

The Challenges of Empirical Approach to Teaching Geography: A Case Study of Selected Secondary Schools in Kwanza Zone, Tran-Nzoia County, Kenya

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Abstract – The implementation of the new system of education in Kenya in 2009 brought along changes in content, teaching and new demands in all subjects. The study focused on the challenges of empirical approach to geography teachers in selected secondary schools in Trans-Nzoia County in Kenya. The study was prompted by the newer concept in pedagogy which has been proved to be a powerful instructional method for integrating concepts. The study target population was teachers, pupils and head teachers in selected secondary schools. The study used a sample size of 270 comprising 250 pupils, 14 teachers and 6 head teachers in public secondary schools out of 750 and random sampling and purposive sampling were applied. The data was collected using recast face interviewing guides. Data was analyzed using qualitative and quantitative techniques and presented in form of tables, frequencies and tally percentages. The results from the study indicate that syllabus completion, lack of innovation, poor pedagogy and methodology, lack of adequate teaching aids, negative attitudes by the teachers and lack of co-operation from school administrations are school related challenges of empirical approach to geography teachers in schools. The study also found that poverty, lack of trained personnel, lack of scholastic materials, lack of enough resources and poor government policy are non-school challenges of the empirical approach to the geography teachers.

1. INTRODUCTION

The discipline of geography has often been treated as both a natural science and arts subject. Geography is science because its research techniques use the scientific method and produce results similar to other scientific disciplines. Geography is a vigorous science concentrating on the concept of space and spatial relations which, along with time and composition of matter, comprise the three parameters of concern or all of science. It also integrates human, physical and geological processes that take place within the structures of the earth. Due to its complexity, the concept requires more empirical approach which promotes learning with understanding and discourages rote learning.

The way geographic space is viewed has been altered in the last 60 years following changes in the way we consider development (Kostis, 2011) for an appropriate way to deal with geographic space, there should be an axiomatic need to accept an integrated approach both in terms of the way we regard geographic space and how we investigate it. This leads to a two-prong position: First, that geographic space constitutes a dialectic entity and second that the spatial methodological approaches presently in use are now absolute. Geography has recently undergone a paradigm shift from Geo-informatics, which in its own way has replaced traditional concepts towards an integrating approach, bringing geography into a new paradigm referred to in this paper as choro-informatics.

1.1. The Purpose and the Objectives of the Study

The overall purpose of the study was to examine the challenges of empirical/scientific approach to teaching geography in Kwanza Zone Trans-Nzoia county.

The study was guided by the following objectives:

1. To investigate the school related challenges of empirical approach to teaching geography teachers in schools.
2. To examine the non-school related challenges of empirical approach to teaching geography in schools

1.2. Research Questions

1. What are the school related challenges of empirical approach to teaching geography?
2. What are non-school related challenges of empirical approach to teaching geography?

1.3. Significance of the study

The study may significantly help learners to realize the challenges of empirical approaches and be able to devise means of overcoming them by being co-operative. The study should enable teachers to be creative and improvise resources so as to overcome the challenges. Head teachers may be able to devise solutions to challenges so that geography concepts can be taught effectively. The study should help policy makers to formulate policies that will enhance the learning of geography through scientific approaches. More so the study ought to help future researchers with information about challenges of empirical approach in teaching geography and investigate other related areas.

2. THE CONCEPT OF EMPIRICAL APPROACH

Empirical Approach on the conceptions of geography in the 19th century, demonstrates that empiricist philosophy determines the path of understanding geography as an empirical science. Boven Benton & Craib (1981, 2001) content that each discipline has its own regional ontology, its own way of listing, describing and classifying the range of things, relations or processes it deals with; this is the range of things which it claims to give us knowledge of. They say that ontological problems of geography involve primarily the definition of its subject matter. Within the framework of scientific philosophy, this can best be done on the ground of ontological realism, which presupposes the existence of the world independently of the investigating mind.

Empirical Approach is an instructional teaching in which emphasis is given on choosing a specific theme for teaching one or many concepts (Bitamazire 2006). It is based on integrating various information and using it to demonstrate the topic. It is based on the idea that knowledge acquisition is efficient among students when they learn in the context of a coherent and holistic way and when they can associate whatever they learn to their surrounding and real life examples. Empirical instruction seeks to put the cognitive skills such as reading, thinking, memorizing and writing in the context of real life situation. Empirical Approach is compulsory in all high schools in Kenya. As a policy, all schools should teach concept by integrating the real life situation, to help the learners develop skills and attitude that would help them in society.

Like in other disciplines, the domain, methods, and philosophical foundations of geography have changed over the centuries. In fact, geography has arguably gone through even more intellectual changes than other traditional disciplines, especially during the twentieth century (Lamber, 2001). The result of all this is that geography is an extremely broad and heterogeneous discipline.

