

Why Nigerian geography teachers scarcely and scantily teach map reading and why students are scared of it

Peter Adewale Amosun

Department of Teacher Education, University of Ibadan, Ibadan, Nigeria.

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ABSTRACT

The teaching and learning of map reading and interpretation at senior secondary school level in Nigeria is now at lower ebb. Teachers seem to scarcely and scantily teach it and students seem to be seriously scared of it. Studies, personal encounter and Chief examiners reports of West African Examination Council have shown that students' performance in map reading is rather growing worse every year. This paper, based on empirical evidences, identifies causes for students' hatred and failure in map reading, and proffers solutions to them.

Keywords: Map reading and interpretation, Nigerian geography teachers, teaching and learning of geography.

E-mail: amosun2002@gmail.com, pa.amosun@mail.ui.edu.ng. Tel: +2348032155555, +12179044910.

INTRODUCTION

Geography studies both physical and human/cultural features on the earth. These features are depicted, expressed and illustrated most of the times in maps, diagrams, graphs, and figures. Map is therefore representation of physical or human/cultural features which are observable on the earth and have been adequately measured, and are then depicted and drawn to scale on a piece of paper. Map is the shorthand of geographers. It is often used to illustrate a major point in any teaching and learning situation. It is more precise, less formidable when compared with verbal accounts (Mansaray, 1992). Since maps are tools in the hands of geographers, its reading and interpretation becomes important. Map making, reading and interpretation is therefore an important branch of Geography. It is the very key that unlocks all the features that are represented in any given map.

Maps have been categorized into different types by different authors. Aso (1982) and as amplified by Amosun (2002) identified four types as: sketch maps, distributional maps, atlas maps and cadastral maps. They believe that all kinds of maps that are available can be categorized under any of these. Moreover, all these types are being

used at secondary school in Nigeria. In the classroom, teachers draw sketch maps of Nigeria, Africa and others with free hands to illustrate phenomena like vegetation, population density, transportation networks, and the like. Students also are expected to know how to draw all these maps in their notes. Teachers also draw distributional maps such as bar and pie charts, dot maps, and the like. These are also called statistical maps. Students are also engaged in drawing these types of maps. The atlas maps are supposed to be used constantly by teachers in the classroom. In fact students are expected to come to every class with their atlas map. This helps students to be familiar with their environment as both physical and human features are well captured by the map. The cadastral map has to do with all forms of topographical maps of reliefs, settlements, land use, water bodies, and the like, with detail information about the particular areas they represent, and this forms the area of map reading and interpretation in Nigeria secondary schools, and even elsewhere. Other maps mentioned so far are of paramount importance to teaching and learning in the classroom. This is because they actually form part of the curriculum and are areas of interest to examiners who

frequently test students skills and ability on how to draw correctly sketch maps of Nigeria, Africa or drawing graphs, bar or pie charts from geographical data. However, more importantly is the topographical map which is the core area of map reading and interpretation. These are big and wide sheet maps that are of small or large scales.

Map reading and interpretation is an important aspect in the secondary school curriculum in Nigeria. This area occupies a major place in the final examination. It attracts more marks than any other areas of Geography in Nigeria. Teachers are expected to teach this aspect diligently and students are expected to acquire certain skills and abilities in the course of teaching and learning. Some of the skills expected are: keen observation skill, or visual literacy skill, selection skill, location skill, mathematical skill, manipulative skills, analytical, and interpretation skill and the like. However, these skills are only acquired when students are diligently engaged in the acts of map reading and interpretation right in the geography room.

Amosun (2002) stressed the importance of map work as enshrined in the work of Ajaegbu and Faniran (1973) and Mansaray (1992), which have been paraphrased as follows: They believed that maps record geographical information and knowledge most simply and accurately and these are more precise than verbal accounts. They reiterated that maps are made to capture considerable analytical values which show the distributions and relationship in land space, time space or volumina space. They also stated that maps help in identifying geographical problems which could be of relevance to the society. And that mapwork develops various types of useful skills which are very crucial for securing good jobs. Its proper teaching and learning at this level prepares learners for profitable careers in cartography and similar ones.

