THE RESPONSES OF STANDARD NINE PUPILS TO VALUING STRATEGIES IN GEOGRAPHY

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NQABOMZI NYIKANA

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ABSTRACT

Values education in geography can be seen as a way of educating pupils to think critically and independently on matters to which they can readily relate. It also involves the relating of facts and concepts of a subject area to the pupils' own lives. There is, therefore, a need to introduce values education in geography at our schools.

The DET geography syllabuses offer many topics of social and environmental concern. Valuing processes, based on values analysis and values clarification, can be used to teach these topics. Through values education, geography pupils can become more purposeful, more enthusiastic and positive in their learning.

This study investigates the effectiveness of valuing strategies in the teaching of geography. A broad overview of the literature on valuing in general and valuing in geographical education in particular, was analysed. Three teaching units were then devised and tried out in KwaZulu schools. The responses of pupils to these units were then investigated through questionnaires. Teachers were also interviewed to find the extent to which valuing approaches were being used.

The principal findings of the study are, firstly, that the pupils responded well to the valuing units. Secondly, that teachers were not using valuing strategies in schools and, lastly, that the units in the research could be effective in teaching values geography. From the findings of this research, it is evident that values geography has an important place in the South African school curriculum.

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PREFACE

As a teacher it had always worried me to find that my pupils regarded geography as a difficult and boring subject. Some did not actually perceive the vocational value of geography. It became clear to me that unless something was done to help change the outlook of pupils on the subject, geography teaching would not be meaningful or fulfilling.

I came to know about values education in geography in 1986 through Professor E.A.G. Clark. The approaches discussed then provided a solution to the problem of the pupils' negative attitudes to geography. When pupils are aware of their own values and other peoples', they may develop positive attitudes. Values geography teaches pupils this awareness.

Before I could use the valuing approaches with my secondary pupils, I moved from Mdantsane to take up a post as a lecturer in geography method, at the University of Zululand. It was at this point that I was able to try out valuing strategies, with a measure of success.

I hope when my students go out to teach they will continue teaching value-laden issues the way they handled them during practice-teaching. I also hope that through their anticipated enthusiasm they will disseminate the ideas in the teaching fraternity.

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

One of the major aims of education is to help pupils become complete citizens, to reason and make sound judgements about realities of life. For this aim to be realised there are three levels in which pupils may be taught. These are facts, concepts and values. Facts and concepts imply knowledge, which is fundamental in education. Some argue that these are sufficient to give the pupil all he needs, a 'survival kit'. However, such an education, where emphasis is on knowledge, can be perceived not to include the third and important level of values. Wray (1981) refers to exercises which promote values awareness as developing 'life-skills', for example 'co-operation'. Values are anything one holds to be of worth. If one holds education to be of worth then it ought to have a value. Therefore, in South Africa, as in other countries where education is believed to be central to the development of the values of citizens, values education ought to have a place in schools.

Value objectives are included in the geography syllabus of the Department of Education and Training (DET) (see 1.2 and Appendix 1). However, this seems to be rather superficial because there is no guide to the teacher as to how the value objectives can be applied to classroom teaching. Failure to encourage values awareness at schools leads to pupils leaving schools with confused values, not only about the abundance of choice but also of ways or skills to make the right choice.

Since geography teachers usually tend to concentrate on cognitive development only, values education is ignored. Although this attitudinal tendency may have good examination results at times, it is, however, doubtful whether pupils will be able to apply their geographical knowledge when confronted with issues based on

their understanding of the socio-economic environment. It must not be overlooked that whilst some pupils produce excellent academic work, the same cannot be said about the way in which they relate to other people in different circumstances to themselves.

1.2 PLACE OF VALUES IN SOUTH AFRICAN GEOGRAPHY CURRICULUM

Value objectives are implicit in most subjects undertaken at secondary level. The geography syllabus offered by the DET, for instance, has the following affective objectives relating to values education:

- To develop pupils' moral and emotional attributes.
- Geography should promote the formation and re-inforcement of positive attitudes and values. (See Appendix 1).

The DET geography syllabuses offer many topics of social and environmental concern. Social issues are found, amongst others, in the settlement geography under topics like 'services offered by a type of settlement', 'urban problems', and 'pollution and environmental balance'. Other examples of value-laden topics are listed in Table 1.1.

TABLE 1.1

EXAMPLES OF VALUE-LADEN TOPICS IN THE DET SYLLABUS

STD	SYLLABUS AREA	VALUE-LADEN TOPIC
8	Population Geography	Population Data
		Growth Rate
		Occupation Structure
		Nutritional Level of the Population
		Population Movements
		Population Explosion
	Regional Geography	'Developed' and 'Developing' Countries
9	Geomorphology	Significance of Oceans:
		Associated Problems and Possible Solutions
	Economic Geography	Resources
		Economic Activities
		Economic Development
	Regional Geography	Criteria of Development
		'Developed' and 'Developing' Countries
10	Ecosystems, Environmental Balance and Conservation Settlement Geography	Human Impact on Ecosystems
		Dynamics of Rural Settlement
		Planning and Development Strategies for Rural Areas
	Settlement Geography	Origin and Spread of Urban Places
		Urban Problems
		Planning Improved Urban Environments
	Regional Geography	The Republic of South Africa:
		Environmental Problems
		The Peoples of South Africa
		Economic Activity in South Africa

The onus remains with the teacher not only to realise these objectives but also to work towards achieving them. It is important to understand that attitudes and values of teachers influence teaching and learning in the sense that discussions of matters of social and environmental concern are affected by the views and opinions held by teachers.

FIGURE 1.1

POGROMS

The 20th century has been identified with so many forced migrations that only a few can be listed here. These pogroms are attributed to political, racial and religious conflicts.

- Over a million Russians were dispersed and left stranded in adjacent parts of Europe as a result of the 1917 revolution and the subsequent civil war.
- More than a million refugees, mostly Jews, left Germany in the 1930s to escape Nazi persecution.
- Some 18 million people in Central and Eastern Europe moved across international frontiers through flight, expulsion or population exchange in the three years following the Second World War.
- The 1947 partition led to some 6–7 million Muslims leaving India for Pakistan; and about the same number of Hindus and Sikhs moving in the other direction.
- The flight of Arabs on the proclamation of the state of Israel in 1948 has led to a refugee force of some 1,5 million.
- The Korean War of the early 1950s led to an exodus of about 4 million people from North to South Korea.
- In the early 1970s in East Africa, people of Asiatic descent were subjected to mass expulsion, which began in Kenya and was subsequently repeated in Zambia and Uganda.
- South Africa experienced minor movements of populations of about 3 million people, for ethnic and political reasons, with the establishment of 10 independent and self-governing states between 1951 and 1983.

(Earle et al, 1985)

In Southern African schools the geography topics are handled at a macro level (i.e. World Scale). Pupils learn more about countries other than their own. Little reference is made to the South African situation; for example in 'Developed and Developing'

countries emphasis is on countries like the USA, USSR, France, Nigeria, Egypt and others. The example in Figure 1.1 is from a South African textbook. The pogroms in other countries are made to appear more serious than the ones that take place in Southern Africa. This may be seen as showing a bias in that the South African situation is made light of. Giving many examples (8) like these encourages reception-learning and not values teaching, although the topics as such are value-laden. Topics like migrant labour have political connotations which presumably may be the reason why they are dealt with superficially.

On the other hand, some American, British and Australian schools deal with topics which concern the people's immediate personal lives: topics like "where would you like to live?" are concerned with the process of choosing. They are meaningful to the pupils because they concern their own problems and environment. Since such topics are important for the development of the child, he invariably becomes sensitive to the needs of other people.

Values education in geography can be seen as a way of educating pupils to think critically and independently on matters to which they can readily relate. The abundance of knowledge that has emerged as a result of technological advancement makes it necessary for the pupils to think clearly and make value judgements. Questions like: "Where would you like to live?", would help pupils firstly to think critically about the morphology of a city rather than just follow the words of the textbook and, secondly, to consider their own values.

Values education also involves the relating of facts and concepts of a subject area to the pupils' own lives. Population geography, urban geography and regional geography offer a wide range of topics to which the pupils can relate. For instance in 'developed and developing' countries, pupils would be in a better position to

explore the connection between the subject matter and their own feelings, opinions and behaviour if a valuing strategy was used in teaching that section. In the standard 9 geomorphology section, a topic like 'the significance of the ocean' may help pupils clarify their values because they can be asked to choose between having a non-polluted ocean and therefore good health, and having industrial development which may result in dumping of waste in the ocean.

1.3 STATING THE PROBLEM UNDER INVESTIGATION

Firstly, there is a need for values education in geography. From observation South African black schools teachers tend to adhere to teacher-directed learning. Commenting on the South African situation, Ballantyne (1986) shows that teachers rate highly the "lecture-style" presentation. This kind of learning cannot meet the demands of the world wide knowledge explosion. There is a need to experiment with the innovative strategies used in developed countries. This could help teachers to strike a dynamic balance between teacher-directed and child-centred approaches.

South African black pupils are often not encouraged to think critically because the teacher provides the information. Teacher-directed learning at times results in boredom and development of negative attitudes towards a subject. In contrast, pupil-centred learning encourages mental growth and development of independent thought. Pupils are taught to think critically, organise their thoughts and make rational choices. Valuing strategies are some of the modern strategies that can be used to help pupils make clear choices. If pupils are not encouraged to think clearly, organise their thoughts and make rational choices they will not be able to make defensible value judgements.

Values education, therefore, is seen as a means to teaching pupils to think critically and independently of others. Through values, geography pupils will become more purposeful, more enthusiastic and positive in their learning.

The researcher therefore makes two assumptions. Firstly, that in South African black schools teaching strategies involving valuing are little used or not used effectively. Secondly, geography pupils who are subjected to values education will find it easier to cope with social problems than pupils who are not. This study therefore focuses on these assumptions in an educational way in schools.

The study seeks to investigate the use of simulations, role play and small group discussions as valuing strategies in KwaZulu schools. Values analysis and values clarification were the two approaches on which the teaching units developed, were based. These approaches have been chosen because they emphasise rational thinking. A brief outline of the approaches will now be given.

FIGURE 1.2

APPROACHES TO VALUES EDUCATION - A BRIEF DESCRIPTION

Values inculcation	has the objective that students will adopt a predetermined set of values.
Values analysis	uses structured discussion and logical analysis of evidence to investigate values issues.
Moral reasoning	provides opportunities to discuss reasons for value positions and choices with the aim of encouraging growth in moral reasoning ability.
Values clarification	has the objective of helping students become aware of their own values in relation to their behaviour and that of others.
Action learning	encourages students to see themselves as interacting members of social and environmental systems through having them analyse and clarify values with the intention of enabling them to act in relation to social and environmental issues according to their value choices.

Values analysis is an approach which is used for probing values. The students are given exercises that will help them to make value judgements. Analysis helps students to think logically and use scientific investigation to decide values issues and questions. Through analysis students can use rational, analytical processes in interrelating and conceptualising their values. Values analysis emphasises that moral judgements are based on facts and values, the foundation of which is reasoning. (See Figure 1.2).

Clarification is an approach that helps students become aware of and identify their own values and those of others. It is based on the notion that values must be subjected to three processes, namely prizing one's beliefs; choosing one's beliefs and acting on one's beliefs. Values clarification helps students communicate openly and honestly with others about their values. Students can develop rational thinking and emotional awareness to examine their personal feelings, values and behaviour patterns. (See Figure 1.2). Other approaches to values education are described in Figure 1.2.

1.4 OBJECTIVES OF THE STUDY

The main objectives of the study are as follows:

1.4.1 To investigate the effectiveness of valuing strategies in the teaching of geography.

1.4.2 To work out model strategies that can help teachers to encourage pupils to think about values.

1.4.3 To consider how valuing strategies might be organised in the core curriculum for geography in the South African curriculum, as indicated by the topics in the syllabus in which these strategies can be applied. (See Table 1.1).

1.5 RESEARCH APPROACH

The following methodological approach was adopted:

1.5.1 In chapter two a broad overview of the literature on valuing in education in general and valuing in geographical education in particular was analysed. From this a framework on which to base this study was developed.

1.5.2 Teaching units (Appendix 2) were then devised for pilot testing in black schools in KwaZulu. Some units were adapted from existing ones by Walford, Hall and Slater. (Appendix 12).

1.5.3 Fieldworkers were then engaged to teach these units at KwaZulu schools.

1.5.4 Detailed questionnaires (Appendix 3) were generated and administered to the groups to which the units were taught. The main aim of the questionnaire was to evaluate the responses of the pupils to units involving valuing strategies.

1.5.5 In one school the researcher taught two classes using a teacher-directed approach with one class and a valuing approach with the other. Thereafter pupils in both classes were required to write an essay based on the lesson taught (Appendix 4). The impression afforded by the different approaches was established.

1.5.6 A second questionnaire (Appendix 5) was administered to geography teachers in KwaZulu secondary schools. This was followed by interviews which were conducted with teachers. The aim was to investigate the teaching methods used by teachers and to find the extent to which the valuing strategies were being used. The researcher thereafter suggested strategies that teachers could use to encourage pupils to think about values in geography lessons.

1.5.7 Syllabuses and textbooks were analysed in order to establish whether the syllabus and textbooks catered for the teaching of values. (Appendices 1, 8, 11).

1.6 VALUE OF THE STUDY

The researcher hopes to motivate teachers to use strategies which will help pupils become purposeful, enthusiastic and positive in their learning. The study also has a long-term objective in that it is hoped that a better society will emerge from pupils who are able to make clear choices. Having been subjected to values edu-

cation it is also hoped that various departments of education in the Republic of South Africa will encourage teachers to use values education regularly. From the findings of the study it is hoped that a contribution to the important disucssion on values education in Southern Africa will be made. It is also hoped that the thesis will be read by those engaged in geographical education like teachers, lecturers, inspectors and syllabus planners. This is a pioneer study on values education in geography in Southern Africa and as such it is hoped that it will make an important contribution to geography teaching.

Finally, it is hoped that the writers of school geography textbooks will incorporate more values exercises.

1.7 CONCLUSION

The study of people in an environment necessarily involves the study of values. Therefore geography, being concerned with the people and the spatial organisation of phenomena, has values incorporated in the subject. The researcher further believes that values education in geography has an important place in the South African geography curriculum.

The following chapter, chapter two, focuses upon the overview of the literature on valuing in general as well as in geography education. Chapter three presents the methodological procedure which was followed in collecting data. This data will be analysed in chapter four. In chapter five conclusions and recommendations will be outlined.

CHAPTER 2

GEOGRAPHY AND VALUES EDUCATION: A REVIEW OF THE LITERATURE

2.1 INTRODUCTION

Values education is a complex concept on which there is some disagreement. People often interpret values in terms of their own culture, social life and outlook on life. Urban dwellers have different values from people in rural areas, and as people grow, their values usually change for higher order ideals. The focus of this chapter is on the definition of values and values education in geography. The South African school syllabus in respect of geography will form the basis for further discussion on values education in South African school curriculums.

Values education is a contentious issue on which many people have written since the 1960s. (Raths, 1966; Simon, 1973; Raths, 1978; Harmin, 1973; Pepper, 1970; Rich, 1968). The fact that there are many books and articles on the subject shows that values education is widely regarded as important. However, in geography as a subject, there are relatively few articles and books on the subject of values education. People only started writing explicitly about values education in geography fairly recently, in the 1970s (Table 2.1).

2.2 TOWARDS A DEFINITION OF VALUES

According to Windmiller et al values imply a choice. They are "ideals which provide some direction for personal behaviour. They are kind of beliefs having to do with the appropriateness or acceptability of behaviour." (1980, p. 202). In contrast, Shaver and Strong define values as "our standards and principles for judging worth. They are criteria by which we judge things to be good, worthwhile, desirable or on the other hand bad, worthless, despicable, or of course, somewhere in between these extremes." (1982, p. 19).

TABLE 2.1

BOOKS AND ARTICLES CONTAINING EXPLICIT REFERENCE IN TITLE TO VALUES AND GEOGRAPHICAL EDUCATION

Year	Author	Article
1972	Blatchford	Values and geographical education.
1974	Buttimer	Values in geography.
1974	Cole	A new role for geographic education: values and environmental concern.
1977	Watson	On the teaching of values geography.
1977	Edynbry	Attitudes and values in geography teaching.
1977	Huckle	Geography and values in higher education.
1978	Smith	Values and the teaching of geography.
1978	Cowie	A value-laden subject in education.
1980	Fien	Values probing.
1980	Hartley	Values and values education in geography teaching.
1980	Huckle	Values and the teaching of geography: towards a curriculum rationale.
1981	Fien & Slater	Four strategies for values education in geography.
1982	Slater	Interpreting and analysing attitudes and values.
1983	Bailey	Values.
1984	Waterman & Maitland	Value positions in teaching.
1985	Maye	Developing valuing and decision-making in the geography classroom.

Huckle defines values as "enduring single beliefs that a specific and state of existence or mode of conduct is personally or socially preferable". He further adds that they are "what the individual desires to be true". (1980) (my underlining).

Maye (1985) defines values according to their characteristics, as follows:

1 Values are abstract concepts people hold about what is important in relation to aspects of life experience.

2 Values are closely related to actions and behaviour people engage in.

3 Values are often labelled by abstract terms.

4 Values give rise to value judgements, value differences and value conflicts.

5 Value differences occur between individuals and groups.

Charles (1976) defines values simply as "whatever one thinks is good or right or worth having".

All these definitions suggest that values imply (i) choosing from alternatives after due deliberations, and (ii) freedom to choose without imposition. Pupils must therefore be helped to examine assumptions, find alternatives and make clear choices. There is a need for teachers to help pupils to appreciate other people's values. It will be possible for pupils to make sound decisions only when they are aware of their own values and those of others. Values teaching, therefore, becomes a necessary component in the education of a complete person.

People's deeply held values influence the way they react to environmental matters and the way they take action. Studies on the Third World and developed countries would be impossible to teach in a value-free way because they are value-charged issues.

2.3 VALUES EDUCATION

According to Harmin et al (1973) values education is the relating of the facts and concepts in a subject area to the pupils' own lives. It raises the question 'what does this have to do with me? In other words, pupils assign personal meaning to subject matter. Pupils are encouraged to explore the connection between the subject matter and their own feelings, opinions and behaviour.

Yelon and Weinstein (1977) see values education as affective education in the sense of Bloom (1964). They see it as being concerned with "the emotional well being of students." They maintain that values education includes the confidence children develop about their own abilities, the relationships with others and their willingness and ability to express themselves. Affective education also pertains to values and attitudes.

Raths (1978) contends that values education, when properly applied, could help pupils become better at anticipating consequences. He points out that we often find pupils angry, feeling hopeless and lacking the ability to think about future events. He suggests that if pupils could be made aware of some activities they could practice anticipating consequences. He further explains that pupils

> "...grow upward and exercise in consequential thinking will help them to reason clearly and will interact enough with ideas more advanced than their own."
>
> (Raths, 1978, p. 27)

This implies that the more exposed the pupils are to critical thinking, the more they will learn how to make clear choices.

The researcher believes that values education is relevant to the pupils' own lives. Matters like the removal of people from one place to another in Southern Africa concern the pupils directly. Therefore they become involved emotionally, which is where affective education should enter.

2.4 GEOGRAPHY AND VALUES EDUCATION

As mentioned earlier, values education in geography is largely a development of the 1970s (refer to Table 2.1). Many writers are urging geography teachers to incorporate values education in their lesson. Watson (1977) maintains that no geography lesson is free of value judgements. Every lesson in human geography expresses a view of man and society at least by implication. Bailey (1983) supports this view, pointing out that geographers themselves have values and make choices. Hurst, as quoted in Watson (1977), calls for a view of education that prepares people to advance beyond the limitations of accepted knowledge and ways of knowing. The use of a values analysis approach can lead to the fulfilment of this ideal. Watson (1977) suggests that by exploring new values and seeing how they could work, education is a constant challenge to those values that tend to perpetuate the status quo.

In the 1980s many writers see values teaching as a necessary component of the geography curriculum. Maye views values education as

> "...assisting students to develop skills in realistically analysing phenomena and situations involving people and their environments, and to make constructive responses relating to them."
>
> (1985, p. 32)

Many parts of geography and geography teaching are value-laden. Even a lesson on wave action may prove to have an aesthetic value, the resultant land forms for instance. Third World studies appeal all the time to the reader's empathy. It is therefore important to teach about values because besides developing new ones, existing values may also be reinforced. In geography there are few topics that do not include values and there is no escape from value judgement in teaching, no matter how hard we try to be neutral. Nevertheless, some parts are more value-laden than others. (See Table 1.1).

2.5 ROLE OF THE GEOGRAPHY TEACHER

The role of the teacher in values education is often very controversial. Some people are against the teaching of values by teachers, they are concerned that teachers will instill their own values on the pupils. Teachers who do this, they say, will be guilty of indoctrination. Those people who are against values education support the notion that it is the duty of the church, home and the community to teach values.

Raths (1978) suggests that teachers should make their values clear to the pupils. They should not assume netural standpoints or superior ones. Besides encouraging pupils to be honest, thev are helping to show them alternatives.

Rawling (1986) supports the view that teachers should teach values at school. She maintains that teachers are no longer satisfied with taking neutral standpoints on the issue of values. In geography there is hardly a topic that can be dealt with without reference to the influence of attitudes and values. Rawling further asserts that unless issues involving a range of viewpoints and opinions are opened up in the classroom, pupils may not find chances to understand the nature of attitudes and values, to clarify their own values and to develop their own convictions and commitments.

Third World studies are seen as a controversial area. Writers like Hicks (1981, p. 64) urge geography teachers to be aware of the changes in emphasis with regard to Third World issues. Teachers should keep up with these changes so that they can adapt their teaching accordingly. He suggests that the world be viewed "as a system or collection of interdependent parts" as against the divided world that was used earlier.

Bale (1973) maintains that many teachers are not yet ready to tackle bias, ethnocentricism and racism in the geography curriculum because they have not been schooled in recognising it. This ties up with Bailey (1983): "We tend to take our own values to be normal and what we do not know to be abnormal." Waterman and Maitland

support this reluctance of teachers in introducing values education by pointing out the teachers' argument that

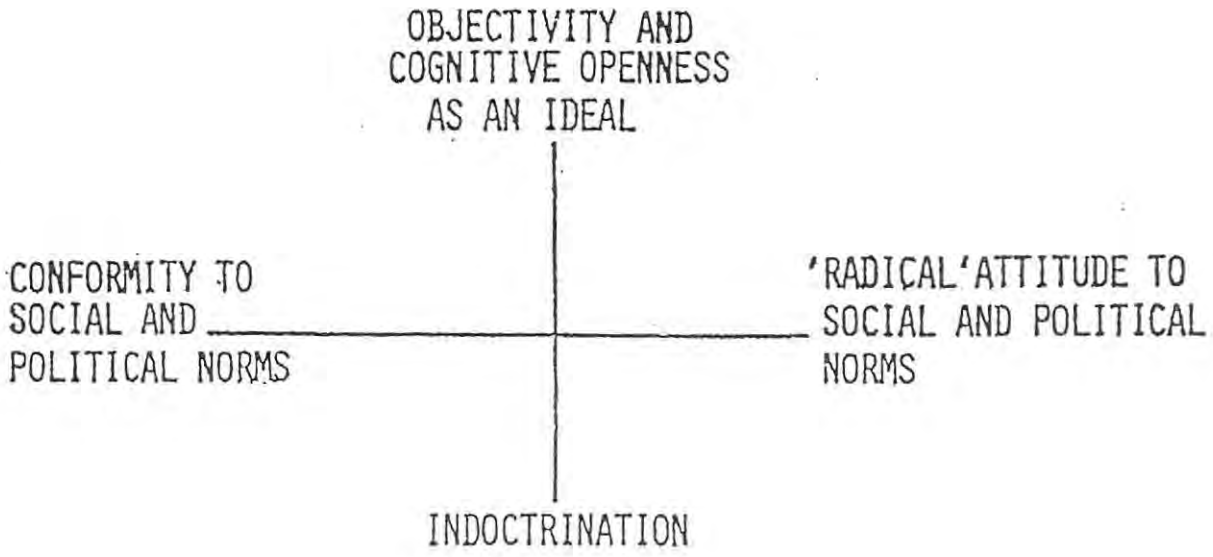
> "How can we be realistically asked to judge development issues from non-European...standpoints when, for most people, these traditions are by definition ingrained as part of our intellectual and social growth."
>
> (1984)

Cowie and Smith (1978) (in Maye, 1985) address those who protest against values education and concentrate only on teaching facts. These teachers miss the point that knowledge itself is not neutral, and that geography is a value-laden subject.

Figure 2.1 illustrates different standpoints that teachers can choose to take. Geography topics are such that a teacher may have to ask himself questions like 'how ought this topic, e.g. 'population movements', to be taught?' His decision can be traced on the scale in Figure 2.1. If he follows a biased textbook then he is also guilty of indoctrination.

FIGURE 2.1

THE GEOGRAPHY TEACHER AND SOCIAL AND POLITICAL ISSUES



(Source: M Ed Notes, E A G Clark)

Geography teachers make decisions many times a week about the type of materials they will select. Inevitably one's own values play their part in the selection process of teaching strategies. The statements they make are based on their own beliefs, however sub-consciously they do so. A value-free position is impossible. However, teachers should strive to present balanced and accurate information. The choice of topic and stimulus material is influenced by the teacher's values. This makes it necessary, therefore, for the teacher to clarify his own values in relation to the topic chosen. Table 2.2 shows teaching approaches that can be used to teach some value-issues in geography. Teachers may try these out with similar topics.

TABLE 2.2

VALUE-ISSUES AND RELEVANT TEACHING APPROACHES

Teaching Approach	Anti-racism	Acid Rain	Spatial Injustice	Haven for Battered wives	Stereotyping
Values Inculcation	*	*			
Values Analysis	*	*	*	*	
Moral Reasoning	*				
Values Clarification	*				
Action Learning	*				
Discussion	*	*	*	*	*

(Source: Articles on teaching Geography)

Column 1 - G.11 (1983)
2 - Aygeman (1986)
3 - Hall (1975)
4 - Slater (1982)
5 - Day (1985)

2.6 VALUES ISSUES IN GEOGRAPHICAL EDUCATION

There are signs of new attention to values in geography teaching. Since 1975 several articles on welfare geography, issued-based geography, relevant geography, social justice and spatial injustice have appeared (Table 2.3). Maye (1984) identifies three areas under which values in geography can be traced and adopted. These are environmental education, social education and citizenship education. Maye further suggests that the geography classroom can be made to be a place where meaningful environmental issues can be discussed. On social education he cites aspects such as employment, race, or migration which influences the peoples' behaviour according to the values they hold. He maintains that pupils can learn about their own values in relation to social issues. Maye warns that cognitive learning alone does not allow for such learning. Lastly, on citizenship, Maye focuses on skills and processes which can be developed by the way in which these aspects are taught. It is expected of future citizens to make a positive contribution to their communities.

Hicks (1981, p. 66) discusses the "geography of concern." He focuses on issues of development and states that in the Third World the approach has now changed from the traditional one which was only concerned with population, urban growth and industrialisation. Emphasis is now on the people, their welfare, cultural ahcievements and other issues of human concern. On the issues of multicultural education, Hicks suggests that a review of textbooks be undertaken. There is a need to look into the way in which the Third World is presented in these textbooks. He explains that although geographers can be said to be concerned about the perception of environment and place, they have seldom concerned themselves with perceptions of other cultures. Hicks further warns that attitudes and values form at a very early age and this, therefore, suggests that perception of other cultures should be introduced as soon as possible.

In dealing with ethnocentricity and bias, Hicks recommends the

adoption of King's (1976) approach to development and underdevelopment studies. This approach points out that the people in the Third World now realise that they are poor and backward because they are dependent and exploited. Textbooks need to show different explanations of underdevelopment.

Table 2.3 shows the extent to which values issues are being written about. It further shows that geographers are concerned about the way values education is being neglected at schools. Blachford (1972, pp. 319-330) commented that there was no attempt to guide values teaching in schools. In contrast, today, in writing about values issues, authors are now making suggestions to teachers as to how to go about handling such topics in the classroom. Inspectors also give guidance in the syllabus preambles. The articles in Table 2.3 have games or simulations that can be used when teaching about the topics.

TABLE 2.3

SOME VALUE ISSUES DEALT WITH BY WRITERS ON GEOGRAPHICAL EDUCATION

Writers	Third World and Development	Anti-Racism	Acid Rain	Spatial Injustice	Challenging Stereotypes	'Haven for Battered wives'
Agyeman (1986)			*			
Clark (1985)	*					
Day (1985)					*	
Fien (1984)	*	*			*	*
Gill (1983)		*				
Hall (1975)		*		*		
Hibberd (1983)	*					
Hicks (1977)	*	*				
Maitland & Waterman (1984)	*					
Maye (1984)						*
Slater (1982)	*					
Watson (1977)	*					

The table shows that there is a growing interest in values education. People are no longer adopting neutral standpoints but are appealing to others to endorse their values. The topics also show that people are writing about a wide range of topics which are value-laden and therefore are probing people's attitudes.

2.7 TEACHING STRATEGIES

Maye (1985) suggests five approaches that can be used in the teaching of values in geography. These are values inculcation, values analysis, moral reasoning, values clarification and action learning. (See Figure 1.3). For the purposes of this research only values analysis and clarification will be dealt with in detail. These two approaches are more relevant for geography and they have got the following features in common:

1 Pupils are encouraged to make decisions in their daily lives. This, therefore, implies that pupils should acquire certain skills in valuing that would help them in making such decisions

2 Pupils should be assisted to develop their own appropriate set of values and related behaviour.

Values clarification is based on the valuing process. This means that valuing involves free choice from considered alternatives. This approach is best used for introducing a lesson or for summarising lengthy pieces of work. One disadvantage this approach has is that:

> "It can encourage moral relativism by suggesting that one's values are one's own concern and that provided one is happy with one's choice, all is well."
>
> (Huckle, 1980)

However, if handled carefully, clarification can place responsibility on students to review their ideas, desires and behaviour individually.

Fien and Slater (1981) maintain that values clarification "emphasizes the process of valuing in daily life rather than particular sets of values." A good example of a geography topic in which values clarification can be applied is the location of the Mondi Mill on the north coast of Natal.[1] The exponents of values clarification, Raths, Harmin and Simon (1978) identify seven valuing sub-processes:

1 choosing from alternative values;

2 choosing freely;

3 choosing after consideration of the implications of each value;

4 being personally content with decisions one takes;

5 Being willing to tell others of one's values choices;

6 Acting upon one's values;

7 Being consistent in one's choices and actions.

After discussing the locational factors, pupils can choose the one they feel is more important than others using this approach.

Taking the location of the Mondi Mill as an example the teacher may have to provide stimulus material. Pupils may have to read literature on the paper industry. Thereafter, either a 'rating scale' or a 'ranking scale' may be used to discuss whether it is a good thing or not to have the mill located where it is. The choices may have to be justified.

Maye (1985) points out that values analysis involves using structured discussion and logical analysis of evidence to investigate values issues. Values analysis emphasizes that moral judgements are based on facts and values and that reason is the foundation of values analysis in education (Huckle, 1980). To be able to reason well

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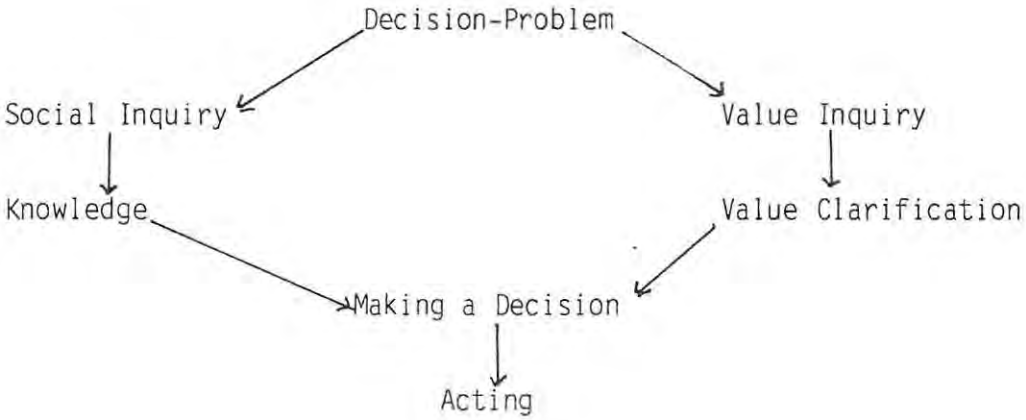
1 When this report was being written people at Empangeni were being asked to sign a petition in protest of the offensive smell emitted by the mill.

pupils should be taught the decision-making process. However, the pupils must be free to make their own judgements. A decision-making route model (Figure 2.2) based on Bank's value inquiry can be used to guide pupils in values analysis. (Huckle, 1980).

FIGURE 2.2

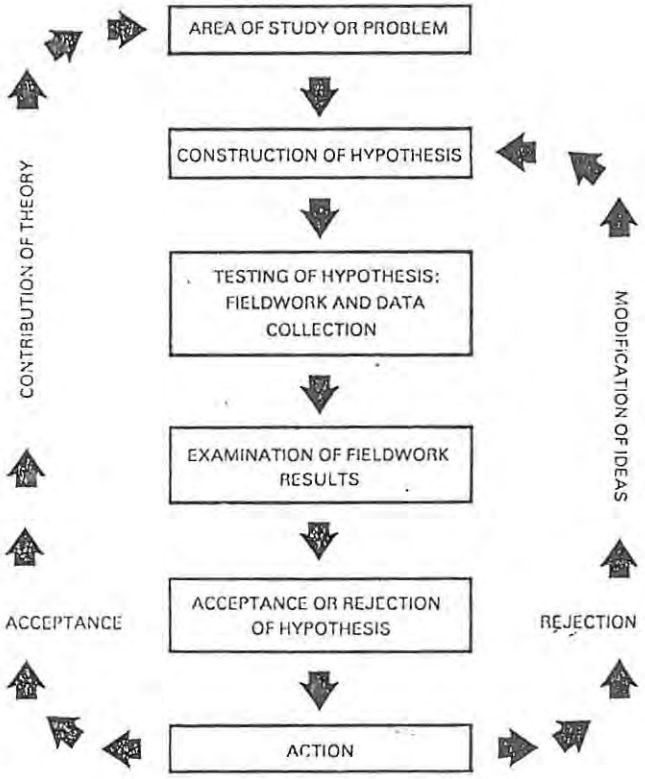
A SIMPLIFIED DECISION-MAKING MODEL (to Figure 2.3)



(Huckle, 1980)

FIGURE 2.3

HYPOTHESIS TESTING



The scientific method of enquiry

(Taken from Eyre and Gower, 1983, p. 42)

Values analysis and hypothesis testing both begin with a problem. This is analysed in a scientific and systematic way. At the end, both methods end up with action.

A unit on Development (see Appendix 2) was designed to show how this model can be used.

Huckle (1980) identifies the following weaknesses of values analysis:

1 its readiness to cling to what some consider a debased form of rationality;

2 it promotes knowledge above values.

Allen (in Huckle, 1980) reinforces these criticisms by suggesting

> "that the knowledge, values and alternatives considered in values analysis are likely to be limited."

Other disadvantages, as cited by Huckle, are that

> "values analysis reinforces the myth of enlightenment man contained within positive thought."

And

> "Values analysis creates a false confidence in democratic society which is likely to be frustrated in later life."

Wilson et al (1980) agree that values analysis is designed "to allow students to arrive at a decision about a values issue on the basis of logical and objective inquiry." Their major criticisms of the strategy are that:

1 it does not really give students a chance to analyse at all;

2 it operates mainly on cognitive and not affective levels.

It would seem that people regard values analysis as an approach that will not bring about the desired results. The strategy nevertheless helps the pupils to sort out a problem in a systematic way, that could help them reach the best decision. It is not true that values are not analysed because the very decision a person reaches after analysing the problem is influenced by his beliefs.

These two strategies, values clarification and values analysis, both have shortcomings. In this study these two strategies have both been used so that they complement each other. Where clarification falls short, analysis was considered to be of help. Further discussion on teaching strategies will be continued in chapter five.

2.8 VALUES IN THE SOUTH AFRICAN GEOGRAPHY SYLLABUS

The new DET and Department of Education and Culture geography syllabuses for standard nine cater for values education. Topics in economic, regional, population, settlement and news

geography are heavily laden with values education (See Table 1.1). One of the principles on which the standard nine syllabus is based states that pupils are to "develop their moral and emotional (affective) attributes". The first appraisal objective states that "studies in geography should promote the formation and reinforcement of positive attitudes and values". It goes on to explain that without the development of these positive attitudes and values, learning seldom takes place. Another objective states that pupils "need to feel a commitment towards the environment by developing a caring attitude".

