and age had an influence in the undertaking of fieldwork. Educational level and teaching experience was of vital importance to the assessment of a relationship between the undertaking of fieldwork and qualification level as well experience in the field of teaching the respondent had.

This section was composed of 8 questions, that are all closed ended. Isaac and Michael (1981:133) state that closed questions allow greater uniformity of responses. Sax (1979:244) contends that closed questions yield more comparable data than do open-ended questions, while Piper (1996:29) says the great advantage of closed measures is that the responses are directly relevant to the field of study and exclude unwanted digressions.

Section B was composed of 32 questions based on the undertaking of fieldwork. This section was characterised by having closed questions, open-ended and items using Likert scale and rank order items. Open-ended type of questions aimed to get the reasons from the respondents and more clarity on the issues of fieldwork.

Piper (1996:9) contends that open-ended items do not lead the interviewee who is able to interpret the question in a most personal fashion and they allow respondents

to respond using their own words. The open-ended questions were used to allow the respondent freedom to express his feelings without being guided by a limited choice. Eight items from this section were designated to be open ended. Eleven items used Likert scale. Orlich (1978:52) asserts that the Likert scales are used for assessing opinions and are usually composed of five response categories. For example, Strongly agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly disagree (SD).

In this study respondent were asked to place a tick in a box next to the answer applicable to him or her. The categories mentioned above were not coded as respondents tend to tick the highly coded item. The purpose of these items was to get opinions and perceptions of geography secondary schools teachers about the undertaking of fieldwork.

Finally, the questionnaire ended up with items where respondents were requested to rank 12 items in order of importance on the activities done prior, during and post fieldwork. The purpose of these items was to establish the procedures followed or done by geography teachers when embarking on fieldwork.

1.8.6. ADMINISTRATION OF THE QUESTIONNAIRE

This section deals with the way in which the questionnaires were distributed to the respondents. Bell *et.al* (1989:48) maintains that it is advantageous to distribute questionnaires to subjects personally because personal contact can result in better co-operation. In this study the researcher administered all questionnaires himself with the respondents. Even though it took a long time to go to 50 schools, the researcher found it a worthwhile exercise as this ensured consistency.

Before administering the questionnaire in the schools with Geography teachers, permission was sought from the principal or the deputy when the former was absent. Amongst the Geography teachers found in each particular school one teacher was selected (more details in Chapter 3). In the case where the teacher selected was absent or did not have time to answer the questionnaire, an appointment was made to come back. In some cases the respondents managed to complete the questionnaire and returned it the same day. This helped a lot especially where the schools were far away from where the researcher was coming. In other cases the researcher had to leave a questionnaire with the respondents and collected it on the date specified by the respondent. In such cases the researcher had to clarify all the rules written in a questionnaire.

Out of 50 questionnaires supplied, 45 were collected and obtained in time and the researcher did a follow up on those not yet returned. In some cases, teachers had misplaced the questionnaires. In this case new ones were supplied. In the end, a total of 50 questionnaires were secured. In general there were few problems encountered in the administration of the questionnaires which does not mean that they were insignificant to influence the results of the study.

1.9. DELIMITATIONS OF THE STUDY

This study was limited geographically to secondary schools under KwaZulu Natal Province which has got eight regions. The focus was on Empangeni region which houses five districts (Eshowe, Mthunzini, Lower Tugela, Hlabisa and Lower Umfolozi). Due to the fact that these districts were sparsely distributed the researcher decided to concentrate on Mthunzini and Lower Umfolozi Districts because of their accessibility

1.10. LIMITATIONS

The research project was limited by lack of homogeneity of the sample. Geography teachers in secondary schools had varying experiences and qualifications ranging from Matriculation with three year teaching diploma to a Bachelors degree. In some cases, other teachers taught Geography even if they had not done it either at University or College of education.

Other limiting factors were :

1. the limited number of schools to be visited due to the lack of fund funds.
2. the scarcity of primary and secondary resource materials based on fieldwork in secondary schools.

1.11. PROGRAMME OF STUDY

CHAPTER ONE

This chapter gives the general orientation to the problem. This chapter defines the key concepts and spells out the problem to investigated. It also outlines the purpose of the study and the methods utilised in collecting data.

CHAPTER TWO

This chapter provides the theoretical background to the study. Relevant literature is used to the study in context.

CHAPTER THREE

This chapter exposes the empirical research design and procedures followed in the study. It discusses the selection of subjects or respondents, how data was collected, and how it was analysed. It further presents the collected data in tabular form.

CHAPTER FOUR

In this chapter, the results of the investigation presented in chapter 3, are discussed and interpreted

CHAPTER FIVE

This chapter consists of general conclusions and recommendations.

CHAPTER TWO

REVIEW OF THE LITERATURE

2.1 INTRODUCTION

Fieldwork is a teaching approach that is integrative in its aims and adopts more of participative approach. Its importance could well be understood from this Chinese proverb:

Tell me, I forget
Show me, I remember
Involve me, I understand
(Gold and Jenkins : 1991)

Bligh as cited by Gold and Jenkins (1991) argues that in Geography and related subjects, fieldwork is as intrinsic to the discipline as clinical practice is to medicine. Yet, despite its convincing benefits, it still remains a neglected methodology especially in South African schools. This inertia could be the result of numerous real obstacles, past negative experiences, a lack of exposure, pressure of external examinations or subject focus changes.

Hurry (1991:102) states that fieldwork is an excellent teaching approach based on sound educational principles that are well suited for hands-on investigation. Consequently, fieldwork should be seen as a necessary part of geographical education and not an optional extra work. South African geographers need to be reminded of the above issues to ensure that the subject retains its place in the new geography syllabi.

The purpose of this chapter, therefore, is to review the literature relevant to fieldwork. Literature is reviewed so that relevant information from other authors who have written on the subject could be used to put this study in context. For the

purpose of this study, literature on history and development of fieldwork, principles and the value of fieldwork will be reviewed. It is also imperative for this study to review literature on the place of fieldwork in the Geography syllabus as well as to identify other field studies done in South Africa.

2.2 HISTORY AND DEVELOPMENT OF FIELDWORK

When we educate and seek to inspire a new generation of geographers, we must by precept and by example remind them that the great discoveries and advances in Geography have been made by people who went out to look and think in the field. Amongst the pathfinders we think of Marco Polo, Colombus, Cook, Livingstone and Scott. Amongst those who have unravelled the secrets of nature's order on the surface of the globe, we think of Humboldt, Davies, Penck and W.V. Lewis. Those who have given us the most complete and satisfying regional geographers are those who made it their business to go and immerse themselves in the life of lands concerned, as did De Martonne, Peston James, and De La Blache. Among the many others who have made smaller additions to our sum of knowledge, the good geographers have first been to see, then they have stopped to think and to study the conclusions of others before finally recording their findings for us in maps and prints (Jones, 1968:1).

The lesson on fieldwork is an old one both in secondary and tertiary education. It is also obvious that those who are trained to go and find out things by themselves are not only likely to be the geographers but they will become real geographers, likely in years to come to advance the subject and not merely to recapitulate time-worn theses.

The development of fieldwork as a major part of geographical study is probably the greatest change in the subject which has occurred in post-war years(Archer,1968:38). Fieldwork is closely akin to exploration, and exploration is not new. When primitive man sought a richer hunting ground he was concerned with

the most practical type of geographic exploration (Long and Rogerson,1970:122). Certainly man's knowledge of the world has been built up over centuries by explorers, and it was records which formed the basis of most early geographical writings. The appeal to this spirit of exploration and adventure is no small part of the motivation of fieldwork today by children. Even in its modern forms, fieldwork is by no means a phenomenon of recent years, and can be traced at least from the last century (Archer, 1968:52). At a time when Geography was sharply split into physical and Political Geography, the early physiographers were conducting field investigations.

Coleman in Balchin (1970:55) states that the development of fieldwork can be likened to a four-stranded rope threaded through the centuries, each strand thickening or thinning over time with the waxing or waning of the element it represents. According to Coleman four phases can be identified with the development of fieldwork, that is, units, classes, relationships and systems.

2.2.1 Exploratory phase

Gold and Jenkins (1991:22) refer to this development stage as the exploration tradition. The desire to examine things in the field, just to go and see new places, remains a powerful part of Geography's background from this phase. Whenever the individual visits a new environment and whenever a scientist pioneers a new frontier, exploration resumes its importance. The emphasis at this stage was on the collection of any and every kind of place material. It stressed the cognition of objects or 'units' in the perception sense, and was completely unselective. This is what Coleman (1970) referred to as the first phase. It declined in importance as the ratio of the known to the unknown increased. Coleman as cited by Balchin (1970) states that the value of the exploratory phase was its open-mindedness. It ignored facts simply because they lie outside established conceptual frameworks. It was geared to contexts of ignorance, in which undirected fact finding played a useful role as a

preliminary scanning operation. The early works on exploration phase include Huxley's great work on physiography that is full of field examples.

2.2.2 Classification phase

The second phase represents the simplest kind of pattern making-classification. The unit facts are analysed for contrasts and correspondences and are grouped into categories or classes accordingly. The decisive step in this direction was taken by Alexander von Humboldt (1769-1859), whose fieldwork first combined measurement and mapping as a basis for classification. His and other maps of South America opened geographers' eyes to most range of possibilities and gave the subject its modern scientific status.

In the exploratory phase the development of the individual recapitulates that of the science, but in the classificatory strand the reverse is true. The science has evolved from the exotic to the familiar the student studies the familiar first and works from the known to the unknown. Progress from units to classes in fieldwork is progress from percept to concept. The advantage of a classification is its structure that provides context for its component concepts. Once mastered, this context becomes implicit (Balchin, 1970:57).

Observation in classification phase is no longer open-minded but channelled, and sometimes blinkered, by a man-made conceptual framework. The classification phase clearly involved more preparation than exploratory work and also a different kind of preparation. The great explorers went prepared with supplies, medicaments and gifts to placate hostile natives. The classifier goes prepared with intellectual equipment: classifications or observation device is explanation which can establish relationships between both classes and units, and is the basis of the third development in fieldwork (Balchin, 1970:59). The great founding pattern maker of human Geography was the German, Friedrick Ratzel (1844-1904). He developed the idea of mapping convariants of human distribution and also the twin themes of

the influence of environment upon human activities and the influence of human beings in creating a sequence of cultural landscape over time. These themes subsequently developed into a separate school of thought known respectively as geographical determinism and possibilism.

Determinism, Possibilism and Probabilism : through fieldwork causational explanations that had been involved in landscape were given. For example, climate was invoked as a main differentiating cause. Extremes of heat, cold, drought and even extreme climatic monotomy were suggested as inhibiting cultural and economic development, while temperate conditions permitted advancement. Other types of inhibiting or stimulating factors, such as soil quality, ruggedness of terrain or accessibility were also seen as determining human response. This formed the basis of geographical determinism. The focussing of fieldwork attention upon home as well as foreign Geography allowed deterministic principle to be examined more closely and critically (Rogers, Heather and Goudie,1994:78). Instances of departures from this principle began to multiply. Cases where human beings responded in the same way to the different environments or in different ways to the same environment led to the rejection of the idea that human beings were controlled by nature. In its place, the alternative explanation was persuaded that human beings were controlling agents and that they determined the landscape, creating something different from which nature had originally provided. That marked the beginning of possibilism. The possibilistic model is associated with name of Paul Vidal del Blache. Both Germans and French had possibilism and determinism as separate schools of thought (Long and Rogerson: 1970, Rogers, *et.al*: 1994 and Kent and Lambert : 1996)

In Britain, however, deterministic and possibilistic approaches were both incorporated into field studies without any acute sense of their mutual exclusiveness. Thus, a particular physical environment was discerned as influencing human response in certain ways while at the same time the humanly-made landscape was analysed into component features and stages. The reaction of

human beings to the environment and their action upon it was combined in a model of interaction which ultimately became known as geographical probabilism (Long and Rogerson, 1970:56).

2.2.3 Phase of systems

The most significant feature of a system is that its parts are causationally related to each other and form a functioning whole. Balchin (1990:65) states that for some purposes it is appropriate to treat the whole as if it were a unit and for some other purpose it is necessary to dissect out the parts of the whole in order to establish operates and what the causational links actually are. The first major system to be recognised in geomorphology was the Davisian cycle of erosion. Davisian cycle inspired great many other workers to do fieldwork. W. Penck's morphological system, featuring a dominant role for the faces of earth movement, L.C. King's pediplanation cycle, featuring back-wearing as more important than down-wearing and the morphometric system of Strahler (1989) and others which stresses the importance of three dimensional geometrical and other mathematical relationships. These are all of great advantage to the study of landforms because they can be compared critically on the field.

The four phases of development of fieldwork discussed above are all relevant to the secondary school Geography. This is because, when learners go out for fieldwork their observations and activities will fall in one or two or all of the above phases. The approaches (determinism, possibilism and probabilism) discussed also help the learners undertaking fieldwork to know different principles on what they observe on natural and cultural landscape.

2.3 THE VALUE OF FIELDWORK

Every child has a sense of curiosity, and this is fundamental to fieldwork. It is the challenge to the educator to stimulate the curiosity of the group. The cultivation of

curiosity requires patience on the part of the educator. If it is successful, the school leaver will remain aware of the refreshness of the world around him and keep that spark of vitality which is often lost when school days are over. This is the type of education that the OBE seeks to achieve. A lifelong learning based on developing an individual into a good citizen. Hurry (1991:119) states that apart from having a sense of curiosity, Geography learners must be accurate observers and recorders. Through observations and experiments, Geography learners grasp the correlation of the physical and human aspects of their own environment. This suggests that fieldwork provide more for learners than mere acquisition of geographical knowledge. The outdoor activity always awakens that spirit of adventure and challenge which the young ones seek.

Successful learning is concerned with the development of the "whole being", and not merely with imparting knowledge. Fieldwork is a mechanism towards the achievement of such an educational objective. The value of fieldwork is closely linked to educational objectives. Most of geographical objectives stated in geography syllabus could well be achieved through fieldwork. The following discussion highlights areas in the child's learning process where fieldwork is more valuable.

2.3.1Teaching geographical vocabulary

An important function of fieldwork, especially with younger learners, is to transform words into experience to show them the things which words describe (Webster, 1980:52). Learners have always learned and used some words without having the slightest knowledge of what they mean, and manipulated words to pass examinations. The problem of knowing what words mean is particularly severe for learners who come from culturally deprived backgrounds; and this is a sizeable proportion of all learners in schools especially in South Africa. Vocabulary work in the field is therefore always important.

For example, it emerged during a lesson, when the researcher was still a teacher at secondary school, that some learners believed that the word "gorge" meant a dark hollow place where gangsters hide. It was believed that a gorge is a humanly -made hiding place for gangsters. Presumably therefore, when gorges are mentioned in South America, these learners visualised humanly-made hiding places. The geography teacher always has to be on guard against his or her learners misunderstanding of even the most basic geographical terms, which can turn his or her best-planned lessons into nonsense.

This problem can never be fully overcome, but fieldwork which includes a carefully thought out vocabulary building elements can be of a great help. No opportunity should be lost of asking learners, directly or indirectly, to describe what they see and to assign words to landscape and townscape features (Bailey, 1987:186).

2.3.2. Giving experience of distance, slope and height

Direct experience of distance, angles of slopes, height, direction can be obtained from practical schoolwork out of doors. Geographical walking and hiking can allow distance, slope angles and heights to be felt by learners. If learners do their own map reading while walking, they rapidly develop a heightened sense of direction, of the relative positions of observed objects, and of relief. None is grasped correctly by learners in a classroom situation (Bailey, 1987:187) Long and Rogerson (1970:128) emphasise this point by stating that fieldwork makes geography real for children. This focus on the field as reality is reinforced by those who emphasise that learning is best developed through concrete experience. According to this view, one should start in the field and then go to the classroom, not vice versa (Hall, 1976:247).

2.3.3. Comparing the ground with map

A great deal of fieldwork is recorded on maps, and there must be few moments when Geography learners are not working with some form of a map in their hands. Almost the whole of their fieldwork is strengthening and developing their map reading ability. As early as possible in their school life, children should be given an opportunity of relating map to ground. Such a lesson is often their first experience of outdoor Geography. Another important function of fieldwork is to help learners to compare the ground with the map. The topographical map, for example, Newcastle survey 1:60 000; 1:50 000 or 1:25 000 series, is a form of landscape model, because it represents reality in a conventional and highly selective way. It is important from an educational point of view to remember that the map is a purely descriptive document, it shows effects, not causes. Through fieldwork, learners can begin to discover some of the causes of what the map depicts.

Long and Rogerson (1970:128) state that fieldwork helps learners to appreciate the significance of map scales. If a square kilometre of a country is sketch-mapped inside a centimetre square, the absolute need for aspects of the landscape to be omitted, and for others to be represented by conventional signs, quickly emerges. Sometimes, learners may be asked to add significant detail to published maps from field observation. An example might be minor breaks of slope along a river valley, important to the location of settlements, but concealed by the contour interval of the map. Most learners find difficulty in relating contour patterns to the forms of the ground, and field observation in an area of marked relief can help greatly in this respect.

2.3.4 Introduction to imperfect examples of land forms

Another important value of fieldwork is that it brings learners into contact with examples of landforms which show less distinct and regular in shape than the textbooks sometimes suggest. Lateral and terminal marines, drumlins, or vised

beaches and so forth are seldom clearly separate from other features, and learners find this overlapping difficult to interpret. So by taking learners out for fieldwork, these features may be seen in reality thereby eliminating confusions.

Bailey (1987:188) argues that the learners, schooled in the texts, often fail to identify landforms they know about in theory, even when they are standing on them, because they are presented imperfectly in the text. A function of fieldwork is therefore to point out the imperfect examples.

A similar, but perhaps slightly different way of looking at this point is suggested by Long and Rogerson (1970:130) that fieldwork can be used to show learners how Geography gets into textbooks. Learners seldom query their Geography texts until the secondary school level. Why should they? The textbook tells them the facts, and unless they have been trained in scepticism they accept them. Pictures were taken by photographers, statistics were gathered from official sources, verbal descriptions were written by travellers. But how were maps drawn? And who decided that the particular account printed was the appropriate description of a given area? After a field excursion, it is a salutary exercise for a class to write their own geographical summary of the area, and to compare it with the appropriate paragraph in a textbook at their own level.

2.3.5. Understanding arial differentiation and the nature of boundaries

One of the geographer's functions is to observe, describe and explain differences between areas. Such differences are instructive; for example, two areas have a comparable geological basis and yet have developed quite differently. An important purpose of fieldwork is to help learners to recognise and define the characteristics of arial differences, in both physical and humanly-made landscapes, including towns. The learners also get an opportunity to notice relationships in nature such as that between climate and his environment and crops grown on it. Learners own observations and deductions are important as they develop sense of their

observations. Information gathered through fieldwork in their surrounding can be compared with that in other areas so that they will notice similarities and differences, for instance, how the climate of their environment differs from that of overseas areas, or what similarities exist between the methods of cultivation in their part of the world and those in other countries they are studying.

The geographer is also concerned with the position and nature of boundaries. The problem of drawing sharp boundaries between sets of phenomena can be demonstrated most convincingly in the field.

2.4. THE PRINCIPLES OF FIELDWORK IN GEOGRAPHY

Hurry (1991:102) states that fieldwork emphasises the importance of two basic didactic principles. The first is that of activity, whereby learners learn best by doing something, and the second is the principle of observation and perception, whereby the learners learn by the direct observation of phenomena. For the purpose of this study not only the above mentioned principles will be discussed but other relevant didactic principles will be linked to fieldwork.

2.4.1. THE PRINCIPLE OF ACTIVE PARTICIPATION (ACTIVITY)

The activity principle as a condition for effective instruction and learning, emphasises that instruction and learning will be effective only if the learner is given the opportunity to become actively involved in the teaching-learning events (Fraser and Loubser, 1990:62). This does not only imply that the learner has to be mentally active, but that the learner should also be given the chance to become physically involved during teaching. Piek and Mahlangu (1990:34) state that the principle of activity deliberately provides a breakaway from the learner's passive listening role in the learning situation.

In fieldwork, in particular, learners are exposed to a real situation wherein they are able to participate actively by recording what they see, drawing up sketches and responding physically and mentally to any stimuli during fieldwork. After fieldwork learners are expected to report on what has been observed in the field and in way they are actively involved in their learning.

2.4.2 THE PRINCIPLE OF OBSERVATION AND PERCEPTION

Fieldwork is about going out of a normal classroom situation to the field with the purpose of "seeing" or "observing". Learners learn better and understand geographical concepts much better if they have been out to observe. This principle provides pupils with first-hand experience of reality which is very important in the teaching and learning of the leraners. Long and Rogerson (1970:26) state that fieldwork is the study of landscape on spot. The learners must go and explore their world so that through observation they will be able to analyse and explain the landscape. Piek and Mahlangu (1990:28) take this idea further by stating that it is essential for learners to establish a certain order in the mass of concrete or observable impressions they are constantly receiving through their senses. Sensory observation of objects becomes meaningful only when it is followed by understanding and internal assimilation.

Learning through observation is important because it involves discovery learning. During fieldwork learners are required to discover certain concepts and phenomena read from the textbooks. Concepts learned through fieldwork cannot be easily forgotten by learners as they do with concepts prescribed to them theoretically. Vakalisa (1996:20) support this idea by stressing that information arrived at through observation and experimentation is easily appropriated and will not be forgotten soon after examinations.

Learners can be trained for fieldwork by using searching questions about what they see, whether by word of mouth or by the use of worksheets, maps and diagrams, which they have to annotate or complete in the field (Bailey 1974:190).

The principle of observation is closely related to the activity of recording. Observed phenomena must be recorded to make the exercise of fieldwork meaningful. According to Bailey (1974:190) the learners may record their observations by: making maps, measurement, sketch mapping, field sketching, notes taking and tape recording.

Fieldwork rescues teachers from the problem of verbalism, which is, the use of words without due regard to their real meaning. This happens when teachers believe that if learners can say something or know the relevant word, they have really learned something, and therefore understand what the matter is all about. Piek and Mahlangu (1990:30) state that words in themselves are nothing but abstractions. They have content only when, by means of abstraction, they are coupled in a definite meaning and significance. The child comes to school with a great store of knowledge and experience, it is the task of the teacher, Geography teachers particularly, to verify the knowledge and experience so acquired, to extend and arrange it, and also to assemble it, together with newly acquired knowledge, into a useful and functional whole. To achieve this, Geography educators must make use of fieldwork. If learners are forced to learn words mechanically by rote learning, or memorising, they will indeed learn to know word symbols. However, a lack of the corresponding concrete images will render the symbols useless for application in real life situations. Words must, where applicable, go hand in hand with concrete observable material. Abstract thinking developed on this basis is most effective.

2.4.3. THE PRINCIPLE OF ENVIRONMENTAL TEACHING

According to Duminy as cited by Piek and Mahlangu (1990:25) environment means the locality, town, city or village where the child spends his youth. It further implies the relationship of the child to all aspects of life surrounding him, for example, other people, institutions such as the church, family and so on. Although the school is the integral part of the broader community, in a sense it is also a community in itself. The school must develop the young people of the community to enable them to assume their rightful places in the community in an efficient responsible way as fully developed persons. This therefore, calls for educators to take note of the particular nature and demands of the community and environment when determining the purpose, content and methods of teaching. Since Geography is the study of the person and his environment, the principle of environmental teaching could well be achieved through this subject. Fieldwork in particular will help learners to make meaning of their immediate environment. The value of environmental teaching, through fieldwork, lies in the fact that it opens the eyes of the learners as well as educators to immediate surroundings.

2.4.4. THE PRINCIPLE OF EXPLORATION AND DISCOVERY

The word exploration refers to the investigation or exploration of things. It is a hallmark of all normal children that they investigate and explain things in their life. In the case of a child, this urge to explore is referred to as curiosity. The child wants to be actively involved in the exploration of life, and he wants to experience it for himself. The teacher can help this process by stimulating and canalising the learner's interest. By getting learners involved in fieldwork, they are made to explore their world and become responsible for their immediate environment. They learn to make judgements, deductions and conclusions about what they see or observe during fieldwork. That is when the teacher learns that the learners in front of him or her can arrange facts and must be aided in their exploration and voyages of discovery.