In the area of study, schools have adopted the policy of thematic curriculum by teaching students through the empirical approach. They have continued to use continuous assessment and automatic promotion in these areas.

However, there has been no concrete research so far done to investigate challenges the policy is facing. The research, therefore, attempts to fill the gap by investigating the challenges of empirical approach to geography teachers in Kwanza Zone, Tran-Nzoia County in Kenya. Since the development of geographical thought and its concept, geography has been treated as an art course basing on the concern of human geography and the teaching approach whose emphasis was on the traditional and ideographical approach. This later took a different direction with the integration of physical, human and geological processes that viewed geography as a science course. Eventually the teaching approach has taken a dynamic level and geography syllabus was developed and it insisted that the empirical and scientific approach should be adopted in schools. Of recent, the ideology kept on declining and geography is no longer treated as a science in terms of the teaching approach. It was against this background that this study investigated the challenges of empirical approach to the geography teachers of in the study area.

3. THE STUDY AREA

The study covered five high schools: Kapsitwet, Namanjalala, Riavo, Kolongolo and Kobos. The participants included teachers, pupils and head teachers. The study focused on examining the challenges of empirical approach to teaching geography.

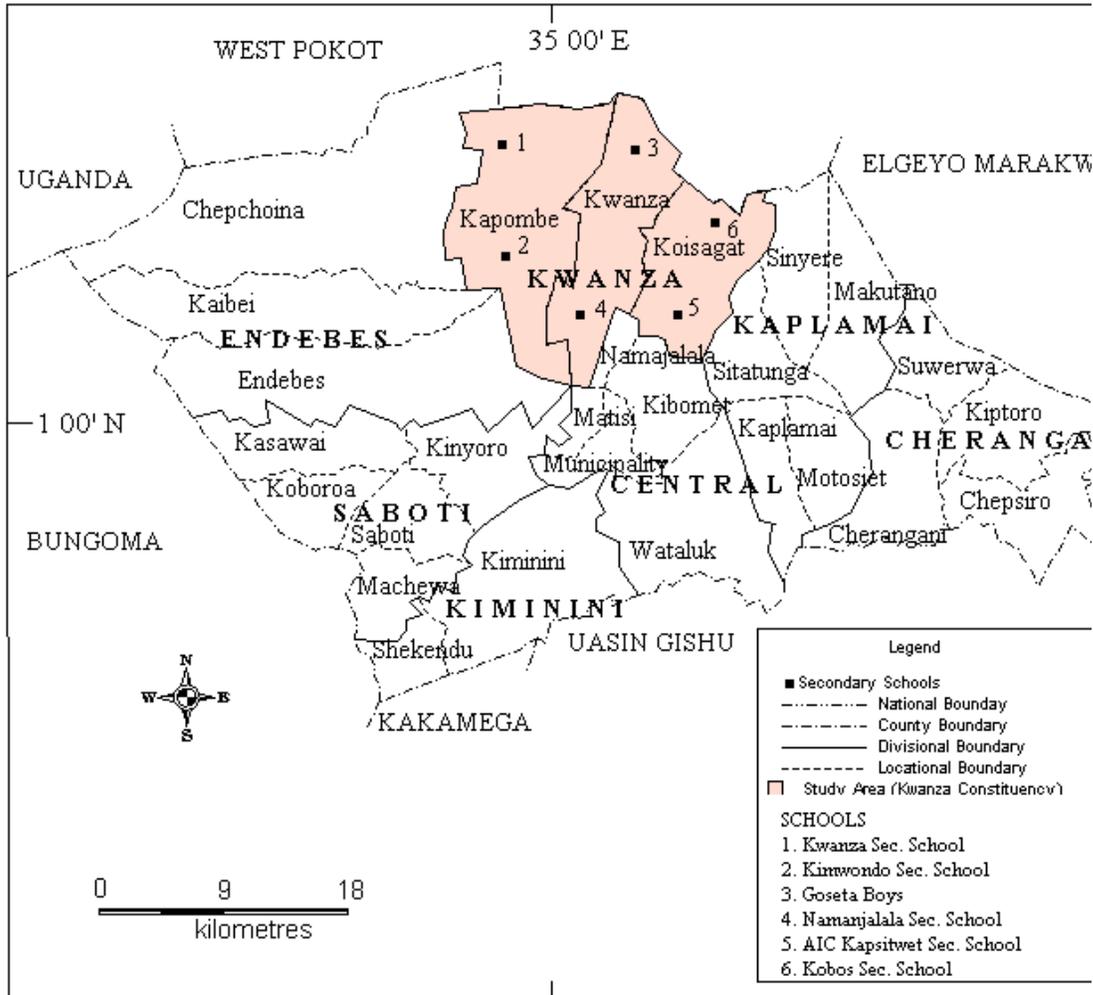


Figure 1: Map of Trans Nzoia County showing Kwanza Constituency Secondary Schools

Source: Ndegwa B. Moi University Geography Department.