It is curious to note that although these syllabuses allow for the teaching of values (i.e. affective-objective), nonetheless values educating is not included in the examination. The geography examination papers set by the DET mainly test factual knowledge (see Appendix 7). Affective knowledge is hard to examine. It is not surprising, therefore, to find that teachers are slow in trying and testing strategies that promote affective development.

It is in this light that teachers should be encouraged to try strategies that will promote values education. One can argue that some form of teaching guidelines promoting values education should be included in the syllabus.

An examination of the Cape Education Senior Secondary geography syllabus reveals some teaching approaches that teachers can employ to realise affective objectives. Approaches like problem-solving, systems, fieldwork, models, individual and group research techniques are not merely mentioned but their value to the child is expressed as well. For isntance, it can be argued that individual and group research techniques aim at helping pupils develop worthwhile attitudes towards learning. This allows pupils to be able to distinguish between central issues of importance and peripheral issues.

The syllabus of the **Geography for the Young School Leaver** (GYSL) also provides the teacher with guidelines which offer suggestions for classroom procedure. Teachers work in groups to produce resource material they will use in their various schools. In topics like 'Cities and People'. the concept of spatial injustice can be introduced. Such guidelines do not only serve to direct the teacher as to how to plan his lessons, but also to make the teaching of geography more meaningful. Another positive aspect of the GYSL is that views of pupils were considered when the geography syllabus was constructed. Hebden et al (1977) also consider this important. It cannot be doubted that such considerations help to motivate the pupils.

2.9. VALUES IN THE SOUTH AFRICAN GEOGRAPHY TEXTBOOKS

For the purpose of this study, five current South African textbooks were reviewed. These were:

1 **Geography in Action Std 9,** Rix et al (1987)

2 **New Window on the World - 9 ,** Earle et al (1986)

3 **New Geography to the Point: Standard 9,** Bester et al (1985)

4 **Active Geography Std 9,** Steyn et al (1985)

5 **Senior Geography Std 9,** Swanevelder et al (1985)

An examination of these five textbooks reveals that the first two showed an interest in values issues. In the preface of **Geography in Action** the authors see geography as contributing "to the pupils' real world...and the development of empathy with people of other societies and cultures." **The New Window on the World** makes students aware of 'contentious issues' that can arise in a geography lesson. 'Decentralization' and 'City Models' are examples of such issues. The students are also reassured that skills and attitudes will be developed through geography lessons.

Three textbooks (3-4) concentrate only on factual knowledge. In **Senior Geography** the emphasis on factual knowledge is indicated as follows:

> "The intention of the book is to meet the requirements of the syllabus and present the facts in such a way that all pupils are able to follow them clearly."
>
> (Researcher's underlining. see Appendix 10)

The researcher found it to be valuable to compare what is done in Southern African schools with what takes place in other countries. To maintain international standards it is worthwhile to examine standards against international ones. A scrutiny of a British textbook, **Concept Geography** emphasized the need for a change in the way in which geography is studied. The researcher holds that pupils should be able to think out their own attitudes, values and opinions so that they know how to interpret information. Topics like "Beating disease - where there's smoke" (p, 74), "multiplying numbers" (p. 8) end with exercises on values education. It was also observed that textbooks which cater for values education embody exercises on values issues. In **Concept Geography** for instance, the following class activity is given at the end of the topic "farmers, tourists, wildlife".:

> "Imagine that each member of the class is one of the following members of the community in Broadland. Put your case for what you think should be done. The people concerned are: a farmer, a naturalist." (Appendix 9)

In **Geography in Action Std 9** the following example appears:

> "Examine Mozambique's past from the Portuguese and Mozambican points of view. With which country do you sympathise? Justify your answer." (See Appendices 8, 9 for more examples)

These examples help the pupils to empathise affectively with people in different circumstances and this is considered to be one of the aims of values education.

From the foregoing discussion it seems that there are some textbooks which try to satisfy the requirement of values education in geography. However, extra exercises should be given by the teacher. By following the examples found in **Concept Geography** it would not be difficult to create their own exercises. Unfortunately, where the teaching is examination-oriented, teachers will ignore these exercises and concentrate on factual ones.

In this chapter a review of the literature was undertaken. The place of values in geography education as well as in the South African syllabus and textbooks was outlined. The literature reviewed demonstrates explicitly that values education in geography has a place in the school curriculum. Many value-based topics, as shown by Tables 2.1 and 2.3, may be handled by using a valuing process. Teaching strategies, like role-play, simulations and small group discussions, are given as guidelines to teachers of geography. The South African syllabuses contain value-laden topics and it is up to the teacher to use valuing strategies to teach these topics. Although most textbooks do not incorporate valuing exercises, there are some, like **New Window on the World** and **Geography in Action**, which do. Overseas textbooks, like **Concept Geography**, can also be used to adapt examples contained in them. The teacher is cautioned to clarify his own stand on the issue of values. It is maintained that teachers should refrain from assuming neutral standpoints. It becomes evident from this review that values education in geography occupies an important place in the South African school curriculum in the 1980s

CHAPTER 3

VALUES EDUCATION IN GEOGRAPHY: RESEARCH PROCEDURE

3.1 INTRODUCTION

The major aims of the study were to involve pupils in the valuing process, through valuing strategies like simulations and role playing, and to encourage pupils to analyse and clarify values so that they could make up their own minds when called upon to make choices. The nature of the study made it necessary for the researcher to devise some geography teaching units. Three of these units were tried out at schools in KwaZulu. Three schools, namely Khula Secondary at Empangeni; Bhekuzulu College at Nongoma and Emfundisweni at Madadeni (Figure 3.1) were selected for the purpose of the study. These schools represent the following areas as outlined by the Buthelezi Commission: urban, semi-urban and rural.

3.2 TARGET GROUP

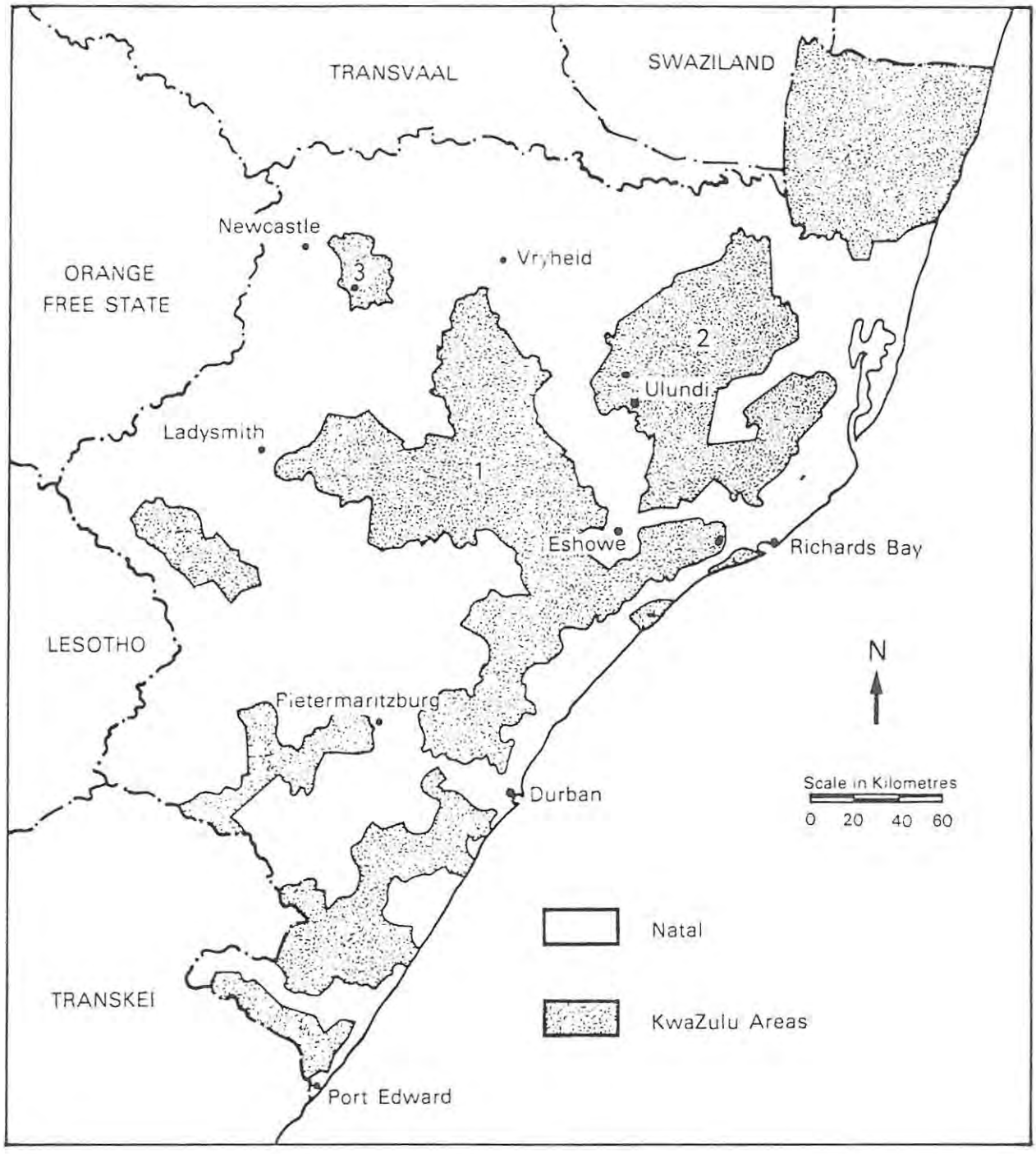
The sample was drawn from standard 9 geography pupils at these schools. Standard 9 pupils were considered the ideal group for the following reasons:

(i) The majority have reached the operational stage of thinking, at which stage pupils think abstractly and use hypothetico-deductive reasoning (Graves, 1975). This is necessary for making the right choices.

(ii) The standard nine syllabus offers many topics on value-based issues in economic geography and area studies. 'Locational factors of industries' and 'Infrastructure' are examples of such topics (Table 1.1).

FIGURE 3.1

Situations of Schools (1-3) Selected for Study



(Source : Daily News 31, 3, 75 : 4.)

(iii) It is better to introduce a new strategy to a group whose progress can be monitored over a longer period than a short period assessment. The teachers at these schools, therefore, may be able to continue using these strategies with these groups for yet another year.

The sample schools were chosen on the grounds of their accessibility to the fieldworkers. The research was undertaken during January 1988, immediately after the opening of the schools. For the convenience of the fieldworkers who were on holiday at that time, the schools under 3.1 were chosen.

3.3 FIELDWORKERS

Three fieldworkers were selected from geography method students of the University of Zululand. These fieldworkers were to teach the units at the three schools. The researcher found it necessary to engage the help of the fieldworkers because the permission to conduct research in KwaZulu schools was received in October 1987. By that time schools were already writing end-of-year examinations. The fieldworkers were chosen on the grounds that they had been exposed before to the strategies they were to use in the teaching of the units. During their practice teaching sessions they were required to use valuing strategies for some of the lessons. In their performance they showed insight into valuing. For this reason the researcher was satisfied that they were the best teachers available to teach the units.

The following aspects will now be discussed in detail:

(i) Teaching units.
(ii) Questionnaires.
(iii) Interviews.

3.4 TEACHING UNITS

The specifications of the standard nine geography syllabus include the teaching of the following sections:

(i) Climatology.
(ii) Geomorphology.
(iii) Economic Geography.
(iv) Developed and Developing Countries

For the purpose of this study, teaching units based on (ii). (iii) and (iv), were devised (Appendix 2). Teaching units are suitable because they may be used for the whole class, for part of a class or even for individuals. In this case units were planned for the whole class. The units were based on the assumption that they were partly cognitive and partly affective because facts as well as feelings were to be evaluated. The units were also learner-centred, seeing that they demanded that the pupils observe their environment and make judgements. Teaching units were also convenient because three fieldworkers were to teach units in different schools. Common teaching units would help towards getting valid results after three people had taught at three different schools. Teaching units included notes on objectives, pupil organisation and teaching methods to be used, resources and apparatus needed for the teacher and for the pupils. This would, to a large extent, ensure uniformity.

3.5 UNITS INVESTIGATED (Appendix 2)

The three units devised were based on the standard nine geography syllabus. All three units are parts of major sections, namely geomorphology - wind action, economic - renewable and non-renewable, and regional - 'developed and developing countries'.

3.5.1 Unit 1: Wind Action: Response and Resultant Landforms (Appendix 2). A physical geography unit for valuing was

devised. The unit consisted of a blend of factual and conceptual learning as well as valuing.

3.5.1.1 Objectives

As a result of this unit of study the pupils will be able to:

1.1 identify features resulting from wind action;
1.2 differentiate between processes of deflation, abrasion and attrition;
1.3 compare the landscape with common features in their own environments;
1.4 develop generalisations about how the features alter the landscape;
1.5 Choose the features they like;
1.6 appreciate the beauty of the landscape.

In this unit the first three objectives are cognitive and the last three are affective.

The section on wind action is optional. The teacher can choose one from Karst, Glacial, Marine or Wind action. The syllabus prescribes that the section be done in five periods. The researcher proposes the following way for using the periods:

	No of periods
1 Wind erosion	1
2 Wind deposition	1
3 Wind transportation)	
)	1
4 Film)	
5 Unit	2

A game taking the form of a card game in which two sets of cards are marked to represent (i) processes of erosion and (ii) features of erosion, was given to the students. The key to the game is matching the process with the resultant

feature. The cards are played against an environment which begins as wind and can turn to desert by the combination of particular cards. Each player gets a card with a process written on it, e.g. abrasion. Each player gets a turn to pick another card with a feature, e.g. zeugen, from the pack on the table. If the player thinks the feature is caused by abrasion then he says so or if he is not sure he discusses it with his group. If the group is right in matching the feature with the process then they score a mark. If they are wrong they lose a mark. This is followed by a comment like 'Zeugen are beautiful features. ' They are found in Colorado'. ' Although the place is dry, tourists are attracted to these places because of features like these'. The teacher allows two minutes for a discussion or other comments on this. Thereafter the game continues. The emphasis in this game is on the beauty of the landscape. Pupils must be able to look at any landscape and be able to appreciate the formation of features or the overall effect these make to the landscape.

The game was adapted from an American game called "Grass-lands". Aesthetic evaluation involves the affective domain and questions are raised about the values implicit in the topic and the landscape they create. Games like this one help pupils develop spatial imagination and the ability to conceptualise spatial relationships.

3.5.2 Unit 2: Renewable and Non-renewable Resources (Appendix 2).

People often find it very difficult to make choices. This game is designed to make pupils aware of this and to help them to follow a logical way of making choices. A second objective is to make pupils aware of resources and, thirdly, to show that people hold different values about the im-portance of resources.

This game does not limit the scope of decision-making, thus enabling players to make free choices. However, the choices are not easy to make, because each choice usually has both advantages as well as disadvantages. It is not easy to choose between grazing land and cultivation land, for instance. Having to choose, therefore, compels the pupil to expose his values. This helps to show the pupils how complicated everyday decision-making in real life can be.

In this game the class is divided into groups of five. A list of fifteen resources is given. Because of the scarcity of land only five resources must remain. Each group decides which ones should remain. Choices must be justified.

3.5.3 Unit 3: Developed and Developing Countries (Appendix 2).

A major objective of this unit is to find out about the attitudes of pupils to the issue of Third World. What do they think is Third World and why? How do they know? (from textbooks, teachers, news, etc.). A list of names and phrases is given (e.g. computer, commercial farming, malnutrition, directors, 10 cars per 1000 people). Pupils have to sort out these phrases into two columns, 'developed' and 'developing'. Thereafter, they must say to which area their area (township) belongs. They must identify things they would like to change in their area and why they would like to change them. They must also point out the features they would not like to change.

Another important objective is to give pupils an opportunity to consider and express their personal views on issues they have been studying. This has the benefit of encouraging them to clarify their own values and show them that a range of opinions may exist on any topic.

After the three units had been taught, the researcher hoped that pupils would begin to respect other people's views.

Some would probably change or modify their attitude in the light of comments made by others. Cognitive learning would also have taken place in a more relaxed and less formal way than when learning was completely teacher-directed.

3.6 COLLECTION OF DATA

3.6.1 Questionnaires

The method of collecting data was the administering of questionnaires to pupils. Questionnaires were very useful and were best for a systematic approach because through them the researcher was able:

(a) to adhere to a strict pattern of questions;

(b) to maintain the order in which the questions were posed to respondents.

In this study the researcher used both open as well as closed-ended questions. The open-ended questions were used to allow the respondent freedom to express his feelings without being guided by a limited choice. Closed-ended questions were advantageous because the answers were standard and could be compared from person to person. The questions asked aimed at getting information on the responses of the pupils to the strategies that were used in the teaching of the units.

3.6.2 Questionnaire Construction

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. This technique was chosen because it put the respondents at ease and information was elicited without hesitancy.

3.6.3 Administration of the Pupil-directed Questionnaire (Appendix 3).

3.6.3.1 Method of Collecting Data

The researcher administered the questionnaire, personally helped by the fieldworkers. Pupils were told the purpose of the questionnaire and what they were required to do. The instructions were read out to them and explained. The researcher read each question out to the pupils and allowed time for pupils to mark their answers on the questionnaire. When there were problems of understanding a question, the researcher explained to the whole class. At the end the questionnaires were collected, sorted and analysed.

3.6.3.2 Items of Investigation

3.6.3.2.1 Question 1-4

The first section of the questionnaire consisted of personal information: name of pupil, school, class, sex, age.

These questions were asked so as to ascertain whether gender had an influence in the interest pupils had in geography as a subject for instance. The ages were vital to the assessment of a relationship between the teaching strategies and the pupils' thought processes.

3.6.3.2.2 Question 5-6a, b

Section B inquired into the interest pupils had in geography and into how long they had been studying geography at post-primary level.

In these questions the researcher wanted to find out how long the pupils had been studying geography. The responses would show whether a student who had been exposed longer to the subject was more or less interested in geography than one who had just started learning it. A student who had been studying geography for five years and yet was not interested in the subject would have some reasons for continuing with the subject.

The researcher is aware of the problem of assessing interest. However, it was felt necessary to measure the attitudes of pupils to geography before and after new teaching strategies were used. The researcher assumed that the options provided were adequate to give the information required.

3.6.3.2.3 Section C

Section C was based on the teaching units that had been taught by the fieldworkers. Pupils' responses to these units occupy a central position in this study. Therefore the responses would show whether the researcher's assumption that the innovative teaching strategies such as valuing ones are not used effectively or not used at all, is correct.

Question 7

The question inquired into the pupils' responses to the fieldworkers' approach -

whether it was interesting, boring or difficult. Responses would show whether it was worthwhile to continue with the approach or not in future.

Question 8, 9, 10

These questions dealt with the topics that were taught. Because these were based on three sub-disciplines of geography - geomorphology, economic and developed and developing countries - the researcher wanted to find out which section was considered to be easy or difficult and to attach values to. That information would help the researcher when making recommendations as to how these can be handled in class. The responses would also show where negative attitudes were adopted.

Question 11a, b

The questions inquired into the pupils' responses to the methods used in the teaching of the units. The pupils were asked whether they felt the methods were suitable or not and to give their reasons for their responses.

Question 12, 13a, b, 14

These questions tried to find out the understanding pupils had of other peoples' values. Question 14 also tried to find out whether the methods used in the teaching of units helped students

to see things from other people's point of view or not.

Question 15-27

The questions were based on facilities that are important for the development of a country (15-20) and on natural as well as man-made resources (22-27). The researcher wanted to find out whether students were able to make clear choices and whether they were able to follow a rational valuing process when making their choices.

Question 28a, b, 29a, b

These questions probed into the reasons for the choices made in questions 16-28. The responses would show first what the respondents value most and what they see as not important in the development of a country. Responses would also show whether a pupil followed a logical valuing process when making that choice. One would be able to know how the respondents perceived each stage of development their country had reached.

The importance of physiological needs would be elicited from questions on resources (29a, b). At times certain natural resources are taken for granted by the pupils. They tend to regard artificial resources as being more important than natural ones, simply because they are based on technological development.

3.7 PUPILS' ESSAYS

The researcher taught the section on 'pollution' to two classes. In one class pupils were asked to divide into small groups. The groups were simulating a town council with each group making up a constituency. The issue of pollution was then discussed. The second class was taught following the 'teacher-tell' method. After the lessons both classes were asked to write essays on 'pollution' (Appendix 4).

3.8 TEACHER QUESTIONNAIRE

A questionnaire (Appendix 5) was administered to geography teachers with the aim of investigating the following:

1 The methods they were using at present and reasons for using them.

2 Their knowledge of valuing strategies.

3 Whether teachers were using valuing strategies or not in the teaching of geography.

4 Their perception of valuing strategies.

For the purpose of this study, eighteen teachers from eight KwaZulu secondary schools were selected. The schools chosen were Amangwe, Dlamvuzo. Dlangezwa Khombindlela, Khula, Mdlamfe, Ongoye and Ziphozonke. These schools were chosen in view of the fact that they were located within the Empangeni area and were, therefore, easily accessible to the researcher. Since the schools are in proximity to a university it was assumed that the teachers in the schools were at an advantage because they were more exposed to the evolution and innovations in their subject than teachers in schools that are far from a university. Furthermore. the schools are used for Teaching Practice and teachers may sometimes be exposed to new techniques. It was thus assumed that from such an exposure. teachers would be acquainted with modern teaching strategies.

3.9 INTERVIEWS WITH TEACHERS

The researcher could not assess the attitudes of the teachers from the questionnaires alone. She felt that interviews would help her get more information from the teachers about their attitudes to values geography and valuing strategies (Appendix 6).

3.10 CONCLUSION

The researcher hoped that the methods followed would help in the investigation of the effectiveness of valuing strategies in geography teaching. In the following chapter the data collected will be analysed.

CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION

The previous chapter dealt with the methodological procedure on data collection. In this chapter the findings will be presented and discussed.

One way of simplifying the data is to put 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.

Most of the pupils in KwaZulu come from the rural area. Even the ones who attend school in the urban and semi-urban areas originate from the rural area. This implies, therefore, that English, the medium of instruction, is foreign to them. This is important in this research about values in geography because their culture is different from that of the West. That means what is of value to an urban dweller may not necessarily be so for a student from the rural area. Public ownership of factories (Appendix 3), implying socialism, would probably rank high with pupils from the urban areas because they are more in touch with the economic issues than their rural colleagues.

This chapter is divided into five sections, as follows:

1 The pupils' general background.

2 The pupils' responses to the three valuing units.

3 Changes in the pupils following the learning experience.

4 The teacher's general background.

5 The teacher's attitudes to valuing approaches in geography.

The teaching units compiled were taught at three schools. A sample of 176 respondents from standard 9 geography classes was drawn

from these schools.

4.2 THE PUPILS' GENERAL BACKGROUND

TABLE 4.1

GROUP CONSTITUENTS

NAME OF SCHOOL	MALE RESPONDENTS	FEMALE RESPONDENTS	TOTAL
Bhekuzulu	30	22	52
Emfundweni	29	22	51
Khula	37	36	73
			176

Of this sample, 96 were boys and the remaining 80 were girls. It was interesting to note that in each school there were more boys doing geography than girls.

TABLE 4.2

AGE DISTRIBUTION

AGE	FREQUENCY	%
15	7	4
16	25	14,2
17	21	12,1
18	44	25
19	34	19,1
20	45	25,6

The pupils' ages ranged between 15 and 20. The majority of the pupils (69,7 percent) were between 18 and 20 years. If this is the trend in all

black schools, it would seem that pupils are ready for more advanced methods of teaching that require the use of the higher mental abilities and greater maturity. Problem-solving strategies, role-playing and simulations are some of these strategies which the teachers should not hesitate to use. The valuing strategies on which the teaching units used for this study were based were, therefore, suitable for the purpose of this study.

The researcher wanted to find the number of years pupils had been studying geography. Beginners may have started learning geography because they did not qualify for other science subjects, and were, therefore, not interested in it. Of the respondents, 82 percent studied geography from standard 6. (Table 4.3). This shows that the majority of the respondents ought to be acquainted with some of the elements of geography and were a good sample because of their experience in the subject. Their responses to questions on new strategies would be valid because they have already been taught geography through other methods.

TABLE 4.3

DISTRIBUTION IN TERMS OF NUMBER OF YEARS GEOGRAPHY WAS STUDIED

NO OF YEARS	NO OF PUPILS	%
1	8	4,5
2	23	13,5
3	54	30,6
4	65	36,7
5	26	14,7

The 5 percent of the respondents who had just started learning geography gave their views on the effectiveness of the methods and how these have helped to stimulate interest in the subject. The success of the methods may probably encourage both rural and urban pupils to study geography further.

Of the respondents, 83 percent found geography to be an interesting subject. More than a third found geography to be useful as well as interesting. This shows that the pupils choose geography as one of their subjects at school because of both its perceived educational as well as its vocational value. Ballantyne (1988) reprots a 25 percent decline between 1976 and 1984 in the number of black pupils taking geography. This could be owing to the fact that other subjects like biblical studies and agriculture are now available as options. This supports the idea that those who choose geography, do so for the value they perceive in the subject. Only 1,7 percent found geography to be useless, the reason given being that they did not like it. Surprisingly these were not the beginners as was expected by the researcher. Although the remaining 15,3 percent found geography to be uninteresting, nevertheless they still acknowledged its educational value.

TABLE 4.4

PUPIL INTEREST IN GEOGRAPHY

VARIABLE	NO OF RESPONDENTS	%
useful and interesting	64	36,4
uninteresting	6	3,4
useless and uninteresting	3	1,7
useful but uninteresting	21	11,9
interesting	82	46,6

4.3 THE PUPILS' RESPONSES TO THE THREE VALUING UNITS

The second part of the questionnaire was devised to investigate the pupils' responses to the three units. Question 7 was concerned with the effectiveness of the researcher's approaches to the teaching of the units. The three fieldworkers were to introduce the lessons in the same way so as to ensure uniformity in responses to the questionnaire. The researcher was aware of the fact that factors like personality and confidence would affect the teaching, hence the demand for uniformity in presenting.

TABLE 4.5

PUPILS' RESPONSE TO VALUING APPROACHES USED BY FIELDWORKERS

VARIABLE	NO OF RESPONDENTS	%
interesting	38	21,7
uninteresting	6	3,4
exciting	10	5,7
boring	3	1,7
easy to understand	102	58,3
difficult to understand	16	9,2

Of the respondents, 58,3 percent found the teacher's approach easy to understand. A further 22 percent found the approach to be interesting. This implies that the fieldworkers succeeded in presenting the lessons effectively. This further implies that the teaching strategies employed were a possible solution to problems encountered in the teaching of geography. A teacher who used effective methods will be understood by his pupils as well as being stimulating to them. The method was found uninteresting and boring by 5.1 percent and a further 9,2 percent found it difficult to understand.

Of the respondents, 5,7 percent did not just find the approach interesting only, but exciting as well. This implies that pupils welcome a change that involves them and which highlights their central position in the learning situation. It is also true that pupil responses may show only that they welcomed any change from the routine. The researcher also observed that in the classes where these units were taught the pupils became excited when they saw the fieldworkers. The fieldworkers had been accompanying the researcher to help with the administration of the questionnaire. The pupils indicated that they would like the fieldworkers to teach them again. Further probing revealed that the games and discussions they had held had been very welcome to the pupils. It was obvious that the pupils had enjoyed the lessons. The teachers asked the researcher for more units of the same type as the ones that were taught. This showed that not only the pupils but the teachers as well were interested in the strategies.

The teaching units were evaluated separately to find out which ones proved more difficult. It was found that the section on 'Developed and Developing Countries' was the most favoured by the majority of the pupils (73 percent). This is to be expected if one considers that the topic on Developed and Developing Countries concerns many values issues in which the pupils are not only interested, but they can identify with, like 'Population Movements'. This is probably why they found the unit the easiest to understand.

TABLE 4.6

PUPILS' RESPONSES TO UNIT 1: WIND ACTION AND LANDFORMS; UNIT 2: RENEWABLE AND NON-RENEWABLE RESOURCES AND UNIT 3: DEVELOPED AND DEVELOPING COUNTRIES

VARIABLE	% UNIT 1	% UNIT 2	% UNIT 3
interesting	37,9	36,2	29,3
uninteresting	5,2	1,1	3
exciting	4,6	9,2	9,2
boring	9,8	11	4,0
easy to understand	27,6	27,5	43,6
difficult to understand	14,9	15	10,9

The units, 'Wind Action and Landforms' and 'Renewable and Non-Renewable Resources' were found to be interesting and easy to understand by 55 percent of the pupils. Only 15 percent found the units boring and uninteresting. A further 15 percent found the units to be difficult to understand. This shows how pupils at times view change with some scepticism. They are used to being taught in the traditional way and therefore a diversion from this trend is not completely acceptable. Some are not used to having their opinions listened to or they are afraid of making mistakes. Frequent use of pupil-involving strategies like valuing ones can allay such insecurity and lack of confidence.

The units used by the fieldworkers were found to be interesting or easy to understand by 86 percent of the respondents. This suggests that the approaches used were suitable for the target population.

A very large percentage (91) of the responents felt that the way in which the lessons were taught gave them the opportunity to express their own opinions. They also felt that through the lessons they were able to understand other people's pointsof view. These strategies tend to liberate the child's way of thinking. His mind is broadened to allow him to anticipate certain actions emanating from particular cases. It becomes easy for the child to think about how things ought to be, rather than only how things are.

4.4 CHANGES IN THE PUPILS AS A RESULT OF THE UNITS

This part of the questionnaire was devised to investigate changes in the pupils' valuing processes as a result of the units. The researcher is aware of the fact that it was not possible to measure change over a short period. Nevertheless, it was assumed that pupils would think about options before making choices.

Questions 14 and 15 probe the responses of the respondents to other people's views before and after being exposed to the valuing strategies. There is no significant difference between the responses to the questions.

TABLE 4.7

CHANGES IN THE PUPILS AS A RESULT OF THE UNITS

VARIABLE	RESPONDENTS BEFORE THE TEACHING OF UNITS		RESPONDENTS AFTER THE TEACHING OF UNITS	
	No	%	No	%
ignore them	12	6,8	12	6,8
irritated by them	9	5,1	11	6,3
found them stupid	3	1,7	4	2,2
respected them	83	47,1	71	40,3
liked them	67	38,2	76	43,3
no response	2	1,1	2	1,1

The majority of the respondents (85,3-83,6 percent) liked or respected other peoples' views before and after the use of the strategies. Pupils have been taught in the traditional way for a long time and they are used to taking the teacher's word as the law. Two weeks was a short time to expect a drastic change from one behaviour to another. However, the way in which the pupils responded well to the strategies suggests that with more use they may develop positive attitudes to other people's views. The valuing process they will follow will ensure that they understand how other people reason.

Items in questions 15 to 27 deal directly with decision-making based on values issues. The purpose of these questions was to test the ability of the pupils to value after doing a value-based unit. The following items were to be listed in order of preference.

TABLE 4.8

FACILITIES FOR DEVELOPMENT RANKED IN ORDER OF PREFERENCE

	Order of Hierarchy
More schools and education	1
Doctors and medical facilities	2
Food aid from rich countries	3
Better farming machinery	4
Industries and factories	5
Ownership of factories by local people	6

1 More schools and education

Of the respondents, 59 percent felt that this was the most important item. The position occupied by schools and education shows the awareness of the pupils about the importance of education. It is stressed at homes, churches, health centres and everywhere, how important education is. Therefore, through the acceptability of this item to society, the pupils also readily accept its importance. It is also true that for development to take place basic things like education have got to be given priority. Factories and in-

dustries can be established later, after the people have been educated.

2 Doctors and medical facilities

The pupils rated medical facilities second to education. This is seen as important for a developing country. Doctors and medical facilities are also regarded as very important for the well-being of man. For a country to grow, strong and healthy citizens are needed.

3 Food aid from rich countries

Only 15,8 percent of the respondents rated this as the most important item. However, most pupils decided this item was not important for development.

4 Better farming machinery, industries and factories

Only 6 percent of the respondents decided that better farming machinery was the most important item. The majority rated it as fourth in importance.

5 Ownership of factories by local people

This was rated last by 46 percent of the respondents. Ownership of factories was seen as something people could easily do without. When responding to the probing question as to why respondents felt that factory ownership was not important, the following answers were given:

(i) "People can live without them."

(ii) "How can illiterates be hoped to run factories without basic education."

From this rating one can easily see that the respondents were following a valuing process to get to the decisions they made. It is also interesting to note that of the 176 respondents, four did not know how to rate these items. Three decided that the items were of the

same importance so they rated all these as occupying the first position. One did not respond to them at all. This suggests that these pupils are still not sure about their answers, whether they will be acceptable or not. They probably regard a solution that would come with the teacher as the best, therefore they fear making mistakes. It is also true that two of these were among those respondents who found the strategies to be boring. Laziness to think could lead to such negative responses. When pupils are used to being 'spoonfed' by their teachers they do not like a teacher who wants them to work and discover things themselves. It is up to the teachers to encourage their pupils to accept that they also must work as hard, if not harder, than the teachers in order to succeed.

Lack of motivation among some of the pupils was also apparent during the administration of the questionnaires. Some pupils referred to the lessons as 'games' and therefore of little importance to them. The traditional notion that schools are formal places where serious work only is to be done, still haunts black schools. Therefore pupils tend to doubt the suitability of less formal strategies. Adolescents often do not appreciate the role of games in education and consider it to be played by standard 6 classes only. The teacher should, therefore, strive to adjust his units to the level of mental development of his pupils.

Items in question 22 to 28 dealt with resources. Pupils were asked to list the given resources in order of preferences. The researcher wanted to find out what the pupils valued as most essential for their existence.

TABLE 4.9

NATURAL RESOURCES RANKED IN ORDER OF PREFERENCE

Resource	%
1 Water	56
2 Soil	26
3 Sunlight	7,3
4 Plants	5,7
5 Animals	2,9
6 Coal	1,6
7 Nuclear fuel	,5

Fifty-six respondents rated water as the most important resource. Reasons for the choice was that nothing can exist without water. Soil was important because it is responsible for the growth of plants and therefore as a source of food for man. Coal and nuclear fuel were least important because they could easily be substituted by wood and other means of making fire. Most of the respondents (58 percent) did not even know what nuclear fuel was, except that they had heard about its dangers. To them nuclear fuel was not being used any way.

It becomes clear from the responses that the value attached to these items is their life-giving quality. Something that can be used for the immediate benefit of man is worthwhile and those whose results are seen as being unimportant are eliminated. It is clear that survival is regarded by most pupils as important. This suggests that the respondents have had to struggle in life to get whatever they have. Societies that are already developed tend to take things like water and soil for granted and technological developments as important. The black community lived and still lives, on agricultural products, therefore to them a threat to those resources that bring life is a threat to man's existence. The valuing process displayed by respondents to these questions is at par with the values of the society.

The essays written by pupils on pollution suggest that the pupils who have experienced a valuing approach may be original in writing. Words

like 'carelessly', 'uncivilized', 'making them aware', 'unacceptable' (Appendix 4), extracted from one essay, suggest the pupil's own feelings and not the language of the textbook, as the second essay shows ('living organisms').

From their responses it is encouraging to find that pupils liked the units.

4.5 TEACHERS' GENERAL BACKGROUND

It was considered necessary to find out about the circumstances of the teachers who teach the pupils in some of the schools that make up the population for this research.

Eighteen teachers from eight KwaZulu senior secondary schools were interviewed. In these eight schools only one had four geography teachers. In three other schools there were three geography teachers. One school had two geography teachers and the last three schools had just one teacher for geography.

A distribution like this one shows a shortage of geography teachers in black schools. One geography teacher who had to cope with big classes (standard 8 to standard 10) would find it strenuous to try out new strategies. He would rather use the straightforward teacher-directed methods.

TABLE 4.10

DISTRIBUTION OF TEACHERS PER SCHOOL

NAME OF SCHOOL	NO OF TEACHERS
Amangwe	1
Dlamvuzo	1
Dlangezwa	3
Khombindlela	1
Khula	3
Mdlamfe	2
Ongoye	4
Ziphozonke	3

Question 2 considers the distribution of male and female teachers in the schools sampled. The distribution shows that 14 teachers were males and females made up 4 only. The trend observed in black schools is that there are more male teachers than female, especially at post-primary level. The findings of this study have been consistent with this trend.

The majority of the geography teachers interviewed (thirteen) did not hold a degree. Some were still pursuing one, while five held matriculation certificates only. This shows that the majority of the teachers found in black schools were still poorly qualified to teach geography at senior secondary schools. If, as assumed by the researcher, there is a relationship between a teacher's qualifications and the method he uses, then this study reaffirms that assumption. The chances are that such teachers were trained in institutions which do not emphasise the new teaching strategies.

