

EFFECT OF TEACHING AND LEARNING
RESOURCES ON GEOGRAPHY PERFORMANCE
AT K.C.S.E. LEVEL IN KISII DISTRICT
THE CASE OF GETEMBE DIVISION

BY

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A RESEARCH PROJECT REPORT SUBMITTED TO THE DEPARTMENT OF
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REQUIREMENT FOR THE AWARD OF POST GRADUATE DIPLOMA IN EDUCATION.

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DECLARATION

This research report is my original work and has not been presented for a degree or a diploma award in any other university.

Ogonyo yakundi

30/9/96

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DECLARATION BY SUPERVISOR

This research project has been submitted with my approval *however all the typographical errors should have been corrected*

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97/34 909

DEDICATION

To my parents Nyakundi Nyakundi and Rebecca Moraa Nyakundi
for having taken me to school.

ACKNOWLEDGEMENT

I am very grateful to all who guided and gave me assistance in coming up with this report.

First, I would like to thank the Headteachers, and Geography teachers of Nyabururu, Kereri and Nyanchwa schools for providing me with the necessary raw data while carrying out my research.

Secondly, I would like to thank my research supervisor Dr. Hellen Sambili, for her tireless efforts in providing constructive suggestions and guidance at various stages in writing this research project report.

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Last but not least, I would like to thank my P.G.D.E. colleagues 1995/96 academic year for their cooperation and assistance.

ABSTRACT

Secondary schools in Kisii District have been performing poorly in the Kenya Certificate of Secondary Education. There has been no research to determine the performance of geography in the district despite the deteriorating standard. The aim of this research project was to analyse the effect of teaching and learning resources on Geography performance at KCSE level.

Chapter 1 dwells on the importance of Geography in the school curriculum and the justification of the use of audio-visual aids in the teaching learning process of Geography. Attention has been paid ~~to~~ on how we learn, remember and retain information. The role of the teacher has also been underscored.

Chapter 2 looks at related literature that has been written on the role of the teacher in the school and the learning resources available in the learning/teaching of Geography.

Methods of collecting and analyzing data are discussed in chapter 3. A survey based on EX post facto was carried out and the population consisted of all secondary schools in the district all of which were selected by clustered sample. Data was collected using three types of research instruments: Interview schedule, questionnaire "C" for Headteachers, questionnaire for headteachers and questionnaire for form three and four Geography teachers in the sample schools.

Results and the Discussion based on research questions is presented in chapter 4. In this chapter, adequacy of personnel is discussed in the light of teacher-student ratio and teacher workload/week. Quality of personnel involved in the teaching and learning of Geography focuses on: Academic qualification, percentage of professionally trained and untrained personnel, working experience among others. The adequacy of learning resources and performance in geography at KCSE level in the sample schools is also considered.

According to conclusion in chapter 5 there was found to be a strong relationship between resources and academic performance. It is recommended that schools should try to have and retain professionally trained personnel, adequate learning resources, have resource centres and that field-study should be encouraged for better performance.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

Geography is one of the subjects examined in the Kenya certificate of secondary education and carries equal weight like any other subject when it comes to entry into university or any other institution of higher learning.

UNESCO (1965), asserts that everyone, however, ill educated wants to know more about his domain and of all school subjects Geography is the only one that can give him a picture and an explanation of it which meet the exigencies of a life the horizons of which are limitless. Thus

"The highest form of education is that which is not confined to imparting knowledge but which brings our life into harmony with all existence"

Ogonda (1988) observes that the teaching of geography makes students think. This is the most useful advantage of academic geography. With the present emphasis on problem solving approach in geographical studies, students are enabled to develop a critical attitude which enables them to examine all statements and available data on the basis of reasoning and logic. What we need in Kenya today, more than anything else are people who are original in thought and action. Such people should be able to react to different situations and use the acquired knowledge in an original and modified form.

The study of Geography contributes to the development of a range of general skills such as observation skills, skills in synthesizing, skills in interpretation and skills in recording. Some of these skills are unique to Geography for example graphicacy (map reading). Closely related to graphicacy are the skills of picture study and interpretation. To acquire these skills Geography is studied through symbols such as sounds or signs which represent the real world. These includes maps, diagrams, statistics and most of all, words. Geography teachers should ensure that the symbols they use have meaning for the students in terms of the real world and do not remain just symbols.

The most effective teaching aids are those which enable the students to translate geographical facts and concepts into visual images. Verbal presentations backed by suitable illustrations, where appropriate, has the merit of two forms of presentation, each one supporting the other. It can therefore, generally be said that visual perceptions are more powerful than sound perceptions, but a combination of the two can also be very effective in promoting students learning

The potential usefulness of visual aids is emphasized by many education scholars such as Jacinta and Regina (1980), Mukwa and Otieno Jowi (1988). For example Jacinta and Regina (1980) have said that one of the purpose of visual aids in teaching is that of focusing the pupils' interest and attention and results in greater understanding and longer remembering of what has been taught.

In addition Mukwa and Otieno Jowi (1988) have emphasized the great potential of visual aids in enhancing understanding and recall among pupils by saying:

"students understand and retain more of what they see than of what is presented through other senses"

Furthermore psychologists say that we learn 11% through hearing and 83% through sight. Apparently we remember 20% of the information of what we hear, 30% of what we see, 50% of what we see and hear, 80% of what we say and 90% of what we say and do. Therefore learning is an active process and learners should be actively involved. The use of visual communication is highly recommended for teachers in all disciplines.