2.4.5. THE PRINCIPLE OF EXAMPLE

The main concern in fieldwork is to unfold or unlock reality for the learners. Van der Stoep and Van der Stoep (1973:82-87) state that reality is vast and the content within it is so finely differentiated. In order to bridge the problem of vastness and complexity, the teacher selects certain aspects of reality, which according to his judgement offer a valid and representative structure of the contents. The representative structure could be in the form of pictures and models. In the case of fieldwork representative structure means the actual phenomenon being observed. This means that by taking learners out to see a particular landscape and real phenomenon, for example industries, cities and so on, generalisations could be made from that particular phenomenon, in other words, that phenomenon could serve as a representative example of the what could be found in other places. Piek and Mahlangu (1990:20) state that the exemplar is part of the way in which the human being understands the reality which surrounds him and that of the entire world.

2.5. FIELDWORK AND THE DEVELOPMENT OF BASIC SKILLS

One of the important reasons of teaching geography in schools is that, it provides the learners with basic skills with which to study the environment. Fieldwork provides practice for some of these skills. It shows the learners how and when to use these skills. Some of the skills the learners will have developed before doing fieldwork, others will be developed and exercised while doing fieldwork (Hurry, 1989:102). Some of the skills that learners will acquire through fieldwork include:

- Observation skills - which teach learners to observe geographically, scientifically and critically. To Geographers steeped in the morphological and landscape traditions of the subject, the objective of field teaching might well be " to develop an eye for the country" - that is to build up the power to read a piece of country (Wooldridge, 1960:78). Indeed to Hart (1997:29), a true field experience is a

Socratic seminar in the open air, centering on observations, whether with or without the aid or guidance of an instructor. Although these observational skills can be developed in classrooms, ultimately the field is the only place where learners can be shown what was only talked about in the classroom.

✏-Research skills - relating to the use of reference texts. Collecting, classifying and analysing data, for example, carrying out an ecological survey and interpreting statistics about the weather.

✏-Recording skills - which teach learners to accurately record information in both note forms as well as in the form of diagrams, maps and sketches.

✏-Measuring skills - which teach learners to take accurate measurements of phenomena such as distances, angles, rates and quantities.

✏-Drawing and sketching skills - teaching learners the field sketching techniques.

✏-Communication skills- Expressing views and ideas about what they see on the environment through different media- oral, written, dramatic or artistic.

- Arguing clearly and concisely about environmental issues.
- Present information in oral, written and graphic form.

✏-Study skills- retrieving, analysing, interpreting and evaluating information about the environment from a variety of sources.

-View environmental matters from a variety of perspective.

✏-Problem-solving skills- Identify causes and consequences of environmental problems.

-Formed reasoned opinions and develop balanced judgements about environmental issues.

-Consider and predict the consequences (ecological, social, political, economic and so on) of possible courses of action.

-The ability to evaluate, clarify and change their own value positions in the light of new information.

-Make decisions concerning action strategies to be used with respect to particular environmental issues.

✏-Personal and social skills- Work co-operatively with others, for example, participate in group activities during fieldwork.

-Take individual and group responsibility for the environment, for example, disposal of litter.

- Use all their senses to explore a variety of environment.
- Co-operate and negotiate with others to resolve conflicts that arise over environmental issues.
- Develop the political skills necessary for active citizenship (lobbying, petitioning, forming delegations, letter writing and so on.)
- Encourage responsible individual and collective behaviour towards the local and global community and biophysical environment.

2.6. FIELDWORK AND THE DEVELOPMENT OF AFFECTIVE BEHAVIOUR

Hurry (1991:103) stresses the point that school education should not just give children information. He states that an education system that is relevant to the needs of the children will also encourage attitudes and values that will benefit both individuals and society at large. Through fieldwork learners learn to observe and appreciate the land and the environment they live in. Fieldwork offers children a deeper understanding of their heritage and opportunity to obtain later richer experiences during their leisure.

Fieldwork is one of those educational activities that has the potential to influence attitudes and values. Used properly, it can help learners develop environmental attitudes that will contribute to the long-term well being of the environment and therefore to the long-term health of the people.

In particular, effective fieldwork should help the learners to:

◆-develop an aesthetic appreciation of both natural and humanly-made forms within the environment.

◆-develop responsible attitudes to environmental issues and respect for the environment

◆-develop a value system and a personal code of conduct that reflects this attitude.

◆-to make independent, wide-ranging and objective judgements about environmental issues and the people involved with them.

2.7. FIELDWORK AND THE DEVELOPMENT OF PERCEPTUAL AWARENESS

Fieldwork should assist learners to develop the ability to perceive and acquire an aesthetic sensitivity to both natural and human living environments and develop a conceptual awareness of how individual and collective actions may influence the relationship between the quality of life and the quality of the environment.

In particular, fieldwork should provide the learners with the ability to conceptualize:

1. how human cultural activities (religious, economic, political and social) influence the environment from an ecological perspective .
2. how individual behaviour impacts on the environment from an ecological perspective.
3. the alternative solutions available for solving environmental issues and the ecological and cultural implications of these solutions.
4. the roles played by different human values in issues and the need for personal values clarification as an integral part of environmental decision making.
5. the need for active responsible citizenship in resolving environmental issues.

2.8. FIELDWORK AND THE DEVELOPMENT OF KNOWLEDGE

Fieldwork should help learners to acquire a basic understanding of how the environment functions, how its functioning is affected by human activities and how harmony between these activities and the environment may be achieved. As a basis for making informed judgements about the environments, learners should develop knowledge and understanding of terminology, facts, trends and sequences, criteria, methodology, principles and theories about the environment, such as:

1. the natural processes which take place in the environment.
2. the impact of human activities on the environment.
3. different environments, both past and present.
4. environmental issues such as the greenhouse effect, acid rain, air pollution and so on.
5. local, national and international legislative controls to protect and manage the environment.
6. the environmental interdependence of individuals, groups, communities and nations, for example, how power station emissions influence neighbouring areas.
7. how human lives and livelihoods are dependent on the environment.
8. the importance or effective action to protect and manage the environment.

2.9. FIELDWORK AND THE DEVELOPMENT OF ENVIRONMENTAL ETHIC

Through fieldwork learners should develop universal ethic based on the values of social justice and ecological sustainability on which they may act to defend, improve and sustain the quality of environment. Fieldwork should encourage the development of the following attitudes to value and understand the role of safeguarding the future:

1. appreciation of, and care and concern for the environment and for other living things.

2. acquire a set of positive social and environmental values as part of a general moral education provided by the family and other institutions.
3. develop a personal environmental ethic based on the realization that people are part of ecosystems, that what is good for ecosystem is also good for people, that the quality of the environment and the quality of life are directly related, and that people have a right to share in the benefits that ecosystems provide.
4. achieve greater awareness and understanding of their and other people's social and environmental values and how these affect behaviour.
5. learn to compare their personal values with those most beneficial to social and environmental welfare, thus encouraging further development of a personal environmental ethic.

2.10. FIELDWORK AND THE DEVELOPMENT OF HOLISTIC THINKING

School education is divided, for convenience, into different school subjects. Therefore, teachers should not forget that knowledge should be viewed holistically, that is, as an all embracing whole. Wherever possible, learners should be taught and be encouraged to think of education or knowledge from a holistic approach. This is particularly important in regard to studies of the environment. We live in one environment, with its geographical, biological, historical, social and political components, and learners should be encouraged to think of their surrounding in this way. As far as fieldwork on the environment is concerned, teachers should look for opportunities that integrate selected information from subjects such as geography, biology, agriculture and so on, to help create holistic pictures of the environment.

The new Curriculum 2005 actually proposes that closely related subjects be integrated into one learning, for example, Natural Sciences as a learning area covers physical, biological and geographical knowledge. The establishment of these learning areas is going to help both teachers and learners in achieving holistic approach in teaching and learning.

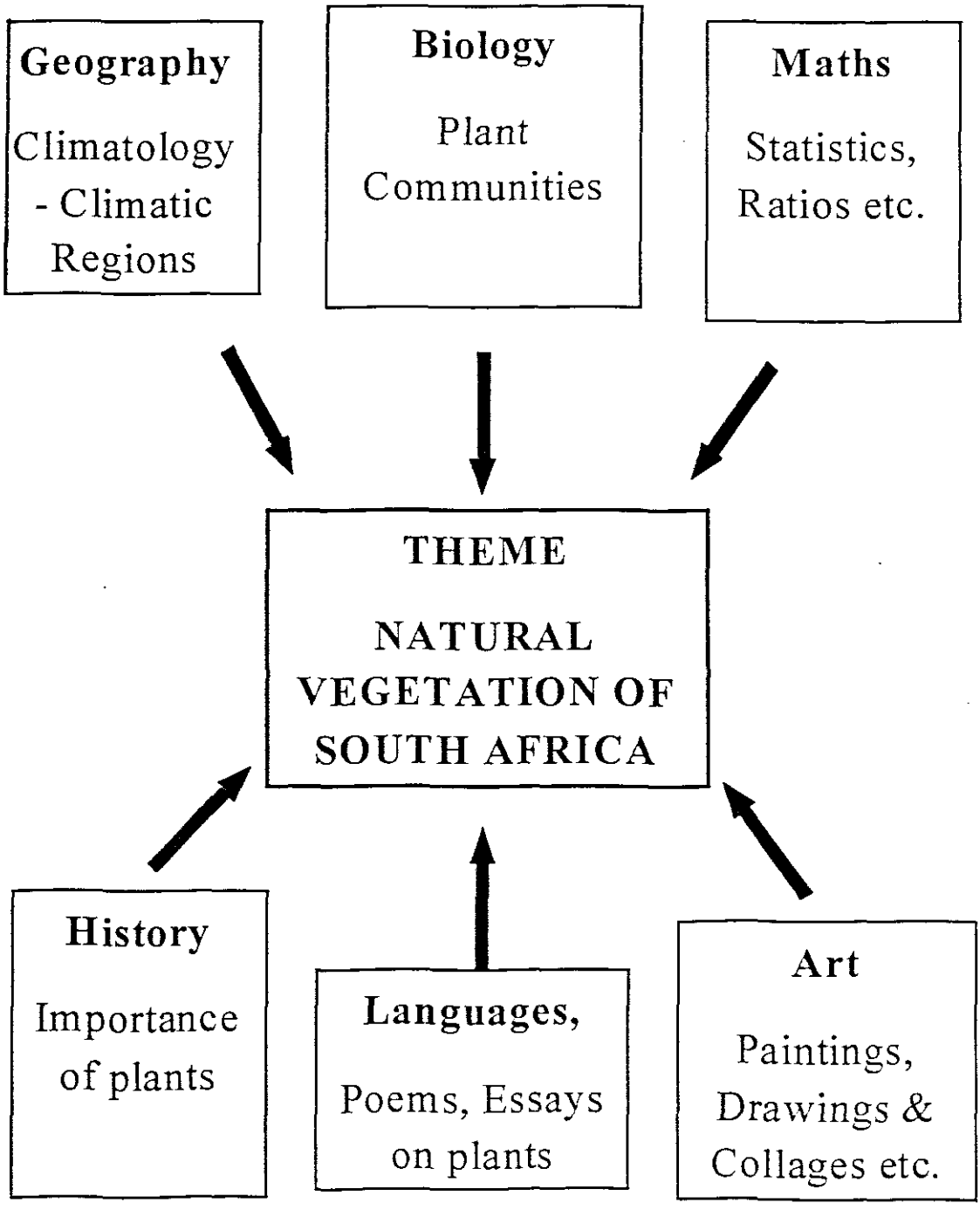

Figure 2.1 Integrated environment studies : Adapted from Hurry (1991:10)

Figure 2.1 above clearly shows how fieldwork could be used to encourage holistic thinking in pupils. This concept of holistic thinking provides evidence that fieldwork

is important, not only in Geography but also to the other school subjects. This integrated nature of teaching promotes the ideas outlined in OBE. Learners acquire knowledge that is holistic and integrate different learning areas. In this way, the learners understand the universe as a whole.

2.11. FIELDWORK AND THE OVERALL DEVELOPMENT OF THE LEARNER

The value of fieldwork in the overall development of learners cannot be overemphasised. The experiences and knowledge gained by fieldwork activities is of direct significance, not only as far as the general education of learners is concerned, but also with regard to their overall personal development.

Webster (1980:27) supports this idea by stating that learners who have had experience of well-planned, well-structured fieldwork will undoubtedly be more successful in their schoolwork in general. They will have benefited in terms of cognitive and affective development, will be better able to express themselves and should be more confident than learners who have not. Bellack and Kliebard (1977:394) states that through fieldwork opportunities are available for students to develop responsibility, self-discipline, initiative, courtesy and good human relationships.

2.12 FIELDWORK AND CURRICULUM 2005

With the change in South African government in 1994, came the opportunity of implementing a new education policy for the country. South Africa like many other countries used education as the key to change. For most South Africans, their nature and attitudes were formed by the old regime. Education becomes the key to change many of the old commonly held values and beliefs. Critical thinking, rational thought and deeper understanding are the central principles of the new education system. The new education and training system has introduced lifelong education that is people-centred. For the first time ever, high quality education has

been made available for everyone irrespective of age, gender, race, colour, religion, ability or language. At the heart of this change is the introduction of a new curriculum-curriculum 2005 (Bhengu 1997:04).

2.12.1. Curriculum 2005

Curriculum 2005 is about life long learning. This means that adults and out of schools youths, with very little formal education will benefit from the new system. This system is aimed at unlocking the potentials of all South African citizens. It is also aimed at producing South Africans who will be active, critical thinkers living productive and full filling lives. In broader terms, this curriculum integrates education and training. It incorporates a view of learning that rejects a rigid division between academic and applied knowledge theory and practice and knowledge and skills. It also fosters learning that encompasses a culture of human rights, multilingualism and multi-culturalism and nation building.

The envisaged implementation time frame of Curriculum 2005- the following stages indicates the proposed time frame for the implementation of the new system.

1998 Grade 1 and grade 7
1999 Grade 2 and Grade 8
2000 Grade 3 and Grade 9
2001 Grade 4 and Grade 10
2002 Grade 5 and Grade 11
2003 Grade 6 and Grade 12
2004 Revision / Modification
2005 Finalisation

Before the implementation of this system, great effort has been directed towards providing the necessary support in the form of in-service teacher training, assessment, guidelines and student orientation (Bhengu 1997: 02 –5).

2.12.2 Outcomes Based Education (OBE)

Outcomes-based education is an approach to be used within the curriculum 2005 education system. Its main emphasis is on how learners learn and not what they learn. In other words, the process of learning becomes just as important as what you learn. This approach is aimed at not only increasing the general knowledge of the learners, but also developing their skills, critical thinking, attitudes and understanding.

(A) INTEGRATION OF SCHOOL SUBJECTS

Outcomes based education came up with integration of all similar subjects to form one learning area. An example of this, is the case of Geography and History and other social studies, which have become Human and social sciences learning area. The same has been applied to commercial as well as science subjects. The idea behind this integration is to help learners to see their education, as a whole not segmented into subjects without any clear distinctions.

Fieldwork as a teaching method promotes the principle of integrating subjects. When learners are taken out for fieldwork, they acquire or gain knowledge from different fields of study. For example, if a geographical importance of the landscape is studied, historical and botanic knowledge is acquired in the process, this makes lessons more meaningful to learners because of the integration of different fields of study in one lesson. This might not have been possible in the classroom. This, therefore, makes fieldwork relevant to the outcomes based education.

(B) CONTEXTUALISATION AND LEARNER CENTREDNESS

Outcomes based education is a learner centred approach and promotes contextualized lessons for learners. Learners take responsibility for what they learn and are fully involved in the process of learning. For them to show maximum participation, the lesson must not be abstract, it must be within what they know and

think about. These principles of OBE are in line with fieldwork because in fieldwork learners are motivated to take part in the learning process. During fieldwork learners become actively involved by observing, recording, and drawing conclusions about what they see. Fieldwork becomes a true learner centred approach. The teacher is only there to guide them and facilitate the process of learning. Much of the information is discovered by learners themselves. Again the lessons presented during fieldwork become contextualized in that learners learn about what is around them. They become well acquainted with the environment they live in and they consequently have respect for it.

(C) LIFE LONG LEARNING

The previous education system did not cater for life long learning. It was completely separate from the world of education such that one would learn only to pass the examinations. The present system is not examinations driven and the information acquired in the process of learning is valuable even in life out side the schooling years. It is a life long learning education system. The new system envisages offering the learners the knowledge that will make them responsible citizen of the country. In linking these principles to fieldwork, it is important to note that fieldwork caters for life long learning because learners in most cases do not forget what has been learnt through observation. Through properly organized fieldwork, learner's perceptions about the environment and the surrounding features are changed. Learners learn to respect and acknowledge the interdependence between man and the environment.

This understanding is not only important for examination purposes but also for the entire life of an individual being.

(D) SKILLS BASED

Outcomes-based education is sometimes referred to as skills based education because its main aim is on the skills to be acquired by learners during the process of learning. The system emphasises that education must equip learners with skills needed in the world ahead of them. The range of skills to be acquired varies in accordance with the grade in which the learners are placed. No matter what the learning area is, learners ought to be helped towards their careers. Fieldwork is essential in this regard as it equips learners with observation, writing recording skills. Research and communications skills are also developed on a well-planned fieldwork.

Other principles of OBE relevant to fieldwork is time factor:

Outcomes-based education is not time based just like fieldwork. It could not be limited to 40 minutes or one hour periods. It normally takes more than that.

Time factor is considered by the researcher as one of the factors affecting teachers in implementing and engaging in fieldwork lessons as they are used to 1 hour or 40minutes lesson periods. However, with this new system which is not examination or syllabus driven, the researcher hopes to see more and more teachers engaging the learners into fieldwork.

2.13. THE PLACE OF FIELDWORK IN THE GEOGRAPHY SYLLABUS

The school syllabus is an important document at school because it guides teachers on what they are supposed to teach and suggests some teaching methods suitable for that particular subject. School teachers rely solely on the school syllabus so much that other teachers become stereotype and rigid: they only teach what is in the syllabus. Comments such as *"this is not on the syllabus", "I must finish the syllabus"* are usually articulated by teachers. Such comments reveal how the

syllabus is viewed by teachers. If a syllabus is so important to teachers, then, it is imperative for this study to examine it in relation to fieldwork so as to get an idea of what it says to teachers about fieldwork. For the purpose of this study, the Geography Interim core syllabus 1996 for standard 8, 9, and 10 (grade 10, 11, 12) both Standard and Higher grade was examined to identify clauses that underpin fieldwork.

2.13.1. GEOGRAPHY INTERIM CORE SYLLABUS AND FIELDWORK

Under the **Nature of Geography**, clause no 1.1.3 (refer to appendix 2) does refer to fieldwork as it stresses the provision of theoretical and practical aspects of the subject. The researcher assumes that the phrase "practical aspect" in this clause refers to "*going out of the classroom and undertaking practical work*", for example, going out to identify soil horizons. Clause no. 1.2 under **General education** of the pupils also emphasises the development of the "whole being". Although it does not directly mention how this could be achieved, *fieldwork is viewed by the researcher* to be the most important teaching technique earmarked for the achievement of the development of the whole being (cognive, psychomotor and affective development).

Under **Knowledge 2.1**, clause no. 2.1.2 is about links that geography has with other subjects. This has been clearly discussed above in 2.8 where it has been illustrated how fieldwork can help to encourage pupils to think holistically. In paragraph 2.6 above a discussion of fieldwork and the development of basic skills has been outlined. The syllabus also stresses in clause 2.2.2 the fact that the teaching of geography should contribute to the development of certain skills. Although the syllabus is silent on how these skills can be developed, the researcher as supported by (Hurry 1991, Bailey 1974 and Möller 1989) feels that these skills could be well developed through fieldwork.

Clause 2.4.3 under **Appraisal** also promotes fieldwork. Commitment towards the environment could be developed by letting pupils be in direct contact with it. In addition much has been said under 2.7 above on affective behaviour and fieldwork.

Under **teaching techniques**, clauses3.2.6 and 3.2.7 clearly state that fieldwork should be done. Clause 3.2.6 tries to mention few areas in which fieldwork as a teaching technique could be used, whereas clause 3.2.7 emphasises the fact that pupils should learn through first-hand experience as well as be able to make use of secondary sources.

The above discussion has highlighted areas that have got to do with fieldwork in geography interim core syllabus. It is important to mention the fact that the clauses quoted above have been taken from the foreword of the syllabus which cuts across all grades. The following discussion now will be on the identification of areas of fieldwork in each grade (i.e. 10, 11, 12) as they appear in the syllabus.

2.13.1.1 FIELDWORK AND GRADE 10 GEOGRAPHY SYLLABUS

In standard 8 (grade 10) syllabus, fieldwork is mentioned under general Geographic techniques. It is interesting to note that the syllabus is silent on the other sub-divisions of Geography. Still there is no mention of how that fieldwork is to be executed, and no mention of what is to be observed. The syllabus is also silent about evaluation on the work performed through fieldwork. Nevertheless, it is not the aim of this study to analyse the syllabus in detail.

The researcher also examined two standard 8 geography textbooks that were commonly used in schools at the time of this research, to find out whether there was any the provision for fieldwork or not. In both textbooks, mention of fieldwork was under General geographic techniques. These textbooks even stated that fieldwork was to be undertaken in this section as the syllabus required. In other words, books were written to satisfy the needs of the syllabus.

2.13.1.2 FIELDWORK AND GRADE 11 GEOGRAPHY SYLLABUS

In grade 11, the syllabus states that well planned and meaningful fieldwork should be undertaken under the general geographic techniques. There are no specifications as to which part of geographic techniques is fieldwork to be undertaken.

Again there appears an emphasis of fieldwork under geomorphology. The syllabus is also silent on regional, climatology and economic Geography and fieldwork.

Grade 11 Geography textbooks also show two areas where fieldwork is to be undertaken as the syllabus does.

2.13.1.3 FIELDWORK AND GRADE 12 GEOGRAPHY SYLLABUS

In grade 12, the syllabus mentions three areas where fieldwork is to be conducted. It is interesting to note the logic of the increase of the number of fieldwork areas with the grades (that is, one fieldwork in grade 10, two in grade 11, and three in grade 12).

Fieldwork in this final phase of learning is emphasised by the syllabus on general geographic techniques, geormophology and settlement Geography. It is also interesting to note that the syllabus emphasises fieldwork on the general geographic techniques for all the three grades. Grade 12 Geography textbooks also show that fieldwork should be done on the three areas prescribed by the syllabus.

From the above discussion, it is clear that both the Geography syllabus and the textbooks recognise and emphasise the importance of fieldwork. The fact that it appears in both of these sources means that it is an important component.

Now, the syllabi and textbook see the need for fieldwork to be done at secondary schools. The question is, is it actually done? If not, who is the culprit? This is exactly what this study seeks to determine.

2.14. FIELD STUDIES IN SOUTH AFRICA - REVIEW

A lot that has been written on field studies from other countries yet very little writings are known from South Africa. There are very fewer studies on fieldwork known by the researcher that are from South Africa. A study by A.S. Webster (1980) entitled "Field studies in the teaching of Geography with particular reference to Natal", focused on the broad concept of fieldwork and school curriculum. Another study is by Nightingale (1981) which provides a guide for fieldwork undertaking in Geography lessons. Some case studies on rural and urban environments were undertaken to determine the potential of the area to fieldwork.

King, L (1994) also conducted a study at the University of Rhodes entitled "The potential of the township landscape for fieldwork in the teaching of senior secondary school Geography: A case study in Duncan village". This study concentrated on the potentials of Duncan village for fieldwork lessons in senior secondary schools.

Kriel, L.P. (1996) conducted a study entitled "Ondersoek na die effektiviteit van veldwerk as komponent van die senior sekondêre geografie.sillabus". This study basically investigated the effectiveness of fieldwork in secondary schools. It looked at the functions, purposes and values of fieldwork at secondary school. More emphasis has been put on field and school curriculum on this study.