TABLE 4.11

INTERVIEWED GEOGRAPHY TEACHERS' QUALIFICATIONS

Qualification	No of teachers
Matric	5
Course I	3
Course II	4
Course III	1
B Ed/Hons	5
Masters	0

Of the teachers interviewed, twelve had more than four years experience. It was to be expected that such teachers had been using new teaching strategies, if not, that they were ready and confident enough to use them. However, this does not seem to be the case because the study reveals that eleven of the teachers were using the telling method.

It is interesting to note that 59 percent of the teachers teach standard nine and ten. This means that although some of these teachers are not fully qualified to teach these classes, the shortage of teachers has made it imperative to engage them.

TABLE 4.12

DISTRIBUTION OF CLASSES AND TEACHERS

Class	No of teachers
Std 6	5,9
Std 7	23,5
Std 8	11,8
Std 9	23,5
Std 10	35,3

Most of the teachers who had taught standard 10 the previous year had produced good results at the end of the year. Further probing revealed that in five of the sampled schools pupils were entered for the standard grade examination. Standard grade examination evaluates the lower order abilities like recall and comprehension only. A situation like that would suit a teacher who uses only the teacher-directed methods. In black schools teaching is examination-oriented because a good teacher is evaluated by the principal, colleagues and pupils according to the results of his students at the end of the year. The development of the child into a complete citizen is often neglected or overlooked. As a result, child-centred methods which are thought to be time-consuming are not used at all. This short-sightedness often cripples a child immediately he enters the tertiary institutions. He is not used to thinking and reasoning out problems himself. Often these were worked out and prepared for him by his teacher at high schools.

Teachers were asked to indicate the methods they were acquainted with and their use of these methods (Table 4.12). The teacher-directed methods were the most known and used methods. Twelve of the teachers knew and used the telling method frequently. This number consisted of teachers with matric and course I and II. This suggests that teachers with low qualifications adhere to the teacher-directed approaches. Their teaching does not allow for a variety or an exploration of new strategies. Teaching becomes monotonous and boring.

TABLE 4.13

METHODS USED BY TEACHERS

Methods	Telling Method	Question & Answer	Games & simulations	Small Group discussion	Text-book	Field-work	Work-sheet
Known by teacher	12	17	3	13	8	9	3
Used frequently	11	15	1	7	10	2	0
Used occasionally	7	4	2	6	6	6	1
Not used at all	1	0	13	2	3	5	10

The question and answer method was known and used by seventeen of the teachers and thirteen knew the textbook method. Although the textbook method was known by many teachers, not all used it. About a third of the teachers were not using it at all. Only one teacher (Table 4.12) was using games and simulations, while worksheets were not used at all. Small group discussions were used by seven teachers only. Further probing revealed that what the teachers referred to as small group discussions, were the planned discussions that arise when certain interesting topics are handled in class.

4.6 TEACHERS' ATTITUDES TO VALUING STRATEGIES

Structured interviews were further conducted with geography teachers (Appendix 6). It was found that teachers seldom involved their pupils in discussions. Of the ten interviewed, not a single one identified the topics shown as having values. It was only after the researcher had made examples like the following that they understood:

> If you were to choose, where would you like to live USA, UK, RSA? Why?

Most referred to this kind of question as being a game. It became clear that games were not taken seriously by the teachers. In fact, they remarked that they did not have time to devote to games because the nature of their subject (geography) demands serious work.

It would seem that it will take time for teachers in black schools to introduce values education because there is a need first to educate the teacher about values teaching. The researcher maintains that, for as long as the subject of values education is not handled during teacher training, teachers will not be able to teach about values. Values education can be introduced during the Higher Diploma in Education (HDE) course. For the practising teacher, in-service courses and workshops can be organised by the subject advisers or university lecturers on the subject. In colleges, methods lecturers could also introduce values education, provided they were trained in this way at university.

Responses to the rest of the questions asked during the interview further indicated that the teachers did not understand values education. On the question of bias they were not sure whether it was a good thing or not to influence pupils.

Of the teachers interviewed, six were trained at colleges. According to Mniki (1987), college trained teachers are used to the lecture-centred strategies and in universities the emphasis is on student activity. It is not surprising, therefore, to find that most teachers interviewed were still using teacher-directed approaches frequently.

The researcher found that teachers did not give pupils topics or problems to prepare for discussion. It appeared the teachers did not understand what was meant by small group discussions.

From the study it became clear that the popular methods used at schools were the teacher-directed ones only. As suggested earlier the teachers with low qualifications may not have been exposed to modern teaching methods. Also, because these teachers had never studied at a university it would not be easy for them to approach lecturers for ideas. Another factor that would keep them from enquiring into new strategies would be the satisfaction they got from producing good results at the end of the year. The emphasis here being on results rather than on the pupil. It is interesting to note that the findings of this study are similar to Ballantyne's findings (1986, p. 133). As in this study he also found that teachers were mostly using teacher-directed methods. This study reveals that the cognitive abilities are catered for in the teaching of geography. Teachers, however, concen-

trate on the development of the lower abilities only. The higher abilities are seldom considered. No effort is made to deal with the affective domain. It would not be wrong to assume that teachers either do not read the objectives of the syllabus and are as such ignorant of the omissions they make in their teaching, or that they simply overlook the need to develop the emotional attributes.

4.7 CONCLUSION

In the course of this investigation of the responses of pupils to valuing strategies it became clear that valuing strategies were not being used in the teaching of geography, although pupils respond well to them. The emphasis in the schools under investigation was on factual knowledge. It became clear that teachers did not understand the purpose of using valuing strategies. Their comments that the strategies were just 'games' suggests this. This, therefore, reinforces the case for including values education in the programme for teacher training and upgrading.

All three units used in this research have both cognitive as well as affective objectives. They involve valuing based either on values analysis or values clarification processes. The favourable responses of pupils to these approaches suggest that there is a need to use them frequently at school. The pupils did not just like the units, they found them easy to understand as well. The essays on pollution also indicate a change in the way pupils think when given a chance to do independent work. One may, therefore, infer that these approaches have an educational value.

Other aspects of these units are that they can be adapted to suit any age group. Furthermore, they are easy to follow and may be used by teachers who would like to experiment with valuing processes. Although the fieldworkers found that the pupils had language problems, the pupils still found the units, especially unit 3, very easy to understand. (Appendix 13).

Because of the positive responses of the pupils to the units, together

with the need to encourage teachers to use the valuing approaches, the following chapter will be devoted to recommendations and conclusions.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The problem this study sought to investigate was, as stated in chapter one, to investigate the responses of pupils to the use of simulations, role-play and small group discussions as valuing strategies. The following aspects received attention:

1 Values Education in geography.

2 Provision made by the syllabus for the teaching of values.

3 The devising of three teaching units involving valuing strategies.

4 Pupils' responses to these valuing strategies.

5 Methods used by teachers in teaching geography.

6 Teachers' attitudes to valuing strategies.

5.2 VALUES EDUCATION IN GEOGRAPHY

The contribution that values education in geography can make to the education of the citizen, has recently been recognised. Many education departments in Southern Africa have included values education in their syllabuses. In countries like Britain, Canada and Australia, valuing strategies are used extensively. Although the issue of values education in geography is fairly recent, progress is being made in writing about them. Since the late 1970s more articles on values geography are being produced by authors like Fien, Slater, Watson, Hall, Hebden, Rich and Huckle, to mention but a few. In Southern Africa authors like Rix, Earle et al, are beginning to open a way for the introduction of values education in geography. All of these people are not just concerned with values education as a fad, but because of its educational value. Values education helps the pupils to think in a 'hypothetico-deductive' way as suggested in Graves (1970). Another value of this kind of teaching and learning is that pupils are motivated to work and reason out things for themselves.

5.3 TEACHING UNITS

The researcher devised three geography teaching units (Appendix 2) based on values clarification and values analysis. These units were taught in standard 9 classes in KwaZulu schools. The main aim served by the units was to see how pupils responded to valuing processes. The units proved a success with the pupils to whom they were taught. The units demand a lot of planning and preparation on the part of the teacher. A well thought out unit, with clearly defined objectives, may be used effectively with the group for which it is intended. The three units devised may be used as an introduction to a lesson or at the end of the lesson. As the fieldworkers commented, the units did not cover full chapters but parts of chapters. This was the intention of the researcher to give examples of how teaching units can be used. Teachers may copy the example, improve on it or expand it. The way has been paved. It is now the duty of all concerned to evaluate it further. More examples of values exercises and units in geography are found in Appendix 8, 9 and 12). These units have been chosen because they are simple, relevant to the South African syllabuses, interesting and easy to understand.

5.4 PROVISION MADE BY THE SYLLABUS FOR THE TEACHING OF VALUES

In chapter two a review of syllabuses was undertaken. This revealed an encouraging aspect about the place of values education in the syllabuses. The objectives (Appendix 1) clearly state that pupils should be taught to develop worthwhile attitudes and values. The problem with the DET syllabus is that there are no suggestions as to how this can be done. It does not give the teacher a direction as to how values education may be taught at school. Teachers are not even aware they have such a task to perform. It is clear that the mere mention of the development of emotional attributes in the child is not enough because teachers overlook it. The researcher maintains that properly laid out suggestions for the teaching of values education in geography may compel the teacher to include valuing approaches in his teaching. The following suggestions, as a possibility, are offered:

1 The section on 'population movements' has ten periods. Two of these should be used to make pupils aware of decisions people make to change other people's lives. Questions like: (i) If you were to move to another part of the country, where would you like to go? Why? (ii) If you were to be told to go to another part of the country you do not like, how would you feel?

2 Pupils must be given roles to play or simulate certain situations as people of a Third World country in sections like 'developed and developing countries'.

3 Textbooks examined showed that except for **New Window on the World** and **Geography in Action** (Appendix 8), most do not have any exercises involving values issues. In spite of this, some even claim to be conforming to the syllabus.

The DET standard 10 examination papers lack valuing activities because the syllabus does not stipulate or provide for these. On the other hand, the Joint Matriculation Board papers contain questions on values issues (Appendix 7).

5.5 PUPILS' RESPONSE TO VALUING STRATEGIES

In an attempt to discover how effective valuing strategies can be in the teaching of geography, the researcher has come up with the following findings:

1 The questionnaire administered to pupils revealed that values education in geography was not taught in black schools. Only factual knowledge, without its value and implications to the pupils, was considered. In spite of the syllabus objectives that pupils should be made aware of their environment, the pupils were not taught to develop that awareness.

2 In sample schools pupils lacked verbal skills. This can be ascribed to the fact that teachers do not draw pupils into the lesson by giving them opportunities to talk. Pupils would develop verbal skills through verbal participation during the lesson. Teachers were too preoccupied with examination preparations to bother

about 'games' and discussions. Little did the teachers realise that, with the use of the strategies, they would be sure, after handling a section of the syllabus, that their pupils had understood it thoroughly because pupils would no longer accept facts without understanding them. In class pupils would be asking questions and solving problems in a hypothetical way.

3 Pupils were not used to using stimulus material to find information and to make value judgements about things. They were either not sure about what to do or afraid to make mistakes. Even in the questionnaire some pupils were not sure about which answers to choose because they were not used to it. The pupils were used to 'reception learning' where everything is given to them. An enquiry-based approach which would help to correct pupils' learning deficiencies was not used.

4 The units demonstrated that valuing strategies can be used in class to make the subject interesting and easy to understand. Teaching this way may help pupils gain insight into the subject because of the discussions. The research further revealed that pupils liked to be exposed to such learning experiences.

5 Although the questionnaire revealed that pupils respected other peoples' views, in the classsroom pupils were at times impatient with others. This shows lack of practice in discussions and the acceptance of the teacher's word as final.

6 Pupils reacted positively to the units and showed they wanted to be taught in this way.

5.6 TEACHERS' ATTITUDES TO VALUING STRATEGIES

An important advantage of using pupil-centred approaches is the high level of pupil motivation they bring about. The variety of learning situations that can be set up by the teacher may keep the pupil engrossed in his studies throughout the year. Usually pupils do not see the need to work hard until the examination is at hand. When they realise the amount of work involved, some lose heart. It is the

contention of the researcher, therefore, that teachers should try out strategies that will involve the pupils actively.

This research revealed that teachers did not understand the three units taught. Some did not actually know what values teaching was all about. Their attitude to valuing strategies was that they were 'games' and therefore a waste of time. Nevertheless, those who came to observe when the units were taught, were impressed by the overwhelming response of the pupils. This may mean that teachers need to see strategies at work before they can use them.

5.7 RECOMMENDATIONS

1 Pupil-centred approaches like small group discussions, games, simulations and role-playing should be used more frequently in the teaching of geography at school. Teacher-directed learning has a crippling effect on the development of the pupil, if used exclusively.

2 Values teaching in geography should be introduced as early as in standard six. Values issues should be discussed in class and the pupils should be encouraged to air their views and share them with others.

3 Teacher education in colleges and universities should include some treatment of value issues and strategies in geography. Discussions are essential for student teachers, instead of being lectured to.

Of the ten course outlines of geography method cited by Mniki (1987) three include values education directly or indirectly.

4 Teachers need to see actual units at work, therefore Education Departments should organise workshops and courses for geography teachers where values teaching approaches can be demonstrated.

5 Teachers should be made aware of values education in geography. Aspects like bias, indoctrination, respecting other peoples' views and openness should be emphasised.

6 Textbooks need to incorporate more values exercises and teaching

units that would help to give the teacher some guidelines on values teaching in geography.

7 Molyneux and Tolley (1987) suggest ten ideas that can be used when setting up small group discussions in geography (Figure 5.1). Teachers can try them with their classes. Items 4, 7 and 9 may not be effective with standard six pupils. However, the teacher may decide which idea suits his class best.

FIGURE 5.1

TEN IDEAS FOR SMALL-GROUP TALK IN TEACHING GEOGRAPHY

1 *Buzzing.* After the pupils have listened to a talk by you or after you and they have listened to a radio broadcast or watched a film or TV programme, allow the pupils to discuss what they have just seen or heard, with a view to asking you or the rest of the class questions about it.
2 *Brainstorming.* Give the pupils a picture of an unfamiliar object or place and get them to make a list of possible answers to such questions as: What is it? Where is it? How was it formed?
3 *Comparing.* Give the pupils two maps of the same area but printed at different times, or a 'before' and an 'after' photograph of a place and get them to identify the changes between the two.
4 *Predicting.* Give the pupils a weather map and ask them to make a forecast. Alternatively, give them a graph showing how the birth rates and death rates for a place have changed over time. Get them to predict how its population will have changed over the same period.
5 *Sequencing.* Re-type a section of text from a textbook and then cut it up into segments a few sentences long. Mix them up so that they no longer follow the author's sequence. Get the pupils to sort them out and put them into a coherent order (which need not necessarily be the same as the original).
6 *Matching.* Give the pupils four population pyramids and four descriptions of places to which they might belong. Get the pupils to pair up the pyramids with the descriptions. Tell them to be prepared to justify their selections.
7 *Designing.* Get the pupils to prepare a design for the reclamation of an old gravel-working, spoil-heap or abandoned factory for recreation and leisure purposes.
8 *Decision-making.* Get the pupils to decide upon where to locate the site of a new superstore or the route of a new road.
9 *Answering.* Get the pupils to clarify the meaning and work out the answer to a problematic data-response question from an old examination paper.
10 *Empathising.* Provide the pupils with a description of a situation in which there are conflicts of interest such as the building of a new airport or a reservoir. Get the pupils to discuss how each of the parties thinks and feels about it.

(Molyneux & Tolley, 1987, p. 47)

5.8 CONCLUSION

Valuing strategies and approaches on which this study was based have demonstrated beyond doubt their effectiveness in developing both cognitive as well as affective attributes. The literature demonstrates successfully the need for a place for values education in geography in the school curriculum. Very few geographical topics are value-free. Therefore, those that are value-laden need to be tackled through valuing approaches. There is a need to (i) make teachers aware of values education in geography; (ii) help them develop positive attitudes to valuing processes. Games on valuing should show their educational value. Finally, pupil motivation demonstrated very clearly that values education has a place in geography teaching. Therefore value issues must not be brushed aside.

It should be clear at this stage that the tremendous value of values education in geography cannot be emphasised enough. Looking at the positive responses of pupils to valuing strategies it becomes evident that the quality of geography teaching has to be improved. Many geography topics are value-laden and geography as a subject can, therefore, form a sound foundation for values education. For this purpose the strategies adopted must be good enough to enable meaningful learning to take place. Strategies like small group discussions, role-play, games and simulations are recommended.

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SYLLABUSES

AUSTRALIA	Syllabus Change in Geography: A Western Australian Example.
CANADA	Aims for the Intermediate Geography Program.
UNITED KINGDOM	Geography for the Young School Leaver.
REPUBLIC OF SOUTH AFRICA	Department of Education and Training and Department of Education and Culture.
	Cape Education Department.

GAMES

Sources of the games are indicated in the text.

1 Crossroad

2 World Trade

3 Section

4 The Rainforest Game

5 Spatial Injustice

6 The Quality and Amenities of my Home Area.

APPENDIX 1

SYLLABUS FOR GEOGRAPHY STANDARD 9 H.G.

A. AIMS WITH SYLLABUS

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:

- man-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 neither be specifically vocationally orientated, not 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.

GENERAL REMARKS ON SYLLABUS

1. 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, and 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:

1.1 Knowledge

1.1.1 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

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

1.2 Skills

1.2.1 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.

1.2.2 Geography makes a particular contribution to the following skills:

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

1.3 Perception

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

1.3.1 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, dis-

tance 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.

1.3.2 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.

1.4 Appraisal

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

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

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

- recognize the inter-dependence of man

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

1.4.3 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 man's wise management of his environment

  They should be aware of how man uses/abuses his environment, particularly the resources available to him; the options and constraints that are placed on his actions.

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

2. TEACHING GUIDELINES

2.1 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

2.1.1 The holistic or global approach

- It is particularly important that the components of the syllabus be viewed as parts of a whole and not as isolated compartments of knowledge

- The divisions of the syllabus should 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.

2.1.2 The descriptive versus the problem-solving approach

- Although there is still room for some of the descriptive techniques of the old traditional Geography, emphasis should be given to a more problem-orientated approach

- Pupils should gain insight into the process of decision-making by participating in exercises such as simulation games.

2.1.3 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 man-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.

2.1.4 The inter-disciplinary approach

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

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

2.1.5 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).

2.2 Teaching techniques

It is recommended that, where appropriate, teachers should:

2.2.1 integrate the reading and analysis of photographs and maps with the relevant sections of the syllabus. This includes:

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

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

2.2.2 ensure that pupils become competent in the use of various measuring instruments and other apparatus

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

2.2.4 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 need not be required

2.2.5 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 and paper-mâché/ sand-tray models) which provide effective representations of the real world

2.2.6 undertake well planned and meaningful fieldwork

- This includes: observation and measurement in the field; the recording and processing of data; the interpretation of written and graphical information

2.2.7 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 issue 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. DIFFERENTIATION

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 own ability.

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

NOTE: Statements indicated with an asterisk in the SYLLABUS CONTENT are GUIDELINES suggesting an approach. These should allow for greater flexibility when teaching the subject.

C. EXPOSITION OF SYLLABUS CONTENT

1. GENERAL GEOGRAPHIC TECHNIQUES (18)

* Continuation of work done in Std. 8

* 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, whenever possible. The scientific method could be applied

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 (38)

* Synoptic weather charts, relevant recording instruments and quantitative techniques should be used, where appropriate.

2.1 Atmospheric pressure (7)

Definition, measurement and representation

2.2 Relationships between pressure and wind and geostrophic flow (4)

2.3 General circulation of the atmosphere (17)
Primary, secondary and tertiary circulations

2.4 Weather processes (6)
Lapse rates; thermal stability and instability

2.5 Thunderstorms and tornadoes (4)
Growth, decay and associated weather; consequences

* These should be studied on a global scale.

3. GEOMORPHOLOGY (36)

SELECT at least TWO of the topics from Par. 3.2 to 3.5 (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. (8)

3.1 Fluvial processes and landforms typical of fluvial erosion and deposition (12)

3.2 Solution processes and resultant landforms (Karst geomorphology)

3.3 Marine action and resultant landforms (16)

3.4 Wind action and resultant landforms

3.5 Glacial action and resultant landforms

4. SIGNIFICANCE OF THE OCEANS (10)

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 (5)

4.2 The role of the oceans in: climate control; world trade (3)

4.3 Associated problems, such as ocean pollution and over-exploitation, and possible solutions (2)

5. ECONOMIC GEOGRAPHY (36)

5.1 Renewable and non-renewable resources (3)

5.2 Primary activities

5.2.1 Farming (15)

Subsistance 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 (6)

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 (10)

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 (2)

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

6. REGIONAL GEOGRAPHY (42)

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 the USSR
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.

D. EVALUATION

1. Evaluation is concerned with both:

. the measurement of pupil achievement, and

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

2. Tests and examination

2.1 There should be continuous evaluation.

2.2 Pupils in standard 9 must write an internal examination at the end of the year.

2.3 A year mark in Geography is arrived at by obtaining the total of at least eight class tests (Each test, of 30 minutes duration, must count 50 marks). To this add any marks attained for assignments, projects and practical work and convert the gross total to count out of 100.

2.4 This mark is then combined with an examination mark of 400, giving a final mark of 500 marks.

2.5 The examination will consist of TWO papers

2.5.1 PAPER 1 : $1^{1}/2$ hours (80 marks)

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

2.5.2 PAPER 2 : 3 hours (320 marks)

- This paper will be divided into THREE sections.
- FOUR questions must be answered: ONE from each section and the FOURTH question may 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 - ECONOMIC 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, Oceanography and Climatology components.

- HIGHER GRADE: Questions may either be systematic or of the composite variety. A composite question in one section (eg. 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.

2.5.3 Differentiation between Higher Grade and Standard Grade should be achieved through the type of questions set and on their mark allocation.

2.6 In short: Promotion mark at the end of the year:

2.6.1	Examination mark: 5 x 80	400 marks
2.6.2	Year Mark:	100 marks
	Grand Total	500 marks

APPENDIX 2

Teaching Units for Values Education in Standard 9

1. WIND ACTION RESPONSE AND RESULTANT LANDFOMRS

1. Facts

Wind erosion
- loose surface material
- vegetation helps to prevent
- ground moisture
- arid regions

Processes
- deflation
- abrasion
- attrition

transportation
- suspension
- saltation
- sandcreep

features
- grooved rocks
- spongy "
- pedestal
- tunnel
- open cave
- rock arch
- ventifact - dreikantars
- yardangs
- Zeugen

Procedure

1 A board is drawn on which wet areas as well as dry ones are drawn. Pupils throw dice to play. When one lands in an area that is written 'loose material' he loses a turn and will start from the beginning for instance.

2 He will write out the reason for losing a turn and decide whether it is fair or not to get that penalty.

3 If one lands in an area of abrasion he will take a card from the pack. If the feature written is one caused by a brasion he can move; if not he misses a turn.

4 They write down every move they make

- what it was
- why they have to act in a certain manner

5 How do they feel about the features caused by abrasion?

6 What do they remind them of?

A game taking the form of a card game in which two sets of cards are marked to represent (i) processes of erosion and (ii) features of erosion, was given to the students. The key to the game is matching the process with the resultant feature. The cards are played against an environment which begins as wind and can turn to desert by the combination of particular cards. Each player gets a card with a process written on it, e.g. abrasion. Each player gets a turn to pick another card with a feature, e.g. zeugen, from the pack on the table. If the player thinks the feature is caused by abrasion then he says so or if he is not sure he discusses it with his group. If the group is right in matching the feature with the process then they score a mark. If they are wrong they lose a mark. This is followed by a comment like zeugens are beautiful features. They are found in Colorado. Although the place is dry, tourists are attracted to these places because of features like these. The teacher allows two minutes for a discussion or other comments on this. Thereafter the game continues. The emphasis in this game is on the beauty of the landscape. Pupils must be able to look at any landscape and be able to appreciate the formation of features or the overall effect these make to the landscape.

The game was adapted from an American game called "Grass-lands". Aesthetic evaluation involves the affective domain and questions are raised about the values implicit in the topic and the landscape they create. Games like this one help pupils develop spatial imagination and the ability to conceptualise spatial relationships.

2. Renewable and Non-Renewable Resource

In order to live man must satisfy a number of basic needs. Everything in the environment which ensures his existence is called resources. Unfortunately resources are very limited and this creates problems and a threat to man's existence. We distinguish between two types of resources namely the Renewable Resources and the Non-Renewable Resources.

Lido a country in Africa has been hit by a terrible disaster which has resulted in the destruction of resources. The machinery has been destroyed and all rivers except 2 are inaccessible. The soil is eroded and only one rural area is arable. Minerals are in abundance. In order to live man has to exploit only those resources that will satisfy his needs.

Procedure

The class is divided into groups of five. Each group decides which resources to exploit and which to ignore. Only 5 must remain. Reasons for each choice are to be given. After 10 minutes the groups come together and group leaders present their group's responses.

The objective here is to show that people hold different values about certain things.

Resources

1. Land for grazing
2. Land for forestry
3. Land for cultivation
4. Irrigation dam
5. Animal drinking pen
6. Fishing dam
7. Skilled labour (10 persons)
8. Semi-skilled labour (20 persons)
9. Unskilled labour (100 persons)
10. River
11. Diamond mine
12. Coal mine
13. Transport service
14. Nuclear fuel
15. Education

Allow for cross-questioning from other groups. Others will feel it is not necessary to keep certain resources.

3. Developed and Developing Countries

Objective: To find out about the attitudes of pupils to the issue of Third World.

Procedure:

1. Pupils have to sort the phrases into two columns "Developed" and "Developing".
2. In which of these 2 does your area (township) belong? Justify.
3. Which areas/characteristics would you try to change first? Justify.
4. What would you not change in your area?

List

Malnutrition; directors; computer; hoeing; carts; commercial farming; 10 cars per 1000 people; 900 T.V. per 1000 people; literacy 95%; less than 50%; semi-skilled labour; Mercedes Benz; high birth rate; Large Rural population; Large country with a small population; Small income from exports; Exports mainly primary products; Highways

4. Developed & Developing Countries

The Centre of the city of Lido consists of offices, shops and places of entertainment. Around the centre there are residential areas consisting of rows of old 2 and 3 storey buildings. In some places large houses that were once the homes of wealthy people but which are now often divided into flats.

The outer parts of the city are mainly squatter camps, new low cost housing and self-help housing.

Procedure

Different residential environments are studies and compared to the map; the problems and patterns of moving house is treated. The aim is to show spatial injustice.

Spatial injustice - "The unequal distribution of material well-being in the urban environment" - G. Hall

The pupils make up the community and a leader is elected to chair the meeting. Leading questions will be on:-

1. Where would you like to live? Why?
2. What do you think should be done to improve or alter the situation?

APPENDIX 3

INSTRUCTIONS TO PUPILS

1. Kindly tick ✓ the chosen answer.

2. There are no wrong or right answers just choose the one you think best describes your feelings.

3. Please raise your hand when there is anything you do not understand.

4. Do not ask your deskmate or friend to help you. What you think is more important and not what they will advise you to say.

SECTION A

PERSONAL INFORMATION

Name of Pupil :-

Name of School :-

Class :-

Sex :-

Age :-

SECTION B

1. How long have you been studying geography at Post Primary level?

0 - 1	2	3	4	5	years

2. Do you find geography to be ---------- subject ?

interesting	uninteresting	useless and uninteresting

useful but uninteresting	useful and interesting

3. What do you think is the reason for your answer in 2 ?

SECTION C

This section is based on what you have been taught during the past two weeks. The sections on (i) Wind Action and landforms

(ii) Economic Geography - Renewable and non-renewable resources

(iii) Developed and developing countries

Tick the one you think best describes your feelings

4. How did you find the teacher's approach?

interesting	uninteresting	exciting	boring
easy to understand		difficult to understand	

5. How did you find the topics?

Topic 1

interesting	uninteresting	exciting	boring
easy to understand		difficult to understand	

Topic 2

interesting	uninteresting	exciting	boring
easy to understand		difficult to understand	

Topic 3

interesting	uninteresting	exciting	boring
easy to understand		difficult to understand	

6. What did you like most about the lessons?

---

7. What did you like least about the lessons ?

---

8. Do you feel geography should be taught in this way?

Yes	No

9. Give reasons for your answer in 8

---

10. The lessons tried to give you the opportunity to express your own opinion. Did this help you

(a) To understand your own values?

Yes	No

(b) To understand other people's values?

Yes	No

11. In what way did the lessons help you to understand your own values and other people's?

---

12. How did you respond to other people's views during the course of the discussion?

1. you ignored them
2. you were irritated by them
3. you found them stupid
4. you respected them
5. you liked them

13. After the lessons how do you feel about other people's views?

1. you still ignore them
2. you are still irritated by them
3. you find them stupid
4. you respect them
5. you like them

14. List the following in order of preference, starting with what you rate as most important and ending with what is least important. If you think 5 is the most important thing, write 1 next to it, e.g. Doctors and medical facilities (1).

Group A

15. Better farming machinery
16. Food aid from rich countries
17. More schools and education
18. Industries and factories
19. Doctors and medical facilities
20 Ownership of factories by local people

Group B

21. Plants
22. Animals
23 Sunlight
24. Soil
25. Water
26. Coal
27. Nuclear fuel

28. Give reasons for your most important and least important

Group A - (a) reason for most important :-

(b) reason for least important:-

---

29. Group B - (a) reason for most important:-

(b) reason for least important:-

APPENDIX 4

STD 9 PUPILS' ESSAYS ON POLLUTION

(Original spelling and punctuation retained)

POLLUTION

We talk of pollution when something has been dirtied. We talk of water pollution when water contains certain ingredients that are not suitable to the life of any living organism. There are various forms of pollution i.e. water, air, noise and land pollution.

Water pollution is caused by the deposition of dangerous substances by the industries. Industries play a dominant role in water pollution. Certain deposits are dangerous in the sense that they dissolve in water and form a solution. When this solution infiltrates through the soil particles, it forms ground water which in turn comes at the surface as river water. It is during this time that people can use it without being aware that it has been polluted.

Secondly air pollution is a problem of a city. A highly industrialised city is always experiencing a problem of air pollution. This can be caused by smoke from industries, dangerous gases liberated by chemical and metartugical (sic) industries, liberation of carbon monoxide by automobiles etc. The concentration of buildings hold this polluted air as a result a city then appear as a dome of smoke. A lot of smoke is produced because of the use of power like coal for the process of production.

Noise pollution occurs when there is excess noise i.e. noise that is irritating. This also is a problem of big cities. Over-concentration of cars during peak hours does contribute to noise pollution. Between 5 - 7 am and 5 - 9 pm we talk of peak hours. This congestion of cars is caused by the journey to work and from work which is strongly caused by the use of private transport.

All these have bad consequences. For example noise can result in deafness and headache. Air pollution can retard the growth of plants and in return many sicknesses can result. Noise pollution causes a high rate of accidents within streets.

For noise pollution to be prevented, exhaust systems of automobiles must be improved. Certain areas must be delimited smokeless zones so that not all the city will be polluted with air.

(Example 2)

POLLUTION

Pollution can be defined simply as the spoiling of nature. It can happen in all three parts of the universe. These being the atmosphere, the sea (rivers inclusive) and the land.

The atmosphere is spoiled by exhaust fumes of vehicles and smoke from factories and smoke from houses that still use coal as a means for fuel. This forms a layer in the atmosphere known as smog.

The land is polluted by rubbish strewn about carelessly and about. Old vehicles on the land left carelessly. Uncivilized people who make veld their toilets. These plastic bag carriers that are left hanging about all over.

The sea is spoiled by oil tankers; (spillages in the sea), sewer pipes delivering to rivers and the sea. Scrap yards that use the sea for dumping.

All of this can be minimized by teaching children about pollution. By so doing, making them aware of why this is an unacceptable practice. As such they would grow up not spoiling the universe.

APPENDIX 5

QUESTIONNAIRE TO TEACHERS OF GEOGRAPHY

Instructions

Please indicate your response by making a tick in the box next to your answer e.g.

Name of school:

Khula	1	
Dlamvuzo	2	X

		1 2
Leave Blank		

1.	NAME OF SCHOOL:	Khula	1
		Dlamvuzo	2
		Mdlamfe	3
		Dlangezwa	4
		Ongoye	5
		Amangwe	6
		Khombindlela	7
		Ziphozonke	8

2.	SEX :	Male	1
		Female	2

3. TEACHER'S HIGHEST ACADEMIC QUALIFICATION IN GEOGRAPHY:

Obtained:

None	1	13
Matric	2	14
Course 1	3	15
Course 11	4	16
Course 111	5	17
B.ED/Hons	6	18
Masters	7	19

Pursuing currently:

None	1	20
Matric	2	21
Course 1	3	22
Course 11	4	23
Course 111	5	24
B.ED/Hons	6	25
Masters	7	26

4. HIGHEST PROFESSIONAL QUALIFICATION:

PTD	1	27
STD	2	28
SSTD	3	29
UED	4	30
OTHER	5	31

5. TEACHING EXPERIENCE IN YEARS:

0-1	1	32
2-3	2	33
4-7	3	34
8-11	4	35
12-15	5	36

6. YEARS OF EXPERIENCE IN TEACHING GEOGRAPHY:

0-1	1	37
2-3	2	38
4-7	3	39
8-11	4	40
12-15	5	41

7. WHICH CLASSES DO YOU CURRENTLY TEACH GEOGRAPHY?

Std 6	1	42
Std 7	2	43
Std 8	3	44
Std 9	4	45
Std 10	5	46

8. Which was the highest standard to which you taught Geography last year?

Std 6	1	47
Std 7	2	48
Std 8	3	49
Std 9	4	50
Std 10	5	51

9. (a) How many pupils did you teach Geography at the levels indicated in question 8 above?

Answer_____

(b) How many of these pupils passed Geography?

Answer_____

Leave blank 52 53 %

10. Which of the following geography teaching methods are you acquainted with?

54	55	56
Telling	Question and answer	Games & Simulations
1	2	3

57	58	59	60
Small group Discussion	Textbook	Fieldwork	Worksheets
4	5	6	7

Leave blank

54 55 56 57 58 59 60

11. Which ones do you use frequently?

61	62	63
Telling	Question and answer	Games & Simulations
1	2	3

64	65	66	67
Small group Discussion	Textbook	Fieldwork	Worksheets
4	5	6	7

Leave blank

61 62 63 64 65 66 67

12. Which ones are you not using at all?

68	69	70
Telling	Question and answer	Games & Simulations
1	2	3

71	72	73	74
Small group Discussion	Textbook	Fieldwork	Worksheets
4	5	6	7

Leave blank 68 69 70 71 72 73 74

13. Which ones do you use occasionally.

75	76	77
Telling	Question and answer	Games & Simulations
1	2	3

78	79	80	81
Small group Discussion	Textbook	Fieldwork	Worksheets
4	5	6	7

Leave blank 75 76 77 78 79 80 81

APPENDIX 6

Interview Schedule: Geography Teachers

1 Do you encourage discussion in your class on:

i all the geography topics;

ii value issues such as border industries, migrant labour, conservation, choice of job, where to live?

2 What skills do you want your pupils to acquire by using discussion?

3 Ought a teacher to be neutral on value issues?

4 What is your attitude to the units that were taught at your school?

5 Which of these units would you like to use? Why?

(See Appendices 1-3)

REPUBLIEK VAN SUID AFRIKA
REPUBLIC OF SOUTH AFRICA

DEPARTEMENT VAN ONDERWYS EN KULTUUR
DEPARTMENT OF EDUCATION AND CULTURE

ADMINISTRASIE:VOLKSRAAD
ADMINISTRATION:HOUSE OF ASSEMBLY

NASIONALE EKSAMENS
NATIONAL EXAMINATIONS

N552(a)(N14)S
NOVEMBER 1988
NATIONAL SENIOR CERTIFICATE
GEOGRAPHY HG (0003)
(SECOND PAPER)
FULL-TIME (New Syllabus)

Afrikaans op keersy

READ THE INSTRUCTIONS CAREFULLY

1. Answer FOUR questions chosen as follows:

   ONE from Section A: Physical Geography (1 to 2)
   ONE from Section B: Settlement Geography (3 to 4)
   ONE from Section C: Regional Geography (5 to 7)
   ONE additional question to be chosen from any of the above-mentioned three sections (1 to 7).

2. Above each answer write the number of the question exactly as it is indicated on the question paper.

3. Note that two marks are sometimes allocated for one fact. For example, if the mark allocation is six you should supply THREE facts for a total of six marks.