For meaningful and effective learning to take place the role of the teacher as a facilitator cannot be underestimated. Ayot and Patel (1987:207) maintain that the teacher cannot force a student to learn, but he can help him by creating a suitable atmosphere for learning. The student's mind should be captured by the teacher's presentation, which must continually uphold and sustain the student's interest. The art of teaching and skill in delivering information such as set induction, stimulus variation and the questioning technique if used appropriately will, no doubt cause the student to develop an interest and his learning ability will improve with time especially when the teacher himself is enthusiastic about the subject and is seriously involved with his teaching.

If the subject is difficult, it is the responsibility of the teacher to break it down into simple sequences which can easily be understood by students starting with the simplest and leading to increased complexity within the subject.

However, according to Banaars, Otiende and Boisvert (1995:225) some of the experienced teachers have been accused of never using teaching aids in their lesson. New graduates lose interest in the uses of teaching aids because their older colleagues do not use them. Many teachers like to talk all day long. Students become too bored to listen. Some teachers enjoy talking and even punish students who doze when they are teaching. Teachers should not only rely on words to explain ideas, facts and concepts. The use of teaching aids makes teaching both lively and interesting to the students.

So far, no research has been carried out to determine the performance of Geography in the Kisii District despite the falling standard of performance at Kenya certificate of secondary examination. The poor performance has been largely attributed to inadequate teaching and learning resources. This has not been established scientifically to be the cause of the poor performance hence the need to study the effect of teaching/learning resources on performance in Geography at KCSE in Kisii District with particular reference to the Getembe Division.

By and large the teacher's ingenuity, stimulated by his desire to teach Geography properly will enable him to take best advantage of the local circumstances, improvise appliances and ways of using them and secure the cooperation of his pupils.

1.2 Statements of the problem

In Geography particularly under the 8.4.4 system of education emphasis is laid on the acquisition of geographical skills and since Geography is a study of the real world it should always be studied in the real world and students should visit all places they learn about. Since this is not always possible, Geography is studied through symbols which include maps, pictures, photographs, diagrams, statistics and most of all words. Geography teachers should ensure that the symbols they use have meaning to the students in terms of the real world and do not remain just symbols. This can only be realised if there are sufficient teaching/learning resources.

Similarly performance in Geography affect the examination results which are very important in selection, placement and promotion. The adequacy of resources may be affected by their availability, utilization and student enrolment in schools.

Therefore the study tried to investigate whether there is a relationship between teaching/learning resources and performance in Geography at Kenya Certificate of Secondary Education in the sampled schools.

1.3 Purpose of the study

The purpose of this study is to investigate the extent to which teaching/learning resources affect the performance of Geography at the K.C.S.E. It is hoped that the study would provide information that could be used in schools in facilitating the teaching/learning process hence improvement of performance in Geography.

1.4 Objectives of the study

The specific objectives of the study were:-

- (i) To find out if the schools have adequate personnel involved in teaching/learning process of Geography.
- (ii) To find out the level of qualification and teaching experience of Geography teachers in the sampled schools
- (iii) To find out the status of enrolment in relation to the available teaching learning resources in Geography.
- (iv) To find out the performance of Geography in the sample schools.
- (v) To find out the teachers' view on the status of teaching/learning resources in their respective sample schools.

1.5 Research questions

The following questions were intended to act as a guide in trying to achieve the above stated objectives.

- (a) Do the schools have adequate personnel involved in the teaching and learning of Geography?
- (b) Is the personnel involved in the teaching and learning of Geography professionally qualified?
- (c) Do the schools have adequate teaching/learning resources?

- (d) What has been the performance in Geography in the sample schools in the last four years?

1.6 Significance of the study

The study was carried out with the hope that it would help teachers become aware of common teaching/learning resources in Geography and provide insights to the school administrators to take seriously the provision of adequate teaching/learning resources as well as to make the necessary adjustments of pupils' enrolment vis a vis the available teaching learning resources in Geography in order to improve performance in Geography.

1.7 Limitation of the study

All secondary schools in Kisii District offer the discipline of Geography in their curriculum. The schools are dispersed throughout the District, therefore, to visit all of them needed more time and funds which the researcher lacked. As a result the study was limited only to three sample schools.

Furthermore the research was carried out in the first three weeks of November 1995. During this period schools were doing end year examinations, others were holding parents days' and the Kenya certificate of secondary examination were on. These activities made school administrators and teachers very busy that they took time to attend to me after booking appointment with them.

Similarly in one of the initial sampled schools the headteacher refused to allow the researcher to collect data from his school with an excuse that the researcher did not have clearance from the Ministry of Education.

CHAPTER TWO

2.0 LITERATURE REVIEW

The following literature relates to work and studies that have been carried out concerning teaching and learning resources used in teaching/learning process of Geography in schools. The study is divided into personnel and non-personnel resources.

2.1 Teaching personnel/learning resources

According to Ayot and Patel (1987) teaching is a dynamic process where one person (a teacher) passes (intentionally) some information (about an object, a person, a process or a skill) to another person or persons (his/her pupils). Learning is said to have taken place when a learner achieves mastery of performing certain acts as a result of systematically organized practice programme.

A teacher, therefore derives his title from the act of teaching. Hough and Duncan (1970) define teaching as an activity.

"a unique professional, rational and humane activity in which one creatively and imaginatively uses himself and his knowledge to promote the learning and welfare of others".

The teacher, like any other professional gives his services in the capacity of one who has specialized knowledge and skills. Teaching facilitates the acquisition of knowledge, skills and attitudes in students that help them function effectively in the society. It influences people's behavior, helps them to behave in new ways according to their unique characteristics, their evolving values and ideals and to understand how these values and ideals relate to those of the larger society.