PRESENT STATE OF TEACHING AND LEARNING OF MAP READING AND INTERPRETATION IN NIGERIA

In spite of the importance of map reading and interpretation, Nigerian secondary school teachers, have been reported in various studies that they scarcely and scantily teach it, and that a lot of students have actually developed hatred for it as they are always scared of it.

Mansaray and Ajiboye (1994) in their study entitled "Topic difficulties in senior secondary school geography among Nigerian students" observed that 50% of the topics indicated as problematic by pupils fall in the area of map reading and physical geography. The students indicated that measurement of gradient, drawing of cross profile and intervisibility, latitude, longitude and time, among others were very difficult. In the same study, their geography teachers also indicated that the same topics were very

difficult to teach and difficult for students to understand. This trend continues as Okwilagwe (2012) in her study titled "Influence of teacher factors on attitude of Geography teachers to Map Work in Nigeria Secondary Schools" succinctly recorded various comments from the Chief examiners report of West African Examinations Council as follows:

Most candidates could not identify simple features on the topographical map... poor performance in questions involving calculations' (May/June, 2005:75).

Poor knowledge of map reading and interpretation and of simple survey. Most of the candidates could not identify the given physical features on the survey maps and were poor in description of relief and the relationship between relief and settlement (May/June, 2007:65).

Amosun (2002) reiterated similar problems being faced by students in West African School Certificate Examination (WASCE). The Chief examiners comments on map reading and interpretation in Geography showed that a whopping majority of the students were unable to reduce and draw the map outline to scale correctly; calculate actual distances on the map by the given scale; use contour lines appropriately to identify features on the map; identify the drainage pattern on the map; measure and insert features inside a reduced map (WAEC Chief Examiners' Report, 1995a, 1996b 1997a).

It is, however, evident from the literature that the difficulties Nigerian students encounter in map reading and interpretation are being experienced elsewhere also. Yau et al. (1992) reported students' performance in map reading and interpretation in Hong Kong for a period of ten years. It was shown that map reading results were poor in seven years in a decade. It was particularly recorded that students could not calculate correctly, and that they had poor knowledge of conventional signs and symbols, and consequently had poor analytical thinking of topographical maps given to them each year. Okwilagwe (2012) in her study, made reference to the work of Anikwe (2000), that beside Nigeria, students in some other countries like Britain and Poland, face similar difficulties in map reading and interpretation.

Scholars have started to read different meanings to the difficulties students encounter in map reading and interpretation. Yau et al. (1992) provided further insight into this problem in their own findings. They emphasized the intricacies involved in map reading. They believed that it requires abstract thinking and mathematical skills. For Anikwe (2000) as reported by Okwilagwe (2012), he argued that these difficulties may not be unconnected with the inability of teachers to properly handle map reading. In his own study, Amosun (2002) observed studies have shown that map reading has been indicated as among the

most difficult aspects of geography, and it seems to account more for the mass failure of students, the consequence of which is to drive many away from offering the subject. He also submitted that the aspect of map reading that requires mathematical calculations have been found difficult by the students. In another study by Mwenesongole (2016), who considered the factors influencing learner achievement in Geography mapwork at Grade 12 level, revealed that most learners do not perform well in map work because they lack motivation in doing map work, and that they lack basic skills to map reading, and finally, they lack basic mathematical skills. The study also revealed the need for re-skilling and retraining for all educators involved in teaching map work in areas of basic skills to map reading and interpretation, basic mathematical skills and the importance of motivation.