4. In long questions marks are allocated not only for facts, but also for application, insight and presentation.

SECTION A

PHYSICAL GEOGRAPHY

QUESTION 1

1.1 Use the synoptic map to answer the following questions:

1.1.1 Name the season represented by the map giving reasons for your answer. (4)

1.1.2 Name the meteorological features A and B. (4)

1.1.3 Give the meteorological station report at Mossel Bay (number 928) on wind speed and direction, cloud cover, air temperature and dew point temperature. (5)

1.1.4 What is the air pressure in millibars at C (in the Southern Ocean) and D (in South West Africa)? (4)

1.1.5 State what the weather conditions over the interior are. (4)

1.2 State whether the following statements are TRUE or FALSE:

1.2.1 Mid-latitude cyclones are found only in the southern hemisphere.

1.2.2 The tropical easterlies in the southern hemisphere are found south of the anti-cyclone cells which affect the South African climate.

1.2.3 The 'eye' of a tropical cyclone is the area of the most violent weather.

1.2.4 The section of a cold front which is closest to the centre of the mid-latitude cyclone (low pressure) is the most active part of the front.

1.2.5 A backing wind in the southern hemisphere is one which changes in an anti-clockwise direction with the passing of a cold front. (10)

1.3 List the stages in the development of a mid-latitude cyclone (J. Bjerknes) (4)

1.4 Describe the atmospheric conditions around the cold front of a mid-latitude cyclone. (14)

1.5 List SEVEN cloud types found at a warm front occlusion. (7)

1.6 Fog may cover valleys in the interior of South Africa in the early spring. Explain how this fog originates and how it dissipates. (16)

1.7 Answer the following questions by writing down the letter of the correct answer.

1.7.1 Towns/cities seem to have their own climate because -

a. the buildings prevent the ground being warmed by the sun
b. less rain soaks into the ground so convectional rainfall is less
c. wind flow is stopped by the street pattern
d. the heat held by the buildings has an important effect

1.7.2 Air masses are named by the -

a. country where they come from
b. wind belt of origin and the main surface feature crossed
c. main surface feature crossed and the area of origin
d. wind belt of origin

1.7.3 A wind blowing downslope off a mountain will warm up -

a. at a rate which cannot be compared with normal
b. slower than normal
c. more quickly than normal
d. at the same rate as normal

1.7.4 The lines on a map joining places of the same atmospheric pressure are called -

a. isosols
b. isorains
c. isobars
d. hectapascal (8)

/80/

QUESTION 2

2.1 Various slope forms can be distinguished on hills and ridges. Write explanatory notes on the crest and the cliff (free face) as two of the types of slope forms. (14)

2.2 'By observing the stream pattern much can be deduced about the structure and rock types of the area'.
Explain this statement with reference to the dendritic, trellis, rectangular and deranged stream patterns. (30)

2.3 Drainage basins receive water by means of indirect as well as direct run off. Write short notes on indirect run off. (16)

2.4 Answer the following questions by writing down the letter of the correct answer:

2.4.1 Tors are characteristic landforms of -

a. the steppes of Russia
b. South Eastern Cape
c. Northern Transvaal
d. Mozambique

2.4.2 The top surface of a water-saturated zone in the crust of the earth is known as the -

a. water-shed
b. water-table
c. saturated crust
d. aquiclude

2.4.3 Canyon formation occurs as a result of -

a. glacial action
b. huge volumes of water
c. vertical erosion by a river crossing a dry plateau
d. forces in the earth's crust

2.4.4 A misfit stream is usually associated with -

a. soil formation
b. glacial action
c. wind erosion
d. stream piracy

2.4.5 A knickpoint in the long profile of a river is found between the -

a. crest and the talus slope
b. crest and the cliff
c. talus slope and pediment
d. cliff and talus slope

2.4.6 The interactivity which takes place between living organisms and their non-living environment is known as -

a. natural adaption
b. environmental conservation
c. an ecosystem
d. environmental balance

2.4.7 A river system can be described as -

a. a single main stream like the Limpopo River
b. the main stream and its tributaries
c. the area from which the river receives its water
d. all the rivers and tributaries found in South Africa

2.4.8 Deposition of silt by a river increases when the river -

a. commences to flow
b. enters a ravine
c. crosses a plain
d. emerges from a gorge

2.4.9 The dynamic equilibrium concept was formulated by -

a. Davis
b. King
c. Penck
d. Hack

2.4.10 The dynamic equilibrium concept of slope change concerns ..... of the slope.

a. flattening
b. parallel recession
c. flattening and parallel recession
d. flattening, parallel recession and valley floor incision (20)

/80/

SECTION B

SETTLEMENT GEOGRAPHY

QUESTION 3

3.1 Discuss Burgess' concentric zone model in his attempt to explain urban structure. (28)

3.2 Explain how factors such as topography and soil conditions can influence the morphological structure of cities. (12)

3.3 Briefly describe the poor social conditions which prevail in a slum as well as the causes for the development of slums. (20)

3.4 Match the following statements appearing in columns A and B:

	A	B
3.4.1	A. Megalopolis	1. Sector model
3.4.2	B. Urban blight	2. Continuous urban area
3.4.3	C. Conurbation	3. Blocks of offices
3.4.4	D. Hoyt	4. Slums
3.4.5	E. Office parks	5. PWV area
		6. Pinetown area (10)

3.5 Answer the following questions by writing down the letter of the correct answer:

3.5.1 The threshold population refers to the -

a. number of people commuting (travelling by public/private transport)
b. minimum number of people in an area
c. minimum number of customers needed to support a business to make it a paying concern
d. number of working people in a community

3.5.2 The establishment of a true rural-urban fringe zone is due to the -

a. very high land values in the city centre
b. population explosion
c. more rapid means of transport available today
d. desire of city dwellers to live away from the city

3.5.3 Various land-use zones can be distinguished in a city. An opera house should be found in -

a. any part of the city
b. a high income residential area
c. a low income residential area
d. the central business district (CBD)

3.5.4 The multiple-nuclei model was designed by -

a. Davis
b. King
c. Harris and Undwin
d. Harris and Ullmann

3.5.5 When we speak of the range of a shop we are referring to the -

a. distance between similar shops
b. size of the shop
c. maximum distance from which a shop draws its customers
d. distance between nodal points (10)

/80/

QUESTION 4

4.1 When a soil profile is being studied the following terms are involved. Explain the meaning of each term:

4.1.1 leaching (4)
4.1.2 humus (4)
4.1.3 eluviation (4)
4.1.4 gley (4)
4.1.5 colloids (4)

4.2 Describe the action of climate as an active soil forming factor. (20)

4.3 Define the following words/phrases:

4.3.1 ecosystem (4)
4.3.2 abiotic component of an ecosystem (4)
4.3.3 conservation (of resources) (4)
4.3.4 irreversible biological and geophysical impacts (4)
4.3.5 uncontrolled birth rate and resource management (4)

4.4 Answer the following questions by writing down the letter of the correct answer:

4.4.1 The heat island over a city is caused by among other things, the -

a. closeness to the sea
b. many chimneys emitting smoke
c. reradiation of heat by concrete buildings, tarred roads and other sources of heat
d. presence of a power station

4.4.2 Eutrophication is -

a. a means of water purification
b. the excessive build up of organic matter in dams and rivers
c. the build up of inorganic concentrations in rivers
d. the use of sewage waste for vegetable gardens

4.4.3 The main factors in the formation of soils are

a. topography, vegetation, parent material
b. relief, time, distance from sea
c. moisture, temperature, rock structure
d. climate, vegetation, relief, time, parent material

4.4.4 Decayed plant remains used for heating purposes are known as -

a. sewage waste
b. scum
c. humus
d. peat

4.4.5 In hot wet climates many soils are -

a. grey/blue in colour
b. black and not very fertile
c. very soft
d. red and not very fertile

4.4.6 The problem of land which is water-logged and is needed for farming may be solved by -

a. growing water lilies
b. using land for pastures for water buffalo
c. installing land drains
d. growing grass

4.4.7 Nucleated settlements in the rural areas are usually established because of -

a. an adequate population density
b. availability of water, shelter
c. positioning at the foot of a mountain
d. inadequate financial resources

4.4.8 Two of the most important problems of a city are -

a. urban decay, centrifugal forces
b. traffic congestion, city fathers
c. slums and foreign interference
d. centralization and urban decay

4.4.9 What will the rate of natural increase be for a state with a population of 120 million people, seven million births and one million deaths -

a. 20 per cent
b. 5 per cent
c. 0,5 per cent
d. 0,05 per cent

4.4.10 Ribbon development of a town takes place -

a. in rural areas only
b. as a result of topographical features
c. in plateau regions
d. only along coastal regions (20)

/80/

SECTION C

REGIONAL GEOGRAPHY

QUESTION 5

5.1 Refer to the outline map of South Africa, and answer the following questions (in your answer book):

Name the: mountains 1, 2, 3, 4, 5
rivers 6, 7, 8, 9
capitals of homelands/national states 10, 11
lines of longitude 12, 13
dams 14, 15, 16
neighbouring states 17, 18
important ports 19, 20
vegetation 21, 22
main season of rainfall 23, 24 (24)

5.2 Rural-urban fringe

5.2.1 List some of the urban functions found in the rural-urban fringe of some South African cities. (8)

5.2.2 Give THREE of the causes for the development of this rural-urban fringe. (6)

5.3 Discuss the ways in which physical features have influenced the choice of town sites in South Africa. (26)

5.4 Answer the following questions by writing down the letter of the correct answer:

5.4.1 Physical phenomena which play a role in influencing the rainfall of South Africa are -

a. S.A. plateau, distance from sea, ocean currents
b. S.A. plateau, height above sea level, heat equator position

c. ocean currents, government policy, amount of sunshine
d. latitude position, distance from the sea, time of the day

5.4.2 Durban (29°51'S) has a mean annual temperature of 20,5 °C while Port Nolloth (position 29°14'S) has a mean annual temperature of 14,15 °C. This indicates that the places -

a. are at different heights above sea level
b. are affected by sea currents which have a very different salt content
c. are affected by sea currents of very different temperatures
d. are both not at sea level

5.4.3 The north-facing slopes in South Africa receive the -

a. most wind during winter months
b. sun only in summer months
c. most insolation
d. on-shore winds

5.4.4 The section using the most water in South Africa is the ..... sector

a. mining
b. agricultural
c. industrial
d. domestic

5.4.5 The dam supplementing the water in the Vaal river via the Wilge river is the ..... dam.

a. Sterkfontein
b. Oppermansdrif
c. H.F. Verwoerd
d. Roodeplaat

5.4.6 Urbanization in South Africa has led to the erection of shanty towns on the fringes of cities. These settlements are known as ..... settlements.

a. high income
b. squatter
c. industrial
d. commuter

5.4.7 Soil erosion in South Africa may be combatted by -

a. legislation, improved farming methods
b. earth-moving equipment, maps of the area
c. ploughing along contours, surveying the land
d. improving crop production and rotation procedures

5.4.8 The area between the Transvaal Drakensberg and the Lebombo Mountains is known as the -

a. Highveld
b. Limpopo valley
c. Lowveld
d. Sandveld (16)

/80/

QUESTION 6

6.1 Physiographic regions of South Africa:
Use figure 6.1 to answer the following question by writing down the names of the physiographic regions (according to Wellington's classification) numbered 1 - 10 in your answer books. (10)

6.2 'Man will never be able to prevent droughts or floods, but there are several ways in which he can take preventative action to reduce their impact'. Discuss the measures which may be taken to combat flood and drought damage. (34)

6.3 Say whether the following statements are True or False:

6.3.1 Rain that falls in thunderstorms in South Africa is less effective than rain that falls in the form of drizzle.

6.3.2 Heavy industry should be located in areas where there are frequent inversions of temperature.

6.3.3 Mountain winds blow down valleys during the night and early mornings.

6.3.4 Bigger cities have a climate of their own because of man's interference with the natural environment.

6.3.5 When coal is burned, sulphur dioxide is released which, when combined with moisture particles, forms acid rain. (10)

6.4 What factors are responsible for the lack of surface water in South Africa? (6)

6.5 List the factors affecting plant cover and contributing to soil erosion for which man is mainly responsible. (10)

6.6 Answer the following questions by writing down the letter of the correct answer:

6.6.1 The most effective method of soil conservation is to -

a. enlist state aid in the form of education and veld improvement schemes
b. use strict legislation with severe punishment
c. ignore the existence of the problem
d. employ foreign conservationists to involve world opinion

6.6.2 If the combined run-off of South African rivers is 50 000 million m^3 and the annual average water consumed is 12 000 million m^3 in 1984, with an annual increase of 1 000 million m^3; South Africa will theoretically be without sufficient water in the year -

a. 2022
b. 2000
c. 2038
d. 2010

6.6.3 There are at least two major schemes to prevent the depopulation of rural areas; these include -

a. influx control, destruction of squatter towns
b. growth point development, border industries
c. growth point development, developing of industries within national and independent states
d. influx control, removal of workers from cities to their homes in rural areas

6.6.4 The government departments mainly involved in the scheme to prevent rural depopulation are -

a. IDC and DET
b. Department of Foreign Affairs, Office of the State President
c. Industrial Development Corporation, Department of Co-operation and Development
d. Department of Education and Culture, Department of Co-operation and Development

6.6.5 The total market value of all goods and services produced within the country during a given period is the -

a. G.N.P.
b. G.D.P.
c. N.P.P.
d. R.G.D.P. (10)

/80/

QUESTION 7

7.1 Give an outline of the disadvantages of centralization. (26)

7.2 Briefly state the factors favouring the PWV area as an industrial zone. (20)

7.3 Choose ONE of the Independent States OR South West Africa and list the required information about the State under the following headings: climate, vegetation, mining, farming, manufacturing (24)

7.4 Answer the following questions by writing down the letter of the correct answer:

7.4.1 A rural settlement with a high population density indicates -

a. commercial farming
b. extensive farming
c. subsistence farming
d. intensive farming

7.4.2 Air pollution has a bad effect on buildings, vegetation and -

a. health
b. manufacturing
c. education
d. relief

7.4.3 The decline in the infant mortality rate amongst the Black people in South Africa was caused mainly by -

a. better schooling
b. improved health services
c. foreign intervention
d. improved transport

7.4.4 The three basic street plan types found in South Africa are -

a. gridiron, radial, linear
b. radial, concentric, star-shaped
c. rectangular, linear, ribbon
d. cobweb, radial, circular

7.4.5 The 'Springbok Flats' farming area is found near -

a. Cape Town
b. Malmesbury
c. Bloemfontein
d. Warmbaths (10)

/80/

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N 552(a) (N14) 5

Fig. 5.1. HG.

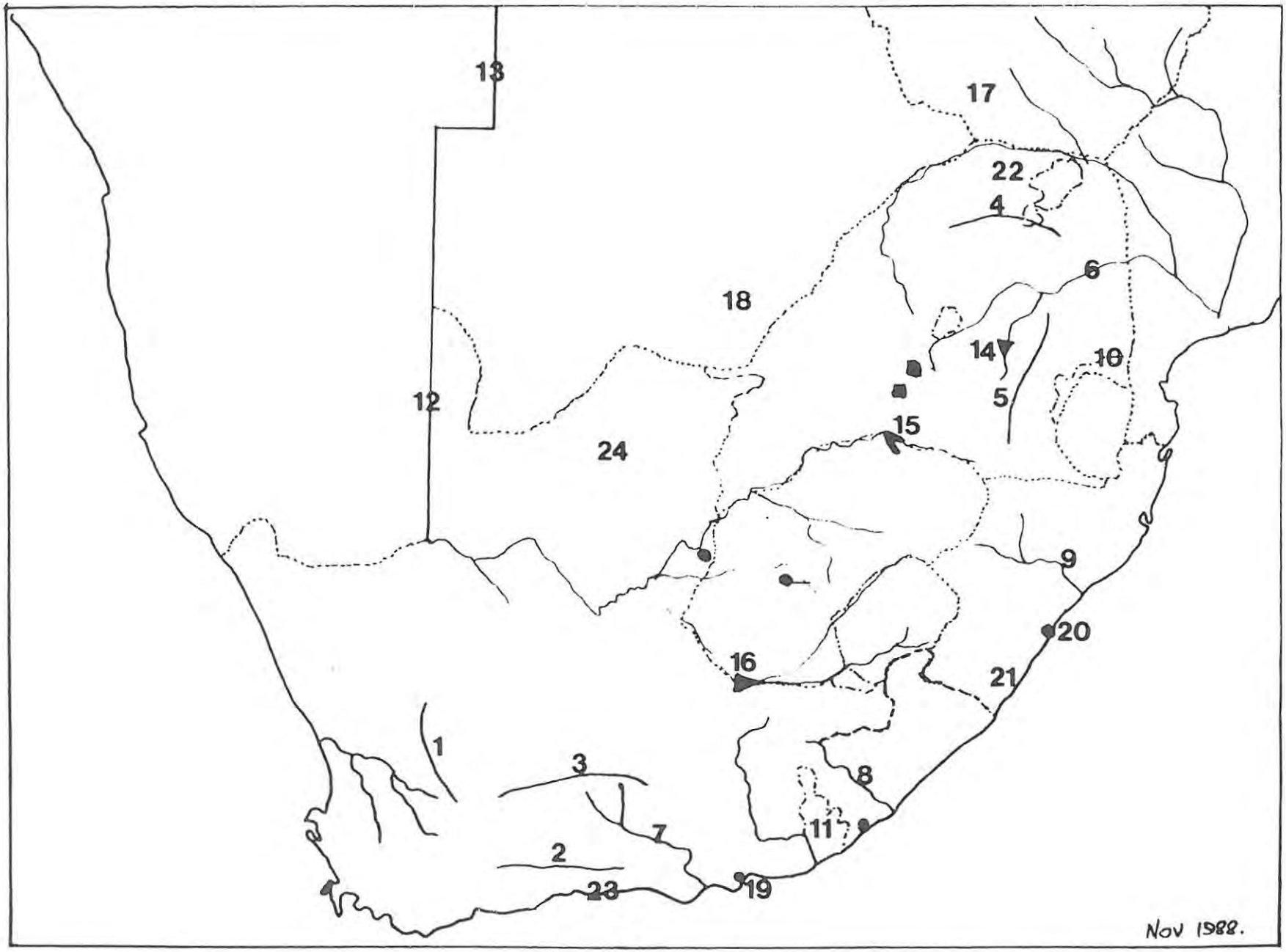
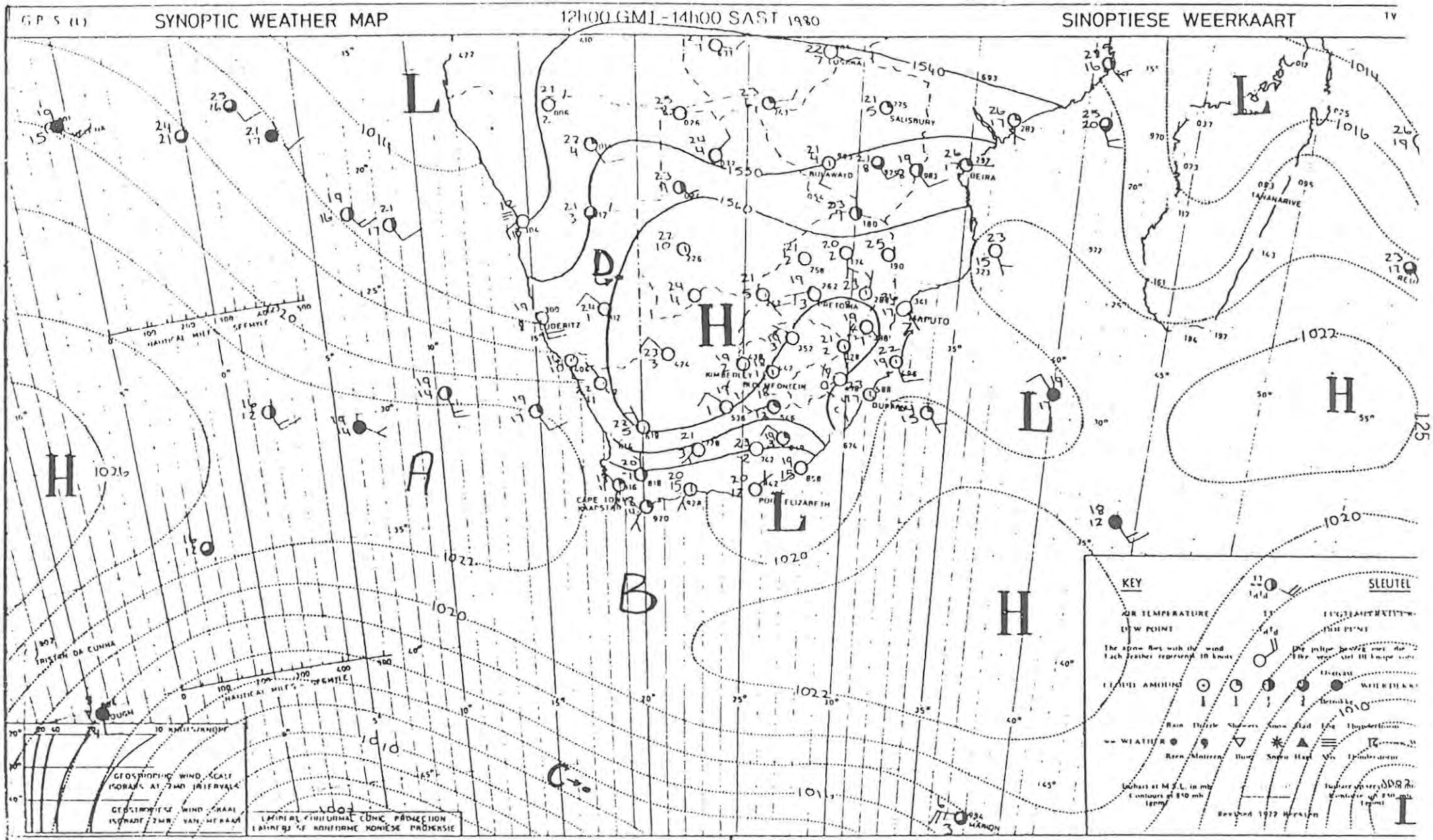


Fig. 1.1. HG.

N552(a)(N14)5



INFERENCE

A High pressure system is situated over the country and the air in circulation is dry. Fine weather conditions over the country will persist

AFLEIDING

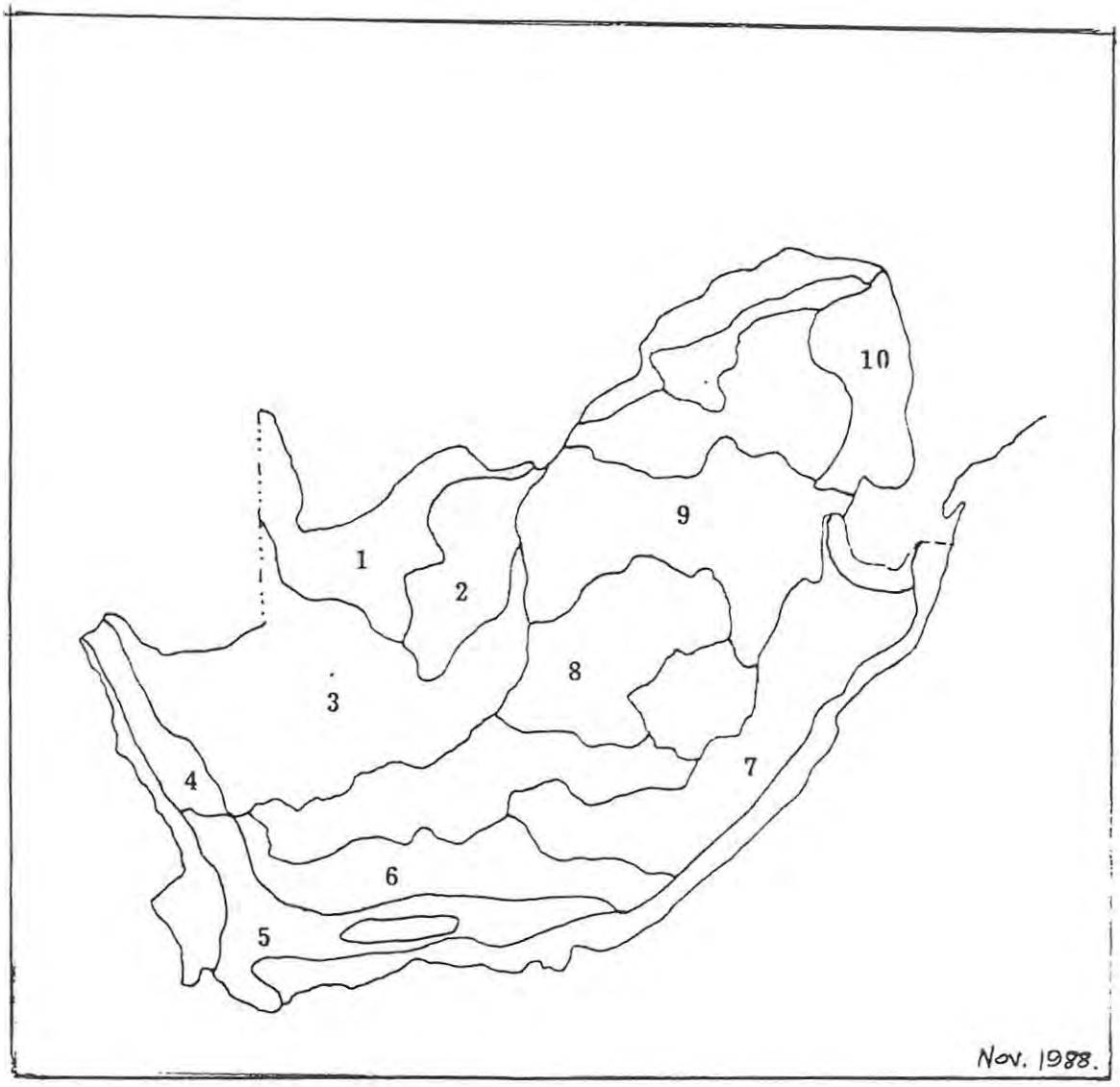
'n Hoëdrukstelsel is oor die land gelee en die l[u]cht in sirkulasie is droog Mooiweerstoestande oor die land sal voortduur

Nov 1988.

N 552 (a) (N14) S

VRAAG/QUESTION 6.1 FIGUUR/FIGURE 6.1

DIE FISIOGRAFIESE STREKE VAN SUID-AFRIKA /
THE PHYSIOGRAPHY OF SOUTH AFRICA



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JOINT MATRICULATION BOARD
GEMEENSKAPLIKE MATRIKULASIERAAD

D.2
(6 pp + Mapbook)

MATRICULATION EXAMINATION, NOVEMBER/DECEMBER, 1983
MATRIKULASIE-EKSAMEN, NOVEMBER/DESEMBER 1983

GEOGRAPHY (HIGHER GRADE) : SECOND PAPER
(320 Marks)

(Time/Tyd: 3 Hours/Uur)

SECTION C : SOUTH AFRICA

QUESTION 5

5.1 Physical Background

Refer to Fig. 5 in the mapbook which indicates the mean annual rainfall regions of South Africa In a sentence describe the pattern of mean annual rainfall variation over South Africa. (2)

5.2 On Fig. 6 locate rivers 1 and 2. Describe and explain their expected flow characteristics. (4)

5.3 Locate dam sites numbered 3, 4 and 5 on Fig. 6. Name these and suggest why there is a need for a dam in these areas. (6)

5.4 The conservation of water in South Africa is of vital importance due to the predicted needs of industry by the year 2000. Discuss these problems and explain how attempts are being made to overcome them. (10)

Black National States / Homelands

5.5 A private study group has asked you to address it on a topic entitled 'Prospects for the development of South African National States/Homelands.' Taking examples from a state or homeland you are familiar with, draw up the major points you would make in your talk under the following headings:

(i) Three problems facing the state (9)

(ii) Two possible solutions to these problems (6)

(iii) Prospects for future development. (3) (40)

(40 x 2 = 80)

QUESTION 6

Economic Development

Fig. 7 illustrates the percentage share of primary, secondary and tertiary activities in the South African G.D.P. for the years 1950 and 1970.

6.1 Describe and account for the percentage changes that have occurred between 1950 and 1970. (5)

6.2 Sketch a pie graph to indicate how you predict the contributions of primary, secondary and tertiary sectors will contribute towards the G.D.P. in 1990. Give a reason for your answer. (5)

6/.....

Primary Activities : Mining

"Mining accounts for about two thirds of all South African exports and twelve percent of the G.D.P. Its importance however is much greater than these figures suggest in that it affects transport development, population distribution and industrail development."

6.3 Explain briefly the effect mining has had on transport development, population distribution and industrial development in South Africa. (10)

6.4 Using an example of a mineral you have studied explain

(i) its distribution in South Africa (4)

(ii) methods used to mine it (10)

(iii) the importance of the mineral to South Africa and predictions concerning its future exploitation. (6) (40)

(40 x 2 = 80)

QUESTION 7

Secondary Activities

Fig. 8 shows the concentration of population and production in the main metropolitan areas of South Africa.

7.1 List one major type of manufacturing industry found in each metropolitan centre. (4)

7.2 Choose one of the areas represented and comment on the major types of industry found there. Give reasons for their location. (16)

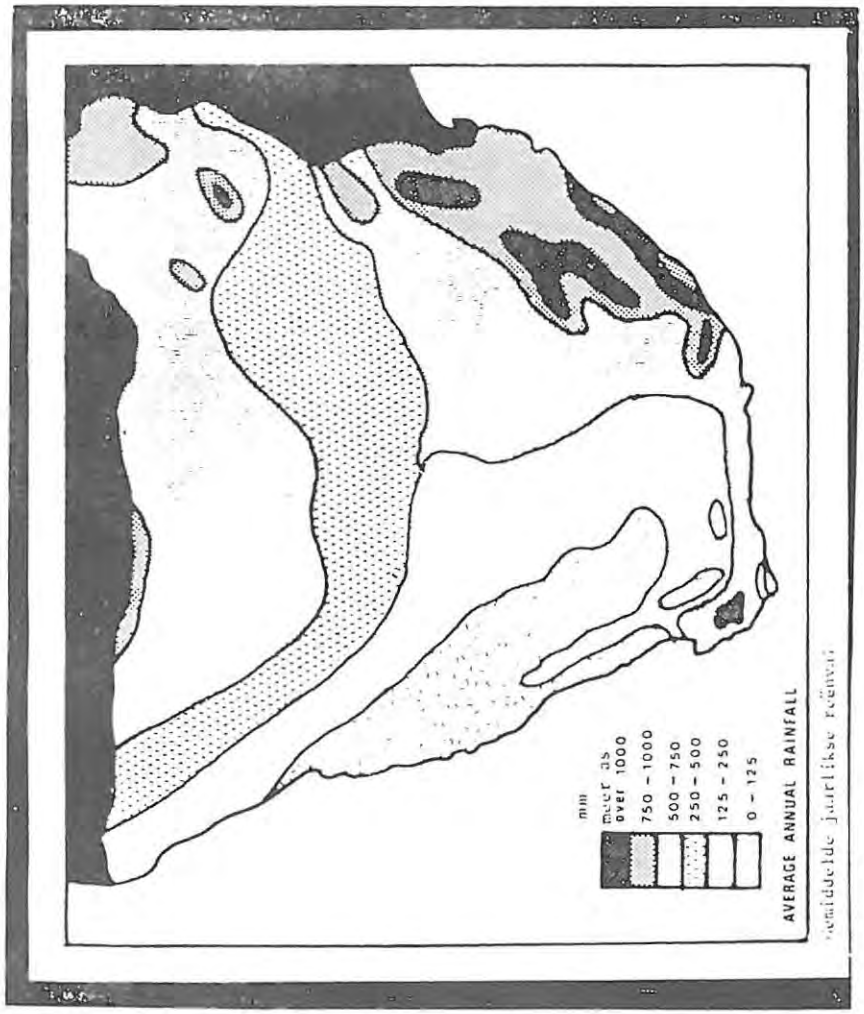
Tertiary Activities

"The crucial role of energy in the economies of nations is an established fact and it is accepted that the adequate supply of energy will be of major world concern in future years."

7.3 Discuss and explain the ways in which electricity is generated in South Africa at present. (10)

7.4 Evaluate the role that nuclear power, solar energy and wind power could play in the future generation of electricity in South Africa. (10) (40)

(40 x 2 = 80)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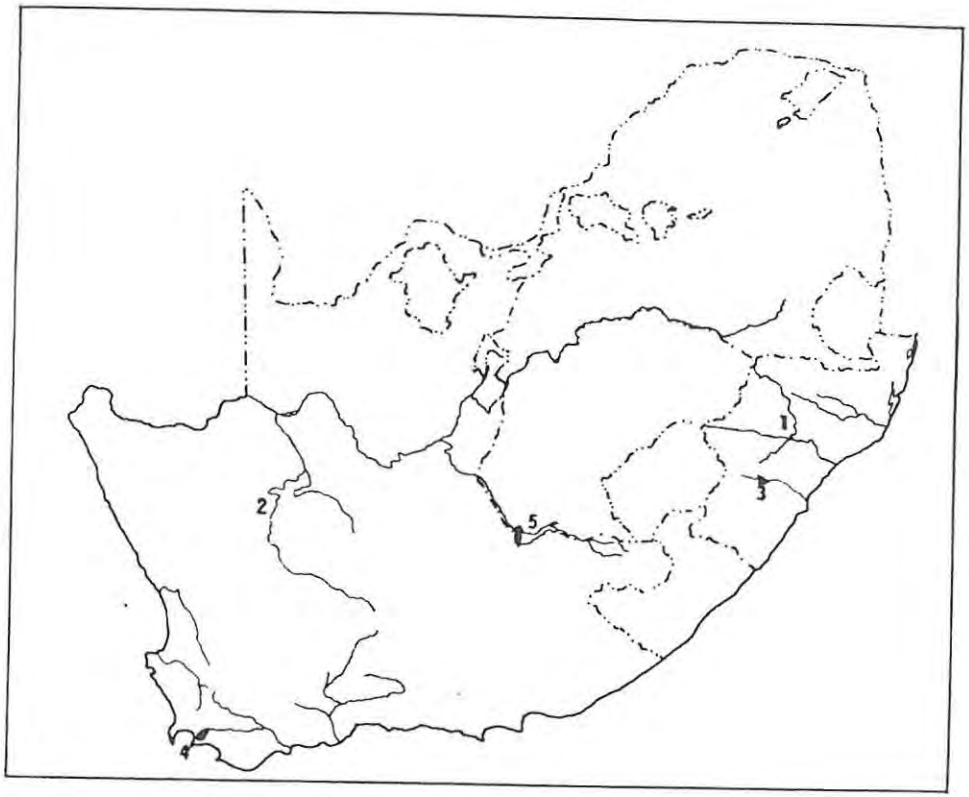
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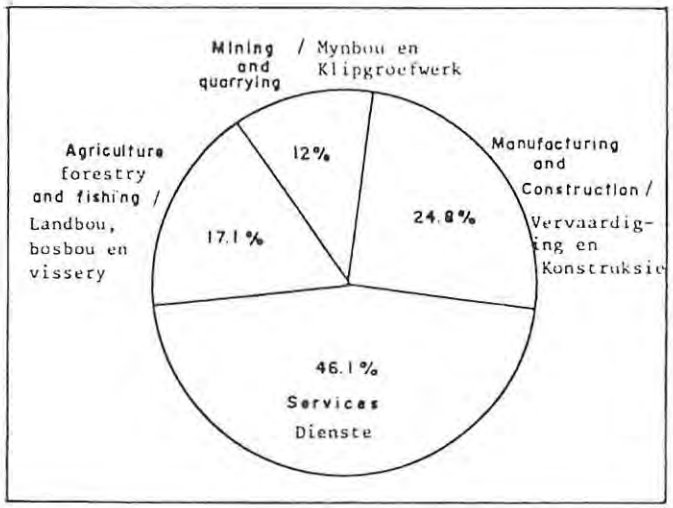
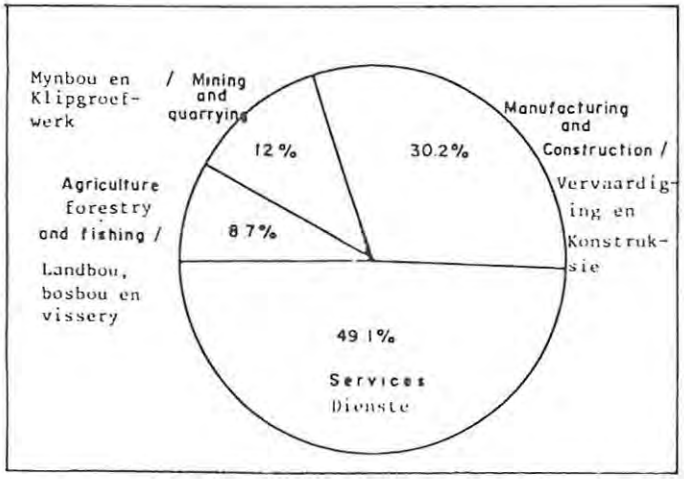
1950

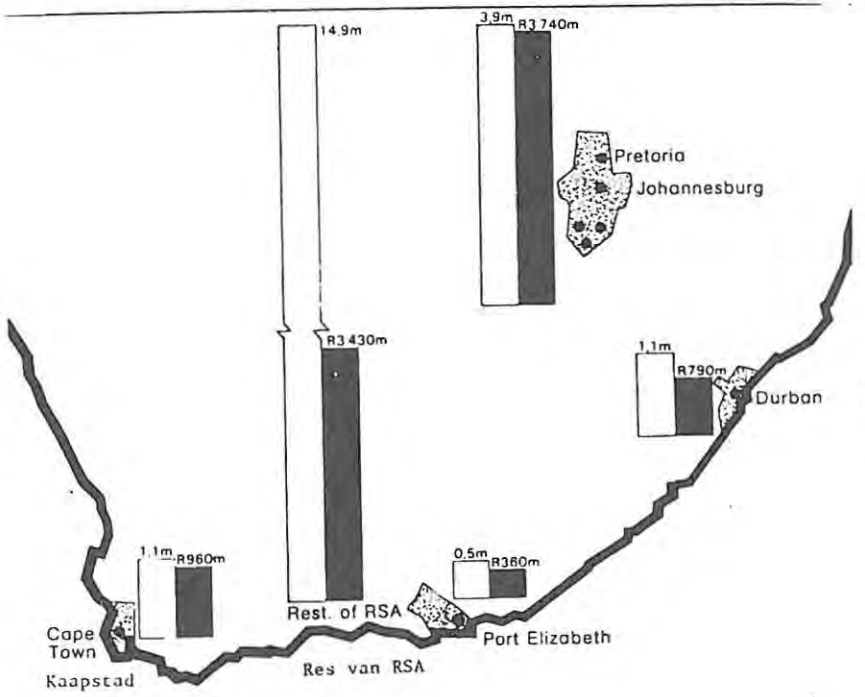


1970



KONSENTRASIE VAN BEVOLKING EN PRODUKSIE IN DIE VERNAAMSTE METROPOLITAANSE GEBIEDE

Concentration of the population and production in the main metropolitan areas



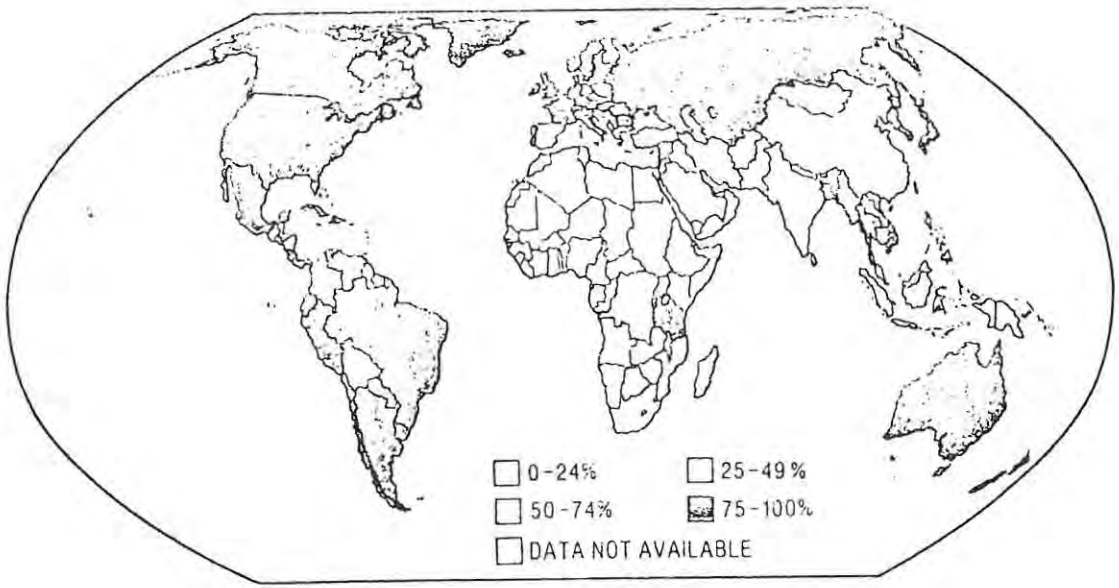


Fig. 6.12 Adult literacy.