Shiundu and Omulando (1992) assert, the teacher who accepts his responsibility will act as a catalyst or agent of change. However, teachers should not assume that they have to change students' behavior wholesale. At times they will have to accept students values and even strengths as well as integrate these natural characteristics in students during the act of teaching.

Das (1985) argues that

"The learning effect may vary depending upon the teacher's personality, teaching ability and teaching/learning environment. The behavior pattern of the teacher and his overall approach and treatment of students determines whether the learner can motivate or not.

Therefore the teacher plays a crucial role in trying to motivate learners so as to arouse and sustain their interest in the learning of Geography.

Despite the important task bestowed upon teachers, even professionally qualified teachers with many years of experience have been affected by factors such as not attending any refresher courses or seminars. As a result when the 8.4.4 curriculum was introduced in secondary schools, many trained teachers were ill prepared in content and instructional approaches needed by the new curriculum. Some old teachers in the profession are very conservative and resist changes and innovations. Such teachers have not helped much in implementing the new curriculum which has many changes compared to the old one. These conservative teachers still uphold the old subject-matter centered approach instead of the recommended child centered approach. The later approach is the most effective method of teaching Geography whose laboratory is the environment (Ayot and Patel, 1972).

Shiundu and Omulando (1992), adds that the teaching profession is characterized by mobility and this results in some classes remaining without teachers for long period of time. This mobility is caused by personal factors like married teachers joining their spouses or families, lack of accommodation in some schools and health problems. Economic factors such as high cost of living in some areas and lack of social amenities in other areas make the teachers to seek for transfer. In other cases, professional growth and individual desire to move from poorly equipped schools to well equipped ones may cause problems of understaffing in some schools. The schools affected may not get a replacement at all and if they get it usually too late and the coverage of syllabi may not be possible. The mobility though necessary affect the performance of geography negatively. It has been observed that the profession has one of the highest exodus of mostly young recently trained and recruited personnel (Shiundu and Omulando, 1992). Among the Kenya government departments, the teachers move to the civil service, parastatals, private sector and non-governmental organizations where the pay is better. This partly has to do with low salaries, poor careers prospects. Alternatively teachers in Kenya have to engage in other activities like business, coaching children for examination or managing small holdings, such activities will obviously

interfere with their educational activities and duties. Hence performance will be affected negatively.

Furthermore the teacher has a very important role to play in evaluation. Shiundu and Omulando (1992) note that the teacher is closest to the learners and has to constantly find out their performance. He can do this by means of the formal methods of giving tests and examinations. Classroom teachers can also participate very actively in the construction, administration and making of external examinations set centrally. However some teachers view evaluation as a formality and purely for administrative purposes. Such teachers evaluate their students or keep progressive records because their headteachers demand for such exercise to be undertaken after a certain period of time. In such cases, the progressive records are rarely used by teachers and are kept in case they are demanded by school inspectors.

2.2 Learning resources

Geography cannot be taught adequately without the use of visual aids. Infact it might be said that a Geography lesson taught without the use of illustrative materials is not a Geography lesson at all. This is because Geography deals essentially both in space and time, with areal characteristics of places are mappable. If we restrict our teaching to verbal communication alone, much of the students learning will consist of gross misconceptions of spatial principles and concepts.

On the whole proper use of audio-visual aids should make the learning of Geography more fruitful and more effective. It has been found out that about eighty five percent of the knowledge is gained through the sense of sight. We often use well known phrases like "Things seen are mightier than the things heard" or "one picture is worth a thousand words". These only emphasis the importance of the visual aids to teaching.

UNESCO (1965) argues that in its descriptive aspect, geography must be regarded as a science of observation. Thus for distant regions which cannot be viewed physically, observation is none the less fundamental, but it will be carried out with the help of teaching aids such as photographs, drawings, maps, globes and diagrams. By making his pupils carry out this kind of observation exercise, the teacher will develop their critical facility and teach them to look at things with discernment, not to admire blindly but to think out everything for themselves in terms of the knowledge they already have in a world, to react to phenomenon.

Pupils visual memory is developed by making him/her learn

geographical terms in their precise context in sketches, wall-maps or Atlases. Geography teaching does also much towards developing imagination starting from the pictures he has seen, the narratives he reads and his teachers descriptions and explanations. The child is led on naturally to form a mental image of the world, though that image must of course be guided towards the concrete to avoid exaggerations or irrational fantasies.

Coppen (1986: 33) observes that

"... the more varied the forms of presentation, the greater the likelihood that the needs of each individual will be met and that the greatest number will respond. It can be fairly claimed that a varied approach to teaching is more effective"

The teacher's task is therefore to decide what material is most appropriate for the learning situation in the classroom.

For meaningful and affective learning to take place facilities, equipment and teaching aids should be provided. According to Bishop (1985)

"a teacher with better facilities of teaching is more confident, effective and his professional capabilities are more fully utilized resulting in high productivity."

Jacinta and Regina (1981) writing about visual aids in their book "Primary Methods Handbook" gave the following as purposes of using visual aids in teaching:

- (a) Showing the basic structure of a concept. The use of graphs and diagrams may clarify concepts.
- (b) Focusing pupils interest and attention. The sue of visual aids might probably lead to discussion, that is, pupils involvement and further reading.
- (c) Integrati~~on~~ scattered understanding into new generalized idea. Films, filmstrips, pictures, photographs and printed materials and objects would help to do this.
- (d) Turning conceptual patterns into language charts and diagrams are used to explain some problems.
- (e) Explaining relationships. Field trips, educational

visits and tours. Films and picture, all help to give reality an separate learning and correlated subjects.