EMPIRICAL EVIDENCE OF STUDENTS' BETTER PERFORMANCE IN MAP READING

Amosun (2002) in his study on map work used four strategies, viz; cooperative learning, mastery learning, and integrated group learning and used conventional modified lecture method as control to teach crucial topics which students considered difficult as reported by literature. In the study he also considered gender and mathematical ability as reported by literature as intervening variables. The study lasted for six weeks and had trained assistant researchers who taught according to the manual. Data collected before and after the treatment showed that students' performance in map work was better as a result of the new strategies employed. It was also revealed that students with low mathematical ability performed better as they were helped by others in the groups. It was also found that there was no gender difference in performance. Actually, this study confirmed the fact that when appropriate methods or strategies are used, students will perform better in map reading and interpretation with no prejudice to their mathematical ability or gender.

From the above, it is crystal clear then that both teachers and students are main causes of poor performance in map reading and interpretation at secondary schools level in Nigeria. Topographical maps or sheets are given out to students in the final examinations, and they are always expected to attempt all questions in this session of the paper. It is always embarrassing to hear comments that students make about the topographical sheets every year. It is evident students seem not to appreciate this aspect of geography at all as they openly show their displeasure, dislike and uninteresting attitude toward it. In order to proffer solution to these difficulties and its consequences of poor performance in map reading and interpretation by students, there is the need to lay bare the reasons why teachers scantily and scarcely teach it and students are scared of it.

WHY TEACHERS SCARCELY AND SCANTLY TEACH MAP READING AND WHY STUDENTS ARE SCARED OF IT

Teacher factor

Unqualified teachers

Most of our public and private schools in Nigeria are served with unqualified teachers. This is probably because geography teachers are difficult to come by and also because governments at all levels are not recruiting new teachers, and when they do the appropriate teachers are not recruited. Consequently, teachers who know little or nothing about geography are drafted to teach it. These teachers, in fairness to them, try their best possible in teaching the physical and human aspects but are not able to do much in the aspect of map reading and interpretation. These teachers therefore find it difficult to teach it, and most of the time they scantily and scarcely teach it. This has been probably responsible for students' failure and why students are scared of it.

Inappropriate method of teaching

Generally, studies have consistently shown that our secondary school teachers are like eternally glued to teacher-centred method which has not been yielding much fruits. Learner-centred methods which have been researched into in the area of map reading and interpretation have not been adopted by them. If teaching and learning of map reading would become better, there is the need for teachers to change their methodologies.

Poor teacher preparation

Geography teachers seem to be deficient in their preparation. A whopping majority of our teachers appear unable to teach map reading and simple survey in their classes probably because they themselves are deficient in it, and in the various teaching strategies that could have helped them to impact it.

Lack or inadequate teaching materials

Map reading requires a lot of materials such as different topographical sheets, Mathematical set, long ruler, treads, plain sheets, maps from past WAEC questions, and Joint Matriculation Examinations Board, transparent paper, and others. The main materials which are topographical maps are not always available in schools. This has been confirmed through research over and again.

Problem of time and time tabling

Three periods of teaching are expected to appear on the

time-table, of which two of them should be put together one after the other as double periods. This is because map reading requires a lot of time and practical work. However, some if not many of the schools do not have three periods nor the double periods that should be used for practical work in geography. This is one of the reasons why teaching and learning of map reading appears to be difficult.

Teacher poor mathematical background

It appears that geography teachers are not adequately prepared and they are poor in mathematics. This is evident in the performance of students who are unable to do a majority of mathematical related questions in their final examinations. Teachers do avoid teaching of map reading because it requires abstract thinking and mathematical skills.

Inexperienced teachers

Many geography teachers are not having experience of being an examiner of map reading and interpretation either of WAEC or NECO. This exercise of being an examiner helps in developing them in the areas of their weakness and reinforces the areas of their strength.

Lack of commitment to excellence

A majority of our teachers appear very uncommitted to excellence. This is because their attitude to teaching and learning of map work is very pathetic. Teachers complain and shear away from their legitimate responsibilities when salaries are not paid or delayed. They seem to care less about excellent performance in the final results of their students and their future. They hardly can improvise, take decision on how to get useful materials, take extra periods after closing hour or during any holiday or even invite resource persons to help them take difficult aspects they always find difficult to teach.