Assignment

1. Imagine that you are the advisor to the Minister of Education in a developing country in which the adult literacy rate is 55 % and which has a policy of improving educational opportunity.

   (a) Which of these would you recommend as a priority to advance the country's educational goal?

   (1) Improve primary education in rural areas.

   (2) Improve training in skills needed for employment in small-scale business.

   (3) Improve literacy training for adults in urban areas.

   (4) Improve health education in primary schools.

   (b) Having decided on your priority, decide how you would spend money on education in your developing country in each of the following. Because all activities are important, at least 5 % of your budget should be spent on each one.

(1) Primary schools	... %
(2) Secondary schools	... %
(3) Vocational schools	... %
(4) Technical schools	... %
(5) Teacher training	... %
(6) Curriculum development	... %
(7) Textbooks and other materials	... %
(8) Adult literacy training	... %
	100 %

Now look at Nigeria in relation to some other countries in 1980.

	Per capita supply of kilojoules (% of daily requirements)	Mortality rate of children aged 1–4 years	Life expectancy at birth at birth (years)	Population per doctor
Chad	74	3.2	43	47 530
Ethiopia	76	3.1	46	58 490
Malawi	94	3.8	44	40 950
India	87	1.7	52	3 640
China	107	0.7	67	1 920
Benin	103	3.3	50	17 050
Niger	92	3.1	45	38 790
Lesotho	107	2.2	52	18 640
NIGERIA	91	2.8	49	12 550
Zimbabwe	86	1.1	55	6 580
Cameroon	105	2.0	50	13 670
Congo	94	2.6	60	5 510
Algeria	101	1.8	56	2 650
South Africa	118	1.7	63	1 550
Libya	147	1.2	57	730
U.K.	132	0.1	74	650
Japan	124	0.1	77	780
Saudi Arabia	120	1.7	55	1 640
U.S.A.	139	0.1	75	520
Switzerland	133	0.1	76	410

A market scene in Okene, Kware.

Assignment

Write notes on each of the following topics:

*1. What are the demographic (i.e. to do with people) characteristics of a developing nation and how closely does Nigeria match these characteristics? Refer to pp. 250 to 258 and 270 to 275 for basic information for this essay.

2. What has caused birth rates to exceed death rates so greatly in Nigeria? Make recommendations for reducing the rate of natural increase.

3. How does the quality of life in Nigeria compare with other developing countries in Africa?

*4. Imagine that you are an advisor to the Nigerian government on a proposed population census.
   (a) What information would you want a census to produce?
   (b) What questions would you recommend in order to obtain that information?
   (c) For what purposes would the information be used?
   (d) Name some of the difficulties that would be experienced by a census officer in his or her work in Nigeria.

Assignment

1. Consider these attitudes towards zero population growth:

A. It will allow for a higher disposable income, so each person will have a better standard of comfort and health.	B. It will lower the consumption of energy per person and thus deflate the energy crisis.
C. It will allow for more personal space in which to develop a full life and personality.	D. It will reduce human pressure on the environment and so help preserve it for future generations.

(a) With which of these attitudes do you associate most strongly?

(b) Which do you think are the most realistic?

2. How did America's birth rates, death rates and natural increase change between 1973 and 1984?

3. Net migration

Migration is a variable factor in population growth, depending on the strength of the 'push factors' in countries of origin and on how America's immigration laws change from time to time. What is certain is that between 1820 and 1910 over 28 million immigrants arrived in America, chiefly from Europe; this number accounted for over one-third of the growth for that period. The all-time peak was reached with the immigration of 8¾ million new Americans in the decade 1900 to 1910 (see Fig. 6.77). The U.S.A. holds the record for immigration: in the century 1818–1918, forty million people were admitted!

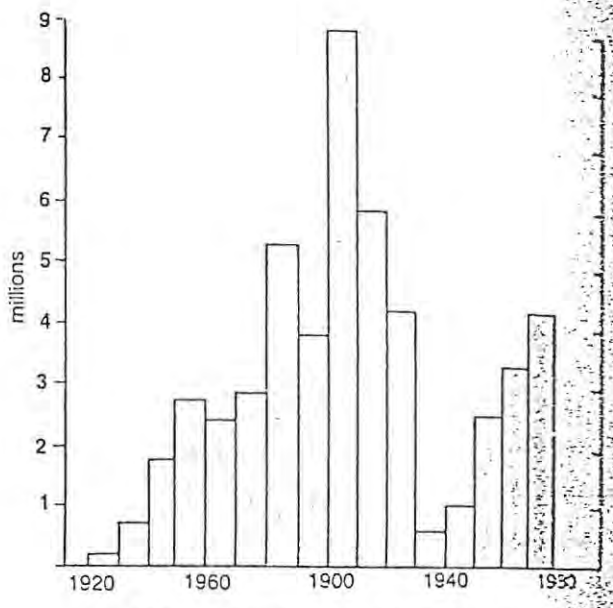


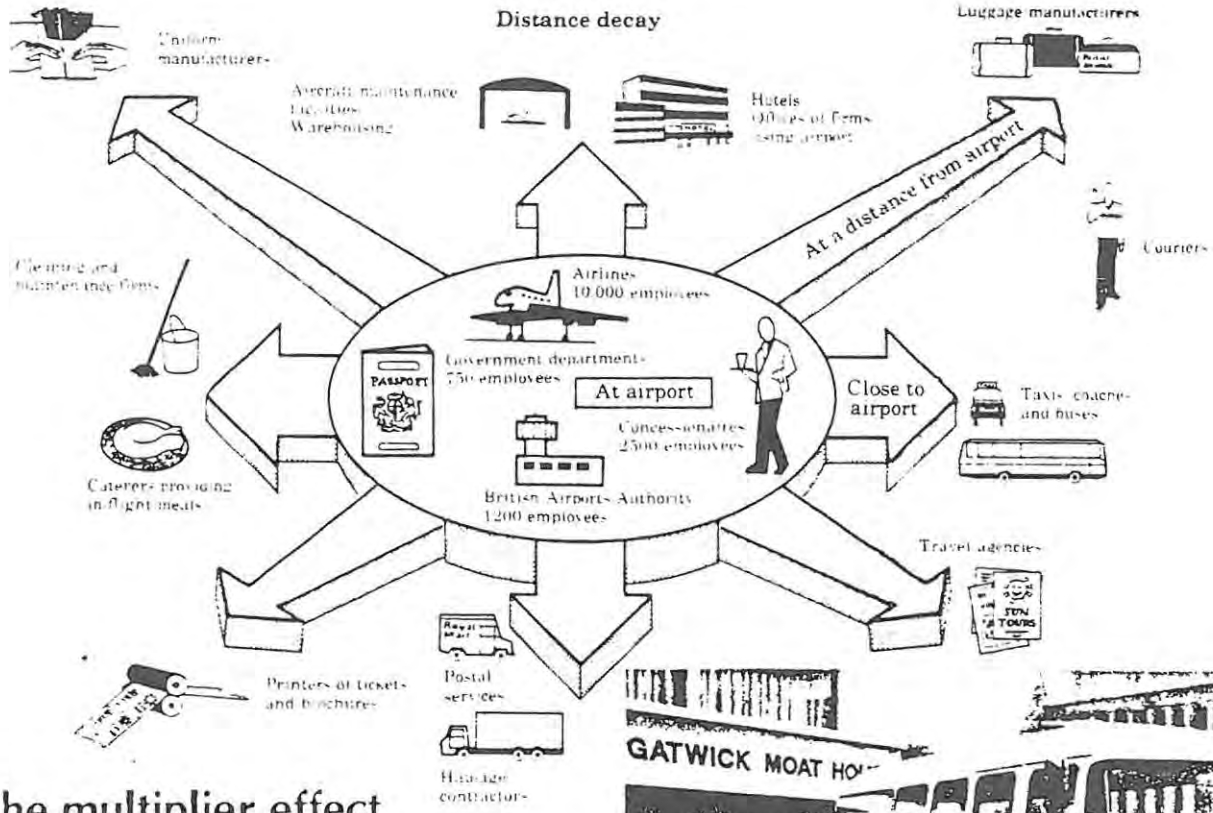
Fig. 6.77 Immigrants admitted from all countries.

Immigration has benefited America very greatly in that it developed the land, increased labour, capital and markets for industry, provided a resource pool of skills and innovation, and enriched the culture of the nation. For these reasons there are no plans to stop further immigration, although American policy has favoured the admission of those people suffering displacement by war and persecution. Just as many eastern Europeans (including millions of Jews) seeking escape from Soviet oppression in 1920 were welcomed in America, so more recent waves of refugees have poured in from Vietnam, the Philippines, Korea, China and Kampuchea — where political and personal freedoms are severely limited (see Fig. 6.78).

Present policy is to admit people who are young, healthy and well-educated. This tends to exclude the brawny male labourer and has increased the number of educated women immigrants. In turn, this is changing the nation's sex ratio: in 1900 this was 106 men to 100 women but in 1980 it was a little over 95 men to 100 women.

APPENDIX 9

Valuing Exercises from Concept Geography



The multiplier effect

Over 14,000 people are employed within the airport complex, but the presence of Gatwick provides trade and employment opportunities well beyond its perimeter. This known as the **multiplier effect.**

■ The airport's influence on business and industry is nationwide.

■ This influence is greatest closest to the airport. It decreases as the distance from Gatwick increases. This is known as **distance decay.**

Above: *The arm-flapping official is employed by the British Airports Authority to frighten birds away from the runway, where they can be dangerous to aircraft.*

Right: *Gatwick Moat House Hotel is 1.5 km from the airport and runs a mini-bus service which takes about 5 minutes to reach the airport.*

1 An international airport requires certain factors to make it successful. Put the following factors in their order of importance.
a) Good ground transport connections
b) A large pool of labour
c) Hotels
d) Sufficient space
e) Advertising and marketing expertise
f) Good weather record (fog- and frost-free)

2 Write a paragraph to explain how airports such as Gatwick exert a multiplier effect.

3 The continuing increase in air traffic in Britain has led to the decision to expand Stansted to cater for 8 million passengers by 1990. Other suggestions include:
a) Expanding regional airports
b) Expanding Stansted further beyond 1990
c) Building a fifth terminal at Heathrow

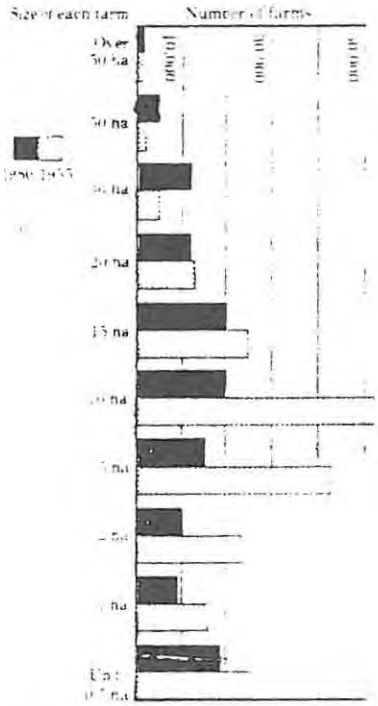
Assume you are:
a) A business executive with an office in central London
b) An unemployed labourer living in Essex
c) A farmer with land adjacent to Stansted airport
d) A member of the Council for the Preservation of Rural England

Take each in turn and say why you would, or why you would not, support one or more of the proposals.

4 Prepare an argument for *not* supporting any of these proposals. State where you would build an airport and why.

Why change?

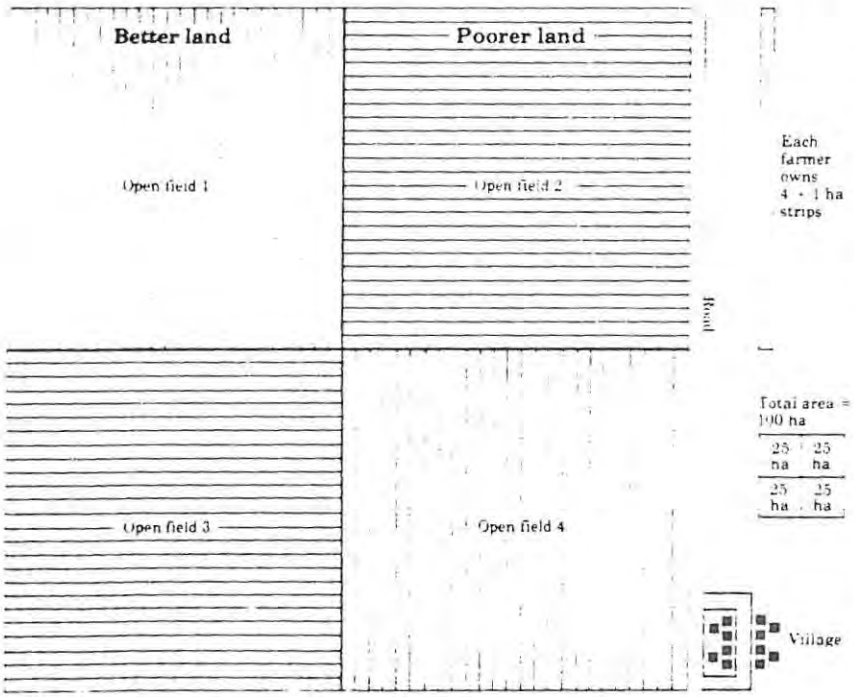
Agricultural communities do not find it easy to change traditional patterns of land tenure, or ownership. With the help of government experts villagers have to decide whether they are to reorganize their land, and if so how. Over 15 per cent of Swiss government agricultural expenditure goes on consolidation.



Left: *Graph showing how the number of small farms in Switzerland decreased and the number of larger farms increased between 1955 and 1980.*

Above: *Partial consolidation in Spritzen, Switzerland. The land is still farmed in strips, but each is large enough to make the use of tractors economic.*

In favour of consolidation	Against consolidation	How to organize consolidation
– Large fields are easier to work. – Equipment has to be moved less far. – Larger machinery can be used. – Individuals can decide what to grow – Other farmers' stock will not trample fields. – New houses can be built in the middle of new fields	– Farmers have to share the reorganization costs. – Farmers know the land they have always tilled. – Consolidation may mean less land, or less good land. – Consolidated land may be further away from home. – Preference for tradition.	– Amalgamate existing strips, so that fields are larger but distribution of good and bad land remains fair. – Start again with an entirely new pattern. – Leave farm buildings in the village and save money. – Build new barns and houses near fields, which means building expensive new roads.



Class activity: Imagine that each member of the class is a farmer living in the same Swiss village.

1 Using the points for and against consolidation in the box above, debate whether the village should opt for enclosure or not. At the end take a vote.

2 If the fields before consolidation were organized along the lines of the diagram (left), how should the land holdings of each farmer be reorganized? There are ten farmers. Each needs 10 ha to live on. Bear in mind the options listed under the heading 'How to organize consolidation'.

3 Display the different schemes. What are the advantages and disadvantages of each?

Denver sets an example

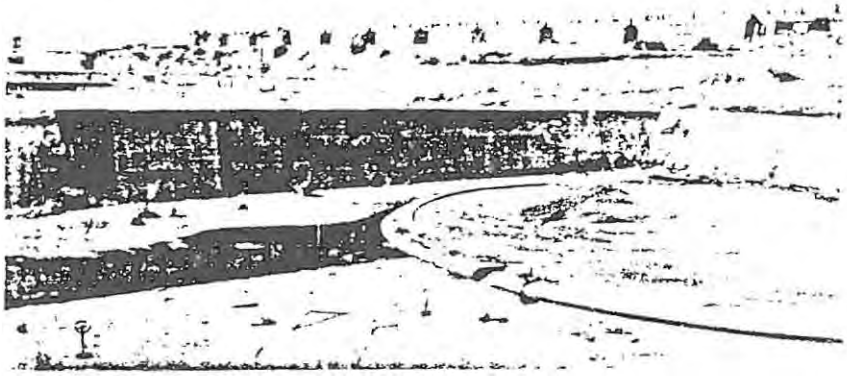
Above: *Denver, at the foot of the Rocky Mountains, was once renowned as a centre for recreation and healthy living. Today it rivals Houston, Texas, as the centre of the oil industry, and Los Angeles as the most polluted city in the United States. About 90% of the city's air pollution comes from cars. To combat the growing problem the city has developed a transport system that encourages car drivers to abandon their vehicles and take the bus, or as it is called there, The Ride.*

Above: *A grateful city thanks its citizens for helping to fight pollution. By 1983, 38 million passengers a year were taking advantage of the service, which is free except during rush hours. Exhaust pollution has been reduced.*

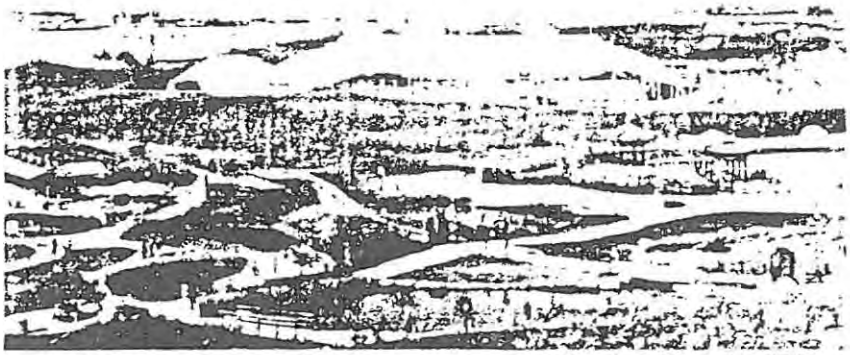
The good news

Increasing public awareness of the dangers and consequences of pollution, and campaigns by environmental groups, have made pollution a political issue. Governments have responded by putting pressure on firms and organizations to reduce or eliminate the sources of pollution. Actions taken include:

- Filling in holes. Waste ash and other by-products from power stations have been used to cover the scars of brick pits.
- The installation of treatment plants to meet stringent regulations on waste flowing into rivers and seas. These are becoming cleaner and plant and animal life is returning.



Above: *In Liverpool, 101 ha of derelict land near the docks were set aside for reclamation.*



Above: *The area has been used to provide a recreation centre of parkland. In 1984 this new environment was the site of the Liverpool Garden Festival.*

1 Imagine that you are a local newspaper reporter. Write a brief account commenting on a form of pollution you found in your neighbourhood.

2 Select one example of pollution being combated or beaten. Write a paragraph under each heading:
a) The form of pollution
b) The cause
c) The culprits
d) The effects of the pollution
e) The people/organizations who brought it to the public's attention
f) The action taken and by whom
g) The results of the action
The example can be taken from these two pages or you may use another that you have seen in a newspaper, magazine or book, or on television.

3 Reducing and preventing pollution is difficult because it is expensive and because various vested interests are involved, for example
Car emissions – car owners
Smoke – manufacturers
Spoil heaps – mining organizations
Radiation – military research
Pesticides – farmers
a) Assume you are campaigning against any of these forms of pollution. Outline your case.
b) Outline the case against cleaning up any of the problems listed, as it might be put by a vested interest.

APPENDIX 10

Textbook Prefaces

Preface

Senior Geography 9 covers the new differentiated syllabus prescribed for Std 9 by the different education departments for implementation in 1986. Both standard and higher grade courses are dealt with in the same book and footnotes indicate those sections that are not part of the standard grade syllabus.

The intention of the book is to meet the requirements of the syllabus and present the facts in such a way that all pupils are able to follow them clearly. A wealth of basic knowledge is supplied.

A new requirement of the syllabus is the section on general geographical techniques. The approach encourages pupils to think logically, conduct simple statistical analyses, evaluate graphs and tables. The importance of fieldwork is stressed and it is hoped that pupils will learn to observe and appreciate their environment and find solutions to problems in the field situation. Scientific research methods are suggested and pupils should, as a matter of course, learn to identify a problem, formulate hypotheses, collect and evaluate data and finally subject the hypotheses to further testing.

The section on the oceans places new emphasis on the importance of the oceans to human existence. In regional geography economic aspects and associated difficulties are stressed.

The syllabuses differ as to which countries should be selected for detailed study, but we believe that the requirements of all the syllabuses have been met. Footnotes are used to indicate where a choice has to be made.

The relationship between humans and their physical environment, the earth, is fully explored. This is seen in regional and global perspective and the role of the earth sciences in the solution of world problems is highlighted. We sincerely hope that this book promotes the study of geography.

The authors

Preface

Geography at secondary school level has benefited over the past twenty years from three important developments. First, there was growth in the academic status of Geography as it improved its tools of investigation and research; second, there was growth in the educators' understanding of cognitive processes and of ways of developing and evaluating higher order mental abilities. These developments have been the foundation of more sophisticated syllabuses which are laying an increasing stress on conceptual approaches. The new syllabuses also stress the use of data and information to teach skills and to illustrate generalizations, and not to be learned as ends in themselves. The third significant development has been in the nature of the matters that concern geographers: the subject has turned increasing attention to environmental, behavioural and social issues. Thus Geography is more than ever a subject that can contribute to the pupils' real world experience, their acquisition of a sense of place and the development of empathy with people of other societies and cultures.

Inevitably the study of environmental and social topics will uncover controversial issues: some are comfortably far away but none the less relevant to our global society; others are disturbingly close and current. Our pupils, young citizens of the world and its future managers, need to be well and objectively informed on such issues and to be trained in the skills of debate and in arriving at conclusions based on informed opinion and ethical principle. These skills, we hope, will be the foundation of ongoing education beyond the classroom and beyond the few short years of formal learning in school.

Thus it is with hope that we have written this book: hope that it will demonstrate and exercise the principles of enquiry used by geographers, and that it will develop the skills of numeracy, interpretation and articulate communication. We hope that the text and illustrations will provide enough stimulation to extend the most capable pupils and yet to be clear and interesting to less able learners. We have, therefore, provided a considerable range of enrichment material in the form of readings, assignments and research suggestions. As with other books in this series, the choice of which items to use is best left to the teacher, who will know the needs and interests of the pupils.

Finally, it is our hope that pupils who have studied Geography will have been helped by this book to become better informed people, able to speak with assurance and accuracy on matters that are integral parts of the physical and social landscapes in which they live and move and work—and for which they have been given responsibility.

THE AUTHORS

Preface

NEW GEOGRAPHY TO THE POINT: STANDARD 9 is one of a series of textbooks ranging from Standard 3 to Standard 10.

Geography is the study of the relationship between man and his environment. Therefore it is essential for pupils who wish to have an intelligent understanding of this subject to realize that man's activities and ways of living are really the result of his efforts to adjust himself to his surroundings and to a rapidly changing world.

In this book the pupil is encouraged to think and to reason 'geographically' and to have as many opportunities for self-activity and independent study as possible and to use the information at his disposal to develop a sense of appreciation and reverence for the wonders and beauty of nature.

The prescribed sections of the syllabus are dealt with in corresponding chapters in such a way that provision is made for the teacher's need for more factual information when preparing lessons.

The questions and assignments at the end of every chapter have been compiled in such a way that students will be stimulated to think, to reason and to enjoy what they have learnt.

THE AUTHORS.

Syllabus for Physical Geography for Matric. Government Printer 8012 of 20.9.63

APPENDIX 11

Overseas School Geography Syllabuses

Introduction

Studies in geography involve people, their environments, and the interaction of these two. Students entering the Intermediate Division in Ontario schools have generally acquired first-hand experience of only a small percentage of the earth's surface. Although their opportunities for travel and their exposure to the many means of communication may have been greater than those of any previous generations, their world is correspondingly more complex and in a state of constant change. In order to broaden their knowledge of the earth, students need to seek clarification of the patterns and processes that result from the interaction of people and their environments.

To accomplish this, students face no simple task. The earth is enormously complex, and patterns and processes are often obscured by vast amounts of detail. It is important, therefore, that studies in geography have a definite purpose, maintain clear points of view, and promote precise thinking. Without these elements, they tend to become an inventory of the earth's contents rather than a search for satisfactory explanations of the interrelationships of people and their environments.

Both the social and physical sciences are used in geographic studies. Geography is a social science because it involves the study of people and how they live. As people organize their activities over the earth's surface, they modify the landscape in many ways. Political systems, economic objectives, and technological competence are just a few of the factors that affect the way in which the earth is used to meet human needs.

Geographic studies also employ knowledge gained from the physical sciences. In any given area, the climate, bedrock, surface features, and soils encourage or put constraints on human activities. Choices are restricted by environmental factors. People are not completely controlled by their environment, but by the same token, they do not have complete mastery over the environment either. Recognition of this relationship will provide the basis for a broad range of studies in geography. Throughout their experience in the Intermediate Division, students should be encouraged to incorporate both the human and physical dimensions of geography into their studies.

Learning involves the acquisition or revision of knowledge, the formation or reinforcement of attitudes, and the development or practice of skills. Teachers should be conscious of the particular contributions that studies in geography can make to these processes. In their organization, planners should ensure that courses and units undertaken by students are founded on well-defined ideas and principles. To be successful, every course, every unit, and every lesson should have a defined purpose and direction.

Four courses constitute the Geography program in the Intermediate Division:

1. North American (to be taken by students in grades 7-8)
2. The Southern Continents (to be taken by students in grades 7-8)
3. Canada (to be taken by students in grades 9-10)
4. Europe and Asia (to be taken by students in grades 9-10)

They provide opportunities to acquire a basic understanding of the ways in which people interact with their environments in all areas of the world. Each course states the objectives for a year's work. The core statements, however, should not be interpreted as the only objectives. Descriptions of courses provide suggestions to assist planners in identifying and achieving additional expectations beyond the core program. This flexibility will allow the development of unique courses while maintaining balance.

During the Intermediate years, most students attend more than one school and experience more than one form of school organization. Co-operation among local schools in establishing an appropriate progression of courses will help students to discover new horizons and gain fresh insights in each year of the Intermediate Division.

To allow flexibility for local decisions, course planners and administrators can choose the order in which *North America* and *The Southern Continents* are placed in grades 7 and 8. Similarly, *Canada* or *Europe and Asia* can be designated in either sequence in grades 9 and 10.

A course based on the core expectations of the course in Canadian geography meets the requirements for a Canadian Studies credit for Secondary School Graduation Diploma purposes.

Aims for the Intermediate Geography Program

All programs and courses should encourage student growth toward:

— understanding the local community as an example of the response of people to the opportunities and constraints of their environment;

— knowledge of the province and the country, and the response of Canadians to the opportunities and constraints presented by the Canadian expanse;

— recognition of current landscapes as one stage in an evolutionary process resulting from physical forces and human activities;

— understanding the dependency of people on the environment to meet basic human needs such as food and shelter and to satisfy desires for acceptable levels of living;

— understanding location as a factor in human settlement and use of the earth;

— understanding the opportunities and constraints of environments in selected areas of the earth;

— understanding human responses to a variety of environments based on differences in values, cultures, social organizations, economic systems, and political structures;

— recognition of the aspirations of all people for acceptable levels of living;

— understanding the degree of interdependence among people in using the earth's resources to meet human needs;

— recognition of human population patterns as they relate to and affect environments;

— recognition of individual and collective responsibility in the use of human and natural resources;
— appreciation and enjoyment of the variety, complexity, and aesthetic qualities of human and natural environments;
— clear, precise communication with others in a variety of ways, with emphasis on graphic forms.

Planning Units and Courses

Educators will recognize that students in this division represent an immense range of abilities and levels of maturity. Furthermore, each student experiences a unique pattern of physical, emotional, and intellectual growth during the adolescent years. For these reasons, this guideline is sufficiently broad to encompass the full range of student needs across our province. Local planners have the responsibility to develop programs and courses to meet the particular needs of students in schools within their jurisdiction. Although expectations for mastery of content, depth of understanding, and competence in skills may be modified to allow each student to progress in a manner consistent with his or her ability and maturity, all courses must retain a focus on the goals and objectives of geographic studies as described in this guideline.

In the organization of courses, the unit of study is considered as the basic building block. Units can be of varying lengths, so that the number making up a course could vary widely, but most will occupy two to six weeks. A unit system provides a flexible form of course organization and will permit courses to be organized over a full year or part of the year. Each unit allows for the development of specific objectives under the general headings of knowledge, attitudes, and skills. Units selected to constitute a year's work in geography should relate logically to one another to create an integrated whole.

A number of stages are necessary in the development of balanced courses of study. Each course should have broad general objectives. Initially, reference should be made to the expectations for core learning and skill development identified for each course. Consideration could then be given to additional objectives that are important to provide a balanced treatment of the areas of the earth under study.

The second stage involves the choice and design of units of study to meet the broad objectives. To assist in this process, a number of suggestions for choice of content and appropriate teaching strategies have been provided for each course of study. While these are not intended to exclude other choices, planners may find them useful as starting points. In geographic studies, there is a variety of valid approaches to the organization of units including regional studies, comparative studies, studies based on issues, themes, or topics, and studies that examine processes. Similarly, many different teaching strategies can be employed to enable students to increase their understanding and skills.

A teacher's plan for a unit should include the following essential features:

— statement of specific objectives
— selection and organization of content
— suggested teaching strategies
— a description of available teaching and learning resources
— an indication of the evaluation techniques

Some objectives, content, resources, and teaching strategies can change as a unit develops in the classroom. Teachers should be prepared to make alterations in day-to-day activities provided the objectives of the unit remain in focus. Where changes are made, evaluation techniques will have to be modified to recognize these revisions in the unit plan. Such changes should be incorporated in future presentations of the unit.

Courses based on broad units will encourage co-operation among teachers in different subject fields to develop integrated themes or interdisciplinary approaches. An examination of other current Intermediate Division curriculum guidelines will reveal numerous opportunities for relating subjects that deal with similar topics. Artists and poets, for example, show a keen awareness of landscape. Novelists and dramatists recognize the significance of location in the development of character and plot. Besides being raw materials for industry, metals have physical properties, geological associations, and historical significance. These are only a few examples of the many natural associations that occur among subjects. Where themes, issues or concerns become the focus of units of work, the breadth of a study can be increased.

An important outcome of co-operative planning among teachers can be student recognition of the value of a variety of viewpoints in dealing with a topic. On many issues, even knowledgeable persons hold widely varying viewpoints. Students should get opportunities to see how approaches to issues vary according to the perspectives, values, and objectives of individuals or groups.

Students should be involved in the planning process. Teachers, however, have the responsibility to see that a balanced set of objectives is reached. Careful organization by teachers will ensure that studies are suited to the interests and capabilities of students, that the time allocated to the pursuit of a study is consistent with its objectives, and that a variety of methods and viewpoints are employed from unit to unit.

A unit on locality studies is included in each of the sections on North America and Canada. This unit is intended to encourage the acquisition of knowledge, skills, and attitudes that will enable students to relate studies of other places to the environments with which they are familiar.

Skills of investigation in the field are an essential part of geographic studies. A great variety of field experience is possible and no one type can be singled out as best. All studies, however, should be significant to students, well planned, and integrated into work being done in the classroom.

Locality studies provide many opportunities to employ field-study techniques. There are occasions when a half-hour in the vicinity of the school will secure adequate obervations. Half and full-day programs enable students to go farther afield and obtain more detail for examination. Longer trips can put students into physical and cultural environments that are markedly different from their own.

As students undertake studies of more remote environments, their experience with, and understanding of data collection become more important. Increasingly, they rely on information that comes in abstract forms. Familiarity with techniques of mapping, sketching, taking photographs, interviewing, and writing will help to make the selection and interpretation of data provided by others more vivid and significant.

The Program

I. North America

A continent is studied to discover and interpret broad patterns of physical, cultural, and economic geography.

The landscapes of North America were virtually undisturbed for centuries. The native peoples who inhabited the land adapted to the opportunities offered for sustaining life and organizing society. They developed unique cultures in the forests, plains, mountains, deserts, and coastal regions that they occupied without upsetting the natural balance or drastically changing the landscape.

In this year, students study North America as it is today. The arrival of large numbers of European immigrants beginning in the seventeenth century brought new political systems, new attitudes and values, and new technologies to produce a series of complex changes in the landscape. In most areas today, students will find only a few traces of the natural landscape and the culture of native peoples.

For the purpose of this guideline, North America is considered to include Canada, continental United States, Central America, and the Caribbean Islands. Courses developed from this section should refer to each of these areas. The themes that follow suggest ways of developing a balanced course to meet a variety of planning needs.

In addition to the study of broad patterns selected from examples of physical, cultural, and economic geography, students should gain insights into their own communities. The areas in which students live can provide immediate examples of the many ways in which people interact with their environment to change the landscape.