Aids of all sorts are meant only to help in teaching and not to act as substitute for teaching nor to replace the teacher. Aids make teaching realistic and effective. The effectiveness of the sue of aids depends upon the ingenuity and skill of the teacher who has to examine the necessity and suitability of the aids. The most effective teaching aids are those which enable the students to translate geographical facts and concepts into visual images. Verbal presentations packed by suitable illustrations where appropriate has the merit of two forms of presentation, each one supporting the other. It can therefore, generally be said that visual perceptions are more powerful than sound perceptions, but a combination of the two can also be very effective in students learning.

The teaching and learning of Geography can be enriched and made more effective in its impact on their pupils if the following minimum equipment are provided.

TEXTBOOKS:

Each pupil should have his own copy of the textbook prescribed by the school authorities, as it ensures his having information and explanation in permanent form and makes it possible for him/her to do his personal work effectively in his own time. Thus Oganda (1988) says textbooks fill in the gap in information not delivered by the teacher in class.

Bishop (1985) adds that "Reading books and writing material are the first equipment priority." So there is need to have adequate class textbooks for students and reference books for the teacher.

CHALKBOARD

Igaga (1988) asserts that chalkboard reinforces understanding because when he/she does not hear clearly something said by the teacher, he/she has a chance to see it on the chalkboard. The pupil also has an opportunity to learn at his own pace material written there. Good chalkboard arrangement can increase its effectiveness. Coloured chalk can greatly improve the appearance of a diagram on the board. It is important for the teacher to find out the most effective chalk colours.

PICTURES

Long and Robertson (1966) make clear statements in support of the use of pictorial material and emphasize the importance of stimulus provided by them. The pupils should be encouraged to study the pictures and find answers for themselves as this will help them to increase their power of observation and interpretation.

SPECIMEN

Ogonda (1988) notes that the use of real objects as they exist in their natural environment/surrounding makes the teaching of Geography more real than when pictures or sketches of the objects are used. Specimen can be collected by the students themselves during fieldwork or the Geography teacher can keep a collection of specimen relevant to his teaching. These should include agricultural products, manufactured goods, rocks of different types and minerals.

MODELS

Long (1974) asserts that the value of models as teaching and learning aids can readily be appreciated if one remembers that a model simply abstracts the essential vital features from reality. It removes "noise" from the learning situation and building a model involves the student in analytic thinking.

Stewart (1976) says a word on the strengths which models are held to have in Geography teaching is they make the choice between "relevant" and "irrelevant" much easier by limiting attention to a small number of items. They provide mental structures which pupils as they move up through the school, should be able to recognize at different levels of complexity. They encourage an awareness of arrangement and system which should facilitate transfer from one spatial setting to another.

ATLASES

Long (1974) states that atlases have three main uses in Geography teaching

- (a) For reference, largely to locate places names which the pupils come across in class and at home.

- (b) To study distribution e.g. of population, rainfall, land and forests.
- (c) For general study, to gain some overall impression about a country or a region.

TERRESTRIAL GLOBE

UNESCO (1965) notes that the terrestrial globe is the only representation on the earth in which there is no distortion. As far as possible, a globe should be used to show true forms, proportions and distances. Furthermore the globe is essential in illustrating the oneness of the world and to teach pupils what meridians and parallels are and why there are differences in the time of the day.

From the above it follows that teaching is more effective if it is planned in such a way that the learner uses several senses, learning through multisensory experiences. Audio-visuals and mechanical aids make learning easier, more effective and longer lasting. Besides the above learning resources, others which can be used include photographs, charts, television and radio.

In conclusion there is a need to integrate personnel and non personnel teaching resources. This is because both are means to an end but not an end in themselves. With proper management and regular evaluation of these resources, academic performance in Geography can be improved.

CHAPTER THREE

3.0 METHODOLOGY

A survey of three schools in Getembe division of Kisii District was carried out to explore and describe the effect of teaching learning resources in the performance of Geography at Kenya certificate of secondary examination. The survey was based on Ex post fact design. The researcher used the previous four years results in Geography to describe the relationship between learning resources vis a vis Geography performance at K.C.S.E. The instruments used to aid data collection included an interview schedule for headteachers and questionnaires for form three and four Geography teachers.

3.1 Population and sampling

The population consisted of all secondary schools in Getembe Division of Kisii District. The Division has a total of eight secondary schools and the rest are privately sponsored secondary schools. Due to the above mentioned distinction the research was based on probability sampling whereby cluster sampling was used to collect the sample schools. Which included all the provincial secondary schools. However, in one of the sample schools the headteacher was uncooperative and therefore the researcher remained with a sample size of three provincial secondary schools. The three provincial secondary schools sampled were: Nyanchwa mixed, Nyabururu Girls and Kereri Girls.

3.2 Research instruments

The tools used to collect data included an interview schedule for the school headteachers and two types of questionnaires for headteachers and for form three and four geography teachers.

Interview schedule for Headteachers:

The interview schedule was administered by the researcher and the respondents were the headteachers of the secondary schools in the sample. It dwelt mainly on the cooperation of PTA and BOG when it comes to purchase of teaching and learning resources.

Questionnaire for Headteacher:

This type of questionnaires were completed by the Headteachers of the sampled schools. It dwelt mainly on teaching and learning resources and especially on the number of teachers, admission and enrolment of students, turnover rate of teachers and students in the schools and on the availability and adequacy of textbooks.

Questionnaire for form 3 and 4 Geography Teachers:

This type of questionnaires were completed by form three and four geography teachers of the school in the sample. The questionnaires dwelt mainly on the status of the teaching and learning resources available for Geography, mode of assessment, enrolment in form three and four, planning of teaching and a section dealing with academic performance for the last three years including the 1995 mock results.