The above discussion shows South African writings on fieldwork. Of course different authors have approached this topic from different angles. The point of emphasis has been diverse, yet none of the above studies has focused on its implementation.

This study, therefore, attempts to fill that void. Of course, the researcher will use some of the information from the above studies in trying to achieve the objectives of this study.

2.15. CONCLUSION

The Geographer studies the earth as a person's habitat. Consequently the landscape is his laboratory. Much of the information a Geographer wishes to study is obtainable through fieldwork. This information is analysed and interpreted, so that a total picture is built up. Learners therefore, study this collected factual content in descriptive form in the classroom. It is desirable that learners become familiar with the practical way in which this information has been collected and described. This then, suggests that exploration of the child's own environment, through fieldwork, is extremely valuable.

Hall (1978:61) supports this idea by stating a classroom has limited space. The limited equipment of the classroom bears no comparison to the bountiful resources of the nature outside the classroom. He further mentioned that experiences gained outdoors are basic whereas those acquired in the classroom teaching are only supplementary. During fieldwork, all senses are actively functioning and the observation power is much emphasised because of direct contact with things. These first hand experiences are accurate and lasting.

This chapter was aimed at providing the broad theoretical background of fieldwork. It also attempted to relate fieldwork with the Geography school syllabus as well as geography textbooks used at different grades.
This chapter also outlined the principles of fieldwork as well as basic skills acquired through fieldwork.

Lastly, it identified South African literature related to fieldwork.

CHAPTER THREE

METHODOLOGY AND PRESENTATION OF DATA

3.1 INTRODUCTION

The data collected is presented in this section of the research work. Leedy (1989:319) states that the data collected should be presented completely and may, of course, be organised into charts, tables, graphs, lists of responses to questionnaire inquiries, and statistical summaries.

For the purpose of this study, the data is simplified by putting it into categories. This has been done by using frequency distribution and tabulation. Tables have been used to illustrate data and to emphasize the central points as well as areas of differences and similarities.

3.2. Procedure for selecting respondents

3.2.1. Data Collection

As stated in Chapter One, relevant data was collected by means of a questionnaire distributed to 50 secondary school Geography teachers. One teacher was asked to complete a questionnaire from each school visited even where more than one Geography teachers were employed. Since this study adopted a random sampling, all teachers stood an equal chance to be participants.

In order to select one teacher for a questionnaire completion, the researcher went to each school with 5 different coloured ribbons. Colours of ribbons were yellow, green, white, red and purple. The researcher then explained to teachers the procedure to be followed in the selection process for the teacher to be a participant. It was explained that the one who picked the red coloured ribbon would be the one to be a participant. The number of ribbons presented to teachers always equalled the number of

Geography teachers from whom the teacher to be a participant was to be selected. The red coloured ribbon had always to be included. In cases where one or more Geography teachers were absent during that day, the ribbons to be used would be equal to the number of teachers at the school including those who were absent. The teachers were then asked to pick one ribbon normally put in a cup, without them looking at the cup. After all the ribbons had been taken, the teacher who picked the red ribbon would be asked his or her consent to be a research participant. If the red ribbon was not picked, that meant that the teacher to be interviewed was absent. In such instances, the researcher would come back the following day and explain the whole process of selection to the teacher and then, with his or her permission be given a questionnaire to complete.

3.2.2. During the interview

The purpose of the study was to establish whether fieldwork was undertaken in Geography lessons or not. It further sought to obtain the perception of Geography teachers on fieldwork and their views as to who should take the initiative to see to it that fieldwork was undertaken in Geography lessons within the school. The study also aimed to get the individual as well as the overall attitude of Geography teachers towards fieldwork in Geography lessons.

3.3. PRESENTATION OF DATA

3.3.1. DEMOGRAPHIC AND GENERAL BACKGROUND INFORMATION

Question number 1: What is your gender?

This question was vital to this study as it revealed the number of male and female Geography teachers participated in the study. This information was important because there was a general belief that Geography was a man' s subject. In her study Nyikana (1988:46) found out that in each school interviewed there were more boys than girls doing Geography. This was also evident in the study by Mwandla (1995:39) in which

he discovered that out of 200 students enrolled at the University of Zululand in the Department of Geography, male students formed 60 percent while female students only made 40 percent.

Table 3.1: Gender of respondents

Gender	Frequency	Percentage
Female	25	50
Male	25	50
Total	50	100

Table 3.1 shows that there was a balance of respondents in terms of gender. A total of 50 percent males and 50 percent females were interviewed. This was an incidental occurrence as there was no plan of targeting 50 percent males and 50 percent females.

Question number 2: What is your age?

The age of the respondents was intended to reveal the maturity of a person in undertaking fieldwork.

Table 3.2: Age of the respondents

Age in years	Frequency	Percentage
Less than 20	01	02
Between 20-29	23	46
Between 30-39	22	44
40 and above	04	08
Total	50	100

Table 3.2 above shows that only 2 percent of the respondents were less than 20 years of age and 8 percent were above 40 years. Ninety percent of the respondents were between the ages 20-39. This group of people is said to be in their prime of life and therefore more active than the ones in the 40 and above bracket.

Question number 3: What is your qualification

Educational qualification play a very important role in the productivity level and performance of an individual. It is expected that the more one is qualified to do a particular job the higher one's productivity will be. This question, therefore, was to tell how qualified the respondents of this study were to perform teaching and educating tasks.

Table 3.3: Qualification of the respondents

Qualification	Frequency	Percentage
Standard ten	00	00
Teacher's Diploma	18	36
Bachelor's Degree	32	64
Total	50	100

From Table 3.3 above it is interesting to note that there were no respondents with only Standard ten Qualifications. Respondents with a teaching diploma formed 36 percent of the total sample. A high percentage (64 %) were teachers with a Bachelor's degree. These results immediately rule out incompetence as an excuse for failing to undertake fieldwork. Although some teachers might not have studied Geography as such, their tertiary education would have made them familiar with research or project work.

Question number 4: Where did you last study Geography?

This question was included in order to establish the level at which each respondent last studied Geography as a subject. The researcher felt that it was important to know the level at which the respondents understood the subject. It was expected that the respondent who had studied Geography up to the University level would have a better understanding of the subject than those who last did Geography at secondary level.

Table 3.4: Where did you last study Geography?

Last studied Geography	Frequency	Percentage
At secondary level	00	00
At the College of education	15	30
At the University level	35	70
Total	50	100

Table 3.4 above shows that there were no respondents who last studied Geography at Secondary school. This confirms the note on the competence of the respondents as alluded to in the paragraph above. Thirty percent of the respondents last did Geography at the College of Education and a large percentage of 70 respondents last did Geography at the University level. In other words all the respondents were suitably qualified to teach Geography.

Question number 5: If you did Geography at a University level, did you take the method of teaching Geography?

This question was specifically directed at those respondents who last studied Geography at the University level. It was important to establish whether or not respondents did the Method of Geography as a course at the University because in the Method of Geography course, a professional course, teachers- to-be are taught current methods of teaching Geography in both primary and secondary level. The respondents who last studied Geography at the College of Education, did not have to respond to this question as their curriculum went straight from the first year to the methods of teaching the major subjects concerned.

Table 3.5: Did you take the Method of teaching Geography?

Did methods of Geography	Frequency	Percentage
Yes	27	77
No	08	23
Total	35	100

The above Table depicts that out of 35 of the respondents who last studied Geography at the University level (Table 3.4) 27 enrolled for a Method of Geography course and only 8 respondents did not enrol for this course. The conclusion therefore would be that the majority of the respondents were adequately trained to handle fieldwork.

Question number 6: What is your teaching experience?

Experience is an important variable used to measure one's competency level in a particular job. For the purpose of this study, it became important for the researcher to have an idea of the general teaching experience the respondents had. Table 3.6 below shows the teaching experience of the respondents.

Table 3.6: What is your teaching experience?

Teaching Experience	Frequency	Percentage
Below one year	01	02
Between 1-5	20	40
Between 5-10	17	34
Between 10-15	10	20
Above 15	02	04
Total	50	100

Table 3.6 above shows that most of the teachers interviewed had a teaching experience of more than five years (58 percent). Forty two percent of the respondents

had teaching experience of less than five years, and they are still in the process of gaining teaching experience. The majority of the respondents (58 percent) would therefore be expected to have tested and tried out many teaching strategies.

Question number 7: What is your Geography teaching experience?

With this question the researcher hoped to obtain information which was more specific to fieldwork. Unlike **question 6**, which sought to find the general teaching experience, this question sought to find out the experience each respondent had in teaching Geography as a subject. This question became important to this study because the experience one had accumulated in teaching a particular subject was accompanied by developments one achieved in becoming an expert in the teaching of that particular subject.

Table 3.7: Geography teaching experience

Geography teaching experience	Frequency	Percentage
Below one year	03	06
Between 1-5	19	38
Between 5-10	21	42
Between 10-15	07	14
Above 15	00	00
Total	50	100

The above table depicts that the majority of the teachers, 56 percent, had taught Geography for more than 5 years. It is interesting to note that there was no teacher from the sample who had taught Geography for more than 15 years. A considerable amount of 44 percent of the teachers had Geography teaching experience less than 5 years. Even if these teachers had not perfected their fieldwork approach they had ample time to introduce it in the 5 years they had been teaching.

Question number 8: How many grades are you presently teaching?

The question above was included in this study so as to get an idea of the number of grades each respondent was responsible for. The information generated from this question would throw light on the load or responsibilities each teacher might be carrying. This information was important if one considers the fact that fieldwork needs a lot of time during preparation as well as execution stage. The arguments on the basis of this table assumes that those who indicated that they were presently teaching one grade had less duty load than those who taught more than one grade though this might not necessarily have been the case.

Table 3.8: Grades presently taught by respondents

Number of Grades presently teaching	Frequency	Percentage
One grade	05	10
Two grades	03	06
Three grades	07	14
Four grades	10	20
Five grades	25	50
Total	50	100

Table 3.8 shows that most teachers (90 percent) were responsible for more than one grade in a school. It is interesting to note that 50 percent of the respondents were teaching five grades. This could imply that the school had only one Geography teacher who was responsible to teach Geography in all the grades. The above table also shows that only 10 percent of the respondents were teaching one grade. This large discrepancy could be caused by the roles beside that of teaching each teacher had, for example, heads of Departments are expected to teach fewer grades than assistant teachers.

Question number 9: What is the total number of subjects you are presently teaching?

The above question was included in this study as a follow up question to question number 8. Question number eight above was broad and no sound conclusions based on it alone could have been made about the duty loads of the respondents. In order to give substance to the question, the researcher decided to ask the respondents the total number of subjects each was offering at a school. The information gathered from this table indicates the teaching responsibilities each respondent had and this could determine the availability and how much time each respondent could dedicate to fieldwork in Geography lessons.

Table 3.9: Number of subjects presently teaching

Number of subjects presently teaching	Frequency	Percentage
One subject	08	16
Two subjects	38	76
Three subjects	04	08
More than three subjects	00	00
Total	50	100

The above table shows that 84 percent of the respondents were teaching two or three subjects while no teacher was offering more than three subjects. Sixteen percent of the teachers were teaching only one subject in a school. It must be borne in mind that through observation, the researcher learnt that the average learner-teacher ratio was 1:45 in all school classes with an evidence of slight increase of ratio in rural based schools.

Question number 10: Is your school located in rural or urban area?

Location is an important factor in the undertaking of fieldwork especially if it is going to be undertaken outside the school premises. For those schools situated in rural areas, urban structures are not easily accessible in as much as rural phenomena are far from those situated in urban areas. For this reason, it became imperative for the purpose of this study to establish the situational location of the school to understand the attitude held by each school teacher in as far as the fieldwork is concerned. The table below shows the location of the schools from which Geography teachers were interviewed.

Table 3.10: Location of the school

Location	Frequency	Percentage
Urban	22	44
Rural	28	56
Total	50	100

Table 3.10 above depicts that 56 percent of the schools were located in rural areas whereas 44 percent were in urban areas. That more schools were in the rural area could be assigned to the fact that the Umfolozi District is mainly rural. The location of a place in either a rural or an urban area only affects the nature of fieldwork that can be done and not the opportunities to conduct fieldwork.

3.3.2 INFORMATION ON FIELDWORK

The data presented above concentrated on the section of the questionnaire that searched for general information of the respondents as well as of the school where they were teaching. This section of work focuses on the nature of fieldwork and how it was executed in the school.

Question number 11: How would you define fieldwork in Geography?

With this question the researcher hoped to establish the understanding that the respondents had of fieldwork. When a respondent is able to give a definition or an explanation of a particular geographical concept, it is easy to establish how well that person understands that concept. From a list of different definitions given by respondents, the researcher developed a list of key words included in each definition and grouped together those definitions with similar key words. These key words are highlighted in the definitions provided in the table below. From the definitions given, one may deduce that those respondents who gave the least practical definitions were using fieldwork least compared to those who understood fieldwork to be about observing, for instance.

Table 3.11: Definition of the term Fieldwork by the respondents

Definition	Frequency	Percentage
Study of geographical concepts outside classroom by means of **observing**	10	20
Is an **essential component** of Geography	03	06
Is a practical **study of natural** phenomena	01	02
Application of theoretical concepts to reality outside classroom	14	28
A lesson where learners are encouraged to **work independently**	03	06
A lesson that develops the learner's **awareness of nature**	07	14
Introduces learners to **research**	06	12
Is where learners are engaged in **practical learning** as they are exposed to their environment	06	12
TOTAL	50	100

The statements in Table 3.11 suggest that fieldwork could be defined as - Application of the theoretical concepts, study of natural phenomena and study of Geography outside classroom. About 20 percent of the respondents defined fieldwork as a lesson that involved observation of geographical concepts. This statement stresses the skill that fieldwork develops in learners. Six percent of the respondents stated that fieldwork was an essential component of Geography. This statement focused on the place of fieldwork in Geography lessons. Only 02 percent of the Geography teachers felt that fieldwork is the practical study of natural phenomena. It is interesting to note that a large percentage of 28 of respondents defined fieldwork as an application of theoretical concepts to reality. About 6 percent stated that fieldwork is a lesson where learners are encouraged to work independently and 14 percent felt that fieldwork developed learner' s awareness of nature. Twelve percent of the respondents looked at fieldwork as a lesson that introduced learners to research and the other 12 percent of respondents defined fieldwork as a lesson that engaged learners in practical learning as it exposed them to their environment. Although the respondents explained their understanding of the concept of fieldwork differently, it was however clear that they all had knowledge of fieldwork.

Question number 12: Is fieldwork part of your annual Geography programme?

In almost all the schools, teachers are required to draw up an annual programme for each subject they offer. This is the document in which teachers plan the work they intend doing for the year. Needless to say, what is included in this document is what the teachers think is important for the learners to learn. In most cases then, teachers are guided by this document about what to teach, how and when to teach it. For this reason, the researcher sought to find out whether teachers included fieldwork in their annual plan or not. The responses would help to establish the degree of importance teachers assigned to fieldwork.

The table below therefore points out the number of teachers who included fieldwork in their annual Geography programmes and those who did not.

Table 3.12: Fieldwork and annual Geography programme

Fieldwork part of annual programme	Frequency	Percentage
Yes	36	72
No	14	28
Total	50	100

Table 3.12 above shows that 72 percent of the respondents included fieldwork in their annual Geography programmes. Only 28 percent of the respondents responded negatively. The figures shown in the Table do not necessarily mean that those who include fieldwork in annual Geography programmes do undertake it and visa versa. However, it indicates the teacher' s intentions to do so. Certain factors could cause one not to do fieldwork even though the intention was there.

Question number 13: Do you undertake fieldwork in Geography lessons in your school?

This was the core question to this study. The main aim of this study was to establish whether Secondary school Geography teachers undertook fieldwork in their Geography lessons or not. Statistical figures rendered by this question were very important because they gave the indication of the number of Geography teachers who valued fieldwork and practically engaged in it with their learners.

Table 3.13: Undertaking of fieldwork in Geography lessons

Undertake fieldwork	Frequency	Percentage
Yes	39	78
No	11	22
Total	50	100

From table 3.13 given above, it was interesting to note that 78 percent of the

respondents claimed that they did undertake fieldwork in their Geography lessons and only 22 percent of stated that they did not. This is even more interesting when it is considered that in Table 3.12 above only 72 percent of the respondents stated that they put fieldwork in their annual Geography programmes. This means that there were teachers who claimed that they undertook fieldwork even though it was not included in their annual programmes.

Question number 14: If you do not undertake fieldwork, what are the reasons for not doing it?

This question was only asked to those respondents who responded 'No' to question 13 above. It must be remembered from Table 3.13 that the frequency number of teachers who stated that they did not undertake fieldwork was 11 and this is the number of teachers to whom this question was directed.

Table 3.14: Reasons for not undertaking fieldwork N=11?

Reasons for not undertaking fieldwork	Frequency	Percentage
Shortage of sufficient time to do fieldwork	01	09
Lack of financial support from parents & school	02	19
Fear of going out of the school with learners	01	09
No committee for Geography to plan fieldwork	04	36
Time wasting and not required by the syllabi	03	27
Total	11	100

Table 3.14 above throws light on the fact that some teachers did not undertake fieldwork because they felt that it was not supposed to be an individual engagement but that a committee needed to be established to plan for this activity. Some felt that doing fieldwork was a waste of time, as it was not required by the syllabi. Another reason for not undertaking fieldwork mentioned by 2 respondents, was lack of financial support from the parents and school. One respondent complained about insufficient

time to conduct fieldwork considering that each subject was to be taught in not more than an hour's time. The last respondent stressed that it was not always safe to take learners outside school premises because of violence and political reasons. Some of these reasons, according to the researcher, are not valid for example shortage of time, fieldwork not required by school syllabi yet were mentioned by respondents as the factors hindering them from engaging in fieldwork.

Question number 15: How often do you undertake fieldwork?

This question was directed at those who did undertake fieldwork (78 percent, refer to Table 3.13). The question was included in this study to establish how frequently the learners were exposed to fieldwork during the course of the year.

Table 3.15: Number of fieldwork undertaken

How often is fieldwork undertaken	Frequency	Percentage
Once a year	19	49
Twice a year	15	38
Three times a year	05	13
Total	39	100

From the above Table it is clear that most of the respondents undertake fieldwork once a year (49 percent). 38 percent of the respondents undertake fieldwork twice a year. Only 13 percent of them put more effort to do fieldwork three times a year.

Question number 16: During which time of the year do you undertake fieldwork?

In the early chapters, the researcher did mention that his experience as a secondary school teacher taught him that most teachers undertook field-trips at the end of the year. This is usually done when the teaching/ learning activities are finished and this type of fieldwork is commonly known as the "trip of the year". In order to verify this

observation the researcher decided to find out from the respondents at what time of the year they undertook fieldwork. This question was important because learners at school sometimes had a tendency not to took as seriously the work teachers gave them at the beginning of the year as they take the work they were given towards the end of the year when the examinations were about to be written.

Table 3.16: Time of the year when fieldwork is undertaken

Fieldwork is undertaken	Frequency	Percentage
At the beginning of the year	05	13
During the middle of the year	13	33
Holidays and weekends	03	08
Any time when necessary	08	20
Towards the end of the year	10	26
Total	39	100

Table 3.16 above shows that 33 percent of the respondents undertook fieldwork during the middle of the year while 26 percent of them preferred to do fieldwork towards the end of the year. It is interesting to note that about 08 percent of the respondents undertook fieldwork, for some reason or another, during holidays and weekends. This suggests commitment and dedication on the part of the teachers. 20 percent of the respondents stated that they did not have a fixed time when they did fieldwork but they undertook it at any time of the year when the need arose. Only 13 percent of the respondents saw the beginning of the year as the right time to do fieldwork.

Question number 17: When undertaking fieldwork, which method do you use?

The broad and general definition of fieldwork given by respondents was that it was the study of theoretical concepts in reality through observing. The questions that arose were;

(1) Did teachers start with teaching theory in class then go to the field to observe it?

(2) Did they start with fieldwork and then come to class to discuss the observed phenomena or (3) do they do (1) and (2) simultaneously in the field? These questions enabled the researcher to establish the trends teachers followed when engaging in fieldwork.

Table 3.17: Method used when undertaking fieldwork

Method used when undertaking fieldwork	Frequency	Percentage
Present lesson in class, fieldwork thereafter	28	72
Fieldwork first, then theoretical lesson in class	01	03
Present the lesson theoretically whilst on field	02	05
Use all above methods depending on the nature of the lesson	08	20
Total	39	100

Table 3.17 outlines that 72 percent of the respondents started by presenting the lesson theoretically in class before they went to the field to observe what had been discussed. Only 03 percent of the Geography teachers interviewed stated that they started by doing fieldwork and then came to class to discuss what had been observed. The above table also shows that 05 percent of the respondents presented the lesson theoretically whilst in the field. It is also interesting to note from the above table that 20 percent of the respondents stated that they were flexible and guided by the nature of the lesson.

Question number 18: Do you make the learners aware of the outcomes of fieldwork?

Stating clear outcomes is an important exercise in any lesson presentation. Outcomes help the teacher to focus on what the lesson intends to achieve. Outcomes are not only important to the teacher but to the learners as well because they are the people who are going show whether the stated outcomes have been achieved or not. Because fieldwork is also a lesson, it must have its own outcomes which are well communicated

to the learners. This question therefore tries to establish whether the teachers make their learners aware of the outcomes of fieldwork or not.

Table 3.18: Are the learners made aware of the outcomes of fieldwork?

Learners made aware of the outcomes of fieldwork	Frequency	Percentage
Yes	36	92
No	03	08
Total	39	100

It is encouraging to note from the above Table that 92 percent of the respondents made the learners aware of the outcomes of the fieldwork. Only 08 percent of the interviewed teachers stated that they did not communicate the outcomes to the learners.

Question number 19: When do you make them aware of the outcomes?

This question was directed at those respondents who claimed that they made their learners aware of the fieldwork outcomes. This question sought to find out whether or not learners were made aware of what they should expect or observe when they were interacting with the phenomena they were to observe.

Table 3.19: When are the learners made aware of the outcomes?

Learners are made aware of the outcomes?	Frequency	Percentage
Prior to fieldwork	10	26
During fieldwork	08	20
After fieldwork	18	46
Do not make them aware of the outcomes	03	08
Total	39	100

It is interesting to note from the above Table that 46 percent of the respondents only told the learners about the outcomes of a field excursion when they came back from the field. 26 percent of the Geography teachers interviewed stated that they made the learners aware of the outcomes of fieldwork prior to the trip. Besides those respondents who made their learners aware of fieldwork outcomes prior or after its completion, 20 percent of them preferred to announce the outcomes during the fieldwork lesson. Only 03 percent of the respondents did not make the learners aware of the outcomes at all as it appears in Table 3.18

Question number 20: What do you do as teacher during fieldwork?

One of the definitions of fieldwork given by respondents was that fieldwork was a lesson in which learners were encouraged to work independently. This definition suggests that more work is supposed to be done by the learners. Secondly, the new system of education in South Africa places a premium on the role of a teacher as a facilitator and not a supplier of information. For these reasons it was important to the researcher to find out from the respondents about the role they played during fieldwork.

Table 3.20: Teacher' s role during fieldwork

Teacher' s role during fieldwork	Frequency	Percentage
See if learners follow instructions and help where necessary	10	26
Give instructions of what is expected of them	10	26
Lead all the proceedings of the fieldwork	06	15
Let the learners play an important role and act as a facilitator	13	33
Total	39	100

Table 3.20 above shows that most respondents did not dominate fieldwork lessons. About 33 percent of the respondents stated that during fieldwork they allowed learners

to play an important role and teachers only acted as facilitators. In contrast to this a small number, 15 percent of the respondents said that they led all the proceedings during fieldwork and directed all activities. 26 percent of the teachers interviewed stated that their role during fieldwork was to give instructions of what is expected to be done by learners and gave them a chance to work on their own. Similarly, 26 percent of respondents stated that they monitored if learners were following instructions and helped them only when necessary.