Core content

Through selection and organization of appropriate studies of North America, teachers should provide students with opportunities to develop an understanding of:

— human and natural characteristics that make the local community and area unique;

— relationships between the community and the rest of the province, Canada, North America, and the world;

— the location and extent of North America and the relative locations of the countries within the continent;
— major political units comprising North America;
— characteristics of the major landform regions and drainage systems;
— factors contributing to climatic variations in North America and weather patterns in Ontario;
— major historical and geographical factors that have influenced settlement patterns;
— contributions of native peoples to the development of contemporary society;*
— present patterns of population density and distribution;
— factors affecting the location of major areas of industrial development;
— the importance of selected manufacturing activities to North American economies and ways of living;
— the interdependence which exists among various regions of North America;
— the need for wise use and management of natural resources.

Skill development

Planning for skill development should take into account the present proficiency of students and the appropriateness of skills chosen for the content being studied. In the organization and guidance of studies of North America, teachers should ensure that students are provided with opportunities to develop facility in the use of the following skills or techniques:

— using latitude and longitude, map grids, compass points, and degrees to determine location and direction;
— using atlas gazetteers to locate places;
— locating places using distance and direction from other points;
— using linear and verbal scales to measure distances on maps;
— deriving information from atlas maps of relief, climate, mineral production, transportation, population, and political divisions;
— using conventional symbols and colours to convey information and indicate boundaries;
— drawing cross-sections or profiles using atlas maps or simple contour maps;
— transferring information from a map to a cross-section to show relationships;
— presenting and deriving information from various sources such as statistics, graphs, charts, photographs, and diagrams;
— sketching simple maps to show dominant features such as landforms, transportation routes, or city locations;
— using flow diagrams to present and derive information;
— obtaining information from a variety of photo types including vertical and oblique aerial photographs.

*Teachers seeking assistance in the organization of studies on native peoples may refer to the resource guide. *People of Native Ancestry II*. Inter[illegible]iate Division.

Geography 16 - 19: Appraisal of the first two years

Paul Welch, Colin Weston, Nick Foskett & John Hardwick
Haywards Heath Sixth Form College

In September 1980, the geography department at this Sixth Form college began teaching Schools Council *16-19 Geography* Project A-level as one of a number of pilot schools throughout the country. The ensuing two years have made many teaching and administrative demands on the department, but at the end of the first A-level cycle, it is possible to assess the successes and shortcomings of the new syllabus. It is hoped that our experiences in planning and operating the course will be of value to those considering adopting it in their own schools or to those introducing any new syllabus.

First thoughts

At the outset we were stimulated by the challenge of introducing new ideas, and by the hope that here was a syllabus and approach which would remove from the students the necessity for mere memorisation of geographical data. Also, the possibility that we might introduce them to techniques and ways of thinking about and analysing data which would assist them in the real world was a great attraction to us.

As an open-access sixth form college, only a small proportion of our A-level candidates are intending to proceed to a higher education course based on geography, yet the old syllabuses set out to equip them all for such a move. Here at last, we felt, was a course both to equip the university geographer *and* provide the A-level school leaver, for whom geography was their last-choice subject, with skills and a broadened outlook on the world and its problems. Our optimism and hope seem to have been well-founded.

Planning the course

The development of the *16-19* A-level involved all four members of the geography department in three main stages. The first of these necessitated planning the outline of the course itself and the choice of work modules that would be included. The second stage concerned detailed preparation of those modules and the integration of a suitable fieldwork programme. Thirdly, the development of the internal assessment that the course contains required a plan of assessment units, internal examination, and an individual study scheme to be organised.

THEME 1. Natural Environments — the Challenge for Man

Core Modules
Landforms and Environmental Management
Man and Ecosystems

Option Modules
Climatic Change and Uncertainty
Man's Response to Difficult Environments
Man and Natural Hazards
Pollution of Natural Environments
Man and the Geological Challenge

THEME 2. Use and Misuse of Natural Resources

Core Module
The Energy Question

Option Modules
Water for Man
Minerals for Man
Land as a Resource
Soils and the Future
Managing Woodland and Forest
Potential of Oceans and Seas

THEME 3. Man-Environment Issues of Global Concern

Core Module
The Challenge of Urbanisation.

Option Modules
Global Limits to Growth
Feeding the World's Population
Political Systems and Environments for Man
Migration of People
Alternative Approaches to Development
The Communication Revolution

THEME 4. Managing Man-Made Environments and Systems

Core Modules
Impact of Manufacturing Industry
Changing Agricultural Systems

Option Modules
Changing Tertiary Activities
Demand for Recreation and Leisure
Regional Disparities
Changing Urban Environments
Problems of Rural Management
Mobility and Man's Environments
Policy, Planning and Man's Environments

Figure 1. The 16-19 module choice

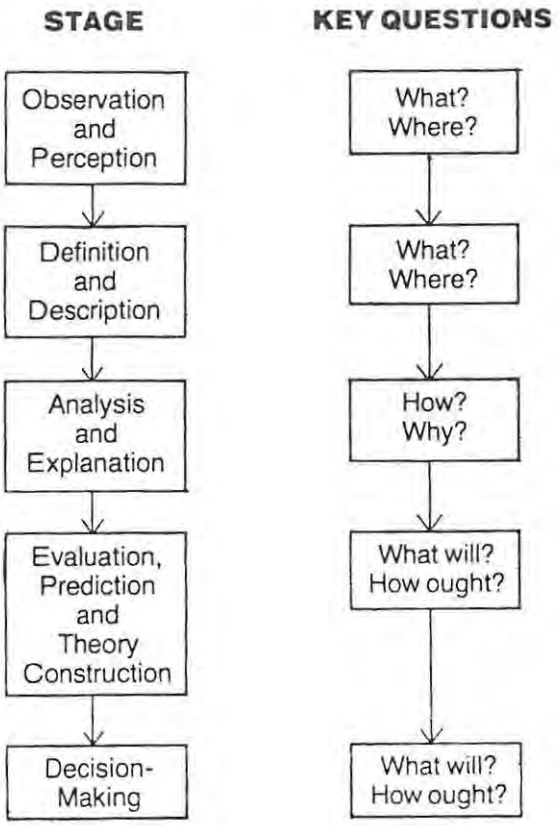


Figure 3. The route to enquiry

and is divided equally into a timed essay and a piece of work testing the use of a new skill or technique. The individual study contributes 15 per cent of the final mark.

The timing of the internal assessment is largely controlled by the examination board's requirements. The nature of the essay title and the assessment tasks were decided jointly by the staff and were then marked according to the agreed schemes in Figure 5. These have the advantages of allowing the markers considerable flexibility while assessing both geographical and general educational achievement by the student. Moderation of the marking was conducted initially within the department, but final moderation was undertaken by the examination board. Marks were then given to the students in terms of a 1-5 scale (1 = good, 5 = poor), the points being equivalent to 80-100 per cent (Grade 1), 60-80 per cent (Grade 2), and so on. The reason for giving the students marks in this way stemmed from the examination board's unwillingness to divulge specific marks to the student, combined with the need to tell the students how well or badly they were doing.

The individual study element of the course entailed a large input of time in consultations between staff and students on an individual basis. The staff provided guidance through from the students' initial preparation in December of Year 1, to the choice of a topic in May of Year 1, to completion of the study by Christmas in Year 2. Marking of the study is by the examination board.

The key to the successful operation of the course clearly lay in its planning and in co-operation and communication between staff and with students. Comments from students were, where possible, used in the revision of courses for the second A-level cycle, and many of the problems not foreseen in the initial planning have been overcome in this way.

Some advantages of 16-19 geography

The advantages of geographical education advocated by the *Geography 16-19* Project are characterised by two important features. First, the Project takes a man-environment approach to geography, in which geographical study is focused on questions, problems and issues arising from the inter-relationship of people with their environments. With this starting point, geographical study may be appropriately developed through a process of enquiry, in which questions, problems and issues are opened up, relevant branches of geographical theory are utilised and, ideally, an answer, solution, or, more likely, a range of possible solutions, is put forward. It is therefore possible to bring out the many inter-relationships of the different aspects of geography.

The second advantage of the Project's approach is its enquiry style of learning. Enquiry-based learning, as the Project calls it, is both an appropriate approach to man-environment geography and also a valuable way of ensuring that opportunities are presented to students for the development of a wide range of skills and abilities.

A third advantage of teaching *16-19* materials is the range of skills and techniques it instills in the students. We have been greatly encouraged by the improvement in skills of:

(i) communication (discussion, debate, ability to present findings);
(ii) intellectual ability (to think clearly, pose and test hypotheses);
(iii) social and study (organising group activities, using study time effectively).

A far wider range of techniques can also be developed under a course of this nature and these fit in extremely well with the topics in each module. We were very impressed by the ease with which one could distinguish between students according to their ability early in the course.

From the teacher's point of view, the course and assessment structures provide ample scope for individual preferences and intellectual reward for all levels of ability amongst the target group. The emphasis on resource-based learning linked with teacher-guidance also leads to the development of a better relationship between staff and students. The way communication is considerably enhanced, and we are more aware than before of the problems of individual students.

The necessity for careful planning and co-ordination of the course means that co-operation between staff is vital. We have been forced to work as a team and to tap the skills and expertise of all of us, and this has led to a better understanding of our teaching methods. We are gleaning a great deal from collective, rather than individual, wisdom.

Finally, the course's principal advantage from a teaching point of view is its capability to provide something for all students across the wide range of ability that is found at A-level. The weakest students have found they are developing skills of understanding and interpretation which they did not previously possess, while the able students are in a position to be stretched by the demands of some of the more difficult concepts.

Difficulties of 16-19 geography

The problems we have encountered fall generally into two categories — those of a pedagogic nature and those related to the practical implementation of the syllabus, the majority of which involves the problem of time, or, more precisely, the lack of it.

As already stated, we have generally been very happy with the content of the syllabus and whilst we still find difficulty in achieving a satisfactory balance between physical and human geography, and have ourselves spent considerable time discussing what we think should be the correct balance, the overall result of giving the A-level students a sound over-view of the subject has been achieved, even if vast amounts of 'pure' physical geography have been omitted.

YEAR 1	**Autumn Term**	Introductory module followed by Changing Agricultural Systems Man and Ecosystems
	Spring Term	Feeding the World's Population The Energy Question
	Summer Term	The Communications Revolution
YEAR 2	**Autumn Term**	Landforms and Environmental Management Climatic Change and Uncertainty
	Spring Term	The Challenge of Urbanisation The Impact of Manufacturing Industry
	Summer Term	Revision Module: China and Japan

Figure 2. Haywards Heath College course outline

(a) *Module choice*

Overall planning of the course was comparatively straightforward, and was probably the simplest of the three stages to complete. The syllabus requires the course to consist of nine modules, each covering a specific area of work. Of the nine modules, six are compulsory core modules, which cover the principal themes of A-level geography, ranging from those which place emphasis on the natural environment, to those which look predominantly at the man-made environment. These are indicated in Figure 1. The other three modules are option modules and may be chosen from the comprehensive list in Figure 2, according to staff interests and strengths or relevance to the local area. These are assessed internally by staff, and are not included in the final examination.

At Haywards Heath, the choice of option modules resulted in our preparation of "Climatic Change and Uncertainty", "Feeding the World's Population", and "The Communications Revolution", largely to introduce a wider range of geographical themes to the students' experience.

The timing of the modules within the two-year course was chosen to conform to two constraints, the requirements of the examination board for the results of option module assessments by certain dates, and the division of teaching time in the department. Each A-level student had eight forty-minute periods of geography per week, divided into four lessons with each of two staff. This necessitates the students studying two modules at a time in parallel, and it was decided that these should therefore be modules that bore a close relation to each other. The final programme is shown in Figure 2.

In addition to the nine modules, a short introductory module was included, together with a revision module in the final term. The introductory module involved some two weeks' class time for one member of staff, and was an introduction to the *16-19* approach to geography based on resources rather than direct teaching and involving the seeking of solutions to problems, questions and issues with a man-environment theme. The revision module was instituted to take the place of formal revision, and consisted of the application of the course content to questions and issues in specific regions of the world. China and Japan were chosen for this study to show contrasts between developed, less developed, centrally-planned and other states.

Each module was therefore taught for twelve weeks by one member of staff, with the exception of the revision module and the Communications Revolution option module. These were split so that different aspects of the module were covered by two staff in parallel, an idea which worked well, giving students a variety of insights into a single topic.

(b) *The preparation of teaching materials*

The preparation of individual modules was divided between the members of staff. In some cases (eg. Challenge of Urbanisation Module) the work was based largely on material provided by the Schools Council project team, but in most of the modules, the courses were devised from scratch, using only small amounts of external material. The necessity for making the work resource-based led to the preparation of module booklets which contained much of the course work, and this involved a considerable application of effort to the production of written exercises, and also a wide variety of resources and the reproduction of this material for sixty students. Needless to say, this effort continued throughout the two-year cycle of the first A-level candidates and during initial revision of work, but this will be reduced as only updating and revision are left. The content of the modules was produced by individual staff after a group meeting to decide the general content of each module. Several constraints were applied to this choice.

(i) The material followed the project's *Route to Enquiry* (Figure 3). Ideas are obtained by a deductive method of observation, description and explanation, followed by the application of ideas to present or future geographical issues or problems.

(ii) Skills and techniques are introduced as an integral part of the work, being used as tools to tackle problems.

(iii) The range of examples and case studies used throughout the whole course covered a complete range of scales of study and types of economy and natural region. That this was achieved is shown in the curriculum matrix in Figure 4, where case studies are allocated to the theme, scale of study and type of economy to which they refer.

(iv) Man-environment links are emphasised throughout.

(c) *Fieldwork*

The integration of fieldwork into the work programme was comparatively simple. The requirement that it should be enquiry-based did not involve much adaptation of existing fieldwork, since the nature of our fieldwork was already that of field research. During a week's residential course in the Forest of Dean with the Lower Sixth, or day or half-day trips throughout the rest of the course, problem-solving fieldwork was undertaken which related to most of the modules.

(d) *Assessment methods*

The third stage in the planning of the course was the development of a suitable assessment scheme for the three option modules and the individual study module. Each option module contributes 10 per cent to the final A-level mark

DOMINANTLY NATURAL ←			→ DOMINANTLY MAN-MADE
THEME	**Theme 1**	**Theme 2**	**Theme 3**	**Theme 4**
SCALE	Natural Environments—The Challenge for Man	Use and Misuse of Natural Resources	Man-Environment Issue of Global Concern	Managing Man-Made Environments and Systems
LOCAL SCALE	Flooding in the Wye Valley (D) Game Control in the Luangwa National Park (LDC)	Vale of Belvoir Coalfield (D) Coal Production in the USSR (CP)	Urban Planning in London (D) Urban Planning in Moscow (CD) Rural Development Schemes in Nigeria (LDC)	Industry in Liège (DC) Agriculture in a Chinese Commune (LDC & CP)
INTERMEDIATE SCALE	The Impact of Change in the Mississippi Valley (D) Tropical Rainforest Ecosystems (LDC) Flood Control on the Hwang-Ho (CP)	Energy Patterns in Europe (D) Energy Patterns in China (LDC, CP)	Population Change and Urban/Rural Migration in Peru (LDC) The Growth of Chinese Cities (CP) National Capital Region Planning in Japan (D)	Industry in Belgium (DC) Iron and Steel Industry USSR (CP) Iron and Steel Industry in Brazil (LDC)
GLOBAL SCALE	Whaling and Man (D, LDC, CP)	Oil and World Affairs (D, LDC, CP)	World Patterns of Food Consumption (D, LDC, CP)	World Patterns of Iron and Steel Production (DC, LDC, CP)

Figure 4. A curriculum matrix showing a few of the case studies used
(D = Developed Countries, LDC = Less Developed Countries, CP = Centrally Planned Economies)

Of some concern to us has been feedback from a few of the more able students that they have found the course easy and at times of little intellectual challenge. We would tend to subscribe to this view ourselves, especially with regard to the content of some of the core modules which would appear to be in need of some more theoretical underpinning by geographical laws, theories and forces, in order to give more credence and logic to the issues and questions raised by the work. We hope we will then manage to stretch the more able student more adequately.

Another problem we have to face has been the necessary change in teaching methods imposed by *16-19* work. Gone were the days when the well-informed (one hopes) geography teacher merely sat and imparted his pearls of wisdom to keen sixth-form ears and when this, together with some discussion work and a few practical exercises, produced the necessary results. Instead, the demands put on us as teachers were initially considerable. We were forced to assume many and varying roles as we led our students through the routes to enquiry and on to self-appropriated wisdom. Although in essence a task that sounds as though it should be easy enough, it proved in practice far more difficult as we found that active and constant revision of the role we were assuming was a necessity. Examples of this kind of thing include: when to stop talking at a group; when to curtail a discussion: what depth of discussion could or should be allowed about a particular issue; how much help should individuals be given in the class situation; are they seeing the wood for the trees? Obviously, these are examples of problems that are going to be encountered by any teacher teaching any subject, but *16-19* has proved to be very demanding in this respect (and more challenging), if the route to enquiry approach is to be adopted in its true spirit.

Turning from teacher to student, two particular problems have emerged. The first is the difficulty some students have in understanding the *raison d'être* of 'the route to enquiry'. Throughout the first term of the course we repeatedly return to its basic structure and endeavour to help the students see

Marks will be allocated according to the following scheme		**MARKS**
A	Knowledge of specifics (recall of factual data)	5
B	Understanding of the relevant generalisation of the module	5
C	Interpretation and application of these generalisations within the context of the question	5
D	Marshalling the evidence; analysis and evaluation; drawing conclusions	5
E	Communication of argument and conclusions	5
Total		25

The assessment units will be marked according to the following scheme		**MARKS**
F	Understanding the technique(s)	5
G	Level of accuracy in applying the technique	5
H	Quality of results of application	5
I	Communication of findings: (a) written	5
J	(b) graphic/diagrammatic	5
	Total	25

Figure 5. Timed essay and assessment unit marking schemes

what they are doing within its framework — but for some it remains a slow process. The second problem is a frustration the student builds up by not being able to gain comfort from grasping at a tangible collection of facts to learn rôte fashion for the terminal examination. Even having sat internal examinations at the end of their first year and mock examinations in January of their second, many students approach the final examination with trepidation because 'they do not know what to learn' and although we go on about 'techniques' and 'issues raised' and 'examples studied', it takes a lot of effort to relieve their doubts and fears.

The more practical problems have, as stated before, hinged on the restrictions imposed by the lack of time. We have found that *16-19* has demanded more time of us than was formerly required. A weekly meeting has been essential to discuss progress, to share problems and attempt to find solutions to them, especially as we have found, in almost all cases, that the modules have contained too much material and we have had to be selective in its image. An hour after college on a Tuesday has proved to be the absolute minimum necessary and frequently this will flow over into lunch hours as well. We have needed time to update and re-vamp modules. This is, of course, highly desirable but exceedingly time consuming, usually necessitating work outside term time. 'Holiday time' is also the place for the construction of option modules of our own as the time needed to search for relevant resources can be a very slow process.

Marking of students' work has proved to be a most onerous task (when is it not?) as some of their notes tend to be subjective, self- or group-opinionated and detailed. Ideally, they should be checked carefully by us but this is an impossible task, the only practical solution being a general 'rubber-stamping' with selected work examined in detail.

The production of copies of modules and their cost has been rather problematic at times but, thanks to our highly organised and willing Reprographics Department, every student has been able to have an individual copy of every module.

While we greatly welcome the inclusion of an individual study, its organisation has not been problem-free. The initial sorting out of study titles is highly time-consuming. Most students require at least two individual tutorials in order to sort things out and the majority seek further help and advice. Again, this is demanding on the teacher, not only from the point of view of the time involved but also of their integrity, for it is a very thin dividing line between where admissible advice ends and actively helping the student begins. Nevertheless, the one-to-one contact between teachers and students is one of the decided advantages of the course.

The problem of fitting in fieldwork is, of course, common to us all but maybe it has shown itself to be somewhat more so with *16-19*. Ideally each module contains an element of field study but the mechanics involved are perhaps asking too much of colleagues in other departments. Some of this work can be covered on residential courses but this year we were only able, because of the numbers studying geography, to take half of our first year students away on a field course.

This last point serves to illustrate our current most pressing problem — the students are enjoying *16-19* geography too much! Word appears to be passing down and diffusing out to brothers and sisters and friends that what they have done has been worthwhile and, for this next academic year, the number of students who have applied to take A-level geography is double what we had when we started, and reveals that we are the largest growth subject in the college.

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THE ASSOCIATED EXAMINING BOARD

FOR THE GENERAL CERTIFICATE OF EDUCATION

GEOGRAPHY ADVANCED LEVEL SYLLABUS 626

The aims and objectives of the syllabus are set out at the beginning of the syllabus. The content of the syllabus has been revised to provide students with a balanced appreciation of Geography in the light of current developments.

Emphasis is placed upon man's relationships with his environment and his central position in the subject. Therefore the syllabus deliberately avoids a division of content into human and physical geography in order to encourage an integrated teaching approach.

The syllabus content is presented in the form of topics related to man and his behaviour in ecological and spatial contexts. These topics have been selected to encourage the student to acquire a fundamental understanding of the processes involved within the specific areas of study. Detailed studies should be carefully chosen to illustrate these topics and their inter-relationships. Some topics will necessarily have to be studied on a world-wide scale, while others may be more suitably treated locally or with reference to one continent, country or region. A variety of detailed studies per topic should be used. These should not be taken entirely from one continent, or from areas at similar stages of development. Certain of the detailed studies should preferably be treated in greater depth or be chosen to relate to more than one study topic. In this way an understanding of the whole environment and the man-land relationships within it might be better achieved.

The syllabus should be seen as providing a framework which can allow the use of existing resources. The core material given in the subject content must be regarded as essential; detailed studies may be chosen at the discretion of the teachers or students; the possible examples given are intended for guidance only.

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Aims

The aims of the syllabus are to enable the candidate to:

(a) understand geographical concepts;

(b) appreciate the dynamic nature of geography, both in time and space;

(c) acquire techniques and develop skills in the analysis and interpretation of varied types of geographical source materials and to make inferences from available evidence;

(d) apply geographical methodology towards an appreciation of present day problems on varying scales.

cont'd ...

Objectives

The objectives of the examination are to test the candidate's

(a) knowledge and understanding of basic geographical concepts and principles;

(b) ability to analyse and interpret data such as statistical information, maps, photographs and detailed studies in the application of general geographical principles to particular situations;

(c) the ability to apply geographical skills and techniques and in particular to use such skills in carrying out field investigations and in analysing the results of such investigations.

Examination Structure	Duration	% of Total Marks
Paper 1	2 hours	20%
Paper 2	2 hours	20%
Paper 3	3 hours	40%
Paper 4	30 minute oral on fieldwork investigation	20%

Candidates must take all papers.

The structure of Papers 2 and 3 allows the candidate some degree of specialisation within certain syllabus topics.

Paper 1

This paper will aim to test the candidate's ability to apply skills and techniques to a consideration of geographical problems and situations. The paper will consist of a variety of data response questions, which will involve the use of a wide range of source material.

A minimum of four questions will be set, of which the candidate will be required to answer two. At least one question will require a basic understanding of Ordnance Survey maps (1:25 000 and 1:50 000). Questions may also be included which are based on British land use maps and field investigations.

Paper 2

Paper 2 will aim to test the candidate's comprehension of basic geographical concepts as stated in the syllabus content. Fourteen short structured questions will be set, two on each of the seven topics A-G listed in the syllabus and candidates will be required to answer any eight questions. Spaces for the answers to the questions will be provided on the question paper.

cont'd ...

Paper 3

This paper will aim to test the candidate's ability to understand and to apply knowledge of the topics A-G to specific locations of the candidate's own choice. Reference to detailed selected studies on a variety of scales and locations will usually be required. No specific regions/areas/towns will be named; instead, the wording of the questions will allow the candidate to use his/her own choice of case study to examine the particular concept or topic which is being discussed. The examiners will be particularly looking for evidence of first hand investigation where relevant.

Candidates must answer four questions, ONE from each of the four Sections as shown below:

SECTION 1	Topic A : (Resources and Population)		3 questions
SECTION 2	Topic B : (Hydrosphere and Lithosphere)	)	6 questions
	Topic C : (Atmosphere)	)	(2 on each
	Topic D : (Ecosystem)	)	topic)
SECTION 3	Topic E : (Agriculture, Industry, Transport and Trade)	)	4 questions
	Topic F : (Settlement)	)	(2 on each topic)
SECTION 4	Topic G : (Geographical perspectives on current problems)	)	3 questions

Paper 4

This part of the examination will be concerned with the assessment of submitted field investigations and will take the form of an oral examination of approximately 30 minutes, which will be conducted by an examiner appointed by the Board.

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The candidate is allowed to use an approved atlas, approved mathematical tables and a simple hand calculator during all parts of the examination.

A list of approved atlases is available on request to the Board.

Syllabus Outline

GRADE XII GEOGRAPHY COURSE OUTLINE

UNIT I

The Geography of Population

1. Definition of Population Geography

   (i) - ideas of Human Ecology
   (ii) - relationships between regional differences and densities, growths, etc.

2. Relationships of elements and population

   A. Physical Elements

      (i) - empty vs. populated areas
      (ii) - the physical realm as a populated determinant

   B. Cultural Elements

      (i) - Nature of culture
      (ii) - Effects of culture
      (iii) - Similar environments are used differently by different cultures
      (iv) - Environmental limitation on the development of culture

3. Race, Nationality and Culture

   A. Differences and Correlations

      (i) - Classification
      (ii) - Physical traits
      (iii) - Isolated peoples
      (iv) - Distribution and main racial stocks

   B. Ideas of Race Diffusion - See Elements of Geography, Smythe and B (Macmillan) Section VI - Population

   C. Cultural Diversity

      (i) - Environmentalism
      (ii) - The nature of culture
      (iii) - The concept of culture in Geography
      (iv) - The cultural landscape

4. Population Densities

   A. Overpopulation

      (i) - Define and examine
      (ii) - Controversial views; Malthus, Marx
      (iii) - Population pressures
      (iv) - Nutrition and disease
      (v) - Food supplies

B. Natural increase

(i) - History of population growth
(ii) - Birth and death rates

C. Concept of Population Control

(i) - Cultural resistance and economic necessity
(ii) - International migration
(iii) - Internal migration

5. Comparative Studies

Western Europe or North America
South or S.E. Asia

The physical environment is to be stressed; relationships, racial and cultural differences; the concepts of development and under-development are to be examined. Commonly held beliefs should be criticized. The use of maps and atlases should be widespread and thorough.

Teacher References:

Bresler - Ch. 5, 6, 20, 21, 22 - Human Ecology, Addison-Wesley (Canada)
Broek & Webb - Ch. 2, 4, 18, 19, 20 - A Geography of Mankind, McGraw-Hill

tudent References:

Indonesia, Van Nostrand Searchlight # 10
India, Van Nostrand Searchlight # 24
The Lower Mekong, Van Nostrand Searchlight # 12
Smith, P. J., Population and Production, Ch. I and II
Swatridge et al, Regional Geography, Ch. 15, South Asia; Ch. 16, India
Young, Louise B. (ed.) Population in Perspective, See pp. 30, 61 - 106, 172 - 186, 303 - 321.

(Province of Saskatchewan, Program of Studies for the High School, 1969)

PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF EDUCATION

DIVISION OF INSTRUCTIONAL SERVICES

CURRICULUM DEVELOPMENT BRANCH

SECONDARY SCHOOL CURRICULUM GUIDE

SOCIAL STUDIES - 1974

Geography 12

(Revision and Reprint
of Interim Edition - 1970)

Issued by Authority of the Minister of Education

Victoria, British Columbia

2. The Lands

a. Soils

(1) agents of soil formations - water, air, plants and animals.

(2) controls of soil formation - parent material, climate, vegetation, topography, time.

(3) processes of soil formation - podzolization, laterization, calcification.

(4) great soil groups

b. Vegetation

(1) factors controlling natural vegetation - soil nutrients, sunlight (heat and light), precipitation, exposure, altitude.

(2) plant communities

*Unit D. Oceanography

GEOGRAPHY 12

PART II - Man And His Environment

This part of the course should deal with the interrelationships between man and his environment, and should focus on specific problems to be analyzed by the application of geographic skills and concepts.

There should be a major focus on the following environmental concerns:

1. The use of environment with emphasis on the development and management of resources.
2. The conservation and control of environment.
3. The quality of the environment.
4. The perception of the environment.

*Optional

In selecting specific cases or examples to illuminate each of these concerns, such criteria as contemporary relevance, global significance, student interest, and scale should be taken into account. The following questions, adapted from A.K. Philbrick: This Human World (Wiley) may be useful in guiding classroom inquiry:

1. What resources are available to supply the food that sustains life?
2. What materials are available from which men build or manufacture useful articles?
3. What resources of non-animal energy enable men to supplement the force of their own muscles in the performance of the work?
4. What ideas and values (including economic, social and political policies) influence the use of resources?
5. What characteristic ways of doing things, including customs and technologies, influence the use of resources?

Problems of resource depletion, multiple land use, pollution, climatic controls, natural hazards, social, economic and political implications should be considered in relation to agriculture, mining, fisheries, forestry, power and energy and recreation. Teachers should feel free to draw on the fields of physical and human geography.

It is clear that in the study of such problems it will be essential to the student to utilize and integrate material drawn from both parts of this course. Where it is considered appropriate to put the greater, if not exclusive emphasis on Part II, the necessary material from Part I can be interpolated as the need arises.

GEOGRAPHY 12

Suggested Unified Outline

The outline which follows presents another suggested way, in addition to those already outlined in this Curriculum Guide, of developing the Geography 12 course. The outline presents a unified organization that integrates the two parts of the course.

It utilizes the theme Environment and Man and is developed around the idea of environmental concerns as stated in Part II of the outline in this Guide. Significant areas from Part I have been related to these concerns. Interwoven are the problems mentioned in Part II (above).

Changing the Geography Syllabus: What do the pupils think?

RALPH HEBDEN, MELVYN JONES, CARL PARSONS & BRIAN WALSH

Four members of the Geography Department at Sheffield Polytechnic have been investigating the implementation of the 'Geography for Young School Leaver' [G.Y.S.L.] Project in four main trial schools in South Yorkshire*.

The Schools Council Project Team for G.Y.S.L.[1] produced three kits of exemplar materials. The accompanying Teachers' Guides give suggestions for classroom procedures, objectives to be pursued, modes of assessment, as well as the principles of the objectives-based style of curriculum development utilized by the team. Further details of the broad intentions of the Project team and the philosophy underpinning their approach may be found in the various publications and papers produced but, amongst the principles which have guided the choice and development of themes are:

1. that they should be interesting and relevant but of more than transitory significance;
2. that there should be a structure of ideas focusing attention on the concepts of the discipline;
3. that these ideas may be approached first through a study of the local area and could be extended to more distant places.

As part of the research by the team into the impact of this project at school level a pupil attitude inventory was devised† and administered to pupils in the trial schools. This survey involved nearly 400 pupils of average and below average ability in the 4th and 5th years; the 5th year classes completed the inventory on one occasion after one year of a geography course based on G.Y.S.L. The 4th year classes completed the inventory twice – before embarking on a G.Y.S.L.-based course and after completing one year of such a course.

A series of structured questions with a 'yes', 'no', 'don't know' format was designed to investigate the extent to which pupils liked or disliked geography. The responses were coded, aggregated and a class mean 'favourability' score was calculated. The results are set out in Figure 1. A comparison can be made between 5th year G.Y.S.L.-experienced classes and 4th year classes yet to begin work on the project, and between the scores of the same 4th year classes before and after experience of G.Y.S.L.

Our data suggest that pupils liked geography better after experiencing G.Y.S.L. 5th year pupils had generally more favourable attitudes towards geography than did 4th year pupils who had yet to begin work on the project. 4th year pupils, on the whole, recorded a greater liking for geography at the end of one year of a course based on G.Y.S.L. compared with their position a year earlier.

A further section of the inventory consisted of a list of resources and pupils were requested to signify whether or not they felt each resource appropriate for inclusion in a geography lesson; from the responses a mean class 'resource acceptability' score was calculated, the higher scores indicating acceptance of, [or experience with] a wider variety of resource material in geography.

The results in Figure 2 indicate that experience of G.Y.S.L. widened the pupils' views of the variety of resources appropriate to learning situations in geography. The relationship between resource variety and liking for geography is clearly demonstrated by a comparison between the changes in the 4th year class 'resource acceptability' scores [Figure 2] and the changes in the 4th year class 'favourability' scores [Figure 1].

These suggestions must be tentative because of the nature of the data collection instrument and the inevitable opportunistic sampling. The remainder of this paper, however, deals with the comments made by pupils about their geography lessons in the open-ended section of the inventory.

It was interesting to find that a number of pupils indicated an appreciation that their views had been sought. However, although pupils viewed geography more favourably after experiencing G.Y.S.L., the largest category of comments from pupils expressed a general dislike for the subject; nearly one third of the pupils made comments such as 'Geography is boring . . .', '. . . should be banned', etc., which was well above the proportion expressing a general liking for the subject [see Table 1]. Thus, though an improvement in attitude to geography has occurred, there is still much disaffection amongst these pupils. The problem of the disenchanted, poorly-motivated, non-academic pupil cannot be expected to yield overnight as a result of one Schools Council project in one subject.

'Geography for the Young School Leaver' has a concentric, thematic structure providing resources and stimulus material related mainly to Great Britain. It encourages the development of local resources, related fieldwork

TABLE 1
Pupil comment on geography in total

Geography in total	5th yr. Sept. 1973 204 pupils; 11 groups		4th yr. Sept. 1973 185 pupils; 9 groups		4th yr. July 1974 161 pupils; 9 groups	
	Like	Dislike	Like	Dislike	Like	Dislike
Informative/ interesting/ relevant: ban/ boring/dislike	42 [20%]	69 [34%]	40 [22%]	67 [35%]	24 [15%]	40 [25%]

The column headings apply also to Tables 2, 3 and 4 where they are not printed in full. The 4th year classes are the same for September 1973 as for July 1974; the different totals for pupils are accounted for by absences.

* The Social Science Research Council has made a small grant [HR2862/1] for a 3-year period [1974–77] to further this research.
† We are indebted to the Education Department at Sheffield Polytechnic and the Division of Education, University of Sheffield, for assistance in constructing this inventory.

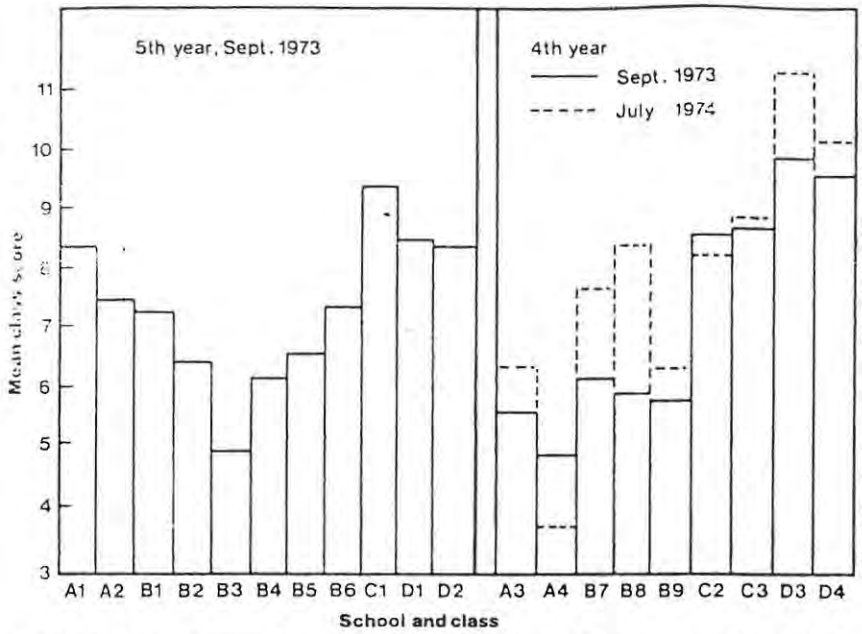

Figure 1. Mean 'favourability' scores for classes in schools A, B, C and D. The 5th year classes in September 1973 had completed one year of a geography course based on G.Y.S.L. The 4th year classes in September 1973 had yet to begin work on G.Y.S.L. By July 1974 they had completed one year of such a course.