To ensure that the questionnaires were of good quality face validation was done. The questionnaires were given to the project supervisor, whose suggestions were given to the project supervisor, whose suggestions were incorporated in the final draft of the questionnaires.

3.3 Data collection procedures

The researcher conducted an interview in person with the Headteacher of the secondary schools in the sample. He also took the questionnaires to the sample schools. After the questionnaires were completed, they were collected from the sample schools for data analysis. Data collection was done between 10 through 24 November, 1995.

3.4 Data analysis

The data collected using the interview schedules and questionnaires was analyzed and tabulated in such a way that it would assist in answering the four research questions in the research projects. The methods used in data analysis ~~was~~ *were* descriptive statistics involving tables and interpretation of the questionnaires. Therefore, the data dealt with:

- (a) Adequacy of personnel involved in teaching and learning of Geography.
- (b) Quality of personnel involved in teaching and learning of geography
- (c) Adequacy of learning resources used in teaching and learning of Geography
- (d) The performance of Geography in the last four years in the sample schools.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

The data collected for the research project was analysed and interpreted on the basis of the four research questions.

4.1 Adequacy of personnel involved in the teaching and learning of Geography

The personnel referred to in this section are the Geography teachers. The adequacy of geography teachers (Table 1) was determined by calculating.

- (a) Teacher-student ratio in form four (1994)
- (b) Average teacher workload/week.

TEACHER STUDENT RATIO (1994)

This was obtained by dividing the total number of form four students doing Geography in the school in the year 1994 with the number of teachers teaching the subject. The teacher student ratio was supposed to show the student turnover per teacher in Geography and the availability of accessibility of teachers to students particularly for remedial work.

AVERAGE TEACHER WORKLOAD/WEEK

This was arrived at by taking the total number of lessons involved in teaching per week. Lesson workload/week was a guide on whether teachers are overworked in schools or not. The workload also indicated the time available for teacher to prepare lessons, guide and offer remedial assistance to pupils/students.

TABLE 1

TABLE SHOWING ADEQUACY OF PERSONNEL AND 1994 KCSE ACADEMIC PERFORMANCE

	NYABURURU	KERERI	NYANCHWA
NUMBER OF TEACHERS	1	1	1
NUMBER OF STUDENTS	47	110	63
TEACHER: STUDENT RATIO	1:47	1:110	1:63
AVERAGE TEACHERS' WORKLOAD/WEEK	Less 15	Less 20	Less 20
1994 KCSE MEAN GRADE	7.38	5.10	5.32

Source: FORMULATED BY THE RESEARCHER OF THE PRESENT STUDY.

It can be noted that secondary schools with high teacher-student ratio generally performed better than those with a low teacher student ratio in Geography.

Nyabururu High School showed a higher teacher student ratio and therefore their academic performance in the same subject was high as can be deduced from the 1994 KCSE Geography performance. It was therefore, not surprising that Kereri High School and Nyanchwa High school with a low teacher student ratio, their academic performance in the same year was relatively low. It should be noted that although Nyanchwa High School had a higher teacher student ratio compared to that of Kereri High School, the later performed better in the same year. This can be attributed to the adequacy of learning resources which is higher at Kereri than at Nyanchwa (Table 3)

Schools with low average workload per week should have better performance than those with high workload. Therefore a school like Nyabururu High School which had the least average workload/week for form three and four Geography teachers (less than fifteen) had also the highest mean grade. On the other hand Kereri and Nyanchwa which had an average workload/week for form three and four Geography teachers for more than fifteen lessons/week registered low mean grades comparatively (Table 1).

Those schools with high teacher: student ratio and low workload meant that the interaction between teacher and students was reasonably high. Therefore, teachers were able to give students individual attention and probably remedial instructions. In such schools, students' individual differences could be

catered for adequately. But this individual interaction between students and teachers was minimal and therefore, inadequate in the schools with low teacher: student ratio and where teachers were overworked.

4.2 Personnel qualifications

The qualification of teaching staff was analysed by considering:

- (a) The highest level of academic attainment
- (b) Average teaching experience
- (c) Number of external examiners in a school. This was the number of teachers involved in marking of Geography at KCSE.

TABLE 2

QUALIFICATION OF TEACHING PERSONNEL FOR FORM THREE AND FOUR IN SAMPLE SCHOOLS

TEACHER QUALIFICATION	NYABURURU	KERERI	NYANCHWA
Graduate trained	2	1	1
Diploma/SI	-	1	1
Untrained Graduate	-	-	-
High School Teacher	-	-	-
Average teaching experience	Above 10	Above 5	Above 5
% Trained teachers	100%	100%	100%
%Untrained teachers	-	-	-
No. of external examiners	1	-	-

SOURCE: FORMULATED BY THE RESEARCHER OF THE PRESENT STUDY.

Table 2 shows that the qualification of personnel involved in teaching and learning of Geography in the schools played an important part in academic performance of the schools involved.

As for the academic qualifications, Nyabururu High School had the highest number of teachers with high academic qualifications. Kereri and Nyanchwa had all trained but of

different academic qualifications. Nyabururu had only graduate and diploma Geography teachers (Table 2).

According to data on teaching experience, Nyabururu High School had teachers with average teaching experience in Geography of more than ten years. However, in Kereri and Nyanchwa the average teaching experience in Geography was ranging between five and ten years. Long teaching experience in the Nyabururu and involvement of the Geography teachers in seminars could have enhanced teaching.