4. METHODOLOGY

4.1. Target Population and Sample

The study targeted 270 respondents comprising 250 pupils, 14 teachers and 6 head teachers in public secondary schools out of a population of 750 respondents in Kwanza Zone. The study used sample random sampling to select 250 pupils and 14 teachers. All the six head

teachers were selected. This method was used because every respondent had a chance of being selected.

4.2. Research instruments

The study used interview schedule comprising interview guide. The guide was used to ask the questions as the responses were written down. This method was used because to capture the respondent attitude about the study topic.

4.3. Research design, Data Analysis and interpretation

The study was descriptive in nature and used qualitative and quantitative data. Data collected from the field was arranged, organized, presented, interpreted and analyzed using simple qualitative techniques of tables, tallies, frequency and percentages. This covers detailed analysis, interpretation and presentation of data about the challenges of Empirical approach to Geography teachers in secondary schools, Kwanza Zone Trans-nzoia County. Data analysis, interpretation and presentation were made basing on stated research question and the information was denoted on tables1 and 2.

5. DATA ANALYSIS AND RESULT

5.1 The School Related Challenges of Empirical Challenges to Geography Teachers

Empirical research offers many opportunities. However, there are at least two kinds of limitations: on one hand, errors and pitfalls that are directly related to the layered evaluation approach, and, on the other hand, inherent limitations of empirical research in general. Empirical studies are not a formal proof of a fact. They rather yield, support, or reject hypotheses. However, the results are always afflicted with uncertainty, which can often be expressed in a statistical probability value (Amadeo & Golledge 1975). This hypothesis testing procedure is responsible for an important limitation of empirical research. Empirical studies are very good at identifying design errors and wrong assumptions, but they do not suggest new theories or approaches directly. Even an explorative study requires some hypotheses about possible impact factors. Thus, empirical evaluations have to be combined with theoretical grounds to yield useful results.

According to the curriculum and assessment guide for the secondary school curriculum, geography is a subject that “enables students to explore and understand the relationship between human beings and the earth through the study of space and place and environment”. However, the approach faces the challenges due to limited time allocated to the subject coverage Ofsted (2011). Behind this claim is the underpinning that geography is a discipline which fosters learning across a wide range of natural science and social science disciplines integrated coherently under a spatial and environmental paradigm of which most teachers are not equipped

with the changes taking place within the environment. This hinders teachers to use the empirical approach to integration their teaching to real-life situation.

Instead of relying only on memorizing and analyzing existing knowledge in geography, empirical approach makes geography interesting (Rogers & Viles, 2003). However, they are probably the most challenging curriculum areas for teachers given practical concerns such as their dynamic nature, the need to cope with innovative technology, and the ways of providing appropriate and non-overly guidance to student's in limited teaching time.

Students need practice for undertaking fieldwork individually and on a group basis (Morgan & Lambert, 2005). This can be a challenge for teachers because of safety and time concerns and the need to cater for a vast diversity of student interest and possible study areas and sites. To familiarize students with the necessary enquiry skills and in consideration of practical constraints, fieldwork training should start with short sessions in the school neighborhood within the normal time-table.

Geography has succeeded in maintaining both breadth and depth that are essential for meeting the career and learning needs of school leavers and the requirements within the society (Edexcel, 2007). However, the removal of many academically oriented geography topics, notably those about models and theories, can cause worries about quality of the subject.

Teaching through empirical approach will help students to master their culture and environment better (Kwesiga 2007). Other countries like China, German, France, and Britain have for the past centuries been teaching in their local environment and this has helped these countries to develop different talents amongst the students. She stresses that empirical approach helps children to be innovative and original in doing their activities. She, therefore, recommended that all schools should be taught scientifically despite the challenges. She agrees with the stated view that teachers should teach using the empirical approach to make learning of geography effected and applicable.

Table 1: Schools related challenges of Empirical Approach to geography teachers

Schools related challenges	Frequency	Percentage (%)
Syllabus completion	75	27.7
Lack of motivation from Administration	65	24.0
Poor methodology	55	20.3
Lack of teaching aids	50	18.5
Negative attitude by teachers	10	3.7
Lack of innovation	15	5.5
Total	270	100

Source: Data collected from the field

From the table above it is believed by 75 (27.7) that syllabus completion in geography is the most pressing challenge of empirical approach, followed by lack of motivation from the school administration; (24%), poor methodology (20.5 %) and lack of teaching aids (18.5%). Other challenges, namely, negative attitudes and teachers' transfers were below 10%.