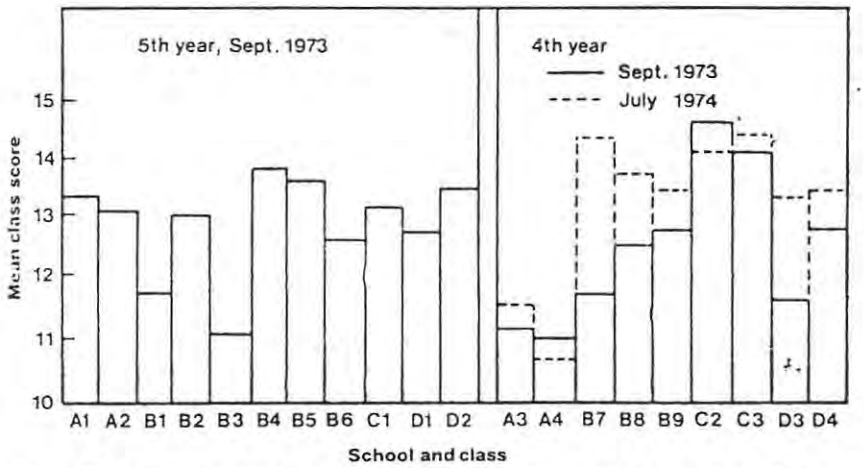

Figure 2. Mean 'resource acceptability' scores for classes in schools A, B, C and D. The 5th year classes in September 1973 had completed one year of a geography course based on G.Y.S.L. The 4th year classes in September 1973 had yet to begin work on G.Y.S.L. By July 1974 they had completed one year of such a course.

TABLE 2
Pupil comment on learning activities

	5th yr. Sept. 1973		4th yr. Sept. 1973		4th yr. July 1974	
	Like	Dislike	Like	Dislike	Like	Dislike
Fieldwork:— surveys, outings, interviews, practical work	53	4	34	1	44	3
Mapwork and maps	20	27	34	26	28	18
Individual work	8	0	9	1	11	0
Classwork	2	6	3	16	3	10
Writing	2	36	12	29	2	12
Copying	1	8	1	8	0	7
Drawing and colouring	12	7	12	5	4	2
Discussion	9	5	12	2	4	3

and a structured discovery approach in the classroom. The pupils made a large number of comments about fieldwork and outings and, although the overwhelming support for these out of school activities may owe much to attitudes not directly related to learning, several pupils stressed the value of 'going and seeing'.

Of the other learning activities to which reference was made [see Table 2], work with maps was viewed with mixed feelings. Drawing and colouring received a small number of comments, predominantly favourable, while 'class work', 'copying' and, in particular, 'writing' were disliked. Question sheets and work sheets which have come to play a very important part in G.Y.S.L. teaching were rather more disliked than liked. Individual work which, it might be argued, is made more feasible by the use of work sheets, received a small number of comments, almost all favourable.

Fieldwork was the subject of more comment from the 4th year pupils at the end of one year of their G.Y.S.L. course than one year earlier, which may indicate less experience of fieldwork in their lower school geography courses. Discussion was mentioned by a few pupils, mostly in favourable terms but, despite its recommended importance in G.Y.S.L. teaching, the 4th year pupils mentioned it less and showed much less support for discussion on the second occasion upon which they completed the inventory.

Fieldwork obviously stands out as a popular activity and the local area is undoubtedly a productive starting point for geographical study, offering the opportunity for practical work and the emergence of a fund of knowledge from the pupils. Ideas and models can be demonstrated through a reality the pupils know. However, local *content* was mentioned favourably by more than 15 per cent of the pupils only when it was directly related to Sheffield and National Parks [see Table 3]. 'Foreign Geography' almost equalled fieldwork as a subject for favourable comment; nearly one quarter of the pupils expressed their enjoyment at learning about 'other countries'. In an earlier section of the inventory it was clear from pupils' responses to a list of geographical topics that, amongst G.Y.S.L. pupils, recall and liking of those topics which might be defined as traditional was not greatly eroded. This interest in other countries receives little encouragement from G.Y.S.L., which concentrates on the local environment and on case studies within the national context; the *Leisure* pack only approaches the international scene through resource material on Yellowstone Park and Foreign Holidays. The pupils' liking for foreign geography may reflect images of fiction and travellers' tales, but a basic interest in this content manifests itself quite strongly.

The preponderance of local work in

/S.L. might be justified by the claim at it is a major source of *interest*, of unquestioned *relevance*, can facilitate the acquisition of skills and concepts [and the discussion of value questions], and these concepts may then be applied to more distant places. The contention supported by the foregoing data is that, if we wish to respond to pupil desire in terms of interest, the study of other countries demands a place in geography teaching at least as great as the study of the locality. Whatever the criteria for *relevance*, foreign topics merit a substantial place in a geography course and, furthermore, more distant instances may be crucial to a demonstration of the wider applicability of concepts encountered locally.

The 'known', from which G.Y.S.L. is intended to start, need not be confined to the immediate environment as the pupils are informed of more distant parts through the mass media. Indeed, the very familiarity of local topics may engender in pupils a boredom greater than that resulting from more distant content.

Once the area of study is outside the locality the possibilities of fieldwork are practically nil and the collection of appropriate resources is difficult. Greater reliance is put on the relatively inflexible text book and the multi-purpose educational kit or film. In this situation the potential for pupil involvement is limited, with, we suspect, a decline in motivation. It is how to teach foreign geography in an interesting manner rather than the lack of intrinsic attraction of 'industrial development in Brazil' which is the problem.

Wright[2] claims that advances in the teaching of local geography have been made but that 'there has been relatively little fresh thinking in recent years about the problems of teaching overseas geography'. With pupils of this age, approaching the formal operational stage of thinking [Piaget], games, simulations, role-play, problem-solving and enquiry-based learning may provide an acceptable substitute for empirical work. Indeed, there need be no greater gulf between 'reality' and classroom knowledge in this situation than in school science, which has made the greatest strides in the direction of practical work; consider the school child's transformer and its industrial counterpart.

The problem still remains for the provision of the resources, tailored to fit the interests and objectives of the teacher and the abilities and dispositions of the pupils. It might be noted that in the Schools Council 'Enquiry 1'[3], the most common improvement in provision specified by pupils in relation to geography teaching was 'more practical work' and 'more teaching aids'. This was mentioned by 25 per cent of the geography pupils, a proportion exceeded in no other subject but science.

The pupils completing the inventory did record a liking for films and similar visual material [see Table 4] though there were some dissenting comments; but text books where mentioned, were condemned. Comments on question sheets, work sheets, as mentioned earlier, were not predominantly favourable; their format and content needs perhaps more attention if, with regard to pupil appeal, they are to prove the wholly satisfactory replacement of text books.

In the H.M.I.'s survey of geography teaching[4], considerable space is given to comment on new ideas in geography – quantitative methods, network analysis, games, simulations and problem-solving; the authors acknowledge that the provision of appropriate resources involves more work for the teacher. They support the spread of these innovations and note that their results indicate 'a growing belief in the pupils' need to acquire skills for pursuing enquiries'. Again, on the question of 'relevance' and 'interest', Naish[5] refers to games, simulations, and role-play as being of great 'motivational value'.

It seems that the attractiveness of G.Y.S.L. is bound up with the nature of the lessons and the learning, [especially fieldwork] rather than with anything inherent in the local nature of the content. In order that students may pleasurably and actively investigate environments other than their own, it is important that methods and resources, as motivating as those encountered in relation to the out of school work, should be used where available, or developed.

If, due to a combination of resource shortage and low levels of motivation, little foreign content is included in geography courses for specific groups, then the divisive implications deserve attention. The average and below average pupils dealt with in this study expressed a liking for foreign geography and it is important to remember that 'Geography for the Young School Leaver' proposes that geographical ideas encountered first in the local environment may, 'by linkage and analogy . . . be extended to more dis-

TABLE 3
Pupil comment on lesson content

	5th yr. Sept. 1973		4th yr. Sept. 1973		4th yr. July 1974	
	Like	Dislike	Like	Dislike	Like	Dislike
Content						
Foreign Geography	55	7	30	7	34	4
Climate and Physical Geography	4	9	13	9	10	2
Topics						
Cities	3	1	2	0	4	1
Farming	5	2	12	2	4	1
Holidays	9	1	4	0	1	0
Housing	2	0	5	0	2	1
Imports & Exports	2	3	6	0	1	1
Industry	7	0	7	1	1	1
Leisure	2	0	2	1	4	0
National Parks	34	0	1	0	6	0
Sheffield	31	2	7	1	18	1
Transport, Roads and Travel to work	7	1	2	0	0	0
Volcanoes	1	0	6	1	3	0

TABLE 4
Pupil comment on resources

	5th yr. Sept. 1973		4th yr. Sept. 1973		4th yr. July 1974	
	Like	Dislike	Like	Dislike	Like	Dislike
Films, filmstrips, pictures, photos., slides	33	9	9	0	10	1
Question/work sheets, diagrams, graphs	13	18	14	19	6	22
Text books	0	7	0	6	0	9

tant parts of the world'.

To invoke the lauded notion of 'relevance' as a justification for not extending the geographical experience of these pupils to foreign parts is hazardous, particularly when it is not applied in the same way to the studies of more able pupils. This was in no way the intention of the Project team, who made plain their disavowal of a differentiated curriculum. If, however, interest and relevance are important, then the prominence of the local environment and the relative exclusion of overseas themes and regions need to be reconsidered; proximity and affinity are not necessarily associated.

Withey[6], in a recent article, demonstrates the lack of clarity in the use of the term 'relevance' in educational discourse. There is a tendency for it to correspond to 'practical utility' as one goes down the ability range of pupils. Nell Keddie[7] suggests that a situation may exist where 'relevance' is a proper consideration with regard to the less able but not so for the 'academic'. There is the temptation, in the choice of curriculum, for the balance between the 'worthwhileness'[8] and 'interest' to reach the stage where palatable exercises on trivialities become the order of the day. That 'worthwhileness' and 'interest' can, and should, be compatible criteria in a teacher's planning is an assertion made by the Project team in the statement quoted earlier: 'The themes should be of interest and relevance now, but should also be of more than transitory significance'.

The Project team also asserts that, despite the title of the Project, with its Newsom flavour and hints of a differentiated curriculum, they believe the objectives expressed are valid for pupils of all abilities in this age range; in accordance with their brief, the resources and procedures have been selected to facilitate the attainment of these objectives by the average and below average pupil. The Humanities Curriculum Project faced similar problems of interesting and motivating pupils. Jean Rudduck[9] says, 'It is not a course that is merely following pupils' interests' and, that it 'tried to pay all young people the compliment of offering them an intellectual challenge'. Whatever the success of H.C.P. in the classroom, the stand taken was that controversial issues of wide social significance should receive attention in the learning situation. What constitutes relevance for the pupil can be interpreted in varying ways by the teacher of H.C.P. or G.Y.S.L. Where relevance has importance then it has importance for the whole ability range. In the teaching of geography, foreign countries are of interest and who can say knowledge of them is not relevant.

The requirement is for more varied and motivating activities, and resources which will have the impact of local studies. Central to the approach to curriculum development of G.Y.S.L. is the idea that teachers and local groups should go on to adapt, supplement and eventually supplant the ideas and resources in the published version. It is important that in this process the wider educational debate about 'worthwhileness', 'relevance' and 'interest' are not ignored.

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SYLLABUS CHANGE IN GEOGRAPHY: A WESTERN AUSTRALIAN EXAMPLE

P.W. HILL AND J.M.R. CAMERON*

ABSTRACT: This paper employs a generalized change model to identify forces at work leading to the introduction of the new Tertiary Admission Examinations geography syllabus in Western Australia. Developments in the fields of geography and education are assessed in terms of their influences in promoting change, and the role of geographical educators as change agents is evaluated. The paper concludes with an attempt to predict likely future directions using the change model.

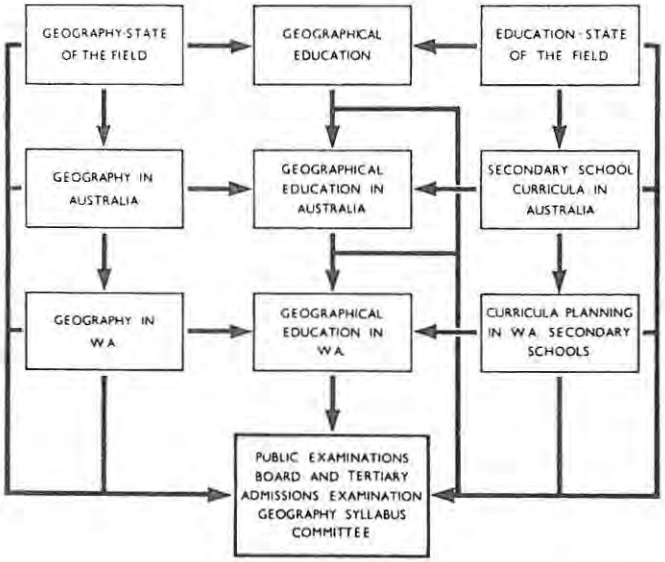
In retrospect, it is clear that few geography syllabuses survived into the 1970s without undergoing considerable alteration. Indeed, since the *High School Geography Project* established the precedent for major curricular reform in geography, change has become the norm. The rate has often been so rapid as to be almost continuous, syllabuses being repeatedly modified to take account of the many and profound changes which have occurred in geography, education, and society as a whole. What has invariably emerged has not been so much a new product as a new process of curriculum renewal which incorporates the machinery and the opportunity for continuous assessment of the aims, objectives, content and methodology of geography in schools. The widespread acceptance of this trend has led Biddle to suggest that

> The hope for the future in geographical education is to incorporate into the curriculum the concept of change as a ubiquitous process common to all environments.[1]

If change is to continue as a positive force it has to be readily facilitated; be in response to genuine need; and be subject to close and critical scrutiny. For these reasons, the mechanism of change as it relates to curriculum developments in geography is of more than passing academic interest. This paper, therefore, describes curriculum developments in senior school geography in Western Australia in an attempt to identify, analyze and assess the relative importance of the various agents of change and the parts they played in the introduction of a new geography syllabus. Figure 1, a generalized model of the process of change, both summarizes and provides a structure for the discussion.

Mr Hill is Junior Research Fellow, School of Education, Murdoch University, Perth, Western Australia; Dr Cameron is Lecturer in Geography and Education, University of New England, Armidale, New South Wales.

Figure 1 Agents of Change in the Senior Geography Syllabus in Western Australia.



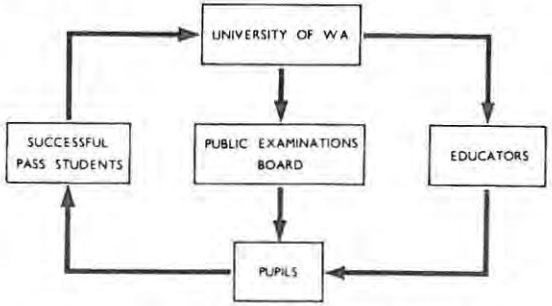
THE CONTEXT

Since 1913, secondary students in Western Australia have been assessed through the annual examinations conducted by the University of Western Australia. Assessment has been at two levels: the Junior Examination which students sat for at the end of Year 10 when aged 15, and the Leaving Examination (Year 12). The syllabuses for these examinations were fixed by the Public Examinations Board (P.E.B.) of the university and published annually in its *Manual of Public Examinations*. Because of the importance attached to examination performance, the syllabus and more especially the content of successive examination papers dictated what was taught at all levels within the school. Change was rare and typically involved minor alteration of the content to be examined. Curriculum development as currently defined was absent.

A particularly closed and inbred system developed (Figure 2). Control of education in the state by the University of Western Australia, the only significant tertiary institution until 1967, was all embracing. Not only did it train the educators but, through the P.E.B., determined the syllabuses of all major school subjects; assessed the students studying those subjects; and accepted as its own student intake those who successfully matriculated in its examinations. The narrow orthodoxy which resulted was further enhanced by the university's remoteness from other centres of learning. More significant

was the resultant pattern of curriculum underdevelopment which has so typified education in Western Australia. Underdevelopment was particularly acute in geography for here responsibility for constructing courses and examining candidates was vested in members of the Department of Geology.

Figure 2. The Western Australian Educational Experience: A Closed System.



GEOGRAPHY AS A CHANGE AGENT

Against this background, the establishment of a chair of geography in 1964 is of major significance. This occurred during a period of rapid growth for geography in universities throughout Australia and was symptomatic of a changing public awareness of the geographer's role. This, in turn, reflected the major changes which were then occurring to geography itself, for it was during the 1960s that the quantitative based spatial tradition replaced the essentially descriptive area studies tradition which had dominated the geographer's concern to that point. A number of features epitomized this change but characterizing all of them was a concern with explaining the results of man's interaction with his environment and with the identification of order and meaning on the earth's surface.

While the impact of the 'new' process oriented geography was rapidly felt at university level in Western Australia, school geography remained remarkably resistant to change. The syllabus for the Junior Examination was completely rewritten in 1972 but this was too late. All government schools and most non government schools had, from 1970, prepared their students for an internally assessed Achievement Certificate. This was based on the students' performance over the first three years of their secondary schooling. In addition, most students studied social studies. This began to replace history and geography as an examination subject as early as 1964.

At the Leaving level, reform was not manifested in the syllabus until 1974. However, an analysis of examination papers in the period from 1965 to 1974 does reveal a major change in orientation around 1969, the year in which a separate matriculation examination was introduced. This was imposed on a regional geography course and required students to

> review regional studies and from these reviews draw out generalisations concerning man, his environment and the modern world.[2]

Prior to 1969, questions tended towards:

1. unique as opposed to generic properties of regions
2. form oriented as opposed to process oriented studies
3. static as opposed to dynamic situations
4. the systematic listing of causal factors as opposed to the integration of co-related factors
5. facts as opposed to concepts and generalizations
6. a passive recall of knowledge as opposed to an active response and the application of knowledge
7. descriptive, literary skills as opposed to analytic and quantitative skills
8. low order cognitive skills as opposed to high order cognitive skills
9. non contentious issues as opposed to a critical assessment of alternatives or a consideration of values.

After that date, questions were quite clearly of the 'new' geography although the syllabus remained basically unchanged.

EDUCATIONAL CHANGE

To gain some insight into why the syllabus at the Leaving level remained unchanged for so long, it is necessary to look beyond the changing nature of geography to the second of the academic influences identified in the change model (Figure 1); those deriving from the field of education.

Two trends in secondary education in Western Australia are of particular relevance to the origins of the new syllabus. The first is a move away from the system of public examinations to one of internal, school based assessment. The second is a move away from a specialized academic education for the few towards a general education for all pupils. Both trends are very much in keeping with trends evident elsewhere in Australia and overseas, but, being constrained by the nature of the original examination system, have had a belated development in Western Australia.

The extent of the domination of secondary education in Western Australia by the University of Western Australia through the Public Examinations Board was expressed in no uncertain terms in the opening remarks of the 1969 *Dettman Report on Secondary Education:*

> secondary education in Western Australia has long been dominated by the requirements of external examinations. Indeed, it could be stated that the basic aim of secondary schools has been to enable students to pass the examinations conducted by the Public Examinations Board and so qualify for Junior and Leaving certificates."

The report concluded,

> We are convinced that if schools are to be freed from the shackles of external examinations, then such examinations must be discontinued at all levels, Leaving as well as Junior.[3]

These two quotations reflect the extent to which educationalists in Western Australia, especially senior members of the state Education Department, had been influenced by changes in education in the 1960s. Of particular significance was their growing concern with the structure of learning and conceptual growth, and the implications posed by a rapidly evolving theory of curriculum development. The Public Examinations Board, its syllabuses and its examinations, were increasingly viewed as typifying an outdated and now untenable approach to curriculum. Among its several shortcomings were its emphasis on the study of an arbitrary combination of university based subjects; its overemphasis on academic achievement; its focus on the teacher's role as a processor and disseminator of specialized knowledge; and its disregard of the individual child actually involved in acquiring a general education.

Within the social science area there was mounting concern that the examination system placed undue emphasis on the content of individual disciplines at the expense of an overall view, and inhibited consideration of significant discoveries in the fields of psychology and sociology. Above all, there was concern about the widening gap between the content of the curriculum and its relevance to the problems of life and the needs of students.[4]

Thus, during the 1960s, major changes occurred to both the fields of geography and education. Although national or international in origin, they had strong local expression and fostered a potential conflict situation for little sympathy or understanding of the changes in the other's position existed on either side. A stalemate ensued. However, a system had been inherited in the P.E.B. in which the initiative for reform was the function of the geographers rather than the educators. Occupying the rather precarious middle ground between the two camps were the geographical educators. It is to the key role they played and to the influence of geographical education that attention is now turned.

GEOGRAPHICAL EDUCATORS

The late sixties were characterized by a groundswell of dissent as more and more teachers expressed concern about the limitations of the P.E.B. Leaving syllabus as a means of developing geographical understandings, and its lack of a clear statement concerning the nature and level of the skills students should acquire. The heavy burden imposed by the traditional regional approach was increasingly resented and serious reservations were expressed about the relevance of the syllabus and its contribution to the students' general education.

These early calls for reform were poorly articulated and perhaps misunderstood. At all events, they were resisted, with the result that subsequent events were by no means characterized by harmonious co-operation and fruitful communication. Perhaps the combination of circumstances described above made inevitable the clash between geographers on the one hand and the educators on the other. The relatively new Department of Geography felt its position challenged by the educationalists and the machinery of the P.E.B. highlighted the role of individuals and personalities.

The introduction of a separate matriculation examination in 1969 acted as a trigger for change and led directly to the formation in December 1970 of the Geography Teachers' Association of Western Australia. Adopting syllabus reform as one of its chief objectives, the Association spearheaded its attack through its first conference, held in June 1971. At that time D.K. Wheeler identified a number of shortcomings of a pedagogic kind in the existing course. In outlining his five phase model of curriculum development, which entirely

depended on the selection of appropriate aims, goals and objectives,[5] he pointed out that while the content of the (old) syllabus was clearly prescribed, it contained no statement of objectives and only a passing reference to possible learning experiences.[6] D.S. Biddle, the other key speaker, provided an excellent overview of alternative syllabus structures through his reference to the developments which had occurred elsewhere in Australia.[7] As this was the first occasion that most Western Australian geography teachers had heard of these developments, a number of possibilities were created for them. Both speakers, albeit indirectly, became initiators of change.

By October 1971, although there was no formal involvement of the Association (and never was), the views of teachers on the possible content and structure of a revised syllabus were canvassed. After many unfruitful meetings of the P.E.B. Geography Syllabus Committee and some work by various sub-committees, the new syllabus was put together by the two leading members of the Committee in the relatively short time of nine months during 1972, circulated in draft form in April 1973, disseminated through circulars and in-service courses, and introduced with minor amendments into the schools in 1974.

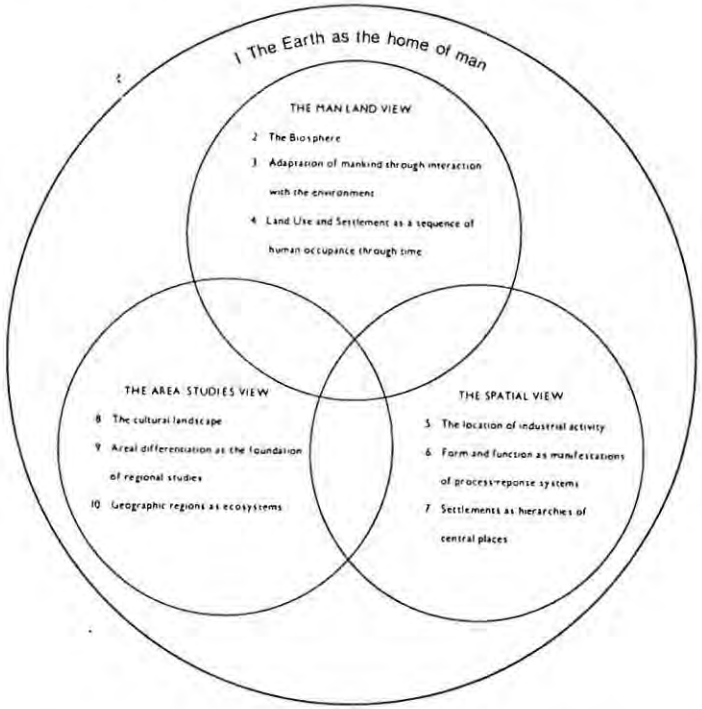
The resultant syllabus clearly reveals the dominating influence of academic geography in the process of curriculum development. The opening sentence ("The aim of the course is to guide students to practise the discipline of geography ...")[8] proclaims its discipline orientation and aligns it with most of the major curriculum projects initiated in the US.A., the U.K. and Australia since the early 1950s. Furthermore, the nucleus of the syllabus, a set of ten "concept clusters" (See Fig. 3), represents an obvious intention to identify the structure of the discipline along lines advocated by Bruner[9] and other curriculum theorists of the structure-of-the-disciplines school.

COMMENT

The new syllabus was written at a time of rapid change in both geography and education. It clearly cannot be regarded as a stable document for change continues to characterize the agents which brought it into being. Besides, and more importantly, it has suffered limitations from the outset as a curriculum document. In view of the many problems its introduction in the schools has occasioned, major alterations appear inevitable. These problems amount to problems of interpretation of the ten concept clusters, the nucleus of the syllabus; problems of selecting material and determining the depth of treatment; problems of student assessment; and problems posed by the Tertiary Admissions Examinations system as a whole and the Geography Joint Syllabus Committee in particular, both of which are recent compromise replacements of the P.E.B. Thus, change is likely to be a continuing characteristic of curriculum development in senior geography in Western Australian schools. Our change model (Figure 1) may be used in attempting to predict likely future directions.

Walford[10] suggests that the sixties was probably the strongest and most important innovative period for the field of geography and has also suggested that there has already been considerable disappointment with the progress that was then made. This is only one indication of the likely declining

Figure 3. A Structure of Geography based on Ten Concept Clusters.



importance of developments in the academic discipline of geography as change agents for developments in geographical curricula, even though these have been the dominant change agents to date. By contrast, changes in educational philosophy and practice could play a more important role than hitherto. Of particular significance to future developments would appear to be the growing attention now given to the relevance and durability of what students learn with the accompanying move away from the recall of detailed information towards modes of learning that emphasize creative thinking and the application of knowledge and which encourage students to develop their own attitudes and values. Changes to forms of student assessment are likely to have a major impact.

Given this, however, it is clear that geographical educators have a major role to play. The history of events in Western Australia demonstrates that it is they who can create (and have created) a bridge between the fields of geography and education and that it is they who are the effective interpreters and implementers of change. The significance of the first GTAWA conference has

APPENDIX 12 - Six Valuing Games in Geography

"CROSSROADS"

SIMULATION IN GEOGRAPHY : An example from R H Ledger, "The New Geography in South African High School Teaching", M.A. thesis in Education Library.

NOTE: You should try to devise similar topical simulations based on local or national themes.

(An example of a South African simulation exercise widely applicable).

This is a simple simulation involving a whole class of any size. It requires one period preceded by at least one homework period for preparation. It is versatile, suitable for use in studying urbanization anywhere and can be used in:

STD. 7 - Urbanization
STD. 8 - Population Geography, Brazil, Japan;
Std.10 - South African population, Urban problems.

It has the added advantage of being currently topical. It has no special requirements beyond photostat copies of published materials, mainly newspaper articles, and is suitable for use with any teenagers.

The exercise is a simulation of the argument/discussion between groups of squatters and government policy-makers/administrators - each trying to convince the other to accept their case.

Government case: The squatters must go.
Squatters' case: They should be allowed to stay.

AIMS
1. *To re-inforce (a) the reasons for urbanization and (b) the problems concomitant with it.*
2. *For pupils to realize that different groups perceive the same problem differently.*
3. *For pupils to realize the difficulties of decision-making where groups' attitudes and values differ.*
4. *To give practice in analysing and extracting valid arguments for a stance from diverse detailed information.*
5. *To give practice in arguing/proposing a point of view.*

PREPARATION AND ORGANIZATION

The simulation should be conveniently scheduled into the normal teaching program, for one important function it performs is to break into the monotony of normal class procedure. Certain aspects of urbanization should have been dealt with previously. If not, they may be incorporated into a conventional lesson on urbanization as a world trend.

World urbanization statistics should be presented in table and graph form (e.g. from U.N. "Demographic Yearbook"). Various countries should be compared and then related to South African figures.

The pupils are then asked to list as many reasons for the drift of population to the cities as they can. These are discussed and board-listed.

Pupils list the effects of this drift on (a) the city and (b) its people, both the original inhabitants and the migrants. These effects may be sub-divided into 1. beneficial and 2. detrimental.

The threads will then be drawn together, emphasizing the 'revolution of rising expectations' caused by what the underprivileged see and hear via the mass media of the high living standards and facilities enjoyed by people in cities. This leads to attempts to break out of the 'vicious circle of poverty' often characteristic of poor rural subsistence economies. The avenue of escape which is seen to promise 'eldorado', a better future, is migration to the city. Consequently people flock to the urban areas which cannot adequately provide shelter, work or security. This leads to the slum development and squatter shanty-towns so common around the outskirts of most large cities in third world countries. e.g. Lima, Caracas, Rio, Mexico City, Hong Kong, Lagos, Teheran, Cape Town. Some countries attempt to deal with the problem, others neglect it.

HOMEWORK

The pupils are given a handout containing information sheets (mostly quoted from articles), a map and a simulation preparation sheet. They are asked to read the information sheets and prepare for their part in the simulation.

Two possible simulations are suggested:

1. A parliamentary debate with the opposition demanding that squatters be allowed to remain at 'Crossroads'; the government is determined to demolish the squatter camp.

2. A simulation of the discussion/argument between groups of squatters and government officials, each trying to convince the other to accept its case:

(a) The government case – Squatters must go.
(b) Squatters' case – They should be allowed to stay.

Either simulation or both may be used.

The class is divided into groups according to the simulations to be attempted. Each individual must take a stance (preferably one towards which he is sympathetic) and prepare a logical argument to persuade the opposition. The argument should be rational.

In the follow-up pupils should be required to evaluate how they benefitted from the simulation. It should be made clear that there is no correct answer — what seems morally right is not necessarily a practical proposition (cf. Time article on Brazil). Most cases are much more intricate than they may seem at first. The teacher should ensure that any misconceptions arising in the simulation are dispelled.

SIMULATION - SHEET

1. *Parliamentary debate on the Opposition motion:*
"Squatter shanty-towns should not be cleared until alternative accommodation is provided for the inhabitants."
You should extract as much information as you can from the information sheets to back up your stance. Using this and your general knowledge, prepare a clear, logical, watertight argument to present your stance in the debate, not neglecting ways of defeating the opposition. Organize it in such a way as to be able to make your points without undue repetition of points already made effectively by earlier speakers.

2. *Squatter/Officialdom Discussion/Argument.*

(a) *Imagine you are B.A.A.B. (Bantu Affairs Administration Board) officials detailed to clear Crossroads Squatter Camp. Prepare a plan of action to do this designed to cause as little unrest and discomfort as possible to those concerned. Also prepare yourself to handle a meeting with a deputation of the squatters likely to request an audience with you on the subject. Bear in mind the deteriorating human relations position in South Africa.*

(b) *Imagine you are a squatter householder living with your family at Crossroads. Prepare a cogent statement of (1) why you are a squatter, (2) why you are in Crossroads and (3) why you should be allowed to stay. You should be prepared to be a member of and spokesman for a squatter delegation to visit B.A.A.B. requesting that Crossroads be allowed to remain.*

In the meeting, (in class) in addition to presenting your simulated view, you should, as a class member, try to reach an objective evaluation of the discussion/argument in the hope of finding a workable long-term solution to the problem.

World Trade: a game for 13-16 year olds

Bryan Massingham
The Island School, Hong Kong

I was recently faced with a basic problem: how to teach the concept of imbalanced trade relationships between developed and underdeveloped nations to a class of thirty-six mixed-ability third years. Having spent one fruitless lesson on the topic, in which only a few of the brightest pupils were involved, I decided that I should cut my losses in that direction and try a fresh approach. The result was a trade game which lasted a double lesson (eighty minutes), but could have lasted longer, and which involved the whole class in what at times could be less than politely described as near-riotous conditions -- I have revised the original to reduce this side effect! The follow-up discussion and written work illustrated a pleasing comprehension by even the least able pupils of what is a relatively abstract concept. The game could be easily integrated into any course on economic development and need not be confined to third years. With further adaptations and inclusion of such factors as trade-wars, formation of Cartels, fixed exchange rates etc., the game could be easily suited to an O-level group.

Background and equipment

Groups of pupils (preferably three to a group) represent countries of the world which are either primary producers or industrial manufacturers. Through exchange each country must try to obtain the goods they require, be they industrial countries trying to procure raw materials or the primary producers trying to obtain industrial goods. The end result of the game should be to show the relative economic strength of the industrial nations and a pattern amongst primary producers which reflects the importance of the particular goods they are offering.

Equipment

1. The units of primary products or industrial goods need only be represented by different coloured cards. As large numbers of cards are needed, there is no need to write on each card, but simply to write an appropriate colour key on the blackboard/OHP. Each card, for economical reasons as much as any, need only be 2½cm x 7½cm. The following categories and quantities are recommended, but of course the number of categories used will be dependent on the size of class. The quantities seem large, but sizeable sheets of cardboard and a guillotine makes the job quite easy.

This is a suggested breakdown of products and number of units per category. They are open to variations according to what you may wish the outcome to be.

Industrial Goods	No. of Units
Motor Cars	300
Chemical goods	300
Electrical	300

Primary Products	
Oil	40
Iron Ore	30
Copper	30
Coffee	25
Sugar	25
Tropical Fruit	25
Cocoa	25

2. Instruction Sheets. Instructions should be made available to all groups, one set for the *Industrial Nations* and another for the *Primary Producers*. On no account should the different groups see each other's instructions. General instructions referring to the game are easy and can be verbally given.

INDUSTRIAL NATIONS

INSTRUCTION SHEET FOR YOUR EYES ONLY

The job of your country is to make motor cars, chemicals and electrical goods. You do not have any raw materials of your own, and you therefore need to buy these from other countries. You can buy your raw materials using the stock of industrial goods which you already have. The quantities of raw materials needed are as follows.

One unit of iron ore + one unit of oil = Five motor cars
One unit of oil = Ten units of chemical goods
One unit of copper = Fifteen units of electrical goods

You must obtain the raw materials from the Primary Producer Countries. Some of these countries also supply foodstuffs and these can also be bought.

Once you have sufficient units of raw materials, you can exchange them for industrial goods. Goods can be obtained from..... who will be acting as the "bank".

In your group, you will need to choose:

A. An accountant to keep records.
B. A roving buyer and seller.
C. A stationary buyer and seller.

You can change places with each other as the game goes on. Both buyers and sellers must inform the accountant immediately they have completed a deal so an accurate record can be kept.

Remember Always try and get as good a deal as possible when buying your raw materials.

PRIMARY PRODUCER COUNTRIES

INSTRUCTION SHEET FOR YOUR EYES ONLY

Your country produces ..... You do not have enough factories to make industrial goods and therefore in order to provide your people with such items as motor cars, chemical goods (paints, fertilisers, detergents etc.) and electrical goods (radios, televisions, stereos etc.) you need to exchange what you produce for industrial goods. You can also exchange your products for other primary products, but you can only obtain industrial goods from the industrial countries, NOT from the bank.

In your group, you will need to choose:

A. An accountant to keep records.
B. A roving buyer and seller.
C. A stationary buyer and seller.

You can change places with each other as the game goes on. Both buyers and sellers must inform the accountant immediately they have completed a deal so an accurate record can be kept.

Remember Always try and get as good a deal as possible.

3. Accounts sheet. The accounts are not an integral part of the game as one really only requires the figures for the final stocktaking and these can be obtained by simply adding up the cards at the end of the game. However the need to keep account does slow the number of deals to a more acceptable pace and one can also use it to work out exchange rates which can prove to be an interesting exercise.

Accounts Sheet

Type of Country: Oil		Type of goods and quantity purchased									
Stock: 40											
Goods Sold and deals		Motor Cars	Chemical Goods	Electrical Goods	Oil	Iron Ore	Copper	Coffee	Sugar	Tropical Fruit	Cocoa
1	1 Oil	2									
2	1 Oil		4	1							
3	1 Oil				2						
4	1 Iron Ore		2								
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
Total											
Final Stock (count up your cards)		18	10	4	6	0	0	4	1	0	2

THE GAME

1. Pupils preferably in groups of three should place themselves in the areas (ideally distributed throughout the room). Each group should then be assigned a role as an **industrial country** or a **primary producer.** I would recommend that there should be at least *three* industrial nations (two if the class is small) and at least *six* primary producers. If the class is large enough it is a good idea to have some countries producing the same products. The groups can produce their own sign on a piece of paper informing the other groups what they are selling.

2. Instruction sheets and primary product cards should be handed out. All the primary product cards are distributed at the start — normally one set of products to each primary product country (though it would be possible to have a mix of say two products). A stock of industrial goods should also be given to each industrial nation. Five units of each of the goods is adequate for starting purposes.