Question 3.21: Activities expected to be done by learners during fieldwork?

During fieldwork learners are expected to do some activities and this differs from one fieldwork lesson to another. Teachers are the ones who know the activities they expect the learners to perform. This question sought to find out from teachers the activities they expected their learners to do during fieldwork. The activities to be done by learners indicate whether the lesson was teacher centred or learner centred. They also reveal the skills that the learners acquire during fieldwork lessons.

Table 3.21: Activities done by learners during fieldwork

Activities to be done by learners	Frequency	Percentage
Make individual observations and recordings	06	15
Lessoning, observing and recording	09	23
Observe, evaluate and make conclusions	07	18
Discuss in pairs, make and record observations	08	21
Observe, relate and make conclusions	09	23
Total	39	100

Table 3.21 above presents that 23 percent of the respondents expected the learners to observe natural phenomena, relate what they have seen to what has been discussed in class and then come up with their own conclusions. Another 23 percent stated that they expected the learners to listen to what was being said to them during fieldwork and

then make recording of what had been observed. 21 percent of the respondents adopted a more participatory approach whereby learners were expected to discuss in pairs or groups what they observed and make recordings thereof. The table above also shows that 15 percent of the respondents expected their learners to work individually, to observe and record their own observations. 18 percent of the interviewed Geography teachers stated that they expected the learners to observe evaluate and make some conclusions.

Question number 22: When do you tell your learners what you expect them to do?

From the above question the researcher was able to establish the expectations of the teachers from the learners during fieldwork. It was also discovered that all teachers did tell the learners what was expected of them. The crucial aspect was to establish exactly when were the learners made aware of what was expected of them. The time of making learners aware of what is expected of them is critical because it shows whether fieldwork was properly planned or not. The table below shows the frequency distribution of the tendencies of teachers in making the learners aware of what they expect them to do during fieldwork lesson.

Table 3.22: When are the learners made aware of what is expected from them?

Learners are told what to do	Frequency	Percentage
Prior to fieldwork	08	21
During fieldwork	04	10
After fieldwork	02	05
Both prior and during fieldwork	25	64
Total	39	100

From the above table it is clear that most respondents told the learners what they were suppose to do both prior to and during fieldwork (64 percent). 21 percent of the

respondents stated that they only told the learners what to do only before undertaking fieldwork whereas 10 percent waited until they were in the field to tell them. Only 05 percent of the respondents stated that they only made learners aware of what was expected from them when they were back from the field lesson. It should be noted, however, that the researcher could not understand how could the qualified teachers engaged into a fieldwork activity with the learners not aware of what is expected from them during the exercise.

Question number 23: What follow-up method do you use after fieldwork?

In most cases the learners value what they have been taught only if the content presented is going to appear in tests, assignment, examination or any other form of evaluation that is going to reward them with marks. If field lessons are conducted and no follow up is done to reinforce learning, learners can easily take field lessons as some form of recreation. This question therefore attempted to find out the methods used by respondents to follow up and evaluate the extent to which the outcomes of field lesson were realised. Below is a table showing the frequency distribution of respondents in accordance with the follow up methods used.

Table 3.23: Follow up methods used after fieldwork.

Follow up method used after fieldwork	Frequency	Percentage
Learners are asked to present what has been observed in groups and a test is written thereafter	11	27
Checking of worksheets completed in the field	08	21
Learners are given a test and an individual assignment to write	10	26
Learners are asked to report observations and discuss them as class	10	26
Total	39	100

The above table reveals that 27 percent of the respondents follow up fieldwork lessons by asking the learners to present in groups what has been observed in the field and then give them an individual test to write. 21 percent of the Geography teachers interviewed follow up fieldwork lessons by checking and allocating marks on the worksheets completed by learners during the lesson whilst 26 percent of respondents stated that they normally set a test to be written by learners based on the field lesson and followed by an individual assignment. Table 3.23 also reveals that 26 percent of the respondents follow up field lessons by asking learners to report their observations. This is followed by class discussions based on those observations.

There is not much difference between the methods used, it seems that it is just a question of preference and it is possible that some teachers actually use all these options.

Question number 24: Who should take initiative to ensure that learners are engaged in fieldwork activities?

This question was directed at all respondents (50) even those who did not undertake fieldwork to determine the opinions of the teachers in terms of willingness to take responsibility. Fieldwork by its nature is more than just an ordinary indoor lesson where the subject facilitator is the central person in the day to day presentation of the lessons. It needs a collaborative effort from various sectors of the school, including parents, for its execution. This collaborative endeavour needs a strong initiator. However, the question is; who could that person be? Table 3.24 below reveals the views of the respondents as to who should take initiative to make sure that fieldwork is undertaken.

Table 3.24 Who should take initiative for fieldwork to be undertaken?

Initiative should be taken by	Frequency	Percentage
School principal	03	06
Head of Department	14	28
Subject facilitator	30	60
Learners themselves	03	06
Total	50	100

Table 3.24 shows that most respondents feel that it is the responsibility of the subject facilitator to initiate the undertaking of fieldwork activities. 60 percent of the respondents stated that the subject facilitator was the one who must see to it that field lessons were undertaken. 28 percent of the respondents voiced out that it was the responsibility of the Head of Department to initiate the undertaking of field lessons. It is noted with interest that 06 percent of the respondents felt that the school Principal was the one who should take initiative and another 06 percent of the respondents felt that learners themselves must be responsible for their education and initiate field lessons.

Question number 25: Problems associated with the undertaking of fieldwork

This question was also directed at all the respondents. All the respondents were asked to answer this question because the researcher assumed that even those respondents who did not undertake fieldwork (22 percent, refer to table 3.13) may anticipate some problems related to the undertaking of fieldwork.

Table 3.25: Problems experienced by teachers in the undertaking of fieldwork

Problems encountered with fieldwork	Frequency	Percentage
Lack of good administration and proper training	10	20
Lack of financial support from parents	05	10
School financial problems	03	06
Political problems	01	02
Learners do not respond positively to fieldwork	15	30
Geographical features too far to be visited in one day	04	08
Time wasting and not required by the syllabi	08	16
Lack of experience on educators to conduct it	04	08
Total	50	100

The table above shows that there are various problems associated with the

undertaking of field lessons. 20 percent of the respondents felt that there was a lack of good administration in schools to support the activity. Others also felt that they did not have proper training to conduct field lessons. The table above also illustrates that 10 percent of the respondents have problems with parents who lack financial support when it comes to field lessons that take place out of the school premises. However, 06 percent of the respondents state that this activity is hindered by school financial problems. Only 02 percent of the respondents mentioned the political scenario as a problem. It was surprising to note that 30 percent of the respondents stated that learners did not respond positively to field lessons while 08 of the respondents complained that geographical features were too far to be visited in one day. It was also an eye opener to note that 16 percent of the respondents felt that fieldwork was a waste of time and it was not required in the Geography syllabi. Only 08 percent of the respondents admitted that educators lacked experience to conduct field lessons.

3.3.3. ATTITUDES OF RESPONDENTS TOWARDS THE UNDERTAKING OF FIELDWORK IN GEOGRAPHY LESSONS.

The following tables (Table 3.26 and 3.27) depict the frequency distribution of responses to 11 statements along the Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD) continuum. These statements are phrased differently: 7 are positively phrased statements and 3 negatively phrased statements. This section is central to this study as it gives more information on the attitudes of each respondent to the undertaking of fieldwork. Although individual' s response to a single item usually carries low credibility, it is very important to show individual response to each item. This will be followed by an analysis of an overall attitude of respondents.

Positively worded statements are grouped together, 01-07 (table 3.26) and negative statements are also grouped together. This regrouping of items was necessary for the purpose of statistical package used for data analysis. The negatively worded statements are from 08 to 11 (table 3.27). The actual statements are not included in the tables as this could make the tables look clumsy but only numbers representing the items appear.

These statements are given before the presentation of the figures in a tabular form. They are also shown clearly in the analysis part of the work.

A. STATEMENTS WITH A POSITIVE SLANT

Statement 1: Geography is the name of fieldwork.

Statement 2: Fieldwork broadens the learner's perception of space.

Statement 3: Fieldwork develops the observational skills of the learners.

Statement 4: Fieldwork is the only way of putting Geography into practice.

Statement 5: Fieldwork is in line with Outcomes Based Education.

Statement 6: Fieldwork clearly shows learners how Geography is integrated with other subjects.

Statement 7: Fieldwork promotes environmental awareness amongst learners.

Table 3.26: Responses to positive statements

Item number	SA		A		N		D		SD	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	13	**26**	19	**38**	09	**18**	05	**10**	04	**08**
2	37	**74**	12	**24**	00	**00**	01	**02**	00	**00**
3	35	**70**	14	**28**	00	**00**	01	**02**	00	**00**
4	13	**26**	25	**50**	03	**06**	06	**12**	03	**06**
5	30	**60**	16	**32**	03	**06**	01	**02**	00	**00**
6	23	**46**	21	**42**	05	**10**	00	**00**	01	**02**
7	40	**80**	09	**18**	00	**00**	01	**02**	00	**00**

Frequency = 50 Percentage = 100

Statement 1: Geography is the name of fieldwork- The table above shows that 64 percent of the respondents agreed with this statement. 18 percent of the respondents were unsure while only 18 percent of the respondents disagreed with the statement that Geography was the name of fieldwork.

Statement 2: Fieldwork broadens the learner's perception of space - It is encouraging to note that 98 percent of the respondents agreed with this statement while only 02 percent of the respondents disagreed with it.

Statement 3: Fieldwork develops the observational skills learners- Table 3.26 above also shows that 98 percent of the respondents strongly agreed with statement number 3 while again only 02 of the respondents disagreed with the statement.

Statement 4: Fieldwork is the only way of putting Geography into practice- The table also illustrates that 76 percent of the respondents strongly agreed with statement number 4. Table 3.26 also reveals that 06 percent of the respondents decided to be neutral with the statement while 18 percent strongly disagreed with it.

Statement 5: Fieldwork is in line with Outcomes Based Education- Table 3.26 above reflects that 92 percent of the respondents strongly agreed with the above statement and 06 percent of the respondents were neutral to this statement while only 02 percent of the respondents disagreed with it.

Statement 6: Fieldwork clearly shows learners how Geography is integrated with other subjects- 88 percent of the respondents strongly agreed with this statement. It is worth noting that 10 percent of the respondents decided to be neutral to this statement while only 02 percent of the respondents strongly disagreed with the fact that fieldwork shows learners how Geography is integrated with other subjects.

Statement 7: Fieldwork promotes environmental awareness amongst learners- Table 3.26 reveals that most respondents are in favour of the above statement. 98 percent of the respondents strongly agreed with this statement while only 02 percent of the respondents strongly disagreed with the statement.

A. STATEMENT WITH A NEGATIVE SLANT

Statement 8: Fieldwork wastes time.

Statement 9: Fieldwork is an extra-curricular activity.

Statement 10: Geography syllabus is not clear on the undertaking of fieldwork.

Statement 11: Field lessons are expensive to undertake.

Table 3.27 Responses to negative statements (N = 50)

Item number	SA		A		N		D		SD	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
8	02	**04**	09	**18**	01	**02**	19	**38**	19	**38**
9	01	**02**	13	**26**	07	**14**	20	**40**	09	**18**
10	10	**20**	15	**30**	07	**14**	13	**26**	05	**10**
11	06	**12**	25	**50**	05	**10**	08	**16**	06	**12**

Frequency = 50 Percentage = 100

Statement 8: Fieldwork wastes time- Table 3.27 above reveals that 76 percent of the respondents strongly disagreed with this statement. It is interesting to note that 22 percent of the respondents agreed that fieldwork wastes time while only 02 percent of the respondents decided to remain neutral with this statement.

Statement 9: Fieldwork is an extra-curricular activity- Table 3.27 above depicts that 58 percent of the respondents disagreed with the statement that fieldwork is an extra-curricular activity. This table also shows that 14 percent of the respondents were unsure while 28 percent agreed with it.

Statement 10: Geography syllabus is not clear on the undertaking of fieldwork-The above table reflects that most of the respondents agreed that Geography syllabus does not give guidelines on the undertaking of fieldwork. 50 percent of the respondents strongly agreed with this statement while 36 percent strongly disagreed with the statement and only 14 percent were unsure of the statement.

Statement 11: Field lessons are expensive to undertake- It is clear from Table 3.27 above that most of the respondents felt that field lessons were expensive to undertake. 62 percent of the respondents agreed with this statement that field lessons were expensive while 28 percent strongly disagreed and only 10 percent did not know whether to agree or disagree with the statement.

3.3.4 GENERAL ATTITUDE OF RESPONDENTS TOWARDS THE UNDERTAKING OF FIELDWORK IN GEOGRAPHY LESSONS.

The general attitude of the respondents towards fieldwork was as follows:

The overall attitude was obtained by using the following procedure:

- Added all the scores of each individual on each item statement.
- Determined the minimum possible score which was 11 in this study (number of statements multiplied by the lowest score on the SA-SD continuum = 11 x 1 = 11).
- Determined the maximum possible score, which was 55 in this study, by multiplying the number of statements by the highest score (11 x 5 =55).
- Determined the number of categories needed to differentiate attitudes, for example, in this study four categories were used, that is, Strongly Negative, Negative, Positive and Strongly Positive.
- Obtained class interval by dividing the maximum possible score by number of attitude categories (55) 4 = 11) and classified these into four categories.
- Lastly counted the total individual scores falling in each category.

Table 3.28: Overall attitudes of respondents towards fieldwork (N = 50)

SN (11 - 22)		N (23 - 33)		P (34 - 44)		SP (45 - 55)		Frequency	Percentage
Freq	%	Freq	%	Freq	%	Freq	%		
00	0	01	02	24	48	25	50	50	100

SN = Strongly Negative **N** = Negative **P** = Positive **SP** = Strongly Positive

From table 3.28 above it is clear that most respondents had a strong positive attitude towards the undertaking of fieldwork in Geography lessons. The table above shows that 98 percent, an overwhelming majority, strongly favoured field lessons in Geography as a subject. Only 02 percent of the respondents had a negative attitude towards field lessons in Geography.

3.3.5 RANKING OF THE ACTIVITIES TO BE PERFORMED PRIOR, DURING AND POST FIELDWORK.

This was the last section in the questionnaire for this study. The researcher provided the respondents with a list of 12 activities to be done when preparing, conducting, and coming from the field lesson. Respondents were asked to rank these items in a logical sequence by allocating 1 to the item which they thought should come first and so on up to the last activity. The researcher wanted to determine the procedures followed by Geography teachers when preparing, executing, and following up on a field lesson. This section was only answered by the 39 respondents who had undertaken fieldwork (refer to table 3.13).

In presenting the data in this section, the same format used in section 3.4.4 was applied. The first table shows the number of respondents rating each activity and then the second one reveals the ranking of items by the respondents. Below is a list of 12 activities to be ranked and are given hereunder randomly as they appeared on the questionnaire. Numbers allocated to items below are only used to indicate item statement on the table.

1. Deciding on the time that will be allocated for doing fieldwork.
2. Thinking about practical problems that could be experienced in the field for example, muddy ground, dense vegetation, toilets and so on.
3. Making necessary arrangements with anyone concerned with fieldwork.
4. Asking learners to produce a report on their findings.
5. Formulating the aims and objectives of fieldwork.
6. Giving instructions to learners of what is expected of them with regard to fieldwork.
7. Deciding on the exact nature of fieldwork.
8. Asking learners to supplement their observations by using other references.
9. Writing letters to parents informing them about the fieldwork to be undertaken.
10. Allocating marks on the work of the learners.
11. Asking learners to use observations to come up with conclusions.
12. Asking learners to observe phenomena on the environment.

Table 3.29: Frequency distribution of activities associated with fieldwork (N =39)

Item number	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12
	%	%	%	%	%	%	%	%	%	%	%	%
1	03	05	03	**61**	03	00	15	05	05	00	00	00
2	03	15	18	18	**26**	12	05	00	00	00	03	00
3	03	23	**31**	26	12	05	00	00	00	00	00	00
4	03	00	00	00	00	00	08	03	08	12	**61**	05
5	15	**21**	13	10	15	18	00	03	00	05	00	00
6	00	03	00	05	08	17	**53**	00	03	05	00	00
7	**61**	08	05	08	15	00	00	00	03	00	00	00
8	00	00	00	03	00	03	03	17	33	**36**	05	00
9	03	05	10	10	15	**34**	12	00	00	00	03	08
10	00	00	00	00	00	00	00	03	03	08	17	**69**
11	00	00	00	00	00	00	05	12	**42**	28	05	08
12	00	00	00	00	00	03	08	**62**	12	05	05	05

R = Rank Percentage = 100

Item statement no.1 :*Deciding on the time that will be allocated for doing fieldwork:* The majority; 61 percent of the respondents ranked this statement as number 4 with a widely split of 39 percent to 6 different rank numbers.

Item statement no. 2: *Thinking about practical problems that could be experienced in the field:* Table 3.29 illustrates that 26 percent of the respondents ranked this statement as number 5 on the list of activities to be performed when undertaking fieldwork. The closer ranking to this was 18 percent that appeared in number 3 and 4 respectively.

Item statement no. 3:*Making necessary arrangements with anyone concerned with fieldwork:* Most respondents; 31 percent, ranked this statement as number 3 and there was a widely split of 69 percent to five rank numbers with rank number 4 receiving 26 percent of the respondents.

Item statement no.4: *Asking learners to produce a report on their findings:* This statement was ranked number 11 by 61 percent of respondents while the other respondents ranked it as number 1,8,7,9 and 12.

Item statement no. 5: *Formulating the aims and objectives of fieldwork:* About 21 percent of the respondents ranked this statement as number 2. The closest ranking of 18 percent of the respondents ranked this statement as number 6. The other respondents were split into 6 numbers.

Item statement no. 6:*Giving instructions to learners of what is expected of them with regard to fieldwork:* About 53 percent of the respondents ranked this statement as number 7 while others ranked it as number 6,5,2.9,4 as well as number 10.

Item statement no. 7:*Deciding on the exact nature of fieldwork:* Table 3.29 presents that 61 percent of the respondents ranked the above item statement as the first activity to be performed when undertaking fieldwork. Other respondents also ranked this statement as number 2,4,5 and 9.

Item statement no. 8: *Asking learners to supplement their observations by using other references:* 36 percent of the respondents ranked this statement as number 10 and closer to this were 33 percent who ranked it as number 9.

Item statement no. 9: *Writing letters to parents informing them about fieldwork to be undertaken:* Table 3.29 above depicts that 34 percent of the respondents ranked this statement as number 6. The other respondents were widely split into 8 rank numbers.

Item statement no. 10: *Allocating marks on the work of the learners:* Table 3.29 reveals that 69 percent of the respondents considered this statement as the last activity to be done when undertaking fieldwork (ranked number 12).

Item statement no. 11:*Asking learners to use observations to come up with conclusions:* 42 percent of the respondents ranked this statement as number 9. Other respondents had ranked this statement as number 10,8,7 and 11.

Item statement no. 12: *Asking learners to observe phenomena in the environment:* Table 3.29 shows that 62 percent of the respondents ranked this statement as number 8 while other respondents ranked it as number 7,10,11,12 and 6.

The data above revealed the frequency distribution of respondents on 12 item statements representing the activities to be performed by an individual seeking to undertake fieldwork. The results of this data are summarised in the table below. These results are based on table 3.29, which showed a rank of each activity as prioritised by respondents.

Table 3.30: Ranking of activities associated with fieldwork (N = 39)

Rank number	Item Activity
1	Deciding on the exact nature of fieldwork
2	Formulating the aims and objectives of fieldwork
3	Making necessary arrangements with anyone concerned
4	Deciding on the time to be allocated for doing fieldwork
5	Thinking about practical problems that could be experienced
6	Writing letters to parents informing them about the field excursion
7	Giving instructions to learners of what is expected from them
8	Asking learners to observe phenomena in the environment
9	Asking learners to use observations to come up with conclusions
10	Asking learners to supplement observations by using references
11	Asking learners to produce a report on their findings
12	Allocating marks on the work of the learners.

Table 3.30 above shows the ranking of activities associated with fieldwork by the respondents. This table has been developed from table 3.29 above.

3.4. CONCLUSION

This chapter was about the methodology applied in this study as well as the presentation and processing of data collected from 50 Geography high school teachers. Their perceptions about fieldwork and their involvement in fieldwork were expressed. This data will be analysed and interpreted in the following chapter, chapter 4.

CHAPTER FOUR

ANALYSIS AND INTERPRETATION OF DATA

4.1 INTRODUCTION

The data presented in Chapter Three is analysed and interpreted in this Chapter of the study. In trying to stress the importance of data interpretation, Leedy (1989: 319) says:

> All too frequently, researchers feel that having once presented the facts and figures, they have done all that needs to be done. This is self-delusion, and a misunderstanding of the research process. To display the data is certainly important, but it is the interpretation of the data that is the *sine qua* of research.

In line with Leedy's assertion, the researcher attempted to make sense of what has been presented in the previous chapter.

The data presented in the previous Chapter provided a framework for interpretations concerning the undertaking of fieldwork in Geography lessons in secondary schools. The discussion in this chapter is closely related to the research objectives and the pertinent questions this investigation set out to answer.

The main problem under investigation in this study was to establish – How effectively fieldwork was implemented in the teaching of Geography in Secondary schools.

This problem was investigated by establishing:

1. The number of Geography teachers who undertook fieldwork (question13 and Table 3.13).
2. The frequency at which fieldwork was undertaken in each academic year (question 15 and Table 3.15)
3. Time of the year of undertaking fieldwork(question 16 and Table 3.16)

4. The method used when undertaking fieldwork (question 17 and Table 3.17).
5. Whether learners were made aware of the objectives of fieldwork or not (question 18 and Table 3.18)
6. The role of the teacher during fieldwork(question 20 and Table 3.20)
7. Activities done by learners during fieldwork(question 21 and Table 3.21)
8. The follow-up techniques used by teachers after fieldwork(question 23 and Table 3.23)

Subsidiary questions of this study as stated in chapter one are given below with the sections where their answers are obtainable. These subsidiary questions were simplified guidelines designed to make it easy for the main research objective to be achieved. In a way they all built up to clarify the main problem under investigation and were therefore regarded in this chapter as research objectives.

- How qualified was Geography teachers to conduct fieldwork? (Table 3.3, 3.4 and 3.5)
- How much teaching experience did secondary school Geography teachers have? (Table 3.6 and 3.7)
- How much importance or value did teachers attached to fieldwork? (Table 3.11, 3.12, 3.13. 3.15 and 3.16)
- To what extent were the procedures of fieldwork considered when excursions were planned? (Table 3.17, 3.18, 3.20, 3.21, 3.29 and 3.30)
- What were the attitudes of Geography teachers towards fieldwork? (Table 3.27 and 3.28)
- What were the constraints to the implementation of fieldwork? (Table 3.8, 3.9, 3.14 and 3.25)

Therefore, the interpretation of the data is in accordance with the objectives of the study as outlined in the above paragraphs.

4.2 Information related to personal background of teachers

4.2.1 What is your gender?

There was an equal representation of male and female in the sample which was incidental rather than intentional. A total number of 50 percent males and 50 percent females were interviewed in this study (refer to table 3.1). This may suggest that there could be a bridging of the gap between male and female Geography teachers seeing that in the past males used to dominate in Geography teaching and as learners in school classes. Gawe (1988:46) noted with interest that out of three schools she interviewed there were more boys (96) than girls (80) doing Geography and also out of 18 Geography teachers interviewed 14 were males and only 4 were females. Hatting (1971:2) in her study for HSRC reveals that nearly two-thirds (64,3%) of the Geography secondary school teachers country- wide were male. The trend observed by previous studies in the historically Black schools is that there were more male teachers than female, especially at post primary school level. The findings of this study are inconsistent with this trend. Seemingly more female teachers are entering post-primary level than before. This shows willingness on the part of females to thread in domains that were previously associated with men. Secondly, learners and the community are aware of the aesthetic and economic value of the environment, hence the willingness to study it more.