The nature of topographical sheets

Topographical sheets are presented to learners not in bits but whole at a time. This, of course, always intimidates the learners as they are unable to make any meaning out of it. The whole map is filled up with features that are represented by conventional signs and symbols which appear to be lumped up together and consequently become meaningless to a new comer.

Lack of geography room

Research has shown that geography rooms are not available in schools. Sciences have but geography does have, and this is important because it is supposed to a

place that has special tables and chairs which would allow easy spread of topographical sheets on them. Other types of maps are also supposed to be hanged on the walls in the geography room. Since this is not available in schools we can imagine which tables would be used by students when they are engaged in map reading. This therefore renders the teaching and learning of map reading and interpretation ineffective.

Poor storage facilities

There are schools where teachers have been able to acquire some topographical sheets over the years. However, poor storage facilities have made those materials to disappear over time. Some are kept in places where rain and sunshine easily penetrate and are soon destroyed before long. This, of course, does not allow teachers to teach map reading as materials cannot be found readily anywhere in the school.

Lack or inadequate in-service training

It is empirically evident that a whooping majority of, if not all, secondary geography teachers do not attend in-service training especially in map reading and interpretation. This makes them ineffective in the teaching and learning of map reading, and this eventually has grave consequences on the attitude and performance of students.

Poor reward system and teachers' morale

The geography curriculum actually encouraged that geography teachers should be rewarded and remunerated specially as a result of much works they have to do as this would boost their morale to do more and get learners engaged. However, this has not been the case. Geography teachers are neglected and even persecuted when they are requesting for double periods, special time to meet students for extra classes and asking for rewards.

Learner factor

Quantitative phobia

Studies have shown that a whooping majority of students have quantitative phobia. Since map reading deals with quantitative reasoning and mathematical skills students are always scared of it. They appear to do well to some extent in other aspects of geography but find this aspect difficult simply because of their poor mathematical background.

Gender differences and influence

Studies have also discovered that gender performance in

mathematical oriented subjects is not always in favour of girls but boys. Girls do perform poorly in those subjects and this includes map reading aspect of geography. In other words, boys always perform better than girls in geography generally, and this may not be unconnected with their better performance in map work. Teachers appear to know this but nothing has been done about it. However, this can be corrected with the right teaching strategies as postulated by research findings of Amosun (2002).

Different mathematical abilities

Research has shown that students of different abilities are found in the classroom. Low, average and high mathematical ability levels are found in geography classrooms, however direct instruction that is often deployed by teachers make low and average mathematical ability students to be scared.

Lack of motivation from teachers

Students need motivation to do well in their academic work generally. This has been established by research and theories. Moreover, in subjects where students are found to perform poorly, they need to be motivated to see the future benefits of such a subject, and should motivate them to attend classes, listen, ask questions and work exercises on their own, and make sure they do their assignment.

Lack of commitment to excellence

The commitment to excellence that is expected of learners is not always found in them. Laziness, procrastination and truancy are very common among them. They do not always seek more knowledgeable others who can easily put them through. This, of course, makes them to have poor marks in internal examinations and consequently makes them to be scared of map reading.

Negative attitude

A majority of students who offer geography have actually been poisoned with negative comments by their seniors and other older people in society. Comments such as geography is wide, difficult, boring, full of abstract thinking and mathematics are always passed around within and outside the school. This also makes learners to be full with negative attitudes and consequently scared of map reading and geography in general

Lack or inadequate learning materials

Students are supposed to possess some materials on their own. Poverty and lack of interest make students not to

have some the crucial materials that are really needed in the process of teaching and learning.

Lack or inadequate exposure to different topographical sheets

Teachers fail, most of the time, in exposing students to constant practice of as many topographical sheets as possible. This art will make them to have mastery of the subject matter in map reading and interpretation.

SOLUTIONS TO PROBLEM OF TEACHING AND LEARNING OF MAP READING IN NIGERIAN SECONDARY SCHOOLS

Adequate teacher preparation

Teachers should be adequately prepared in map reading and interpretation, simple survey and other related courses; these should be made compulsory for pre-service teachers at National Certificate of Education (NCE), and University levels. These courses should be also offered at all levels of the programme in order to prepare them adequately for the task ahead of them.