3. The bank should hold the rest of the stock of industrial goods. The bank will only deal with the industrial nations. At times the bank will be very busy and whilst the teacher can take the role of the banker, it will not allow other involvement. It is an easily manageable job. A spare pupil or even a sixth former with time on their hands might like to join in.

4. It is important that only the "roving buyer and seller" in each group is allowed to move around the room. This is particularly important if the activity has to be confined to a small classroom. The "stationary buyer and seller" can always "ball his wares" so to speak.

5. The game will run itself after the introductory instructions, but it is always possible to 'throw" things in during the game. For example, you could give one of the foodstuff producers a pile of oil cards and inform the class that oil had just been discovered in that country. You may also like to suggest quietly to two countries which are producing the same product that they ought to think about "getting together" and acting as a cartel. There are plenty of other possibilities that will spring to mind as the game goes on.

Follow-up work

At any time you see fit, the game can be brought to a halt — there is no obvious ending as the bank can always start recycling accumulated product cards if it so desires. At the finish, the countries should be given time to complete their accounts and then each group can read out their final stock take. This can be recorded on the blackboard/OHP in order to form the basis of discussion, i.e.

Country	Cars	Chemical Goods	Electrical Goods	Oil
Industrial Nation (1)	25	36	45	3
Industrial Nation (2)				
Oil				
Copper				
etc				

Country	Iron Ore	Copper	Sugar	Coffee etc.
Industrial Nation (1)	2	0	2	6
Industrial Nation (2)				
Oil				
Copper				
etc				

A discussion can then take place about the game, the results and the reasons for the particular results. Questions to ask will be obvious, but may include ones such as

(a) Why did the industrial nations do so well?

(b) Why did the oil producer do better than the sugar producer?

(c) What happened when a new supply of oil was discovered?

(d) Who got the best rate of exchange?

The game does require a certain amount of preparation but the effort is worth it. Apart from its educational value it is highly enjoyable and perhaps most important, has to involve everybody in the class, unlike some games and simulation activities, where the quiet or the lazy can keep themselves in the background.

RESOURCES FOR TEACHING ABOUT HONG KONG

Finding maps, photographs and detailed topical information for lessons on overseas locations is often a problem.

The Hong Kong Government produces a wide range of maps and booklets, at relatively low cost, which may be of use in the UK.

Maps Detailed plans, at scales between 1:600 and 1:5,000, are available but the three series which are most likely to be of interest are:

1. the two 1:50,000 topographical sheets for which there are also comparable geological maps (the pair is useful for lessons on fault landforms, rocks and relief and drowned coastlines);

2. the 1:20,000 series of 16 sheets, of which map 1 (Hong Kong Island and Kowloon) is useful for lessons on urban geography;

3. the 1:400,000 thematic maps on such topics as population density and Hong Kong climate, the latter being useful for lessons on monsoon climate and relief rainfall.

Prices for these maps range between HK$2 and 10 (£1 = HK$11.5)

Books The Government publishes a Year Book which contains a description of Hong Kong as well as basic statistics and photographs: this is also available through HMSO, London. Among booklets only available in Hong Kong are titles on New Towns, Market Towns, Country Parks, typhoons and water supply; these are priced between HK$10 and 15. For lessons in urban land use and social segregation, the 1981 Census (Tertiary Planning Unit Tabulations, Kowloon and New Kowloon) is a valuable source of data. At HK$44 it is not cheap, but contains a 1:15,000 map of the districts and includes information on age, occupation, income etc.

A complete list is in the Government Publications Directory which is obtained from: The Government Information Services, The Government Publications Centre, Ground Floor, Post Office Building, Connaught Place, Hong Kong.

Whilst the list is free, air mail postage is about HK$5 and is advisable, as sea mail often takes 2 months. When ordering always state whether the English, or Chinese language version is required.

Philip G. Stimpson, University of Hong Kong School of Education.

8. Maybe the main importance of simulations is their effect on the social setting in which learning takes place. Maybe their physical format alone, which demands a significant departure from the usual setup of a classroom (chair shuffling, grouping, possibly room dividers, etc.), produces a more relaxed, natural exchange between teacher and students later on.
9. Maybe simulations lead to personal growth. The high degree of involvement may provide some of the outcomes hoped for from T-groups, sensitivity training, basic encounter groups, etc.

Simulation Game Design

In traditional social studies courses, decision-making opportunities that lead the student to an appreciation of his role in changing things rank high in the initial statements of objectives. But the translation of these objectives into appropriate learning experiences has rarely been evident. In simulation games design makes quite explicit the decisions to be made by each player, together with the concrete circumstances in which he will make his decision. This is good training for the citizen of tomorrow's world.

The first step in game design then is the identification of outcomes.[10] These outcomes are related to place, time, or function and so the identification of the bounds that mark the "where," "when," and "what" is the starting point in the process of analysis. The analysis begins by identifying the decision-making components such as government or individual citizens. Roles for players within each component are then spelled out. This includes the recognition for each role player of his goals, the way in which his decisions might affect the total outcome, the measure of success he can be expected to achieve, and the resources available to him. These items set the stage for significant decision-making, a stage that will represent a compromise between the reality being simulated and the degree of complexity permissible for the game.

The second step in design is the planning of the game in a step by step fashion. The relative importance of each role is stipulated. The possible interactions between players are tabulated, and these may be cooperative or competitive. The sequence of events is next determined either as a series of similar cycles or as a fixed number of moves. In this sequence the external factors must be taken into account. By external factors are meant those conditions such as weather, or behavior of people in other parts of the country, which are beyond the control of the players but affect the outcome. Often these external factors will be introduced by a throw of a die. As a final phase of game planning

a loss in population while the player who feeds his people more than 10

the physical factors are selected — a board for each player, one large board for a whole game, or simply paper and pencils.

Several experimental playings of a game are necessary to get the "bugs" out of it. Idle time for players has to be eliminated. Calculations that "drag" in the course of the game have to be simplified or speeded up. Rules have to be tightened up so that they are not likely to be misunderstood. Tradeoffs may have to be made between conflicting factors.

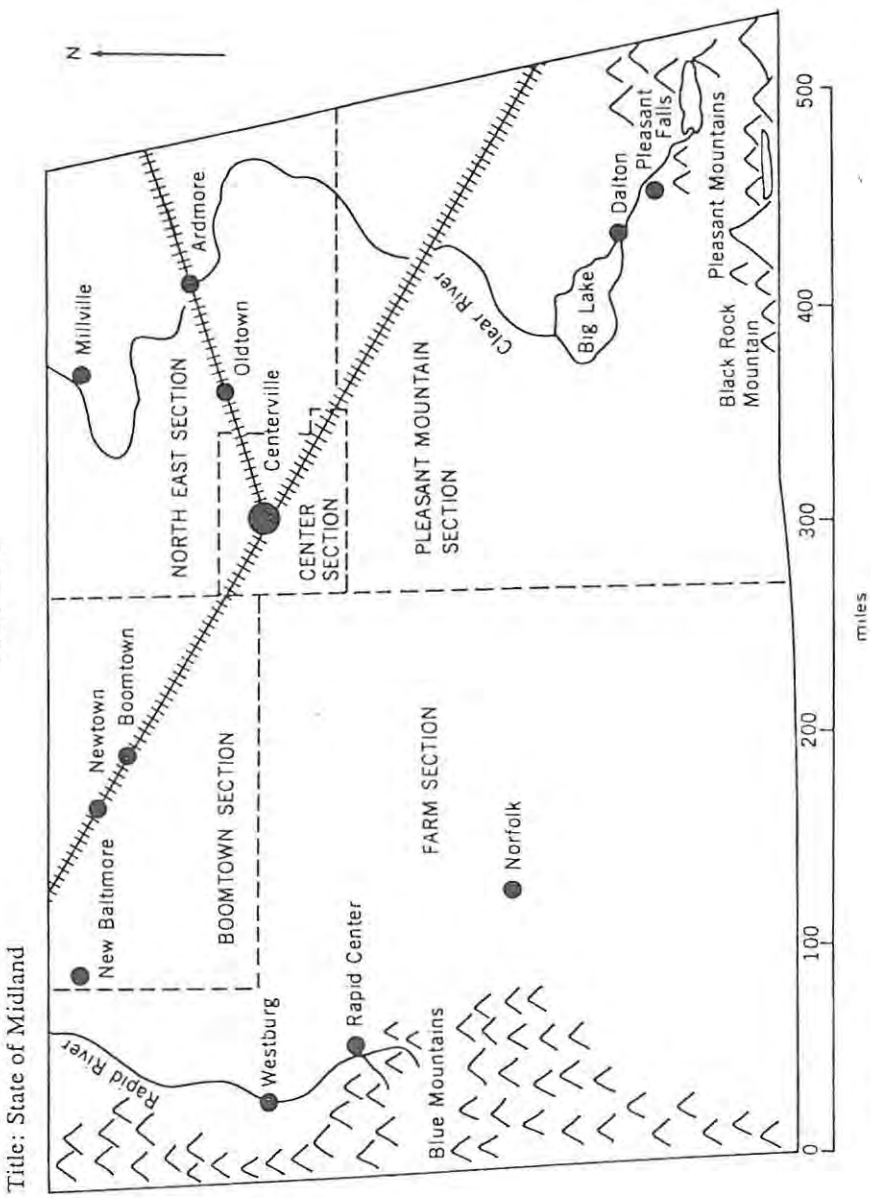
Concentration on one topic may be desirable for better understanding, even at the expense of comprehensive coverage of the theme. Dramatic phases of play may be necessary for stimulating interest even at the expense of calm discussion of serious topics. Indeed, because of the wide range of abilities and ages for which most games seem to be suitable, it may be highly desirable to make the game playable at several levels of complexity. This can be done by introducing a series of complications that make the game increasingly realistic for more experienced or more mature students.

Geographic Simulations

Section: A Simulation Game [11]

The game of *Section* was designed to provide students with an understanding of the conflicts of interests among the sections of a political territory as they are expressed in the political process. Regional competition occurs at two levels. First, there is political competition within each section because it includes people and groups of different social and economic interests. Second, there is political competition among sections, each expressing certain dominant interests. Only the latter competition is directly represented in the political arena.

So that students actually experience the pressures of conflicting interests at both individual and sectional levels, the game requires that students deal with each other as citizens of a hypothetical state, Midland, USA. Midland is a simplified representation of any state, composed of a capital, Centerville, and four sections: an agricultural section (Farm); a growing manufacturing section (Boomtown); a declining manufacturing section (North East); and an underdeveloped rural section (Pleasant Mountains). Each sectional team desires state aid for several improvements. Each individual within the section wants those improvements that he thinks will bring him the greatest personal benefit.



Title: State of Midland

FIGURE 1

The information necessary for play is provided through a regional scenario *(The Midland Gazette)* and role profiles. In the scenario, social and economic characteristics of each section are described and the needs of each section are indicated either implicitly or explicitly. The role profiles give each student a unique personality and outline his individual interests.

To emphasize regional political competition, *Section* focuses on the period just prior to a session of the state legislature that will allocate funds for public projects in the state on the basis of sectional requests. In the first phase of the game, the members of each section prepare a proposal requesting state funds for desirable projects. Several steps occur during this phase. First, each section member and his representative meet to identify sectional needs. Then, players are given an opportunity to communicate with members from other sections in order to define mutually beneficial projects. Next, students return to their sectional teams to prepare proposals under the leadership of their representatives. These proposals are then presented to the State Executive Committee by the political representative. The representative, then, returns to his constituents to discuss the tentative budget plan. If this plan is acceptable to the constituents, the representative will try to have the budget approved. If it is unacceptable, the representative will try to have it redrafted. No predetermined outcome has been built into the game.

In the second phase, the political consequences of the game are assessed. Each citizen will indicate his satisfaction or dissatisfaction with the approved budget by voting on a scale of points from one to ten for his sectional representative. The representative with the highest number of points is the winning representative. Simultaneously, representatives will vote on whether or not the Executive Committee should continue in power. Finally, a calculation will determine the winning sectional team. Rules for scoring procedures are given under Scoring. The game will conclude with a class discussion of the concepts learned during the playing of the game.

Guidelines

The estimated teaching time is seven days.

The classroom is divided into six sections in accordance with the following description, and the players should be assigned to the appropriate part of the room.

Spatial Injustice in the City : A Workshop Based on GYSL Material

Gary Hall

Allerton High School, Leeds

what do you feel?

Over the past few years the Leeds group of GYSL teachers have produced a number of locally based resources for the Young School Leaver Project. The success of the Young School Leaver Project has been due partly to the efforts of teachers' groups creating local resources to replace or supplement those materials published in the original packs. The resources presented here were introduced into the workshop and discussion centred on both the use of this and similar material and on the whole problem of teaching about Spatial Injustice.

Figures 26 and 27 are census data sheets, in the style of those contained in the published packs, for two areas of Leeds – Woodhouse and Alwoodley. Woodhouse is an old part of Leeds, to the north-east of the city centre, which still has some housing of Victorian age. Alwoodley is a newer suburban area of north Leeds, consisting mostly of post-war owner-occupied housing. The two census data sheets, when compared, show marked contrasts in housing quality and social well-being between areas of inner-city and suburban housing.

Figure 28 is a map of Leeds showing those areas of the city found to have serious problems of housing quality as determined from the 1972 Census. The areas of problem housing appear as a familiar "ring" pattern around and at a short distance from the city centre.

My school uses *Geography for the Young School Leaver* as its CSE syllabus, and also offers the Avery Hill O-level. The course topic "Cities and People" offers several opportunities for teaching about spatial injustice in the city. Different residential environments are studied and compared in Unit II; the problems and patterns of moving house is treated in Unit IV, as is the special problem of migrants in the city. Unit V deals with the problems of planning in the urban environment. In all of these topics, the concept of spatial injustice can be introduced and taught.

Spatial injustice may be defined as "the unequal distribution of material well-being in the urban environment". The resources reveal various aspects of spatial injustice as it occurs in Leeds, and many other British cities.

This topic is seen by many teachers and by some authors as being more sensitive than most, since it puts teachers in some schools into the position of confronting their pupils with the reality of their own economic or social deprivation. It is a topic which risks creating resentment among those pupils living in deprived areas, and might also appear to force teachers into the role of political agents teaching direct political action.

However several members of the workshop spoke of their own experiences of teaching this topic in classes in deprived areas, and were emphatic in their belief that this topic could be – and should be – presented in such schools. They reported no serious problems of pupil hostility to either the topic or to its implications for their circumstances. Success in presenting the topic in class does not appear to depend on where your school happens to be, but rather more on how the teacher handles the issue. The view was clearly held that tact and absolute honesty would work with the vast majority of pupils.

There are a number of sensitive topics which may arise in socially-oriented subjects (such as the GYSL syllabus) – Spatial Injustice in Cities is only one. It became clear in the workshop that these present opportunities for teachers to reach pupils at a level not always possible in less emotive topics – and that such opportunities should be welcomed. It is in teaching topics of social or political sensitivity that geography teachers can justify their role as educators; the development of understanding in our pupils of the social forces surrounding them is not only a challenge – it is a necessity if real learning is to occur.

Teachers interested in obtaining copies of the resources presented here, or any related resources on Leeds, can do so by writing to:

Mr T M Renwick
Regional Coordinator & Examinations Officer, GYSL,
41 High Ash Avenue
Leeds LS17

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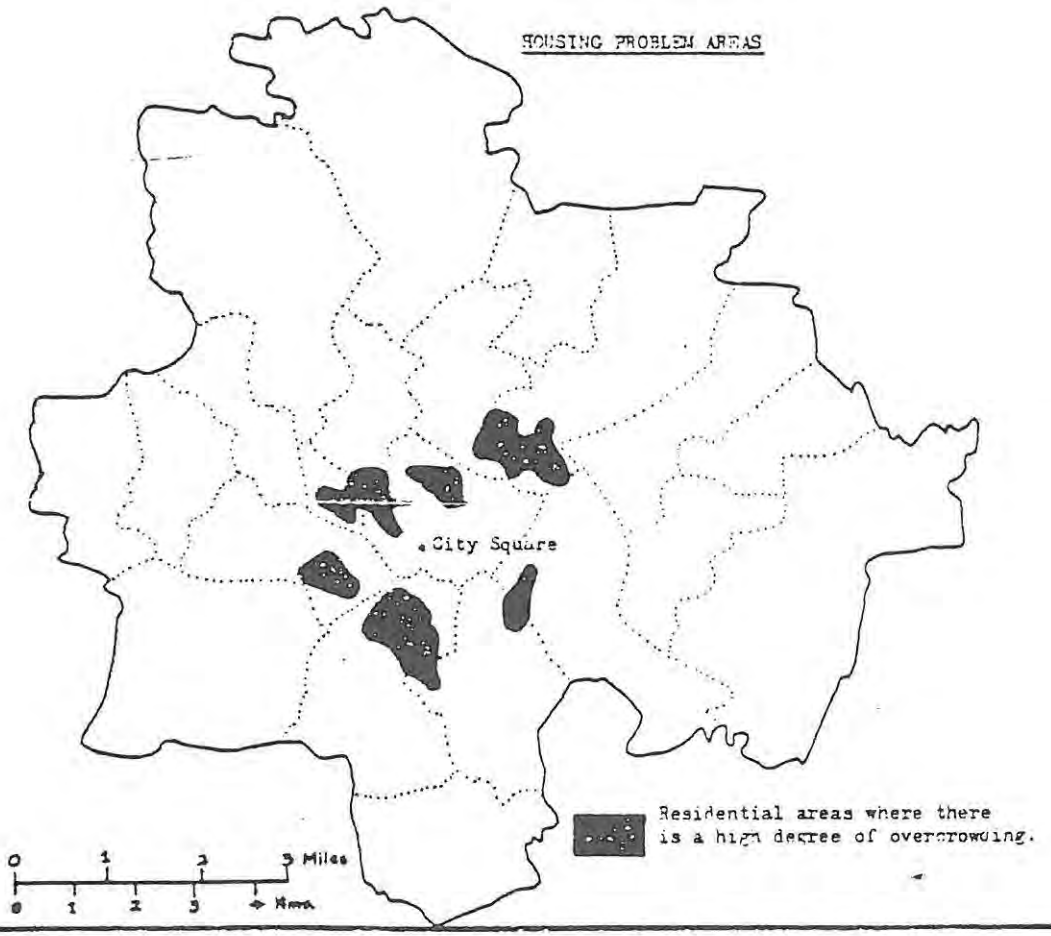
Housing Patterns – Leeds

Local component Unit 2 Part 17



The centre of the city consists of offices, shops and places of entertainment. Around the centre there are residential areas consisting of rows of old 2 and 3-storey dwellings, and, in some places, larger houses that were once the homes of wealthy people but which are now often divided into flats. This ring around the centre is an area of shabbiness which is gradually being replaced.

The outer parts of the city are mainly residential and open space with a great emphasis on semi-detached houses rather than terraces.

G. Hall. March 1975

Fig. 28. Sample of a resource sheet on housing problem areas
Source: Leeds GYSL Local Curriculum Development Group

THE RAINFOREST GAME

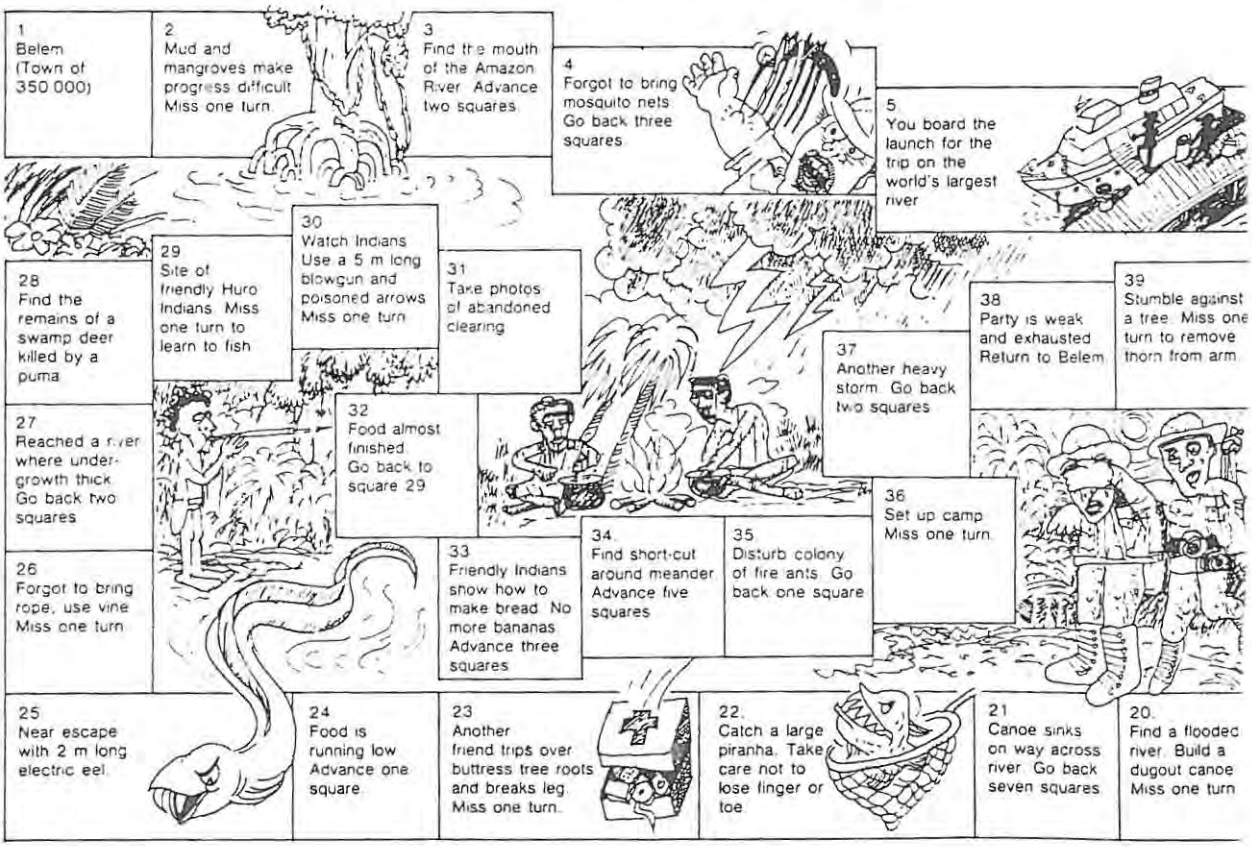
Introduction

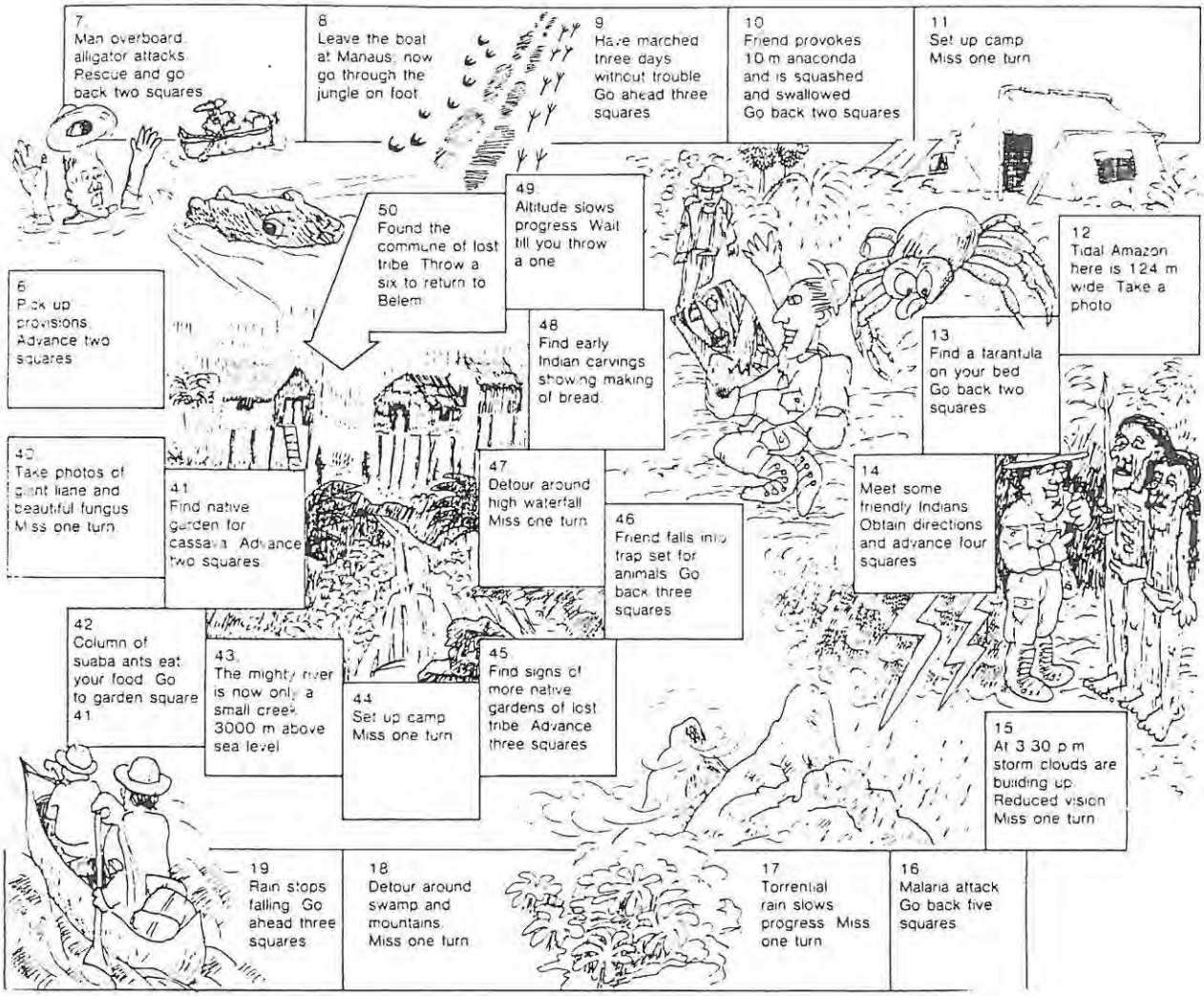
In this game, students 'explore' the Amazon Rainforest in the hope of finding a commune inhabited by a lost tribe of Indians.

Information

To start, each player must throw a 'five' or a 'six'. After starting, the players take turns to throw the die, following the instructions printed in each square of the game board reproduced below.

The first player to return safely to Belem after reaching the commune wins the game.




7
Man overboard alligator attacks Rescue and go back two squares
8
Leave the boat at Manaus now go through the jungle on foot
9
Have marched three days without trouble Go ahead three squares
10
Friend provokes 10 m anaconda and is squashed and swallowed Go back two squares
11
Set up camp Miss one turn
12
Tidal Amazon here is 124 m wide Take a photo
13
Find a tarantula on your bed Go back two squares
14
Meet some friendly Indians Obtain directions and advance four squares
15
At 3 30 p m storm clouds are building up Reduced vision Miss one turn
16
Malaria attack Go back five squares
17
Torrential rain slows progress Miss one turn
18
Detour around swamp and mountains Miss one turn
19
Rain stops falling Go ahead three squares
6
Pick up provisions Advance two squares
40
Take photos of giant liane and beautiful fungus Miss one turn
41
Find native garden for cassava Advance two squares
42
Column of suaba ants eat your food Go to garden square 41
43
The mighty river is now only a small creek 3000 m above sea level
44
Set up camp Miss one turn
45
Find signs of more native gardens of lost tribe Advance three squares
46
Friend falls into trap set for animals Go back three squares
47
Detour around high waterfall Miss one turn
48
Find early Indian carvings showing making of bread
49
Altitude slows progress Wait till you throw a one
50
Found the commune of lost tribe Throw a six to return to Belem

THE QUALITY AND AMENITIES OF MY HOME AREA

WHAT WE ARE TRYING TO FIND OUT

We are trying to find out what each of us thinks of our home area. Do we think that it is a "good" or "bad" place to live in? Most of us by now will have formed some idea about our home area and the type of amenities that are there.

THINGS TO DO

A. In your book put the side heading The Quality And Amenities Of My Home Area.
B. Write at least FIVE sentences to describe what your home area is like.
C. Look at the Environment Survey Table. It shows 10 things or features which should be found (present) in an area. Thinking of your home area, complete the following on the Table:

1. Fill in the name of your home area.
2. Give a grade for each of the features shown. The grades and their meanings are shown at the top of the Table.
3. Add up the grades and write the answer in the Total box.

D. Very carefully colour in the Pie Diagram to show your Environment Survey Total.
E. Answer the following questions. Write the answers out in sentences. Write the sentences out so that it looks and sounds like an essay.

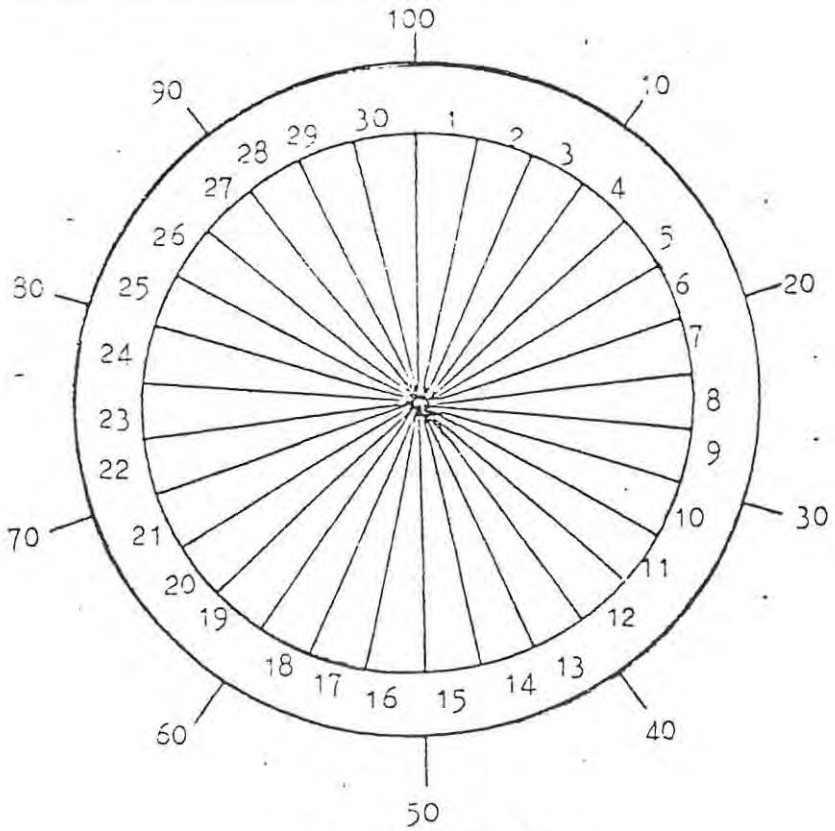
1. What is the name of your home area?
2. In which Borough is your home area?
3. Is the Borough of your home area in Inner or Outer London?
4. What were you trying to find out?
5. Before you could colour in the Pie Diagram what did you have to do?
6. How many features were used in the Environment Survey Table?
7. Why were three different grades used?
8. What was the highest Total which could have been scored?
9. If the highest Total had been scored what type of area would your home area have been?
10. The lowest Total which could have been scored was what?
11. If the lowest Total had been scored what type of area would your home area have been?
12. If the Total of 15 had been scored what would this have meant?
13. What was the Total which you scored?
14. Give your Total in a percentage (%) (Look at the Pie Diagram to help you).
15. What does your Total tell you about what you think of your home area?
16. Does your home area have any "good" features? (Look at your Table) What are they?
17. Does your home area have any "poor" features" What are they? In at least FIVE sentences try to explain how the "poor" features could be made better (improved).
18. You may not agree that the features on the Environment Survey Table are important. LIST FIVE things in order of importance that you think make an area "good" to live in.

ENVIRONMENT SURVEY TABLE

Give a grade for each feature:- 3=good ; 2=fair ; 1= poor .

NAME OF HOME AREA=_____	SCORE
a.Garden provision.	
b.Garage provision.	
c.Planned play areas for young children.	
d.Planned provision for elderly people.	
e.Appearance of area,e.g. no litter;rubbish;eyesores.	
f.Freedom from traffic noise and danger.	
g.Freedom from industrial activities, e.g.gasworks; railway sidings;factories; warehouses;etc.	
h.Amenities which help to create a communal atmosphere in an area.	
i.Open space,e.g.parks.	
j.The buildings are well looked after(in good repair).	
Very good = 30; very poor = 10. TOTAL	

ENVIRONMENT SURVEY - PIE DIAGRAM



AN AMENITY INDEX FOR MY HOME

WHAT WE ARE TRYING TO FIND OUT:

In the last study we worked out what we thought of the quality and amenities of our home area. That is whether we thought that they were "good" or "bad" places to live in. In this study you are going to try and find out if your home is in a good place or position to reach certain amenities of your home area. To do this all you have to do is to count out how many paces or steps it is from your home to the different amenities. As you do not all live in the same building or even in the same area the results should all be different. A LOW number for the Amenity Index means that your home will be in a good place (position) to reach the local amenities. A HIGH number for the Amenity Index means that your home will not be in a good place or position to reach the local amenities.

THINGS TO DO

A. This is to be written in on the Amenity Index Table For My Home:

1. Count the number of paces it takes from your home to reach the amenities that are listed in the Table.
2. Add up all the number of paces and write the answer in the Total box.
3. Divide the Total by 10 which is the number of amenities used. The answer will give you the AMENITY INDEX number for your home.
4. Write your answer in the AMENITY INDEX box.

B. This is to be written in on the Amenity Index Table For The Class:

1. Write the AMENITY INDEX number for every member of the class. Remember to write your own Amenity Index number down.
2. Work out what the AVERAGE Amenity Index number is for the class. Write the answer in the space.

C. In your book put the side heading "An Amenity Index For My Home".

D. Answer the following questions. Write your answers out in sentences. Write your sentences out so that it looks and sounds like an essay.

1. What were you trying to find out?
2. What did you have to do to work out the Amenity Index?
3. Why did you have to find out the Amenity Index for the rest of the class?
4. What was the average Amenity Index for the class?
5. How many pupils scored more than the average?
6. What was the highest Amenity index number that was scored? What does this mean?
7. How many pupils scored below the average?
8. What was the lowest Amenity Index number that was scored? What does this mean?
9. What was the Amenity Index number that you scored? Where did it come in the class?
10. Is your home in a very good, good, fair, poor or very poor position to reach the amenities?
11. Try to explain why the Amenity Index numbers are not all the same.

AMENITY INDEX TABLE FOR MY HOME

AMENITY	NUMBER OF PACES
1. Park or playing field	
2. Telephone box	
3. Bus stop	
4. Railway station	
5. Supermarket	
6. Chemist	
7. Public house	
8. Primary School	
9. Newsagent's shop	
10. Church or Chapel	
TOTAL NUMBER OF PACES (STEPS)	
AMENITY INDEX	

AMENITY INDEX FOR THE CLASS

NUMBER OF PUPILS	1	2	3	4	5	6	7	8	9	10
AMENITY INDEX										

AVERAGE AMENITY INDEX OF THE CLASS = _____

APPENDIX 13

Report on Teaching Units by Fieldworkers

1 Time available to do the work.

2 Number of pupils in the class.

3 Size of the classroom.

4 Absence of learning aids - particularly maps.

5 Topics themselves.

6 Pupils' ability to use English.

1 Time available

Time taken to teach the units was not enough. To arrive at satisfactory results of the research a period of at least four weeks, I would suggest.

2 Number of pupils in the class taught

Pupils were initially more than sixty. This figure alone posed some difficulties in dividing groups, providing some reading material and providing opportunities for full participation. The period during which the research was carried out was registration period, thus the number of pupils in class gradually and constantly increased. This affected the filling in of questionnaires because some had missed first lesson/s.

3 Size of the classroom

High numbers of pupils in the classroom simply reduced space, as a result arranging furniture properly to suit the method to be used became difficult, though it was possible to arrange in spite of the problem.

4 Absence of learning aids - particularly maps

Maps drawn on charts were used instead of actual maps which have more advantages and are much more accurate.

5 Topics themselves

The topics done were well chosen because they spread over the syllabus and were suitable to easily incorporate values education. The problem could be that they were much too general, particularly 'Renewable and Non-renewable Resources' and 'Developing and Developed Countries'. I say they were general in the sense that they may only serve as an introduction to a certain specific concept, more especially if you are to play a game at the end of the lesson.

6 Pupils' ability to use English

When undertaking a simulation game, speaking problems arise. Pupils need to be engaged in the practice more often to get used to using some English words so as to let the game continue. Mastering this ability would make them feel free and enjoy every geography lesson. This is one of the problems I encountered sometimes. I had to allow pupils to express their feelings in their mother tongue.