AVAILABILITY AND USABILITY OF VISUAL INSTRUCTIONAL MATERIALS FOR TEACHING GEOGRAPHY IN SENIOR SECONDARY SCHOOLS IN OSUN STATE

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Abstract
This study investigated the availability and usability of visual instructional materials for teaching Senior Secondary School Geography in Osun State. The availability usage and the extent to which Geography teachers made use of visual instructional materials for teaching Geography in Senior Secondary Schools in Osun State were examined. The study adopted descriptive research of the survey type. One hundred and twenty-three Geography teachers in four Local Government Areas of Osun State were sampled. A questionnaire titled "Availability and Usability of Visual Instructional Materials for Teaching Geography in Senior Secondary Schools Questionnaire (AUVIMTGSSSQ)" was used as instrument for data collection. Percentages, mean and weighted mean were used to answer research questions. The findings of the study revealed that textbooks were available in all schools. Atlas map, map of Nigeria, pictures were also available in most schools while economic map, population map, contour map, temperature map, thermometer and rainguage were less available. The finding also showed that pictures, atlas map, map of Nigeria, textbooks and windvane were effectively used by the respondents while other visual instructional materials like economic map, contour map, temperature map and thermometer were not used by the respondents. The study also found that only textbooks were always used by most of the respondents (88.6% level) pictures, atlas map, map of Nigeria and models were frequently used while other visual instructional materials were less used. It was therefore, recommended that seminars and workshop should be regularly organized for teachers on the importance and advantages of using visual instructional materials in teaching and learning Geography.

Keywords: Availability,Usability, Visual instructional materials,Teaching Geography

Introduction

Teaching in this modern period is increasingly becoming more complex and technical to be effectively actualized with traditional tools alone (Anyanwu, 2003). Development in modern technology has made available a wide range of instructional materials to supplement teachers' efforts in teaching-

learning process. More importantly, the curricula of the modern subjects call for extensively and frequently combined use of traditional with conventional materials in teaching-learning process (Abolade, 2001). Effective teaching and learning of Geography depends majorly on cordial relationship and free flow of communication between the teachers and the students. Verbal instruction, which is seen as the easiest form of instructional and teaching delivery system apart from real experience is always very abstract (Adeyanju, 2003). Since students in schools are from varied cultural and socio-cultural background and training, teachers thus need instructional materials or teaching aids to help them communicate and mix effectively and hence cope with students' needs, based on their abilities and potentialities (Edward, 2002).

According to Shergill (2012), learning can be defined as a change in disposition, a relatively permanent change in behaviour over time and this is brought about partly by experience. Learning can occur as a result of newly acquired skills, knowledge, perception, facts, principles and new information at hand. Learning can be reinforced with different teaching and learning resources because they stimulate, motivate as well as focus the learners' attention for a while during the instructional process. Teaching and learning resources are instructional materials and devices through which teaching and learning are facilitated in schools (Sofowora and Egbedokun, 2010). Visual instructional materials both in print, audio and visual types are of fundamental importance to the success of teacher education programmes. Suitable instructional materials are needed to achieve the aims and objectives of teaching Geography in Senior Secondary Schools. Provision or presence of instructional materials is of great importance to enhance effective learning of Geography in Senior Secondary Schools. Furthermore, Olokooba (2015) discovered thatComputer systems are the most prominent material that is available in the schools. All others are available in various degrees but Internet connectivityand Computer-based Encyclopedia are most unavailable in the schools. Only computer systemsare available in upper basic schools but they are not used for instructional purposes. Computer-based Instructional Programmes (CIP) are not used by Social Studies teachers. Only computer systems are occasionally used for information processing and storage purpose.Computer-based Instructional Programmes (CIP) for teaching Social Studies are characterized by documentaries, programme-designed, manufactured software, internet-based materials but they are not used by Social Studies teachers.

Visual aids are pictorial and electronic teaching and learning materials that may be locally or commercially produced meant to make learning easy. They appeal mostly to the sense of seeing. They come in form of wall charts, illustrated pictures, pictorial materials and other two dimensional objects. They can also be inform of visual and sound e.g. television, projector, e.t.c. which appeal to the sense of seeing and hearing. The visual aids are important teaching and learning materials that could be used to facilitate the teaching and learning of Geography. Lathin and Onthirets (2011) conducted a study on the availability and utilization of instructional materials for science teaching in some selected post-primary institutions in Jema'a Local Government Area of Kaduna State. In the findings of the study, the inadequacy of the materials available was established. The few instructional materials available were not utilized in the teaching due to ill-preparedness of teachers, lack of appropriate materials and erratic power supply. This study shows that instructional materials play a vital role in teaching and learning process.

Geography as one of the core subjects at the Senior Secondary Schools will be better facilitated when suitable and relevant instructional materials are employed during its teaching and learning. This is necessary as Federal Republic of Nigeria through National Policy on Education (2013) grouped Geography as a core subject at the Senior Secondary School level; the instructional materials must take into consideration the need for strategies that will assist the learners to appreciate the subject. Thus, the need for a study that will document the efficiency of instructional materials at the Senior Secondary School level in facilitating the teaching of Geography raised.