4.2.2 What is your age?

Only 2 percent of the respondents were less than 20 years and 8 percent above 40 years. 90 percent of respondents were between 20-39 years of age (refer to table 3.2). One could therefore deduce from the above findings that most of the teachers who were teaching at secondary schools were people who were young, at the age of below 40 years. They were still young, energetic and willing to face new challenges that the teaching profession presents to them. More often than not, young people want to know, to explore, to discover and to experience new things while their older counterparts are satisfied with what they have done and achieved.

4.3 INTERPRETATION OF DATA ACCORDING TO RESEARCH OBJECTIVES

Problem no1: How qualified are Geography teachers to conduct fieldwork?

4.3.1 What is your qualification?

The researcher used the qualification categories as indicated by Piek (1992:165) as they appear in Chapter One (1.6.6 Definition of a teacher). It was discovered, in this study, that all 50 Geography teachers interviewed were well qualified. About 36 percent of the respondents held a teacher's diploma from either a University or training college of education. These would said to be fairly qualified teachers according to Piek's categories. 56 percent of the respondents were well qualified teachers having a bachelor's degree and a further 8 percent had higher qualifications, an honours degree (refer to table 3.3).

This suggests that teachers were competent in the teaching and educating task. It may be concluded from these results that because some secondary school Geography teachers were well-qualified professionals, they could be expected to try out all or most of the teaching strategies they knew. Those with post-graduate degrees should on the basis of their enthusiasm in the subject and depth of knowledge be expected to lead the way.

These results are in line with those obtained by Hatting (1971:3) where a comparison of the qualifications for the year 1967 and 1968 showed that the Geography teachers were satisfactorily qualified. There was indeed, evidence of a slight improvement in the latter year. Because of the perceptions people have about the complex nature of the subject, it is not surprising to find that Geography is taught mainly by qualified educators.

4.3.2 Where did you last study Geography?

In order to have more information on teacher's background into their qualifications, the researcher decided to find out more about the institutions at which Geography had been studied by the respondents. This study showed that most of the teachers interviewed last studied Geography at University level (70%) while 30 percent last studied Geography at College level (refer to table 3.4). This then tallied with the question on qualifications above which showed that all teachers had entered the tertiary level of education. It could be deduced therefore that the respondents of this study were people who had sufficient knowledge of Geography as a subject to teach it at secondary school. It is in the Colleges of education and the Universities where recent trends in disciplines are studied and students are exposed to various sources of information concerning the particular discipline. Therefore, the respondents of this study were supposed to be well informed and experts in the teaching of Geography.

4.3.3 *Did you do methods of teaching Geography?*

This study found that about 54 percent of the respondents enrolled for a professional course of Geography teaching (refer to table 3.5). This course was important to Geography teachers because that was the level at which most of the recent trends and methods of teaching Geography in both primary and secondary school were being taught. Apparently most of the teachers interviewed did enrol for this course and it was expected that they possessed knowledge and skills of the best ways of presenting Geography lessons. 46 percent was made up of teachers from colleges of education as well by those teachers who did Geography at the University but did not enrol for the professional course of teaching Geography. Both categories of teachers were in one way or another had been exposed to the methods of teaching Geography as a school subject.

Therefore, the researcher was satisfied that most Geography teachers (56%) were well qualified to teach at secondary school level and that all of them had done

Geography at tertiary level. There was no question that the teachers could claim they lacked the necessary background to carry out fieldwork.

Problem 2: How much experience do Geography teachers have?

4.3.4 What is your general teaching experience?

There is an old adage that says that -"experience is the best teacher". Knowledge and experience are of great significance for a teacher to exercise sound and effective guidance and accompaniment of children to adulthood. From the findings of this study it is clear that most teachers possessed sufficient teaching experience to teach at secondary school. About 40 percent of the teachers had an experience of 1-5 years, 17 percent had taught for years between 5-10 and 20 percent between 10-15 years (refer to table 3.6). This suggests that the respondents of this study knew the pros and cons of the teaching profession. They could also be taken as people who had gained enough confidence to try out difficult or challenging teaching methods.

4.3.5 What is your Geography teaching experience?

To be more specific about the teaching experience, the respondents were asked what their experience was in teaching Geography as a subject at secondary school. This study revealed that 42 percent of the respondents had taught Geography at secondary school level for years between 5-10 and 38 percent had taught it between 1-5 years. 14 percent of the teachers had a Geography teaching experience of 10-15 and only 6 percent had taught Geography for less than a year (refer to table 3.7). It may be concluded that most secondary school Geography teachers were well experienced. With the experience they had, they should have been familiar and well acquainted with the best methods of teaching Geography.

Problem 3: How much importance or value does Geography teachers attach to fieldwork?

4.3.6 Definition of the term fieldwork by the respondents

The researcher asked the respondents to give their own definition of the term fieldwork. This helped to establish the understanding that the respondents had about this concept. The researcher believed that the teachers could only value and attach importance to the activity that they themselves properly understood. From the findings of this study it became clear that Geography teachers held different but not conflicting ideas about this concept (refer to table 3.11). Some stressed that fieldwork was an essential component of Geography (6%) and this showed the value that these teachers attached to fieldwork. The key words used by Geography teachers to define fieldwork included, inter lia, 'application of theoretical concepts to reality' (28%), 'learners work independently' (6%), 'study of Geographical concepts through observing' (10%), 'develops awareness of nature' (14%) 'encourages learners to work independently' (6%), 'introduces learners to research' (12%) and so on'.

From the definitions given by respondents this study deduced that most Geography teachers knew what fieldwork was and they were also aware of its importance to the learner. Therefore they were expected to be involving their learners rigorously in fieldwork.

4.3.7 Is fieldwork part of your annual Geography programme?

The findings of this study showed that 72 percent of the respondents included fieldwork in their annual programme (refer to table 3.12). This showed that fieldwork was an important activity to many Geography teachers. The mere fact that most teachers put fieldwork in their annual Geography plan indicated that its value could not be denied and it also showed the willingness of teachers to undertake fieldwork.

4.3.8 Do you undertake fieldwork in your Geography lessons?

The above sections reveal that most Geography teachers understood what fieldwork was all about and most of them even included it in their annual plans but whether they did undertake it or not still remained the question. This study then found that 78 percent of the respondents undertook fieldwork in Geography lessons (refer to table 3.13). This was in contrast with the study by Hatting (1971) where only 28,6 percent of Geography teachers in all provinces had reported to be undertaking fieldwork. This indicated that there had been an improvement in the Geography teaching methods used by teachers with fieldwork being mostly favoured. It is also worth mentioning that 72 percent of the respondents indicated that fieldwork formed part of their annual programme yet 78 percent had indicated that they undertook to do fieldwork. This means that there were teachers who for one reason or another did not include fieldwork in their annual plan yet saw it as an important activity to be undertaken. At times people translate their aspirations to mean their actions.

4.3.9 How often do you undertake fieldwork?

This question was only directed to those who undertook fieldwork (78 %). The researcher wanted to find out the number of times that the learners were exposed to this activity. As a teaching method, fieldwork ought to be given equal attention like all other daily teaching methods. The results of this study showed that 49 percent of the respondents undertook fieldwork once a year while 38 percent undertook it twice a year and only 13 percent did it three times a year.

From these findings, it could be argued that teachers first presented themes in class before going to the field to observe all that had been covered. Even so, the researcher felt that most teachers did not do justice by doing fieldwork once or twice in a year. If teachers could use question and answer method, telling and discussion method for a whole month interchangeably, what can stop them from undertaking fieldwork at least after finishing each and every section of Geography (climatology,

geomorphology, settlement geography, economic geography and regional geography)? The researcher is aware of the financial implications and considerations of other subject's periods to be considered when undertaking fieldwork. It is for these reasons that advanced planning of fieldwork with all teaching personal is necessary.

4.3.10 During which time of the year do you undertake fieldwork?

The researcher's early assumption was that teachers undertook field excursions towards the end of the year as *the trip of the year.* The question above was included in order to prove this assumption right or wrong. Secondly, most learners tended to concentrate more on what had been done towards the end of the year than what was done at the beginning of the year. This was possibly because of the fact that learners started to prepare for final examinations towards the end of the year. It became crucial then to look at the time of undertaking fieldwork.

From the findings of this study, 33 percent of the respondents undertook fieldwork during the middle of the year and 26 percent undertook it towards the end of the year while only 13 percent did it at the beginning of the year. Other teachers did fieldwork during holidays and weekends (8%) while others stated that they undertook fieldwork any time when the need arose (refer to table 3.16). All these occasions are based on the findings that fieldwork was done once, twice and three times a year.

It can be stated from these results that most Geography teachers undertook fieldwork during the middle and towards the end of the year. This proves the researcher's assumption that most field activities in secondary schools were undertaken towards the end of the year. There is no solid rule on this, but it can be argued that those who start with fieldwork at the beginning of the year and continue with it may succeed in arousing interest in Geography amongst the learners as they will love the subject right from the beginning. It can also be mentioned here that due to timetable constraints some teachers prefer to undertake fieldwork during weekends and holidays, which may be sometimes inconvenient for some learners as well as parents. But this effort

is well applauded. For those teachers who were doing fieldwork during the middle of the year, towards the end of the and anytime in the year, the reason for this could have been that they waited to cover substantial amount of work justifiable for fieldwork. This study discovered that most teachers regarded fieldwork as an important activity in Geography teaching. This was clear from the fact that teachers were able to define it and most of them included fieldwork in their annual work programme. More evidence on the value that teachers put on fieldwork was made clear by the fact that most of them (78%) undertook it in Geography lessons. It is also worth mentioning that while most teachers value fieldwork, the frequency at which it was undertaken (once, twice and three times a year) was not adequate. The reasons that lead to this practice could be time constraints, financial problems on far away lessons and duty load that each teacher had.

Problem 4: To what extent are procedures of fieldwork considered when excursions are planned?

4.3.11 When undertaking fieldwork, which method do you use?

Kent and Lambert (1996: 43) state that teachers need to be careful when undertaking fieldwork because learners can get carried away by things that are not the objectives of the lesson. They further mention that it is always good to present the lesson theoreticaly in class then follow it with fieldwork and in that way learners would be able to compare and relate what has been discussed in class with what they see in reality. Wheeler and Harding (1966:10) argue that the teacher should avoid giving an open-air lecture when in the field. This defeats the main purpose of the exercise and causes restlessness among young learners. They further mentioned that the teacher's task, when leading the party, is to activate interest, direct attention, follow-up suggestions from learners concerning observations they make, answer questions and set the example. These views suggest that emphasis should be on the learners acting upon, rather than listening to, the words of the teacher.

From the findings of this study, most teachers, 72 percent, presented the lesson in class first then followed with fieldwork. About 20 percent of the respondents reported that they did not have a single method they used as their teaching was depended on the nature of the lesson to be presented. Five percent stated that they preferred to present the lesson theoretically whilst in field. This was a very unrealistic situation and the researcher deduced that these teachers did not do fieldwork at all. Only 03 percent started by doing fieldwork and going back to class to discuss what had been observed.

Most writers including, (Ball 1989, Fien 1988, Rogers 1994, and Wheeler and Harding 1966) share the opinion that field lessons are always effective if theoretical presentation has been done in class first. This means that most of the respondents of this study (72%) follow an effective method when undertaking fieldwork.

4.3.12 Do you make the learners aware of the objectives of fieldwork?

Effective teaching should always be directed towards targeted changes in performance. This means that in the planning stage, teachers should first decide what changes they want to bring about as a result of their instruction(Bakker 1996: 176). The envisaged results must be stated and described explicitly as an outcome so that the achievement of these results can take place and be evaluated in a well-founded manner.

Viewed in this context, it is clear that stating clear objectives of the field lesson to learners plays a crucial part in the empowerment of the learners. The results of this study revealed that 92 percent of the respondents made the learners aware of the lesson's objectives and only 08 percent of the respondents did not (refer to table 3.18). Though most of the teachers made learners aware of the objectives of fieldwork, 46 percent of them stated that they only made them aware of the objectives after field lesson had been conducted. Twenty percent announced lesson objectives during fieldwork while 26 percent made the learners aware of objectives prior to fieldwork (refer to table 3.19).

It could be stated that while most teachers were doing the right thing to tell learners about fieldwork objectives, it did not make sense if most of them told the learners after fieldwork. The teachers were supposed to share objectives with learners prior to fieldwork because according Jacobs and Gawe (1996:178) the functions of the objectives include that:

- Objectives serve as guidelines for presenting learning content. In other words the way in which the teacher will present the learning content is contained in the nature of the content as well as in the objectives.
- Objectives determine learner's activities. The learners should be able to focus on the learning content contained in the objective because their activities are described in operational terms in the objectives.
- Fieldwork objectives in particular, will determine the nature of apparatus and instruments to be used in the lesson.

The above functions of objectives, therefore, suggest that objectives must be shared by both teachers and learners prior to fieldwork execution.

4.3.13 What do you do as a teacher during fieldwork?

The role of a teacher in any lesson presentation is under spotlight within the new education system. Bhengu (1997:29) states that the role of the teacher within Curriculum 2005 will no longer be the transmission of knowledge but the facilitation of the learning process. Teachers used to know that in the teaching and learning environment they were the only source of knowledge with learners being passive recipients of information. With the new education system teachers will no longer feel the pressure of having to be the source of all knowledge.

From the results of this study it was discovered that 33 percent of the respondents acted as facilitators during the lesson allowing the learners to play an important role during fieldwork. In contrast, 15 percent of the respondents stated that they led and dominated all the proceedings of the lesson. Thirty two percent stated that they

intervened where necessary by giving and reminding the learners of the instructions to be followed (refer to table 20). It is clear from these results that some teachers were getting along with the new education system. There was evidence of a slight shift from teacher dominated lessons to learner-centred lessons. More is still to be done to eradicate the attitude of some teachers that learners are there to be told what to learn, how to learn and when to learn it.

4.3.14 What activities do you expect your learners to do during fieldwork?

The new education system requires that the learners be at the centre of the learning process. Learning, as a process should yield outcomes that are a yardstick to measure the impact that the different lessons have had to learners. Properly planned fieldwork should help the learners to acquire certain process skills like recording, measuring and observing. This entirely depends on the role that the learners are given to play during the lesson presentation.

The findings of this study revealed that there were no significant differences on the activities done by the learners. All respondents expected their learners to observe and record the phenomena being studied (refer to table 3.21). Preferences on individual or group work were rather evident from these findings. In order to get more clarity on this question; respondents were asked when they made learners aware of the activities they were supposed to do. Encouragingly, 33 respondents stated they made learners aware of the activities to be done prior and during fieldwork. Telling learners what they were expected to do before and during to fieldwork helped in keeping them focussed. It also helped the learners to know what apparatus and instruments they were supposed to bring along with them for fieldwork. Teacher's task of managing the learners out of classroom boundaries is made easier because learners do not wander about and do things they are not expected to do. Only 6 respondents reported that they only made learners aware of the activities to be done during and after fieldwork (refer to table 3.22). This situation, according to the researcher, is not practical because it is unrealistic that the qualified teacher could take the learners out in the

fieldwork without telling them what they are expected to do during the lesson but only make them aware of what they should do during or after the lesson. It can be deduced *that these teachers (6) did not do fieldwork although they claimed they had done it.*

The above findings brought to light to the fact that most teachers prepared the learners for the excursion by giving them guidelines and direction for the activities they were expected to do during fieldwork well in advance. It may be assumed, therefore, that most learners exposed to fieldwork learn the skill of observing, relating and recording much more practically than those who are not exposed.

4.3.15 What follow-up methods do you use after fieldwork?

This is the final and important stage when learners, having experienced the Geographical processes of observing, recording and interpreting, attempt to draw all the threads together into a complete whole. In a very true sense, fieldwork does not become Geography until the difficult write-up has been attempted. However, this may take many forms according to the age and ability of the learners involved, the purpose of an exercise, and also the degree of complexity of the fieldwork itself. It is important, at whatever level of attainment, that the follow-up methods should be applied as soon as possible after the day of excursion while the experience is still fresh.

The results of this study showed that there was not much difference between the follow-up methods used by teachers (refer to table 3.23). Evidence of preference depending on the nature of the lesson undertaken was clear from these findings and it could be stated that it was possible that all or some teachers actually used all these methods.

However, it is worth mentioning that some teachers were beginning to adopt a more participatory approach by allowing learners to discuss their observations in-groups and *present them in class. The fact that teachers did follow-up lessons from fieldwork*, revealed the value that teachers attached to field lessons and it showed that field

lessons were conducted for educational purposes and not only as a form of recreation. Doing follow-up lessons also motivate and encourage those learners who are adamant to go to the fieldwork because they will have nothing to report during presentation sessions as a result lose marks for this activity. The negative attitudes of some parents towards fieldwork can also be changed if field lessons can start in the classroom, through setting of outcomes, and culminate in the classroom through reinforcement of the work done outside.

4.3.16 Ranking of the activities to be done before, during and after conducting fieldwork.

This study discovered that most teachers knew what do to when preparing and conducting fieldwork. Most teachers indicated that they first decided on the nature of fieldwork and they were normally guided by the prescriptions of the syllabus. This study also discovered that most field trips undertaken in Geography had the objectives and aims well formulated by the teachers. This means that fieldwork undertaken in schools had educational purpose rather than a recreational motive. It was interesting to note that after fieldwork most teachers reinforced the lesson by asking learners to produce a report on what had been observed and also allocate marks on the work done. This makes field lessons an important activity not only to teachers but to learners as well.

It can therefore be assumed that most Geography teachers knew the procedures of conducting fieldwork, seeing that the following pattern emerged:

- Most teachers started by presenting a lesson theoretically in class then followed by fieldwork.
- Majority of teachers communicated the outcomes of fieldwork with the learners prior and during a field lesson.
- A substantial number of teachers acted as facilitators during fieldwork and allowed the learners to be active participants in the lesson.

- Most teachers showed that they expected their learners to observe, discuss in groups and relate what they see to what has been studied in class rather than to be passive recipients of information.
- Most teachers were able to rank correctly the activities to be performed prior, during and post fieldwork.

Problem 5: Attitudes of the respondents towards the undertaking of fieldwork?

4.3.17 The general attitude of Geography teachers towards fieldwork.

The respondents were asked to respond on 11 statements along the SA, A, N, SD continuum. Seven statements were positively phrased and four were negatively phrased (refer to table 3.26 and 3.27). This study revealed that the general attitude of the respondents was positive. An overwhelming majority of 98 percent (refer to table 3.28) was in favour of field lessons in the teaching of Geography. Although the general attitude was positive, there were statements or issues that the respondents felt very strongly against. Twenty eight respondents felt that Geography syllabus does not stipulate how and when fieldwork may be undertaken and 31 respondents felt that field trips were expensive to undertake.

The researcher did look at the Geography Interim Core Syllabus in Chapter One with an intention of establishing the place of fieldwork in grade 10, 11 and 12 Geography syllabus. It was discovered that the syllabus for all grades did not state categorically the role and place of fieldwork. It may, therefore, be deduced that the respondents had a valid point to complain about the Geography syllabus. It is encouraging, however, to note that despite the fact that Geography syllabus is not clear on fieldwork, most respondents had a positive attitude towards it (98%) and most respondents undertook fieldwork in Geography lessons (78%). It is rather upsetting to find that teachers relied completely on the syllabus to exercise their discretion. The syllabus is merely a guide but teachers tend to adhere to it like it was a law. On the question of field trips being

expensive, the researcher felt that this should not be an excuse for not undertaking fieldwork because fieldwork could be conducted even inside the school premises. The problem of financing the more distant excursion can be eased by planning well ahead. Learners can be encouraged to contribute towards travel costs on a saving basis over a certain period of time. It is also the prerogative of the parent to pay for any expenses the school will incur in the process of improving learning.

Problem 6: What are the constraints to the implementation of fieldwork?

4.3.18 How many grades are you presently teaching?

Most teachers in the sample stated they were teaching many grades in a school (Refer to table 3.8). About 50 percent of the respondents reported to be teaching five grades while 20 percent were responsible for four grades. Only 10 percent were teaching one grade, 6 percent responsible for two grades and 14 percent taught three grades. This state of affairs is undesirable especially if one considers that most schools visited had overcrowded classes. This means that there was little room for specialisation amongst teachers teaching four to five grades. Even if it meant that these teachers were teaching Geography only, it was too much to expect them to do lesson preparation for four to five grades. This situation makes it difficult for teachers to do justice to their work especially in their lesson presentation.

However, it was clear from these results that some secondary schools within KwaZulu-Natal province were grossly understaffed. A teacher who has to teach four to five classes may find it difficult to try and think about organising fieldwork in Geography lesson because he or she has too many irons in the fire with limited time and other resources.

4.3.19 What is the total number of subjects you are presently teaching?

The results of this study showed that 76 percent of the respondents were teaching two subjects and 16 percent were teaching one subject. No teacher, from these results was teaching more than three subjects and only 08 percent of the respondents reported to be offering three subjects. Most secondary school teachers were therefore offering two subjects in a school. When these findings are linking with the previous discussion that revealed that 50% of the teachers were teaching five grades, it could be stated that most teachers are overworked in secondary schools. This situation could demotivate the teachers and make them have all the valid reasons for not doing justice to their work.

4.3.20 Problems experienced by teachers in undertaking fieldwork.

This question was directed to those respondents who did not undertake fieldwork as well as those who did it. The findings of this study revealed that 15 teachers had a problem with the learners who did not respond positively to fieldwork. There could be many valid reasons for learners not to respond positively to fieldwork, like, financial problem, lack of interest, just to a mention a few. The researcher strongly felt that teachers did not do their preparations for the trips in such a way that would stimulate the learners to see the importance and value of going to the field. Explanations given to the learners about fieldwork should not separate it from daily lessons conducted within classes but should be a continuation of class lessons that every learner should attend . 10 teachers felt that the schools did not have good administration to support fieldwork. They also pointed out lack of proper training amongst teacher (refer to Table 3.25).

It should be remembered that this study stated earlier that all respondents were sufficiently qualified to teach at secondary schools and the majority of them had teaching experience between 1 to 15 years. This immediately ruled out incompetence as an excuse for failing to undertake fieldwork. However, these teachers felt that they were incompetent and inexperienced to conduct fieldwork and as a result they claimed

they needed more training in fieldwork in the form of workshops. Secondly, teachers felt they needed support from the administration bodies of the school to conduct fieldwork. Thirdly, they believed that fieldwork was not supposed to be the concern of an individual subject teacher especially if it was outside the school premises because it might take a longer period and also overlap with other subjects so the teachers concerned needed to be involved in planning and execution of fieldwork. They believed that subject committees together with the school administration officials could co-ordinate this venture.

The cliché, 'do as I say and not as I do' could not be applied at a better instance than this. Teachers clearly demonstrated that they paid lip service to fieldwork. A person who has tried out a method would know where his or her problem was and would try to alter or adjust it instead of throwing in the towel and crying for help.

Surprisingly, 8 teachers reported that fieldwork was time wasting and not required by the syllabus. This is not a valid statement seeing that, according to the researcher, fieldwork is considered by most writers like (Kriel 1996, Wallen 1991, Kent and Lambert 1996) as intrinsic to Geography as clinical practice is to medicine. Though the syllabus does not clearly state that fieldwork is integral to Geography teaching, it does mention on certain aspects of Geography like climatology and Geomorphology that fieldwork should be conducted in local areas to observe phenomena discussed in class. Whilst some teachers complained that fieldwork needed a lot of time to conduct, the researcher believes that it is better to spend more time doing the right thing as that time is well spent could bring about the desired outcomes. An added advantage would be that although the lesson may have started as a Geography field lesson, biological and historical concepts may indirectly be assimilated. Only one teacher mentioned that it was not safe to go out of school with learners because of political problems. Fortunately, although communities might have been divided along political lines there seemed to be a tacit agreement among them that schools were 'sacred' institutions. However, when learners misbehaved they caused the communities to fight them.