Provision of in-service training

Teachers should be allowed to attend in-service training from time to time especially in the area of map reading and interpretation and simple survey so as to update their knowledge.

Motivation of learners

Students should be motivated by their teachers; their interest in geography and especially in map reading should be brightened up. The immediate and future benefits of this subject and this particular aspect should be used to motivate them.

Commitment to excellence

Both teachers and students are called to commitment to excellence. Teachers should be committed and do everything possible within their capacity to see that students are adequately prepared for the final examinations. Students on their own part should cooperate with their teachers and obey all instructions which are given to them.

Provision of maps and improvisation

Teachers through their own efforts and schools should

make topographical sheets available for students to use. Teachers can send their students to WAEC office to buy used topographical sheets at low cost. A lot of these used topographical sheets are actually wasting away at WAEC office state headquarters and they are always sold out to those who want to buy them at cheaper rate. Students cooperate with teachers by making sure that materials that are expected of them are always brought to the classroom.

Provision of geography laboratory room

Curriculum specifies that geography room should be made available in schools; however, this is not available in schools. The provision of geographical room is not in any way a luxury but a necessity. The maps students and teachers deal with are very larger and bigger than the normal table students use in the normal classrooms. Hence the need for special rooms where special tables and chairs are provided.

Good storage facilities

Topographical maps that are purchased and gotten by schools and teachers should be preserved in a conducive place where termites, rats, rain and floods cannot destroy them. Teachers should always tell students to handle them with care, and also attach fine to a rough use of same by students.

Teaching map reading patiently

Map reading should be taught systematically and patiently. Knowing that students actually dread this aspect, teachers should not rush nor skip any step when solving mathematical problem in map reading.

Engaging students in map reading exercises always

Students should be engaged constantly in map reading exercises so as to master the difficult areas and be able to solve them during examinations. Students are expected to give maximum cooperation by doing exercises given to them either in the classroom or as homework.

Inviting resource persons

Teachers who are not very good in map reading and interpretation could seek the services of a resource person from other schools, colleges of education or even universities. This would make students listen attentively

and even participate fully; this would eventually solve the problem of difficulty in teaching and learning being encountered by both teachers and students.

Demystifying map reading and topographical maps

If students would be made less scare of map reading, and learn to enjoy doing it, the topographical maps should be demystified by the teachers. The secret is to begin from known to unknown, small topographical maps with few features, then to the ones that are done in the objective parts in WAEC and JAMB examinations, and later to the massive ones which students always dread. Teachers should let learners know that maps are real and not hypothetical. That they represent actual places on earth, give them maps of places they know and are familiar with to start with.

Employing right methods of teaching map reading

The right research- proven method of teaching should be deployed in teaching and learning of map reading. This would of course solve the problem of gender differences and mathematical ability in the teaching and learning of map reading and interpretation.

Supply of adequate qualified teacher

The supply of adequate qualified teacher in the teaching and learning of geography cannot be under estimated. Teachers who have undergone pre-service training in geography and not just in Economics, Political Science or Social Studies are required and recommended by the curriculum. Governments at all levels and school authorities make sure that right hands are deployed to teach geography in our schools.

CONCLUSION

It is empirically clear from the above that the teaching and learning of map reading and interpretation in Nigerian secondary schools have dwindled over the years and that the present state calls for immediate remedy. Teachers who scantily and scarcely teach map reading have been shown where their weaknesses lie and solution have been equally proffered. In the same vein, the challenges which students who are scared of map reading have been encountering have also been identified from empirical studies, and these have equally been given a way out. If teachers would go through these once and again, and then take immediate action on them, the teaching and learning of map reading and interpretation would definitely effective and rewarding in

terms of better performance in various examination, which would consequently lead to achieving the goals set for map reading and interpretation in the specific, and geography in general.

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