It also happens that in Nyabururu High School one teacher was involved in the marking of Geography at KCSE. For Kereri and Nyanchwa, there were no teachers taking part in the exercise. Therefore, long teaching experience and having an external examiner seemed to boost the academic performance of Nyabururu High School. This is because such teachers are conversant with how external examinations are set and marked particularly at KCSE. As a result they are able to assist their students on how to answer examination questions in a better way. The academic performance of Kereri and Nyanchwa was comparatively low to that of Nyabururu because probably their teachers were not external examiners.

4.3 Adequacy of learning resources

This section dealt with the availability and adequacy of learning resources in Geography in the sample schools. The resources under consideration included, chalkboard, textbooks, atlas, terrestrial globe, wall maps, models, statistical graphs, projected pictures, specimen, television, radio, magazines, journals and newspapers. Special attention was paid on the quality of chalkboard and availability of textbooks.

The quality of chalkboard was described as 90% good in all schools surveyed. Teachers write new terms on the chalkboard, each point observed, explained and assimilated is thus associated with a word which the child's mind will record all the better for having his visual memory brought into play. The teacher constantly drawing on the chalkboard will convince pupils that they should themselves learn to draw. Some of the complicated diagrams are simplified once drawn on the chalkboard thus bringing our essential features and this hastens understanding.

Table 3 revealed that textbooks were available in all schools surveyed. Nyabururu recorded 80% adequate, Kereri 60% adequate and Nyanchwa 40% adequate. Textbooks ensure that the student has geographical information and explanations in printed form to allow him to do his own personal work and to fill in the gap in information not delivered by the teacher in class.

The most popular textbooks used in the secondary schools were those written by KIE or Geography KIE textbooks from form 1 through 4. Other textbooks used for reference purposes in the sample schools were:

- (i) Physical Geography in Diagrams by Bunnet.
- (ii) Landform in Africa by C. Buckle.
- (iii) Certificate Geography form 1 through 4.
- (iv) Physical Geography by Monkhouse.
- (v) Human and Economic Geography by Morgan.
- (vi) Topmark Geography.

The adequacy of learning resources was arrived at by the form three and four Geography teachers in the sample schools completing a section in the questionnaire dwelling mainly with the adequacy of learning resources. The section had a rating scale ranging from very inadequate, average adequate and very adequate. The ratings were manipulated and computed into

proportions to show the adequacy of the resources. Finally in each of the sample schools the percentage were added up and divided by the total number of resources available to arrive at the average proportion of the adequacy of resources. (Table 4)

TABLE 3

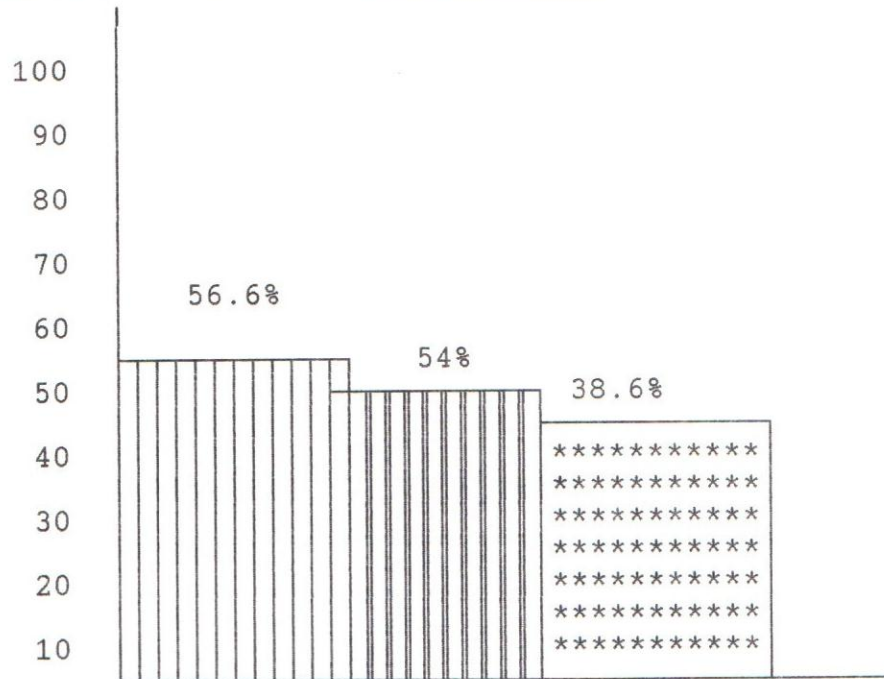
TABLE SHOWING THE ADEQUACY AND QUALITY OF LEARNING RESOURCES IN PERCENTAGES

LEARNING RESOURCES	SCHOOLS		
	NYABURURU	KERERI	NYANCHWA
	%	%	%
CHALKBOARD	90	90	90
TEXTBOOKS	90	60	40
TERRESTRIAL GLOBE	60	40	20
WALL MAPS	60	60	40
MODELS	30	30	20
STATISTICAL GRAPHS	70	50	20
PROJECTED PICTURES	30	20	20
SPECIMEN	50	50	40
TELEVISION	50	40	80
RADIO	50	40	80
MAGAZINE	60	70	20
JOURNALS	60	70	20
NEWSPAPERS	50	70	20
ATLAS	90	60	40
MEAN TOTAL (%)	56.6	54	38.6




SOURCE: FORMULATED BY THE RESEARCHER OF THE PRESENT STUDY

TABLE 4

BAR GRAPH SHOWING QUALITY AND ADEQUACY OF LEARNING RESOURCES
MEAN TOTAL (%) IN THE SAMPLE SCHOOLS



KEY

-  NYABURURU (56.6%)
-  KERERI (54%)
-  NYANCHWA (38.6%)

SOURCE: FORMULATED BY RESEARCHER OF THE PRESENT STUDY

From the results available in table 4 it is evident that Nyabururu High School had the highest proportion of learning resources followed by Kereri and Nyanchwa in that order. Therefore, it was not surprising that Nyabururu High School which

had the highest proportion of learning resources in terms of their adequacy, had the best performance out of the three sample schools. The advantage of all resources were clearly summed up in the academic performance of Nyabururu which was the best in all the sample schools.