Wheeler and Harding (1966:11) further state that "it is true that not all teachers are convinced that this way of learning Geography is a useful one within the limitations of school requirements. Many teachers find the organising of fieldwork too difficult to carry out in their particular school; others work in urban areas where acres of bricks and mortar seem alien to the pursuit of fieldwork; still more have not had the training which would give them the confidence to set out on an expedition with learners." These are very real difficulties consistent with this study, but the researcher, would claim that they are by no means insurmountable.

4.4 FINDINGS OF THE STUDY IN RELATION TO RESEARCH HYPOTHESES

Dreyer (1985:50) states that hypothesis are projections of the possible outcomes of the research and are not biassed pre-statements of conclusions. In relation to this, Leedy (1989:7) maintains that hypotheses are never proved or disproved; they are either supported or rejected by data collected. This, therefore, suggests that acceptance or rejection of hypotheses is dependent on data ultimately revealed by the study. The discussion below reveals whether outcomes of this study rejected or accepted the research hypotheses.

The research hypotheses of this study were as follows:

- Availability of time and financial problems hinders the undertaking of fieldwork.

The results of this study reject the above hypothesis because although 08 % of the respondents stated that the lack of financial support from both the school as well as the parents hindered the undertaking of fieldwork, the majority of the respondents, 92 % disagreed. Concerning the availability of time to undertake fieldwork, only 08 % of Geography teachers interviewed stated that undertaking fieldwork was time wasting as they were expected to teach not only one grade and also not only one subject.

require such from them. The excuse given by 8 % of the respondents suggests that these teachers were either lazy or not interested in research seeing that the rest of the respondents did not agree with them. It is also possible that lack of time management could affect the way in which a teacher performs his or her duties.

- Most secondary school Geography teachers undertake fieldwork in Geography lessons.

It was clear from the previous Chapter of this study that most respondents, 78 percent, claimed they undertook fieldwork in Geography lessons. Although these findings accept the above-mentioned hypothesis, it is however uncertain whether this in reality happens seeing that further probing suggested to the contrary. Firstly, it is not realistic to teach theory while at the same time conducting research in the field. Secondly, some teachers claimed that they only told the learners the objectives of the field trip when they came back from the excursion and one would question the value of such an exercise. Thirdly, some teachers claimed that they only made learners aware of the activities they were suppose to do during and after fieldwork. This again makes one doubt whether these teachers really did undertook fieldwork or not.

This study further established that the undertaken fieldwork was not only used for recreational purposes, as it was suggested in early chapters of the study, because most teachers stated that their lesson outcomes were well prepared and communicated to the learners prior and during the field lesson. This assertion could disapprove an earlier thought that field trips undertaken at secondary schools were only *trips of the year* aimed at refreshing the minds of the learners before starting to write the final examinations.

- *Most Geography teachers do not adhere to the fieldwork principles when* undertaking it.

The results of this study rejected this statement as it was found that most teachers claimed they adhered to the principles of fieldwork by:

- Being able to outline and communicate with the learners the outcomes of fieldwork.
- Making the learners aware, prior and during fieldwork, of the activities they were expected to perform during fieldwork.
- Being able to assume the facilitative role rather than the domineering position during fieldwork.
- Outlining to the learners, well in advance, the follow-up methods to be used after field excursion.
- Being able to rank in order of priority the activities to be performed prior, during and post fieldwork.

- Most secondary school Geography teachers think that it is the responsibility of the Head of Department to take an initiative for the undertaking of fieldwork.

It was clear from Table 3.24 in Chapter 3 that most respondents (60%) thought that Geography teachers should take the initiative in ensuring that field lessons were being conducted within the teaching of Geography as a subject. Only 28 percent stated that the Head of Department was the one responsible for the initiation of field lessons. This could be attributed to the fact that in most schools the Head of Department is not only heading one subject but a group of related subjects, for example, Geography, History and at times Biology as well. In this way subject teachers took the responsibility to initiate subject activities like fieldwork. This was very encouraging as it showed that subject teachers knew their responsibilities and did not shift any blame to the Head in charge.

4.5 CONCLUSION

This chapter was about the analysis and interpretation of the data presented in Chapter 3. It has been revealed that most Geography teachers knew about fieldwork in Geography. This chapter showed that most Geography teachers knew what the guidelines and principles of fieldwork were about conducting field lessons. They were further aware of some existing problems in the undertaking of fieldwork.

What was not clear, however, was the extent to which the teachers were honest about their participation in fieldwork. This became evident on one follow-up question which asked the teachers when they made the learners aware of the objectives of fieldwork. A considerable large group of teachers (Table 3.19) stated that the learners were only made aware of the objectives of field lessons after the lesson had been conducted. This, according to the researcher, was not possible in any lesson presentation, not to mention a field lesson for which the learners had to be ready for and be aware of the equipments and apparatus needed for a lesson.

The overall attitude of teachers towards fieldwork was strikingly positive and most Geography teachers took it as their responsibility to organise and execute field trips. It became clear, however, that some teachers were still not conversant about their role during fieldwork and as a result they dominated the proceedings of fieldwork. Problems on the undertaking of fieldwork prevailed but those problems did not discourage some teachers as the results reveal that a large group (Table 3.13) of teachers undertook fieldwork despite the prevailing problems. Lastly, this chapter revealed that most teachers were able to prioritise the activities to be performed prior, during and post fieldwork.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The problem that this study sought to investigate, as stated in Chapter One, was to investigate how effectively fieldwork was implemented in the teaching of Geography in secondary schools. The main objectives of the study were as follows:

1. To establish whether fieldwork as a component of Geography is implemented in secondary schools or not.
2. To investigate the procedures followed by teachers when undertaking fieldwork.
3. To determine the constraints of fieldwork implementation in secondary schools.
4. To develop a model that Geography teachers can use when undertaking field trips.

5.2. General findings of the study

The findings of this study confirmed some of the earlier stated hypothesis and contradicted others as discussed in Chapter 4. The study showed that although most Geography teachers understood the definition of the term fieldwork problems existed in the implementation of fieldwork in teaching. There was a clear indication that some teachers accepted a more practical definition than others. Therefore, it can be concluded that those who defined fieldwork in practical terms, were the ones who were making an effort to undertake field trips in their Geography lessons.

The study also established that although most teachers had intentions to conduct fieldwork and had planned it as part of their annual Geography programme those intentions did not mean that fieldwork would be conducted and conversely some of those who did not include fieldwork in their annual plan actually did undertake fieldwork. It became evident that for

some teachers the annual teaching programme was not constantly followed as they would engage the learners in other activities which were not initially planned for. This way of doing things suggested lack of planning and as result the fieldwork conducted in such a manner was likely to result in management problems. The fact that teachers were adequately qualified to teach Geography did not guarantee that they would carry out fieldwork. It was also clear that some were just paying lip service to the implementation of fieldwork. This point is further supported by the fact that although teachers knew about the perpetual problems like, shortage of sufficient time, lack of financial support and expenses involved in fieldwork they were not doing anything about them but presented them as their problems.

None of these problems are valid seeing that fieldwork could even be undertaken in the school grounds or in the local environment. Teachers should be innovative and creative as professionals in their field of expertise and try to see problems as challenges so that they will be able to create better learning opportunities for the learners. This shows lack of commitment to their job. A teacher who has qualified through a University or college of education knows that teaching Geography without fieldwork is a futile exercise.

The overall attitude of teachers towards fieldwork was positive. Most teachers saw fieldwork as an important activity in their lesson presentation and not as an extra-curricular activity. However, the lack of initiative on the part of the teachers who expected somebody else and not themselves to design the learning programmes for them was a concern. This was a major problem particularly if one considers that most teachers still regarded the syllabus as law to be followed religiously with no deviations. However, the researcher's experience as a Geography teacher was that fieldwork had always been encouraged by the Geography syllabus in the teaching of Geography. The Core Interim Syllabus for 1996 (see appendix 2) both Standard and Higher Grade spell it out clearly that fieldwork should be conducted in the teaching of Geography. It is either the teachers did not consult their syllabus or they failed to follow it.

The major finding of this study was that qualification does not always mean competence. All the respondents of this study were well qualified and they claimed to be knowledgeable about fieldwork and yet their excuses and explanation of their *modus operandi* clearly showed that few if any of these teachers undertook fieldwork. If the teachers know fieldwork and practice it as they claim, they should not be experiencing the kinds of problems that are basic to the implementation of fieldwork, for example, lack of time, ignorance of syllabus and lack of financial support.

5.3 Problems identified as a hindrance to the Implementation of fieldwork

This study identified the following factors as negatively affecting the undertaking of fieldwork.

5.3.1. The extent to which learners were prepared for the trip.

Preparing learners for a field lesson is very important for it to be a successful one. No matter how the teacher knows the place; what is to be done and how it will be done, if this is not explained and outlined in detail the fieldwork trip becomes a worthless exercise. There should not be a gap between the state of readiness of the teacher and that of the learners. Learners should be aware, prior to fieldwork, of the purpose of the trip, the activities they are suppose to do as well as the follow up techniques to be used after fieldwork. Lack of such preparedness impedes learning during the trip and data processing in the follow up session.

It became evident from this study that some teachers did not realise the importance of involving learners in all activities. It is amazing how much learners often have ideas which are brighter than those of the teachers. Whilst teachers were showing signs of embracing Outcomes based education on the one hand, it was clear that they did not understand the concept well on the other. Therefore, for learners to be prepared teachers need to keep abreast of the developments in their subject.

5.3.2. Ownership of the trip

Teachers need to involve the learners from the onset in the planning for the trip so that they will have a sense of belonging and ownership. The teacher should not decide alone on the venue as well as the date of the trip without consultation with the learners. They are central to any field trip and imposing on them could result in the lack of support and unwillingness to participate during fieldwork. This is true even in the field, the teacher should not be the source of information and the doer of everything but learners should be given a chance of doing and participating even in some logistical activities like arrangement of transport and reserving places or venues. Giving them the ownership of the trip will ease the task of the teacher and they will be motivated and willing to participate in the field lesson.

The study revealed that there was still lack of communication between the teacher and the learners as to what extent learners were to be involved in their learning. The past system of education did not prepare the present teacher for learner centred teaching seeing that they themselves relied on the word of the teacher. It is reasonable to assume that with time the teachers who show readiness and willingness to change will succeed in involving the learners in a meaningful way. When that has happened, ownership in areas of fieldwork will follow.

5.3.3. Poor communication between the school and the parents.

One of the problems of fieldwork discovered by this study, was poor communication between the school and the parents. Teachers felt that parents were hesitant to finance their children for field trips. It was not clear how information was relayed to the parents as teachers seemed to think it was the duty of the principle to talk to them. If there is no communication parents will not pay for something they do not know anything about. Teachers need to communicate with them about the purpose of the field trip because most of the parents think that learners are only taken out for recreational purposes. If the school can make it a point that parents are made aware well in advance of the trip, its purpose and how it is linked to the whole Geography syllabus, then the parents will value and support the endeavor.

5.3.4. Diminished culture of teaching and learning

There appears to be lack of clarity, trust and authority in schools with teachers afraid to assert themselves as managers in their classrooms. This trend consistently emerged throughout the responses as all the teachers blamed the failure of their attempts to conduct fieldwork on the apathy that was displayed by the learners. On the one hand teachers wanted to be in charge and on the other they expected learners to take the lead. The researcher regards these tendencies as excuses for not doing the work.

Moreover, the researcher would like to stress the fact that learners are more likely to respond negatively to fieldwork if:

a) they are not involved in the preparation of the trip,

b) they do not know the purpose of the trip,

c) the activities to be done in the field are not linked to the classroom activities, and

d) what is to be done at the field is not linked to the assessment criteria of the learners performance in Geography as a subject.

It remains the task of the teachers to instill love of the subject to learners and arouse interest so that they will be motivated and start participating in the activities aimed at broadening their understanding of the subject.

5.3.5 Political environment

At the time of the study it appeared that the political situation that had prevailed prior to the election of a democratic government in the country had not yet stabilised. As a result some teachers were afraid to take learners to the field for fear of being caught up in some political fighting and or faction fights. This was, nevertheless, not a common problem as it only was reported by one teacher. It is important to mention that this could have been a different situation should this study have been undertaken in the years between 1988 and 1994.

5.4. Model for effective fieldwork implementation

One of the objectives of this study was to develop a model that teachers could use when undertaking fieldwork. The processes involved in fieldwork implementation laid out below resulted from a combination of models that were proposed by authors, like, Wheeler and Harding (1966), Lai (1995), Boud, Cohen and Walker (1993), Kolb (1984), Bones (1994) and Bartelmus (1994). The model suggested in this study is based on the feasibility of its implementation in view of the results of this study. The researcher established that in practice fieldwork proceeds in three connected stages.

These are : The preparation for fieldwork.
The fieldwork excursion.
The synthesis of the observations made.

5.4.1. The preparation stage

The key to success of school fieldwork is long-term planning and good organization. Wheeler and Harding (1966:09) state that," those who sally forth unprepared into the field, with learners similarly unprepared, court disaster."

The first myth that needs to be eradicated is that fieldwork may only be carried outside the school premises. There are many examples from a Geography programme that can be observed and studied within the school location. Secondly, the teacher must become familiar with the area in which his or her school is situated. Upon joining a new school he or she should acquire from local libraries and municipality offices a personal set of local maps and plans for study and reference. Maps are meant to be annotated, improved, added to and generally written on. The teacher's private set of maps should soon become smothered in a mass of personal jottings as details observed in walks round the school and home area are recorded.

Clipped to the maps, or filed with them, should be sketches, diagrams and lists of rock exposures, viewpoints, museums, and in fact all snippets of information that might be of future use.

He or she must spend time reading relevant books and documents. Fieldwork should be the teacher's interest in and out of the school. He or she must do, and be seen to do, everything the learners are expected to, for example, soiling hands in the testing and collecting of rock and soil samples. In other words, before the teacher may conduct fieldwork he or she must be familiar with the environment. It would be embarrassing for him or her to discover phenomena he or she did not anticipate and find that he or she cannot give explanations.

Thirdly, the teacher, together with the learners must, decide where fieldwork can be related to the Geography syllabus. Much will depend on the age of the learners concerned and their attainment level. Of great importance, fieldwork should develop out of the sequence of lessons in the classroom. It should not be an activity which is arbitrarily imposed on the school work, but should exemplify preceding theoretical work or be a starting point from which theoretical lessons are developed. It must be an experience which generates an appetite for more Geography. Upon establishing the link between fieldwork and classroom lessons, he or she should communicate the purpose and objectives of a field trip to learners. He or she must also make them aware of the activities they will be expected to do during and after fieldwork.

The teacher, having planned ahead by drawing up a fieldwork programme, would then be able to prepare for the excursions. Consultations with the Principal, requesting time during school hours for this work, are more likely to succeed if the place of fieldwork in the whole Geography syllabus can be demonstrated in advance. The integrated approach to teaching encourages teachers to do team teaching. Fieldwork offers teachers such opportunity to interface with each other in their programmes as they arrange joint trips. In that way the school could save money by organising trips that would cover more than one learning area.

It is also important for the teacher to give the parents of learners involved a detailed plan of the trip so that they have an understanding of why they have to pay if the money to fund the trip or a portion of it is going to be asked from them.

Finances and Equipment: The problem of financing excursions to distant sites is also eased by planning well ahead. If well planned, some establishments and local businesses might be persuaded to donate some funds to schools for the purpose of educational excursions. The parents too may be in a position to pay if they are warned well in advance about the trip. After all, it is the responsibility of each and every parent to pay for his or her child on school activities. On the other hand, all the equipment deemed necessary for fieldwork should be assembled and tested before the field trip starts. The Geography teacher needs to allow the learners beforehand to handle and use the equipments to be used during fieldwork.

Planning the route: The teacher should have travelled over the proposed route well in advance. By having a first-hand experience of the area to be investigated, the teacher can decide how best the fieldwork can be presented to learners. Important questions are: *Can the learners, concerned, appreciate the Geography of the area?* For example, a complex river study is not suitable for junior learners but a local gully or small stream pattern might prove a worthwhile study. *Is the walking distance within the competence of the learners? How long will it take ?* (a fieldwork lesson usually takes longer than the normal classroom lesson).

5.4.2. The fieldwork excursion

If ample preparation has been made and the learners know of the purpose of the excursion and how it relates to their studies then the fieldwork lesson should 'run itself'. It is advantageous for the teacher to give handouts and maps when they are required, and not at the outset of the journey so as to avoid unnecessary loss or damage. The teacher should avoid giving an open air lecture when in the field. This defeats the main purpose of the exercise and causes restlessness among the learners. The teacher's task, when leading the

party, is to activate interest, direct attention, follow up suggestions from the learners concerning the observations they make, answer questions and set an example. Emphasis should be on the learners acting upon, rather than listening to the words of the teacher.

Note taking: An orderly method of taking notes in the field should be encouraged. Each learner should number his or her notebook pages consecutively. The date and place of the fieldwork should be recorded first as a heading. Thereafter, it is useful if each note is also numbered progressively throughout the day and some map references given alongside to show where the observation was made. If specimens are collected they should be labelled alphabetically. When photos are taken these should be recorded alongside the appropriate number of the observation.

5.4.3. The synthesis

This is the final and important stage when the learners, having experienced the geographical processes of observing, recording and interpreting, now attempt to draw all the threads together into a complete whole. Fieldwork does not become Geography in the true sense until the difficult write-up has been attempted. However, the synthesis may take many forms according to the age and ability of the learners involved, and also the degree of complexity of the fieldwork itself. It is important, at whatever level of attainment, that the collating of the various investigations made should come as soon as possible after the day of the excursion while the experience is still fresh. With learners at lower levels of secondary school, synthesis may simply take the form of a discussion based on the observations made, and maybe supported by the making of a map from sketches done in the field. With all levels of school children the accurate completion of a transect diagram could be sufficient in itself. Nevertheless, the soundest method to aim for is the write-up, supported by maps, diagrams, specimens, photos and illustrative models and this can serve as a quality assurance evidence that learners were indeed involved in fieldwork during their course of learning geography.

Bones (1994:67) states that the simple and useful method for write-up presentation is a 'z-book' method. This consists of a suitable thin board folded or joined to produce an extendable concertina shape of stiff enough paper or card on which the account of the fieldwork can be mounted and displayed. In assembling this the emphasis should be placed on putting the maps, diagrams and photographs in the order required and arranging round these the written material which explains the illustrations. When appropriate, small specimens such as dried plants or samples obtained from the sites studied can be attached to the pages of the z-book.

The advantages of this method are that it can stimulate group work in assembling the finished account. The card provides a wider area than a notebook or loose leaf pages, thus making display an easier matter. It can also be folded up and handled like a book or placed upright or vertically for display purposes. It will be a stimulating and worthwhile experience for the learners to put on a display their work at some time in the year. In working towards a communal goal they will have the satisfaction of communicating the results of their investigation to wider audience. Such a display could consist of the work actually completed by the learners over a period of a year or less. Parents can be invited to view the exhibition. It also has the great advantage of sparking off interest and added co-operation from parents and learners alike. Similarly, when a survey has been made of a local area it can be a pleasant occasion to invite people from the locality to inspect the work. Whether a display is put up or not, the learners should always be given ample opportunity to read and examine the fieldwork results of their own fellows. Another advantage of this exercise is that it is a reasonably cheap and interesting way of teaching about developing posters. The collaborative effort of the learners helps them to realise the value of working together as against competition.

5.5. Recommendations of the study

1. Although the teachers know about expository and participatory approaches in teaching very little has be done and the researcher recommends that fieldwork be

used more frequently as a method of teaching to enhance participation amongst the learners.

2. School authorities, like Principals, subject advisors, subject committees and parents should encourage fieldwork by ensuring that it is included in the teacher's teaching programmes as early as in the lower grades.

3. There should be proper and regular communication between the school and the parents on the activities to be done by learners at school. Teachers need to plan their annual teaching programme at the beginning of the year and make the parents aware of the activities that are going to take place in that particular year and in the same vein the parents must take initiative and take a lead on the education of their children. They must liase constantly with the school so that they will have an understanding of what is going on at school.

4. Teachers should adopt a teamwork approach in their teaching so that the implementation of activities like fieldwork would encompass different learning experiences from related learning areas.

5. Purposeful workshops should be conducted regularly to enrich teachers on the recent trends of teaching the subject and also strive towards the common understanding of the current syllabus.

6. Restoration of culture of learning and teaching. It became clear from the findings of this study that some learners and teachers were unwilling to engage themselves in fieldwork. This showed the lack of the culture of learning and teaching. The researcher believes that by employing a practical way of learning through fieldwork where the learners get to understand their local environment the culture of learning and teaching can be restored.

5.6. Future research areas identified by the study

The study identified the following important areas for future research:

1. Observational survey of fieldwork lessons where a sample of one or two classes could be directly observed in the field.

2. Use of focus groups in the study of fieldwork so as to elicit more information from affected parties like teachers, parents, learners, subject advisors as well as school Principals.

5.7. Conclusion

Education has been criticised for failing to teach learners how to think and reason and the results of any educational experience are measured by the benefit the learners derive from it. That may be assessed in the academic setting by how well learners perform in their scholastic programme; whether they are developing their conceptual knowledge of the topic(s); whether they demonstrate a positive attitude to their education; and whether they are performing their assignments and tasks more completely. Placing learners in direct contact with their environment for all classes offers a framework for developing skills essential to the modern world.

Geography as a science and as a subject, plays an essential role in the education of children and the youth living in the surrounding environment. Educational effects can be achieved by creating conviction that nature is placed within a system of own social group, clan and all mankind, and that this value is common for all people living in the world. Education through recognition of the natural environment develops amongst learners an emotional attitude towards surroundings and a sense of responsibility for the environment. It affects the shaping of sensitivity and perceptible abilities of environmental problems in own surroundings.

Fieldwork, therefore, plays an important role in making sense of Geography as a subject. Hiking along natural trails is primarily a wonderful field experience. It enlarges knowledge, shapes abilities among learners and consolidates ideas contained in the school Geography programmes.

This study was about how fieldwork is implemented in the teaching of Geography in secondary schools. It was discovered that though most teachers claimed to understand what fieldwork meant very few were actually implementing it in their daily teaching activities. It was also discovered that most of the problems mentioned by teachers as hindering fieldwork implementation were as a result of poor planning and lack of creativity on their side. The results of this study revealed that community and parent participation was poor. As a result, the parents were adamant to support their children financially when it came to fieldwork activities because they did not know what it entailed. One of the observations made by the study was the lack of team work among teachers in secondary schools. Teachers mentioned that fieldwork was time consuming and that it overlapped with the time slots of other subjects. The researcher saw this as lack of collaboration and team work at a time when integrated learning is being advocated for by the Department of Education.

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A Questionnaire

Implementation of fieldwork in Geography teaching at Secondary schools: With Special Reference to Mthunzini and Lower Umfolozi Districts.

Questionnaire Number [ ]

Your responses will remain strictly confidential, therefore, do not write your *name or the name of the school on this questionnaire.*

A. PERSONAL BACKGROUND

This section must be answered by all respondents.

Kindly tick (✔) the box next to the answer applicable to you.