5.2. The Non-School Related Challenges of Empirical Approach to Teaching Geography in Secondary Schools

Kwesiga (2007) emphasizes that teaching geography has met difficult oppositions among the learners, administrators and parents. She stresses that most schools lack trained man-power to teach them. This problem is likely to happen due to lack of innovation. She notices that there are few existing ones that are not facilitated as function is desired. She further stresses that teaching geography through empirical approach has failed because of lack of scholastic materials to use in teaching. Kwesiga (2007) further emphasizes that whereas the curriculum was made, no effort was put in writing, enough materials to reach every Kenyan school-going students.

Bitamazire (2006), stresses that implementation of empirical approach has been limited by the meager resources. She stresses that the government depends on donor funds which has conditions on the funds they release. She stresses that even if funds are available, it is difficult to invest them in buying text books and trained man-power needed to use empirical approach when teaching. She further stresses that while the policy may work in urban setting, rural schools have failed to implement the policy because of high level of poverty. Rural setting has people of different poor backgrounds and implementation of empirical approach becomes rather hard.

Table 2: Non-school related challenges of Empirical approach to the teachers of geography in schools.

Non-school related challenges	Frequency	Percentage
Poverty	65	24
Lack of train personnel	60	22.2
Lack of instructional materials	50	18.5
Multi-ethnic groups	55	20.3
Lack of enough resources	25	9.2
Poor government policy	15	5.5
Total	270	100

Source: Data collected from the field:

From the table above, many of the respondents 65 (24%) reported poverty as non-school related challenge, 60 (22.2%) reported lack of trained personnel, multi-ethnic groups 55 (20%), and 50 (18.5%) of the respondents reported lack of instructional material. It was only 9.2 % that reported lack of instructional materials and 5.5% poor government policy as non-school related challenges.

6. DISCUSSIONS

The study from the findings of research question one found out that biggest challenge is syllabus completion 75 (27.7%). This was followed by lack of motivation 65 (24%), poor methodology 55 (20.5%), lack of teaching aids 50 (18.5%), and negative attitudes 10 (3.7%) and lack of innovation 15 (5.5%).

The findings indicate that the biggest challenges facing the use of empirical approach in teaching geography is the pressure of completing the syllabus. Respondents indicated that each subject is guided by the syllabus on what it is to be covered within a given period of time. This, therefore, limits the teacher to use the empirical approach due to its demand of integrating the basic skills to the real life situations. The findings agree with CDI-HKEAA (2007) policy which states that it is only natural for teachers to give the highest priority to enhancing students' quality, depth and breadth of learning and, thereby, help them achieve satisfactory results in the examination. Geography can be a cause of concern in this connection because of the practical difficulties mentioned above and the fact that it has to compete for a place in the time-table for which schools are only offering two to three elective subjects under the new curriculum structure and they have to complete what is scheduled for the term.

The finding also indicates that there is no enough motivation from the school administration in terms of implementing empirical approach of teaching geography. This was based on how geography teachers are discouraged in case they call for a field trip and they are denied due to lack of funds and, therefore, this forces them to engage their students in ideological approach.

The research finding further indicates that there is lack of teaching aids, lack of innovation and also poor teaching methods used when teaching geography. Teaching should be conducted in such a way that students can benefit by functioning as members of effective learning communities (Pawson et al. 2006; Barrell,2007). Teachers may start their lessons by inviting one to two students to raise queries about preparation work and homework or class assignments. These students can ask classmates for elaborations, clarifications and comments before the teacher gives out the final answers or directions for in-depth investigation. The sharing of views between teacher and students and amongst students themselves is important to improving the quality of learning and the development of critical thinking.

The findings on non-school based challenges indicate that the biggest challenge is poverty 65 (24%). This was followed by lack of trained personnel 60(22.2%), lack of

instructional material 50 (18.5%), multi- ethnic group 55 (20.5%), lack of enough resources 25(9.2%) and poor government policy 15(5.5%) respectively. These concur with Bitamazire (2006) who agrees that implementation of empirical approach has been limited by meager resources and poor government policy.

7. CONCLUSIONS

The empirical-scientific approach is the most efficient basis of development for geography. It accommodates cognitive properties of geography which describes and determines its scientific character. However, from the findings the approach has been facing challenge in its implementations that includes syllabus completion, lack of innovation and poor methodology, among others, as main school related challenges of empirical approach to geography teachers. The study also concludes from the findings of the lack of trained personnel and lack of scholastic materials as the main non-school related challenges of the empirical approach to geography teachers in schools.

8. RECOMMENDATIONS

Accordingly, the government should always involve stakeholders in policy design, implementation and evaluation. The government should also supply instructional materials to implement empirical approach and release enough funds to schools. Teachers should undergo refresher courses to widen their knowledge on the dynamics taking place in the environment while using the available materials and improve learning where they cannot get the resources.

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