4.4 Performance of Geography

The performance of Geography was obtained by the form four Geography teachers completing in the questionnaire a section dealing with the mean grades in Geography for the last three years and the mock results of 1995. The results were supposed to show if there is a relationship between the two variables under consideration teaching/learning resources vis a vis KCSE performance in Geography.

TABLE 5

TABLE SHOWING ACADEMIC PERFORMANCE IN GEOGRAPHY

YEAR	NYABURURU	KERERI	NYANCHWA
1992 K.C.S.E	5.57 (C-)	5.70 (C-)	5.00 (C-)
1993 K.C.S.E	7.78 (C+)	5.80 (C-)	6.00 (C)
1994 K.C.S.E	7.38 (C+)	6.10 (C-)	5.32 (C-)
1995 MOCK	6.21	7.00 (C=)	4.20 (D+)
TOTAL MEAN GRADE	6.74 (C)	6.15 (C)	5.13 (C-)

SOURCE: PAST KCSE RESULT RECORDS OF THE SAMPLE SCHOOLS.
TABULATED BY RESEARCHER OF PRESENT STUDY

From the results available in table 5 it is evident that Nyabururu High School had the highest total mean grade of (6.74) followed by Kereri with (6.15) and Nyanchwa (5.13) in that order. The performance can be attributed to the adequacy of learning resources which stands at (56.6%) for Nyabururu, 54% for Kereri and (38.6%) for Nyanchwa. Therefore it can be concluded that indeed there is a relationship between learning resources and the performance of Geography at K.C.S.E. level in the sample schools.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

Going by the results of the research project, there is a strong relationship between teaching and learning resources available in schools and the academic performance. It has been established that those that perform well in Geography have:

Adequate teaching and learning resources:

The teachers workload ranges from seven lesson to twenty one lessons. However the teacher with seven lessons had other responsibilities as a Deputy Headteacher.

The ratio of teacher student ^{at} Kereri and Nyanchwa was low. Owing to the ratio, the individual attention given to the students in the classroom by the teacher is minimized. The slow learners are the ones most affected as the teachers have to go with the pace of the majority of the learners.

It was also observed from the findings that most of the teachers were graduates with a teaching experience of above three years. This means that most of the teachers are trained and were exposed to the subject and are therefore competent with the Geography content at all levels. There was however poor correlation with the performance.

All schools in the sample did not make proper use of the audio visual aids: Videos, television, filmstrips, slides, charts, models, atlas and pictures.

Some of the major difficulties faced by the schools were, the syllabus was too wide hence the time was not enough for proper content coverage. Also they did not have enough funds for their requirements which included travelling for field study and purchase of relevant textbooks.

RECOMMENDATIONS

Schools should try to have and retain professionally trained personnel and make efforts to acquiring adequate learning resources, for better performance in Geography to be realized.

There is also need for teachers' centres to be well staffed, equipped and expanded to support and improve professionalism of teachers. In these centres teachers could discuss and try out new ideas, keep teachers informed about research and development, provide a place for inservice courses and training and for development, provide a place for inservice courses and training and for development of new methods in teaching Geography particularly those that involve models and quantitative techniques.

Resources centre should be developed in schools where a whole range of audio-visual and printed material is kept. This is because activity, involvement and discovery are important elements in learning. For instance a resource centre specifically for Geography can be established at the back of a large classroom.

KIE should keep up new research findings and facilitate dissemination of information more effectively to the schools through print and non-rint media for Geography teachers to use in teaching.

Finally fieldwork should be emphasized in most schools because it seemed not to be taken seriously as a method of learning. In the year 1995 its only Nyanchwa High School which made one field study. Field work is important for pupils because it entails first hand experiences adding to their store house of visual imagery. It involves them in practical work arousing their curiosity and giving them the pleasure to discover. Furthermore it is essential that pupils leave school with as full an understanding of their local and national environment as possible. The reasons for field study can be summarized by the saying; Hear and forget, see and remember, do and understand.

SUGGESTIONS FOR FURTHER RESEARCH

1. The effect of motivation on students and teachers on academic performance.
2. How teacher-administration relation affect academic performance in schools.

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APPENDIX "A"

EGERTON UNIVERSITY,
KISII COLLEGE CAMPUS,
P.O BOX 408,
KISII.

September 18, 1996

THE HEADTEACHER,
P.O BOX _____
KISII.

Dear Madam/Sir,

RE: PERMISSION TO CARRY OUT RESEARCH IN YOUR SCHOOL

I am a post Graduate Diploma in Education student at Egerton University, Kisii college campus. I wish to carry out research on the effect of teaching/learning resources in the performance of Geography at Kenya certificate of secondary examination.

I wish to have an interview schedule and administer a questionnaire with you as well as administer a questionnaire to your Form three and Form four Geography teachers.

Please be assured that your responses will be treated privately and confidentially. Its hoped the information collected will help improve performance in your school and others.

Thank you in advance.