1. What is your gender	Male	[ ]	01
	Female	[ ]	02
2. What is your age	Less than 20	[ ]	01
	Between 20-29	[ ]	02
	Between 30-39	[ ]	03
	Above 40	[ ]	04
3. What is your highest qualification	Standard 10	[ ]	01
	Teacher's Diploma	[ ]	02
	Bachelor' degree	[ ]	03
	Other, specify	[ ]	04

4. Where did you last study Geography

At secondary school	[ ]	01
At the College of Education	[ ]	02
At the University of level	[ ]	03

5. If you did Geography at the University level, did you do the method of Geography

Yes	[ ]	01
No	[ ]	02

6. What is your teaching experience

Below one year	[ ]	01
Between 1-5	[ ]	02
5-10	[ ]	03
10-15	[ ]	04
Above 15 years	[ ]	05

7. For how long have you been teaching Geography at secondary school

Below one year	[ ]	01
Between 1-5	[ ]	02
5-10	[ ]	03
10-15	[ ]	04
Above 15 years	[ ]	05

8. How many grades are you presently teaching

One grade	[ ]	01
Two grade	[ ]	02
Three grade	[ ]	03
Four grade	[ ]	04
Five grade	[ ]	05

9.What is the total number of subjects you are presently teaching

One subject	[ ]	01
Two subjects	[ ]	02
Three subjects	[ ]	03
More than three subjects	[ ]	04

10. Is your school located in urban or rural area

Rural	[ ]	01
Urban	[ ]	02

B. INFORMATION ON FIELDWORK

11. How would you define fieldwork in Geography

_____

_____

12. Is fieldwork part of your annual Geography programme?

Yes	[ ]	01
No	[ ]	02

13. Do you undertake fieldwork in Geography lessons?

Yes	[ ]	01
No	[ ]	02

(Question 14 below is not applicable to those responded "yes" above)

14. If you do not undertake fieldwork, what are the reasons for not doing it?

_____

_____

(After this question, stop and start at question number 24)

15. How often do you undertake fieldwork?

Once a year	[ ]	01
Twice a year	[ ]	02
Three times a year	[ ]	03

16. During which time of the year do you undertake fieldwork?

Beginning of the year	[ ]	01
Middle of the year	[ ]	02
End of the year	[ ]	03
Other, specify----------	[ ]	04

17. When undertaking fieldwork, which method do you use?

Present lesson in class, fieldwork thereafter	[ ]	01
Fieldwork first, then theoretical lesson in class	[ ]	02
Present the lesson theoretically whilst on field	[ ]	03
Other,specify----------	[ ]	04

18. Do you make the learners aware of the objectives of fieldwork?

Yes	[ ]	01
No	[ ]	02

19. When do you make them aware of the objectives?

Prior to fieldwork	[ ]	01
During fieldwork	[ ]	02
After fieldwork	[ ]	03

20.What do you do as a teacher during fieldwork?

_____

_____

21. What activities do you expect your learners to do during fieldwork?

_____

_____

22. When do you tell your learners what you expect them to do ?

Prior to fieldwork	[ ]	01
During fieldwork	[ ]	02
After fieldwork	[ ]	03

23. What follow-up methods do you use after fieldwork?

_____

_____

24. Who should take initiative to ensure that learners are engaged in fieldwork.

School Principal	[ ]	01
Head of Department	[ ]	02
Subject Teacher	[ ]	03
Learners themselves	[ ]	04

25.What are the problems you think that they are associated with the undertaking of fieldwork?

_____

_____

ATTITUDES OF RESPONDENTS TOWARDS THE UNDERTAKING OF FIELDWORK.

Please read each statement carefully and indicate whether you:

Strongly Agree (SA)
Agree (A)
Are Neutral (N)
Disagree (D)
Strongly Disagree (SD)

With the statement by marking the appropriate number with a cross (X)

NO.	ITEM STATEMENT	SA	A	N	D	SD
1	Fieldwork wastes time					
2	Geography is the name for fieldwork					
3	Fieldwork broadens the learner's perception of space					
4	Fieldwork develops the observational skills to learners					
5	Fieldwork is an extra-curricular activity					
6	Fieldwork is only way of putting Geography into practice					
7	Fieldwork is in line with Curriculum 2005					
8	Fieldwork clearly shows to learners how Geography is Intergrated with other subject					
9	Fieldwork promotes environmental awareness					
10	Geography syllabus is not clear on the undertaking of Fieldwork					
11	Field trips are expensive to undertake					

Below is a list of all the things the teacher needs to do when undertaking fieldwork. Rank this list in order of importance by putting one (1) on the box next to the item you think comes first, two (2) on the item you think comes the second and so on.

(This question is only applicable to those responded 'yes' to question 13)

Deciding on the time that will be allocated for doing fieldwork [ ]

Thinking about practical problems that could be experienced on the field. [ ]

Making necessary arrangements with anyone concerned with fieldwork [ ]

Formulating the aims and objectives of fieldwork. [ ]

Giving instructions to learners of what is expected of them with regard to fieldwork. [ ]

Deciding on the exact nature of fieldwork [ ]

Asking learners to supplement their own observations by other references. [ ]

Writing letter to parents informing them about field trip to be undertaken. [ ]

Allocating marks on the work of the learners. [ ]

Asking learners to use observations to come up with conclusions [ ]

Asking learners to observe phenomena on the environment [ ]

Thank you for your co-operation

APPENDIX 1

A letter requesting permission to conduct research with teachers as research participants.

Superintendent-General
Department of Education and Culture -KZN
Private Bag x o4
ULUNDI
3838

Dear Sir

REQUEST FOR PERMISSION TO CONDUCT RESEARCH WITH TEACHERS AS SUBJECTS

I am registered student for M.Ed degree in the Faculty of Education and a staff member at this University . I am writing this letter to request for permission to conduct research with teachers in randomly selected school under two KwaZulu Natal Regions. My investigation is entitled " *Implementation of fieldwork in Geography teaching in Secondary schools of Mthunzini and Lower Umfolozi Disticts.*"

The proposed research is intended to help Geography teachers with their teachings especially on the procedures of undertaking fieldwork.
The study attempts to answer the following questions :

1. How fieldwork is undertaken in Geography teaching ?

2. What are the problems associated with the undertaking of fieldwork ?

A copy of a questionnaire is attached. I hope it will meet your approval. The names of the teachers and schools in this study will be treated as confidential, but the findings of the research can be forwarded to your office should you wish me to do so.

Your permission to conduct research in these regions will be highly appreciated.

Yours faithfully
Ngcamu R.N (Mr)

APPENDIX 2

Department of Education : Interim Core Syllabus for Geography Standard Grade

Standard 8, 9 and 10

DEPARTMENT OF EDUCATION

INTERIM CORE SYLLABUS

FOR

GEOGRAPHY STANDARD GRADE

STANDARDS 8, 9 AND 10

IMPLEMENTATION DATE: STANDARDS 8, 9 AND 10: 1996

GEOGRAPHY SG
STANDARDS 8-10

1. PRINCIPLES ON WHICH THE SYLLABUS IS BASED

1.1 Nature of Geography

Geography as a subject has many areas of overlap with other subjects, in both the natural and the social fields of study. This syllabus takes into account the essential nature of Geography. It ensures that:

1.1.1 the four major traditions in geography are upheld. These are:

- human-land relationships;
- the spatial perspective;
- the regional viewpoint;
- the earth-science component;

1.1.2 a balance is maintained between Physical Geography and Human Geography;

1.1.3 provision is made for both the theoretical and the practical aspects of the subject;

1.1.4 sufficient flexibility exists to allow for the changing nature of the subject.

1.2 General education of the pupil

Education is concerned with the development of the "whole being", and not merely with imparting knowledge.

1.2.1 The most important aims, in the long term, are for pupils to:

- acquire and develop intellectual skills and abilities which will promote on-going education;
- adjust to a society that is undergoing rapid and far-reaching social, economic and political changes;
- enter the world-of-work that is becoming increasingly more technologically orientated;
- develop their moral and emotional (affective) attributes.

1.2.2 The teaching of Geography should be neither specifically vocationally orientated nor

entirely university orientated. The syllabus should provide for two groups of pupils:

- those who will receive no further instruction in the subject, and
- those who will continue with the study of Geography at a tertiary level.

1.2.3 Although the syllabus is divided into a Junior Secondary Phase and a Senior Secondary Phase, the two phases must be related and must allow for the progressive development of geographical knowledge, skills and attitudes.

2. OBJECTIVES

- In lesson preparation teachers should bear in mind the higher abilities of comprehension, analysis, application, synthesis and evaluation.
- This subject should be taught in such a way that pupils develop an eagerness for further study and individual inquiry.
- Teachers should be aware of the contribution Geography is making to the general education of the pupil. It is this awareness that gives direction to day-to-day teaching.
- Objectives should be meaningful to pupils and teachers alike, and must constitute both realistic and achievable targets.
- The type and number of short-term objectives in Geography are numerous: those selected for a lesson should be closely correlated with the nature of the subject matter and the resources available to the teacher.

Objectives can be classified into four main categories:

2.1 Knowledge

2.1.1 Pupils should acquire a fundamental body of knowledge which is meaningful and useful to them and which can be applied and reproduced in whatever form is required.

2.1.2 Pupils should recognize the unity of knowledge through the links that Geography has with other subjects.

2.2 Skills

2.2.1 No list of skills can be complete. The following should, however, be kept in mind:

- The importance attached to different skills should be related to the abilities and maturity of the pupils.
- The development of skills should enable pupils to deal with knowledge in an organized manner.
- Pupils should gain proficiency in the use of skills through repetition and the application of these skills to new situations.

2.2.2 Geography can make particular contribution to the following skills:

- Oracy and literacy: thinking logically, writing concisely, speaking with assurance and accuracy;
- Numeracy: introduce with simple statistical methods, graphs and tables;
- Graphicacy: the ability to draw, read and interpret;
- Interpretation: of pictures, photographs, statistics and maps;
- Fieldwork techniques: using either the traditional (survey) or the scientific approach.

2.3 Perception

The way in which the environment is "perceived" in reaction to the "actual" environment influences the pupil's concept of space (spatial conceptualization).

2.3.1 In order to heighten the pupils' perception of their environment, it is necessary for them to:

- recognize the relationships that exist between people and their environment;
- identify spatial patterns, spatial relationships and interaction. (This is closely linked with an understanding of location, distance and accessibility);

- be aware of the underlying processes which act upon spatial patterns and relationships and which bring about change;

- be aware of the world's place-to-place variety; to recognize the uniqueness of place.

2.3.2 Many studies require pupils to examine the spatial aspects of social and economic problems. Such studies provide opportunities for pupils to respond to problem solving and decision-making situations through critical divergent and creative thinking.

2.4 Appraisal

2.4.1 Studies in Geography should promote the formation and reinforcement of positive attitudes and values.

- This is an affective objective, because without appealing to the emotions and without sufficient motivation, learning seldom takes place.

2.4.2 Pupils need to develop a social awareness. This means that they are expected to:

- recognize the interdependence of people;

- acquire a tolerant attitudes towards others with different social, economic and political circumstances.

2.4.3 Pupils need to develop an environmental awareness. They need to feel a commitment towards the environment by developing a "caring attitude". This means they are expected to:

- recognize the need for conservation;

- understand that the balance of nature is largely dependent on peoples' wise management of their environment.

  They should be aware of how people use/ abuse their environment, particularly the resources available to them; the options and constraints that are placed on their actions.

- Realize that quality of life is influenced by the aesthetic aspects of peoples' environment as well as by an appreciation of the grandeur and wonder of Creation.

3. TEACHING GUIDELINES

3.1 Teaching approaches

Teachers should make every effort to create effective learning experiences for their pupils. Whatever teaching approach is used, it is essential to develop a sense of reality in the teaching situation.

3.1.1 The holistic of global approach

- It is particularly important that the components of the syllabus are viewed as parts of a whole and not as isolated compartments of knowledge.
- The divisions of the syllabus should merely be regarded as a convenient means of grouping the characteristics of the individual components.
- Wherever possible, the relationship and interaction between components should be stressed.

3.1.2 The descriptive versus the problem-solving approach

- Although there is still room for some of the descriptive techniques of traditional Geography, emphasis should be given to a more problem-orientated skills-based approach.
- Pupils should gain insight into the process of decision-making by participating in exercises such as simulation and games.

3.1.3 The systems approach

- It is recommended that teachers introduce the concept of systems into their teaching.
- Pupils should be aware that Geography encompasses the study of a very complex human-environmental ecosystem. This complex system is broken down into a number of sub-systems to facilitate its study.
- Several components of the syllabus could be taught as sub-systems such as those associated with weather, drainage and urban sub-systems.

3.1.4 The inter-disciplinary approach

- Concepts studies in Geography may overlap with those of other subjects such as Biology, Science, and Economics.
- Interdisciplinary studies should form part of the broad teaching strategy. This will enhance the value of both the learning content and the learning objectives.

3.1.5 The scientific approach

- Pupils should be trained in the scientific method of inquiry (statement of hypothesis, followed by the collection and classification of information, and finally the testing of the hypothesis).

3.2 Teaching techniques

It is recommended that, where appropriate, teachers should:

3.2.1 Integrate the reading and analysis of photographs, statistics and maps with the relevant sections of the syllabus. This includes:

- photographs: vertical, oblique and horizontal (i.e. aerial and ordinary);
- statistics: appropriate statistical geographical data;
- maps: such as wall, atlas, topographic maps of southern Africa (particularly the 1:50 000 SA series) and municipal maps of the local area.

3.2.2 Ensure that pupils become competent in the use of various measuring instruments and other apparatus.

3.2.3 Make use of diagrammatic representation of statistics. For example, climatic figures, economic data and population characteristics can be illustrated by means of line graphs, columns, rectangles, circle segments, dots, colour, pictorial diagrams and isolines.

3.2.4 Introduce quantitative techniques such as means, deviations (range), simple correlations, scattergrams, regression lines and probabilities. Emphasis should be on understanding what the different techniques reflect. Complicated calculations and constructions are not required.

3.2.5 Refer to models. These include:

- Theoretical models (such as urban and economic models) which need to be tested against the real world. These enable Geography to be studied by means of a more problem-orientated approach

- Physical models (such as globes, tellurions, papermaché and sand-tray models) which provide effective representations of the real world.

3.2.6 Undertake well-planned and meaningful fieldwork:

- this includes observation and measurement in the field and the recording and processing of data; the interpretation of written and graphic information.

3.2.7 Encourage individual and group research techniques:

- Pupil involvement, independent activity, initiative, creativity and independence should constantly be extended.

- Pupils should learn to rely on personal observation in the field (primary source) and to make use of secondary sources such as reference books, maps, photographs and diagrams, films, tapes and slides, as well as television, the radio and the press.

- Pupils need to develop worthwhile attitudes towards learning such as respect for evidence, a critical appraisal of reporting, a suspicion of simplistic explanations, and a willingness to engage in rational discussion.

- Pupils need to distinguish between central issues of importance and peripheral issues.

NOTE: Pupils should undertake short, independent study topics throughout the year on work related to the requirements of the syllabus.

3.3 Differentiation

3.3.1 Teachers should not expect the same amount and quality of work from all pupils. Differences in ability must be taken into account. However,

each pupil can be expected to work at the highest possible level of his/her own ability.

3.3.2 Most of the topics studied are common to all grades. However, pupils in different grades will not be expected to study these to the same depth. The approach to, and the control of work for less able pupils should be more direct.

3.4 **Evaluation**

Evaluation is concerned with both:

- the measurement of pupil achievement, and
- the effectiveness of lesson preparation, class management and the achievement of lesson objectives.

4. EXAMINATIONS

4.1 There should be continuous evaluation for all standards.

4.2 Pupils in Standards 8 and 9 must write an internal examination at the end of each year.

4.3 A final public examination will be set at the end of the Standard 10 year.

4.3.1 Although the examination will be set on the Standard 10-syllabus, candidates will be expected to draw on their overall knowledge of concepts and skills developed in previous years.

4.3.2 This examination will consist of TWO papers:

PAPER 1: 1½ HOURS

- Compulsory questions will be set on photo- and map reading, analysis and interpretation.
- The emphasis will be on interpretation, and questions will relate to aspects of Physical, Settlement and Regional Geography.

PAPER 2: 3 HOURS

- This paper will be divided into THREE sections.
- FOUR questions must be answered: ONE from each section and the FOURTH question when be chosen from sections A, B or C.

- Layout of paper for the Higher Grade and the Standard Grade:

  SECTION A: PHYSICAL GEOGRAPHY
  TWO questions set, at least ONE must be answered.

  SECTION B: SETTLEMENT GEOGRAPHY
  TWO questions set, at least ONE must be answered.

  SECTION C: REGIONAL GEOGRAPHY
  THREE questions set, at least ONE must be answered.

- COMBINED questions may be set in each section; for example, a question in Section A may comprise the Geomorphology, Ecology and Climatology components.

- HIGHER GRADE questions may either be SYSTEMATIC or of the COMPOSITE variety. A composite question in one section (e.g. Section A) may include aspects from one or both the other two sections (B and/or C), provided the marks allocated to aspects from other sections do not exceed 25% of the total marks for the question.

- STANDARD GRADE emphasis should be on the SYSTEMATIC type of question.

4.4 Differentiation between Higher Grade and Standard Grade, for both internal and external papers, should be achieved through the type of questions set and on their mark allocation.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY SG
CODE	:	225217408
INSTRUCTIONAL PROGRAMME	:	STANDARD 8
CODE	:	608

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6 and 7. These skills and abilities will form the foundation for Standards 8-10 mapwork.
- These skills and attitudes will form the foundation for Standards 9 and 10.
- Wherever possible, the application of maps and aerial photographs should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading and analysis of oblique and vertical (aerial) photographs:

1.1.1 Different perspectives; uses; scale; physical and cultural phenomena and relationships.

1.1.2 Comparisons with 1:50 000 topographic maps.

1.2 Reading, analysis and interpretation of maps:

1.2.1 Background study to maps in general:

Types and functions; scales and keys.

1.2.2 1:50 000 topographic maps of South Africa

Direction and bearing, horizontal distance, area, contours, landforms, cross-sections, gradients and vertical intervals, vertical exaggeration and intervisibility, conventional signs, cultural landscape.

1.3 Reading, analysis and interpretation of graphical data.

2. CLIMATOLOGY

- Use should be made of the new synoptic weather maps, actual observation, recording instruments and graphic representation.

2.1 The atmosphere

Composition and structure

2.2 Temperature

Heating of the atmosphere; factors influencing horizontal temperature gradient; vertical temperature gradient.

2.3 Moisture in the atmosphere

Relationship between temperature and moisture in the atmosphere; actual and relative humidity; dewpoint temperature; simple cloud classification; precipitation.

2.4 Atmospheric trends: Select ONE of the following topics:

2.4.1 ozone question
2.4.2 global warming
2.4.3 air pollution.

3. GEOMORPHOLOGY

3.1 Internal forces and resultant landforms:

3.1.1 Plate tectonics, earthquakes and vulcanism.
3.1.2 Warping, folding and faulting.

3.2 Rock types (elementary).

3.3 Weathering and erosion.

3.4 Geomorphology and people. Select any ONE of these topics:

3.4.1 volcanoes or earthquakes
3.4.2 economic importance of minerals and rocks
3.4.3 soil erosion.

4. POPULATION GEOGRAPHY

- Make use of graphic representation where appropriate (Calculations are not required)

4.1 Concepts in population geography such as: density, age-sex structure, birth rate, death rate, growth rate,

occupation structure, life expectancy and infant mortality rate.

4.2 Population movements and factors responsible for them.

4.3 Population growth

4.3.1 Factors influencing the growth of world population since the Industrial Revolution

4.3.2 Problems and possible solutions.

4.4 Population dilemmas

Select ONE of the following:

4.4.1 Sustainable development
4.4.2 AIDS
4.4.3 Refugees

5. REGIONAL GEOGRAPHY (Optional section)

Study ONE developed and ONE developing country:

- Countries selected for illustrative purposes should be chosen in terms of aspects such as: Their links with South Africa, their prominence in current world affairs, their association with major (international) blocs.
- The use of maps and other visual materials is important in these studies.
- Principles studied in Section 4 should be applied.

5.1 A developed country: Japan OR the Netherlands OR a country of your own choice*.

5.2 A developing country: India OR Brazil OR a country of your own choice*.

NB: *The country of your own choice for each standard may not be:

(a) a country that was studied in a previous standard, or

(b) a country to be studied in a later standard.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY SG
CODE	:	225217509
INSTRUCTIONAL PROGRAMME	:	STANDARD 9
CODE	:	609

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6-8.
- Wherever possible, the application of maps, aerial photographs and quantitative techniques (including graphic representation) should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading, analysis and interpretation of aerial (oblique and vertical) photographs.

1.2 Reading, analysis and interpretation of 1:50 000 topographic maps of South Africa.

2. CLIMATOLOGY

- New synoptic weather maps, relevant recording instruments and quantitative techniques should be used where appropriate.

2.1 Atmospheric pressure

Definition, measurement and representation.

2.2 Relationships between pressure and wind and geostrophic flow.

2.3 General circulation of the atmosphere

Primary, secondary and tertiary circulations.

2.4 Weather processes

Lapse rates, thermal stability and instability.

2.5 Thunderstorms and tornadoes

Growth, decay, and associated weather; consequences

- These should be studied on a global scale.

2.6 Weather forecasting. Select ONE of the following topics:

2.6.1 [illegible] to forecasters
2.6.2 [illegible] and the role of the ocean
2.6.3 climate control and management.

3. GEOMORPHOLOGY

Select at least [illegible] of the topics from paragraphs 3.2 to 3.4 (3.1 is [illegible])

- Topographic maps and aerial photographs should be used where appropriate.
- Cross-sections should be drawn and interpreted where applicable.
- Well-planned and meaningful fieldwork should be undertaken.
- In general, [illegible] these processes, resultant landforms and profile must be stressed

3.1 Flow of [illegible] and landforms typical of fluvial erosion [illegible]

3.2 Solution [illegible] and resultant landforms (karst geomorphology)

3.3 Marine [illegible] and depositional landforms.

3.4 Wind action and resultant landforms.

4. OCEANS AND MAN

- This section should be studied from a global viewpoint.

4.1 The oceans as a major source of moisture for the atmosphere, their role in [illegible] of the atmosphere, protein food, energy supply.

4.2 The role of the oceans in climate control, world trade.

4.3 Associated problems such as ocean pollution and overexploitation and possible solutions.

5. ECONOMIC GEOGRAPHY

5.1 Renewable and non-renewable resources.

5.2 Primary activities

5.2.1 Farming

Subsistence and commercial farming; crop and stock farming; the RSA's production of major products as seen in relation to world production: specific study of ONE crop type (maize, wheat, sugar, fruit) and ONE stock type (beef, dairy, wool).

5.2.2 Mining

Basic economics of exploitation, the RSA's production of important minerals as seen in relation to world production; specific study of at least TWO minerals (gold, diamonds, coal, iron-ore).

5.3 Secondary activities

Light and heavy industry; factors favouring the location of industry; case study of EITHER a heavy OR a light industry in the RSA.

5.4 Tertiary activities

The service industries with specific reference to transport OR electricity supply OR water supply in the RSA.

5.5 Principles and implementation of the Reconstruction and Development Programme (RDP).

6. REGIONAL GEOGRAPHY (Optional)

- Study ONE developed and ONE developing country.
- Countries selected for illustrative purposes should be chosen in terms of aspects such as their links with South Africa, their prominence in current world affairs, their association with major (international) blocs.
- The use of maps and other visual materials is important in these studies.
- Principles studied in Section 5 should be applied.

6.1 Socio-economic characteristics of developed and developing countries:

- A generalized presentation to provide a global view.

6.2 Application of these general characteristics and principles to regional studies:

6.2.1 A developed country: The USA OR a country of your own choice*.

6.2.2 A developing country: Nigeria OR Egypt OR a country of your own choice*.

NB: *The country of your own choice for each standard may not be:

(a) a country that was studied in a previous standard, or

(b) a country to be studied in a later standard.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY SG
CODE	:	2252 7610
INSTRUCTIONAL PROGRAMME	:	STANDARD 10
CODE	:	610

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6 to 9.
- Wherever possible, the application of maps, aerial photographs and quantitative techniques (including graphical representation) should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading, analysis and interpretation of aerial (oblique and vertical) photographs.

1.2 Reading, analysis and interpretation of 1:50 000 topographic maps of South Africa.

2. CLIMATOLOGY

- New synoptic maps should be used
- Relevant concepts learnt in stds 8 and 9 should be applied.

2.1 Mid-latitude and tropical cyclones

Growth, decay and associated weather; consequences.

2.2 Weather and climatice explanations

2.2.1 Regional scale

Typical seasonal weather patterns in Southern Africa.

2.2.2 Local scale

Valley climates and city climates

- Use southern African examples, where possible.

3. GEOMORPHOLOGY

In this section attention should be given to:

- The drawing and interpretation of cross-sections and profiles.
- The use and interpreation of topographic maps and aerial photographs.
- Well-planned and meaningful fieldwork.