Yours faithfully,

Nyakundi Ogonyo Zablon

APPENDIX "B"

INTERVIEW SCHEDULE FOR HEADTEACHER

1. What has been the performance of geography in your school over the last few years? _____

2. Why do you think the results have been the way they are?

3. Which items have been given priority by your PTA and BOG incase funds become available? _____

4. Is the PTA and BOG supportive when it comes to financing the purchase of learning resources and facilities? _____

5. Do the parents and guardians pay school fees as expected or there are some with outstanding balances? _____

6. What can you comment on the dedication of geography teachers in the teaching of the subject. _____

7. Would you suggest that parents pay annual school fees for textbooks or students buy textbooks individually? _____

- b) What do you consider as the advantage of the preferences.
(i) _____
(ii) _____
(iii) _____

APPENDIX "C"

A QUESTIONNAIRE FOR HEADTEACHER

INTRODUCTION

A survey is being carried out in an attempt to establish the effect of learning resources in the Kenya Certificate of Secondary Examinations in Kisii District. Your honest response to each of the following questions is essential to this survey. Please be assured your responses will be treated as confidential. Kindly write your answer in the spaces provided. Thank you for your cooperation and support in advance.

1. For how many years have you been a teacher? _____

2. (a) Do you teach any class in your school? _____

(b) If yes specify the subject(s)

3. How many streams do you have in each class? _____

Form I _____
Form II _____
Form III _____
Form IV _____

4. What is the current enrolment in each class.

Form I _____
Form II _____
Form III _____
Form IV _____

5. How do you select form one students to the school? _____

(b) What is the entry behavior of the students who join form one? _____

6. What can you say about the turnover of both students and teachers in the school by circling the most appropriate state of affairs?

Student A High
B Medium
C Low

Teachers A High
B Medium
C Low

(b) In your own opinion what are some of the reasons to the turnover being the way it is? _____

7. Do you admit new students in the middle classes? _____

8. In total how many teachers are in the school? _____

9. Currently do you have enough geography teachers in the school? _____

(b) If no, how many would you like to be posted in your school _____

10. How many geography teachers are involved in marking of Kenya Certificate of Secondary Examination? _____

11. Are there enough learning resources in teaching of geography? _____

12. Is it the school that buys text books or is it the parents? _____

13. In your own opinion do you think your school has enough text books? _____

14. Does the school have a standard library where students can do private study? _____

(b) If no, are there plans for constructing and equipping one in the future? _____

APPENDIX "D"

QUESTIONNAIRE FOR GEOGRAPHY TEACHERS

A survey is being carried out in an attempt to establish the effect of learning resources in the performance of geography. Please be assured that your responses will be treated as confidential. Kindly write your answers in the spaces provided. Thank you for your cooperation and support in advance.

1. Please indicate your academic qualification by circling the appropriate highest qualification.

- A. Post Graduate Diploma in Education
- B. Bachelor of Education (Science)
- C. Bachelor of Education (Arts)
- D. Bachelor of Science
- E. Bachelor of Arts
- F. Diploma in Education (SI)
- G. 'A' level certificate.

2. Have you ever participated in marking Kenya Certificate of Secondary Examination (KCSE) _____

(b) If yes, which subject? _____

3. (a) For how many years have you taught? _____

(b) For how many years have you taught in this school? _____

4. Which are your teaching subjects? _____

5. How many lessons do you teach per week? _____

6. Apart from teaching what other roles do you play in the school?

- (i) _____
- (ii) _____
- (iii) _____

7. When did you last attend an inservice course in geography? _____

8. What was the title of the course? _____

9. What is the current enrolment of geography students in

(i) Form three (III) _____

(ii) Form four (iv) _____

10. How do you select geography students for form three?

11. How do you evaluate your students?

- (i) _____
- (ii) _____
- (iii) _____

(b) Do you offer any incentives to the best student in geography after evaluation? _____

(c) If yes, what kind of incentive? _____

12. Which class textbooks do you use in teaching geography? _____

13. How many geography textbooks are available for each class?

Form I _____
Form II _____
Form III _____
Form IV _____

14. According to your own opinion are the KIE geography textbooks appropriate for the teaching of geography? _____

(b) If NOT what do you consider as their main shortcomings? _____

15. In addition to textbooks, are there reference books in the schools? _____

(b) If yes, can you list them down?

(i) _____
(ii) _____
(iii) _____
(iv) _____

16. Does the school have a weather station? _____

(b) If NO, how many times have you visited a weather station with your geography students? _____

17. How many geographical field trips have you made this year? _____

18. If any, which were your points of interest? _____

19. Do you hold geographical exhibitions in your school? _____

20. Does your school have a geographical club? _____

(b) If yes, what are some of the activities of the club.

- (i)
- (ii)
- (iii)
- (iv)

21. In the table provided below, in your own opinion tick the most appropriate column vis a vis the availability of learning resources are concerned in your

Learning Resources	Very Adequate	Adequate	Average	In-Adequate	Very Inadequate
Chalkboard					
Textbooks					
Atlas					
Terrestrial globe					
Wall - Maps					
Model					
Statistical graphs					
Projected pictures					
Specimen					
Television					
Radio					
Magazines					
Journals					
Newspapers					

(b) After using these learning resources where do you keep them? _____

22. Do you make any improvisations in the teaching of geography?

(b) If any, what are some of them? _____

- (i)
- (ii)
- (iii)
- (iv)

23. What were your mean score in the following years in geography?

YEAR	NO. OF GEO. CANDIDATES	MEAN SCORE
1992 K.C.S.E		
1993 K.C.S.E		
1994 K.C.S.E		
1995 KISII DISTRICT MOCK		

24. In your own opinion, what is the attitude of students towards the discipline of geography? _____

25. Does the school require each teacher to prepare a scheme of work and lesson plan _____

(b) If yes, how often do you submit your schemes of work and records of work for checking? _____

(c) Who checks the geography schemes of works and records of work? _____

26. What is your opinion when it comes to preparing scheme of work, lesson planning and keeping records of work is concerned. _____