3.1 Drainage basins; long- and cross-profiles; stream channel characteristics; flow characteristics (normal and abnormal); river capture; super-imposed and antecedent streams.

3.2 Topography associated with horizontal and inclined strata and with massive igneous rocks.

3.3 Slope characteristics.

4. ECOSYSTEMS, ENVIRONMENTAL BALANCE AND CONSERVATION

- Relate to South Africa (section 6.1.1).

4.1 Soils

Soil profile; soil forming factors.

4.2 Concept of an ecosystem.

4.3 Ecological processes: Energy flow; nutrient cycling; self-regulation.

4.4 Human impact on the ecosystem: Imbalance of the ecosystem; environmental conservation and management.

5. SETTLEMENT GEOGRAPHY

- Meaningful fieldwork should be undertaken.
- General patterns as well as deviations should be indicated so as to present a global view.

- South African examples should be used where appropriate.

5.1 Rural settlement

5.1.1 Definition and function
5.1.2 Types: Nucleated and dispersed
5.1.3 Factors influencing site, situation and form
5.1.4 Depopulation of rural areas
5.1.5 Rural development strategies

5.2 Urban settlement

5.2.1 Processes and characteristics of urbanization

- Should be done in a comparative context to present a global view.

5.2.2 Factors influencing site, function and situation.

5.2.3 Distribution of urban centres

- Include concepts of central places; spheres of influence; threshold and range of services; urban hierarchies.

5.2.4 Land-use zones and urban morphology (including the rural-urban fringe)

- Consider in terms of underlying forces and processes.

- Concept of urban models should be applied.

5.2.5 Urban problems and possible solutions.

5.2.6 Planning for improved urban environments.

6. REGIONAL GEOGRAPHY

6.1 The Republic of South Africa

- Pupils should be familiar with DISTRIBUTION MAPS, which form an integral part of the regional course, such as political divisions, chief towns and transportation routes, relief and drainage, major climatic regions.

- Extensive use should be made of the atlas.

6.1.1 Environmental problems and possible solutions

- Reference must be made to droughts and floods, soil erosion, vegetation imbalance, polution, wildlife extinction.

APPENDIX 3

Department of Education : Interim Core Syllabus for Geography Higher Grade

Standards 8, 9 and 10

DEPARTMENT OF EDUCATION

INTERIM CORE SYLLABUS

FOR

GEOGRAPHY HIGHER GRADE

STANDARDS 8, 9 AND 10

IMPLEMENTATION DATE: STANDARDS 8, 9 AND 10: 1996

GEOGRAPHY HG
STANDARDS 8–10

1. PRINCIPLES ON WHICH THE SYLLABUS IS BASED

1.1 Nature of Geography

Geography as a subject has many areas of overlap with other subjects, in both the natural and the social fields of study. This syllabus takes into account the essential nature of Geography. It ensures that:

1.1.1 the four major traditions in geography are upheld. These are:

- human-land relationships;
- the spatial perspective;
- the regional viewpoint;
- the earth-science component;

1.1.2 a balance is maintained between Physical Geography and Human Geography;

1.1.3 provision is made for both the theoretical and the practical aspects of the subject;

1.1.4 sufficient flexibility exists to allow for the changing nature of the subject.

1.2 General education of the pupil

Education is concerned with the development of the "whole being", and not merely with imparting knowledge.

1.2.1 The most important aims, in the long term, are for pupils to:

- acquire and develop intellectual skills and abilities which will promote on-going education;
- adjust to a society that is undergoing rapid and far-reaching social, economic and political changes;
- enter the world-of-work that is becoming increasingly more technologically orientated;
- develop their moral and emotional (affective) attributes.

1.2.2 The teaching of Geography should be neither specifically vocationally orientated nor

entirely university orientated. The syllabus should provide for two groups of pupils:

- those who will receive no further instruction in the subject, and
- those who will continue with the study of Geography at a tertiary level.

1.2.3 Although the syllabus is divided into a Junior Secondary Phase and a Senior Secondary Phase, the two phases must be related and must allow for the progressive development of geographical knowledge, skills and attitudes.

2. OBJECTIVES

- In lesson preparation teachers should bear in mind the higher abilities of comprehension, analysis, application, synthesis and evaluation.
- This subject should be taught in such a way that pupils develop an eagerness for further study and individual inquiry.
- Teachers should be aware of the contribution Geography is making to the general education of the pupil. It is this awareness that gives direction to day-to-day teaching.
- Objectives should be meaningful to pupils and teachers alike, and must constitute both realistic and achievable targets.
- The type and number of short-term objectives in Geography are numerous: those selected for a lesson should be closely correlated with the nature of the subject matter and the resources available to the teacher.

Objectives can be classified into four main categories:

2.1 Knowledge

2.1.1 Pupils should acquire a fundamental body of knowledge which is meaningful and useful to them and which can be applied and reproduced in whatever form is required.

2.1.2 Pupils should recognize the unity of knowledge through the links that Geography has with other subjects.

2.2 Skills

2.2.1 No list of skills can be complete. The following should, however, be kept in mind:

- The importance attached to different skills should be related to the abilities and maturity of the pupils.
- The development of skills should enable pupils to deal with knowledge in an organized manner.
- Pupils should gain proficiency in the use of skills through repetition and the application of these skills to new situations.

2.2.2 Geography can make particular contribution to the following skills:

- Oracy and literacy: thinking logically, writing concisely, speaking with assurance and accuracy;
- Numeracy: introduce with simple statistical methods, graphs and tables;
- Graphicacy: the ability to draw, read and interpret;
- Interpretation: of pictures, photographs, statistics and maps;
- Fieldwork techniques: using either the traditional (survey) or the scientific approach.

2.3 Perception

The way in which the environment is "perceived" in reaction to the "actual" environment influences the pupil's concept of space (spatial conceptualization).

2.3.1 In order to heighten the pupils' perception of their environment, it is necessary for them to:

- recognize the relationships that exist between people and their environment;
- identify spatial patterns, spatial relationships and interaction. (This is closely linked with an understanding of location, distance and accessibility);

- be aware of the underlying processes which act upon spatial patterns and relationships and which bring about change;

- be aware of the world's place-to-place variety; to recognize the uniqueness of place.

2.3.2 Many studies require pupils to examine the spatial aspects of social and economic problems. Such studies provide opportunities for pupils to respond to problem solving and decision-making situations through critical divergent and creative thinking.

2.4 Appraisal

2.4.1 Studies in Geography should promote the formation and reinforcement of positive attitudes and values.

- This is an affective objective, because without appealing to the emotions and without sufficient motivation, learning seldom takes place.

2.4.2 Pupils need to develop a social awareness. This means that they are expected to:

- recognize the interdependence of people;

- acquire a tolerant attitudes towards others with different social, economic and political circumstances.

2.4.3 Pupils need to develop an environmental awareness. They need to feel a commitment towards the environment by developing a "caring attitude". This means they are expected to:

- recognize the need for conservation;

- understand that the balance of nature is largely dependent on peoples' wise management of their environment.

  They should be aware of how people use/abuse their environment, particularly the resources available to them; the options and constraints that are placed on their actions.

- Realize that quality of life is influenced by the aesthetic aspects of peoples' environment as well as by an appreciation of the grandeur and wonder of Creation.

3. TEACHING GUIDELINES

3.1 Teaching approaches

Teachers should make every effort to create effective learning experiences for their pupils. Whatever teaching approach is used, it is essential to develop a sense of reality in the teaching situation.

3.1.1 The holistic of global approach

- It is particularly important that the components of the syllabus are viewed as parts of a whole and not as isolated compartments of knowledge.
- The divisions of the syllabus should merely be regarded as a convenient means of grouping the characteristics of the individual components.
- Wherever possible, the relationship and interaction between components should be stressed.

3.1.2 The descriptive versus the problem-solving approach

- Although there is still room for some of the descriptive techniques of traditional Geography, emphasis should be given to a more problem-orientated skills-based approach.
- Pupils should gain insight into the process of decision-making by participating in exercises such as simulation and games.

3.1.3 The systems approach

- It is recommended that teachers introduce the concept of systems into their teaching.
- Pupils should be aware that Geography encompasses the study of a very complex human-environmental ecosystem. This complex system is broken down into a number of sub-systems to facilitate its study.
- Several components of the syllabus could be taught as sub-systems such as those associated with weather, drainage and urban sub-systems.

3.1.4 The inter-disciplinary approach

- Concepts studies in Geography may overlap with those of other subjects such as Biology, Science, and Economics.

- Interdisciplinary studies should form part of the broad teaching strategy. This will enhance the value of both the learning content and the learning objectives.

3.1.5 The scientific approach

- Pupils should be trained in the scientific method of inquiry (statement of hypothesis, followed by the collection and classification of information, and finally the testing of the hypothesis).

3.2 Teaching techniques

It is recommended that, where appropriate, teachers should:

3.2.1 Integrate the reading and analysis of photographs, statistics and maps with the relevant sections of the syllabus. This includes:

- photographs: vertical, oblique and horizontal (i.e. aerial and ordinary);

- statistics: appropriate statistical geographical data:

- maps: such as wall, atlas, topographic maps of southern Africa (particularly the 1:50 000 SA series) and municipal maps of the local area.

3.2.2 Ensure that pupils become competent in the use of various measuring instruments and other apparatus.

3.2.3 Make use of diagrammatic representation of statistics. For example, climatic figures, economic data and population characteristics can be illustrated by means of line graphs, columns, rectangles, circle segments, dots, colour, pictorial diagrams and isolines.

3.2.4 Introduce quantitative techniques such as means, deviations (range), simple correlations, scattergrams, regression lines and probabilities. Emphasis should be on understanding what the different techniques reflect. Complicated calculations and constructions are not required.

3.2.5 Refer to models. These include:

- Theoretical models (such as urban and economic models) which need to be tested against the real world. These enable Geography to be studied by means of a more problem-orientated approach

- Physical models (such as globes, tellurions, papermaché and sand-tray models) which provide effective representations of the real world.

3.2.6 Undertake well-planned and meaningful field-work:

- this includes observation and measurement in the field and the recording and processing of data; the interpretation of written and graphic information.

3.2.7 Encourage individual and group research techniques:

- Pupil involvement, independent activity, initiative, creativity and independence should constantly be extended.

- Pupils should learn to rely on personal observation in the field (primary source) and to make use of secondary sources such as reference books, maps, photographs and diagrams, films, tapes and slides, as well as television, the radio and the press.

- Pupils need to develop worthwhile attitudes towards learning such as respect for evidence, a critical appraisal of reporting, a suspicion of simplistic explanations, and a willingness to engage in rational discussion.

- Pupils need to distinguish between central issues of importance and peripheral issues.

NOTE: Pupils should undertake short, independent study topics throughout the year on work related to the requirements of the syllabus.

3.3 Differentiation

3.3.1 Teachers should not expect the same amount and quality of work from all pupils. Differences in ability must be taken into account. However,

each pupil can be expected to work at the highest possible level of his/her own ability.

3.3.2 Most of the topics studied are common to all grades. However, pupils in different grades will not be expected to study these to the same depth. The approach to, and the control of work for less able pupils should be more direct.

3.4 Evaluation

Evaluation is concerned with both:

- the measurement of pupil achievement, and
- the effectiveness of lesson preparation, class management and the achievement of lesson objectives.

4. EXAMINATIONS

4.1 There should be continuous evaluation for all standards.

4.2 Pupils in Standards 8 and 9 must write an internal examination at the end of each year.

4.3 A final public examination will be set at the end of the Standard 10 year.

4.3.1 Although the examination will be set on the Standard 10-syllabus, candidates will be expected to draw on their overall knowledge of concepts and skills developed in previous years.

4.3.2 This examination will consist of TWO papers:

PAPER 1: 1½ HOURS

- Compulsory questions will be set on photo- and map reading, analysis and interpretation.
- The emphasis will be on interpretation, and questions will relate to aspects of Physical, Settlement and Regional Geography.

PAPER 2: 3 HOURS

- This paper will be divided into THREE sections.
- FOUR questions must be answered: ONE from each section and the FOURTH question when be chosen from sections A, B or C.

- Layout of paper for the Higher Grade and the Standard Grade:

  SECTION A: PHYSICAL GEOGRAPHY
  TWO questions set, at least ONE must be answered.

  SECTION B: SETTLEMENT GEOGRAPHY
  TWO questions set, at least ONE must be answered.

  SECTION C: REGIONAL GEOGRAPHY
  THREE questions set, at least ONE must be answered.

- COMBINED questions may be set in each ecology section; for example, a question in Section A may comprise the Geomorphology, Ecology and Climatology components.

- HIGHER GRADE questions may either be SYSTEMATIC or of the COMPOSITE variety. A composite question in one section (e.g. Section A) may include aspects from one or both the other two sections (B and/or C), provided the marks allocated to aspects from other sections do not exceed 25% of the total marks for the question.

- STANDARD GRADE emphasis should be on the SYSTEMATIC type of question.

4.4 Differentiation between Higher Grade and Standard Grade, for both internal and external papers, should be achieved through the type of questions set and on their mark allocation.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY HG
CODE	:	2251:7108
INSTRUCTIONAL PROGRAMME	:	STANDARD 8
CODE	:	608

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6 and 7. These skills and abilities will form the foundation for Standards 8–10 mapwork.
- These skills and attitudes will form the foundation for Standards 9 and 10.
- Wherever possible, the application of maps and aerial photographs should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading and analysis of oblique and vertical (aerial) photographs:

1.1.1 Different perspectives; uses; scale; physical and cultural phenomena and relationships.

1.1.2 Comparisons with 1:50 000 topographic maps.

1.2 Reading, analysis and interpretation of maps:

1.2.1 Background study to maps in general:

Types and functions; scales and keys.

1.2.2 1:50 000 topographic maps of South Africa

Direction and bearing, horizontal distance, area, contours, landforms, cross-sections, gradients and vertical intervals, vertical exaggeration and intervisibility, conventional signs, cultural landscape.

1.3 Reading, analysis and interpretation of graphical data.

2. CLIMATOLOGY

- Use should be made of the new synoptic weather maps, actual observation, recording instruments and graphic representation.

2.1 The atmosphere

Composition and structure

2.2 Temperature

Heating of the atmosphere; factors influencing horizontal temperature gradient; vertical temperature gradient.

2.3 Moisture in the atmosphere

Relationship between temperature and moisture in the atmosphere; actual and relative humidity; dewpoint temperature; simple cloud classification; precipitation.

2.4 Atmospheric trends: Select ONE of the following topics:

2.4.1 ozone question
2.4.2 global warming
2.4.3 air pollution.

3. GEOMORPHOLOGY

3.1 Internal forces and resultant landforms:

3.1.1 Plate tectonics, earthquakes and vulcanism.
3.1.2 Warping, folding and faulting.

3.2 Rock types (elementary).

3.3 Weathering and erosion.

3.4 Geomorphology and people. Select any ONE of these topics:

3.4.1 volcanoes or earthquakes
3.4.2 economic importance of minerals and rocks
3.4.3 soil erosion.

4. POPULATION GEOGRAPHY

- Make use of graphic representation where appropriate (Calculations are not required)

4.1 Concepts in population geography such as: density, age-sex structure, birth rate, death rate, growth rate,

occupation structure, life expectancy and infant mortality rate.

4.2 Population movements and factors responsible for them.

4.3 Population growth

4.3.1 Factors influencing the growth of world population since the Industrial Revolution

4.3.2 Problems and possible solutions.

4.4 Population dilemmas

Select ONE of the following:

4.4.1 Sustainable development
4.4.2 AIDS
4.4.3 Refugees

5. REGIONAL GEOGRAPHY (Optional section)

Study ONE developed and ONE developing country:

- Countries selected for illustrative purposes should be chosen in terms of aspects such as: Their links with South Africa, their prominence in current world affairs, their association with major (international) blocs.
- The use of maps and other visual materials is important in these studies.
- Principles studied in Section 4 should be applied.

5.1 A developed country: Japan OR the Netherlands OR a country of your own choice*.

5.2 A developing country: India OR Brazil OR a country of your own choice*.

NB: *The country of your own choice for each standard may not be:

(a) a country that was studied in a previous standard, or

(b) a country to be studied in a later standard.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY HG
CODE	:	2251177209
INSTRUCTIONAL PROGRAMME	:	STANDARD 9
CODE	:	609

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6–8.
- Wherever possible, the application of maps, aerial photographs and quantitative techniques (including graphic representation) should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading, analysis and interpretation of aerial (oblique and vertical) photographs.

1.2 Reading, analysis and interpretation of 1:50 000 topographic maps of South Africa.

2. CLIMATOLOGY

- New synoptic weather maps, relevant recording instruments and quantitative techniques should be used where appropriate.

2.1 Atmospheric pressure

Definition, measurement and representation.

2.2 Relationships between pressure and wind and geostrophic flow.

2.3 General circulation of the atmosphere

Primary, secondary and tertiary circulations.

2.4 Weather processes

Lapse rates, thermal stability and instability.

2.5 Thunderstorms and tornadoes

Growth, decay and associated weather; consequences

- These should be studied on a global scale.

2.6 Weather forecasting. Select ONE of the following topics:

2.6.1 challenges to forecasters
2.6.2 EL-Nino and the role of the ocean
2.6.3 climate control and management.

3. GEOMORPHOLOGY

Select at least TWO of the topics from paragraphs 3.2 to 3.4 (3.1 is compulsory).

- topographic maps and aerial photographs should be used where appropriate.
- Cross-sections should be drawn and interpreted where applicable.
- Well-planned and meaningful fieldwork should be undertaken.
- Interrelationships between these processes, resultant landforms and people must be stressed

3.1 Fluvial processes and landforms typical of fluvial erosion and deposition.

3.2 Solution processes and resultant landforms (karst geomorphology).

3.3 Marine action and resultant landforms.

3.4 Wind action and resultant landforms.

4. SIGNIFICANCE OF THE OCEANS

- This section should be studied from a global viewpoint

4.1 The oceans as a major source of moisture for the atmosphere, renewable oxygen supply for the atmosphere, protein food, energy supply.

4.2 The role of the oceans in climate control, world trade.

4.3 Associated problems, such as ocean pollution and overexploitation, and possible solutions.

5. ECONOMIC GEOGRAPHY

5.1 Renewable and non-renewable resources.

5.2 Primary activities

5.2.1 Farming

Subsistence and commercial farming; crop and stock farming; the RSA's production of major products as seen in relation to world production; specific study of ONE crop type (maize, wheat, sugar, fruit) and ONE stock type (beef, dairy, wool).

5.2.2 Mining

Basic economics of exploitation; the RSA's production of important minerals as seen in relation to world production; specific study of at least TWO minerals (gold, diamonds, coal, iron-ore).

5.3 Secondary activities

Light and heavy industry; factors favouring the location of industry; case study of EITHER a heavy OR a light industry in the RSA.

5.4 Tertiary activities

The service industries with specific reference to transport OR electricy supply OR water supply in the RSA.

5.5 Principles and implementation of the Reconstruction and Development Programme (RDP).

6. REGIONAL GEOGRAPHY (Optional)

- Study ONE developed and ONE developing country.
- Countries selected for illustrative purposes should be chosen in terms of aspects such as their links with South Africa, their prominence in current world affairs, their association with major (international) blocs.
- The use of maps and other visual materials is important in these studies.
- Principles studied in Section 5 should be applied.

6.1 Socio-economic characteristics of developed and developing countries:

- A generalized presentation to provide a global view.

6.2 Application of these general characteristics and principles to regional studies:

6.2.1 A developed country: The USA OR a country of your own choice*.

6.2.2 A developing country: Nigeria OR Egypt OR a country of your own choice*.

NB: *The country of your own choice for each standard may not be:

(a) a country that was studied in a previous standard, or

(b) a country to be studied in a later standard.

INSTRUCTIONAL OFFERING	:	GEOGRAPHY HG
CODE	:	225117310
INSTRUCTIONAL PROGRAMME	:	STANDARD 10
CODE	:	610

S Y L L A B U S

1. GENERAL GEOGRAPHIC TECHNIQUES

- Continuation of work done in Standards 6 to 9.
- Wherever possible, the application of maps, aerial photographs and quantitative techniques (including graphical representation) should be integrated with relevant sections of the syllabus.
- Well-planned and meaningful fieldwork should be undertaken.

1.1 Reading, analysis and interpretation of aerial (oblique and vertical) photographs.

1.2 Reading, analysis and interpretation of 1:50 000 topographic maps of South Africa.

2. CLIMATOLOGY

- New synoptic maps should be used
- Relevant concepts learnt in stds 8 and 9 should be applied.

2.1 Mid-latitude and tropical cyclones

Growth, decay and associated weather; consequences.

2.2 Weather and climatice explanations

2.2.1 Regional scale

Typical seasonal weather patterns in Southern Africa.

2.2.2 Local scale

Valley climates and city climates

- Use southern African examples, where possible.

3. GEOMORPHOLOGY

In this section attention should be given to:

- The drawing and interpretation of cross-sections and profiles.
- The use and interpreation of topographic maps and aerial photographs.
- Well-planned and meaningful fieldwork.

3.1 Drainage basins; long- and cross-profiles; stream channel characteristics; flow characteristics (normal and abnormal); river capture; super-imposed and ante-cedent streams.

3.2 Topography associated with horizontal and inclined strata and with massive igneous rocks.

3.3 Slope characteristics.

4. ECOSYSTEMS, ENVIRONMENTAL BALANCE AND CONSERVATION

- Relate to South Africa (section 6.1.1).

4.1 Soils

Soil profile; soil forming factors.

4.2 Concept of an ecosystem.

4.3 Ecological processes: Energy flow; nutrient cycling; self-regulation.

4.4 Human impact on the ecosystem: Imbalance of the eco-system; environmental conservation and management.

5. SETTLEMENT GEOGRAPHY

- Meaningful fieldwork should be undertaken.
- General patterns as well as deviations should be indicated so as to present a global view.

- South African examples should be used where appropriate.

5.1 Rural settlement

5.1.1 Definition and function
5.1.2 Types: Nucleated and dispersed
5.1.3 Factors influencing site, situation and form
5.1.4 Depopulation of rural areas
5.1.5 Rural development strategies

5.2 Urban settlement

5.2.1 Processes and characteristics of urbanization

- Should be done in a comparative context to present a global view.

5.2.2 Factors influencing site, function and situation.

5.2.3 Distribution of urban centres

- Include concepts of central places; spheres of influence; threshold and range of services; urban hierarchies.

5.2.4 Land-use zones and urban morphology (including the rural-urban fringe)

- Consider in terms of underlying forces and processes.

- Concept of urban models should be applied.

5.2.5 Urban problems and possible solutions.

5.2.6 Planning for improved urban environments.

6. REGIONAL GEOGRAPHY

6.1 The Republic of South Africa

- Pupils should be familiar with DISTRIBUTION MAPS, which form an integral part of the regional course, such as political divisions, chief towns and transportation routes, relief and drainage, major climatic regions.

- Extensive use should be made of the atlas.

6.1.1 Environmental problems and possible solutions

- Reference must be made to droughts and floods, soil erosion, vegetation imbalance, polution, wildlife extinction.

- The concept of ecosystems and environmental balance and imbalance and human impact on ecosystems should be applied. (Refer to Section 4 of the std 10 syllabus).

- Environmental conservation and management: sustainable development.

6.1.2 Population

Density, distribution growth and movement.

6.1.3 *The economy*

- Relevant concepts studies in std 9 should be applied

(a) Contribution to the gross domestic product (GDP) by the primary, secondary and tertiary sectors.

(b) Primary activities

The role of agriculture and mining with regard to factors which promote or hinder development.

(c) Secondary activities

The PWV complex and ONE other major industrial region (Durban – Pinetown; South Western Cape; Port Elizabeth – Uitenhage).

- Attention should be given to problems and possible solutions

- Reference should be made to the other major industrial regions.

(d) Tertiary activities

The position of the RSA in the world trade system

- Refer to the balance of payments.

(e) Economic development

- Attention should be given to the concepts of centralization and decentralization and growth points.

- Reference to spatial models of economic growth could be made to place these developments in a global perspective.

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