Improper utilization of visual teaching and learning materials and or their total exclusion during Geography lessons has some negative consequences on student's performance during Geography examinations. Unpublished reports from examination supervisors have it that most students or candidates of Geography examination apparently avoided topographical maps, which they simply fold and keep in their pockets without attempting the questions. As such, such students failed the examination because the topographical maps questions take a substantial amount of marks out of the total marks of the entire Geography examination. Obviously, in the light of this, it is either the students have no knowledge or have not seen a topographical map in their entire school life.

In 2007, West Africa Examination Council (WAEC Examiners' Report) indicated that in Geography examination, the performance of the candidates was poor and that their weaknesses were manifested in areas of Map Reading. The report stated that most candidates could not identify

simple features on topographical map due to poor knowledge of map reading and interpretation of survey maps. Also, most candidates could not identify the given physical features on the survey maps and were poor in description of relief and settlement. This demonstrated clearly that there was negligent in the application of visual teaching and learning materials in the teaching and learning of Geography or there was an absolute absence of visual teaching in teaching and learning of Geography at the Secondary School level.

Since Geography is one of the subjects in Senior Secondary School level, the need to adopt a more pragmatic approach in its teaching is highly needed. Theories and principles of teaching generally require that, for an effective and efficient teaching process, teachers need to go an extra mile so as to make teaching-leaning process more interesting. Educators have also agreed on the need of extra means to enhance teaching. In fact, the objective prescribed for the teaching of Geography at Senior Secondary School level made it compulsory for the use of instructional materials. For example, the syllabuses for Geography at the Senior Secondary Schools prescribe some objectives to be attained at the end of instruction. These include need for selective teaching, the appreciation of Geography as a dynamic subject and the facilitation of international solidarity (Kozah, 2007).

Consequently, for the teaching of Geography to be effective and efficient, it is mandatory for teachers to make use of varieties of instructional materials. Recent development in education has emphasized that if instructional materials are available in schools and teachers are adequately groomed and trained to handle various instructional materials during the pre-service training, the objectives of Geography outlined by West Africa Examination Council (WAEC) and National Examination Council (NECO) will be attained. On the other hand, if adequate attention is not given to the availability and usability of instructional materials, most abstract concepts will not be highly appreciated by the students thereby leading to memorization and relegation of facts, which will not promote effectiveness and efficiency of the learners. Latin and Onthirets (2011) and Jekayinfa (2005) found that many instructional materialswere not effectively used in schools for instructional purposes. Some of the materials were used for administrative purpose and school decoration. Some of the instructional materials were not utilized in the teaching due to ill-preparedness of teachers.The teacher should make use of appropriate instructional materials. He must know the instructional materials that are available for teaching secondary schools and be able to utilize them for achieving the educational objectives (Okobia, 2011).

Geography is one of the most important fields of knowledge that helps in understanding of the physical surroundings as well as human development. In recent years, there has been an increasing interest of researchers on environmental problems; causes, effects and preventive measures on the problems. Hence, the teaching and learning of Geography is marred with a number of environmental problems that consequently create awareness about physical environment. Some students tend to avoid Geography during their studies due to its non-motivational aspects as a result of approaches or methods adopted by Geography teachers. In spite of the desire for Geography education by so many Secondary School students coupled with the fact that Geography is one of the core subjects as stated by Federal Republic of Nigeria via National Policy on Education (2013), the subject is still facing some problems like non-availability of instructional materials for the effective teaching and learning, ineffective utilization of the few available resources and lack of adequately trained teachers to teach the subject. Furthermore, some of the teachers specialize in other related subjects like Political Science and Social Studies but are found teaching Geography. Consequently, the teaching of Geography is subjected to the methods of their individual subject areas as well as not seeking adequate instructional materials to support the teaching and learning of social science subjects in secondary schools in Nigeria and Geography is one of the social science subjects. In the light of this, the researcher has this problem to investigate the availability and usability of visual instructional materials for teaching Geography in Senior Secondary Schools in Osun State.

Research Questions

The following research questions were raised and answered in the study.

a. What are the available visual instructional materials for teaching Geography in Senior Secondary Schools?
b. Do Geography teachers use the visual instructional materials for teaching the subject in Senior Secondary Schools?
c. To what extent do Geography teachers use instructional materials for teaching the subject in Senior Secondary Schools?

Method

The researcher employed descriptive survey research design for the study. The population for the study comprised Geography teachers in both public and private Senior Secondary Schools of four

local government areas (Ifelodun, Boripe, Odo-Otin and Boluwaduro) of Osun State which have 79 Senior Secondary Schools. The target population for the study comprised 128 Geography teachers in both public and private Senior Secondary Schools in the four local government areas. The sample size of this study was 128 Geography teachers out of 1,256 Senior Secondary School teachers in the four local government areas considered. The instrument designed for this study was a questionnaire developed by the researcher titled *"Availability and Usability of Visual Instructional Materials for Teaching Geography in Senior Secondary Schools Questionnaire* (AUVIMTGSSSQ)*"*. The questionnaire contained items with closed and open-ended optionswas used for data collection and it was divided into three sections:section A, B and C. Section A is the preliminary section which addressed the demographic information of the respondents such as gender, educational qualification and teaching experience. Section B dealt with availability and usability of visual instructional materials in teaching Geography while Section C was based on extent at which the visual instructional material was used. Construct validity of the instruments wasdeterminedby submitting it to two experts for vetting and necessary suggestions, inputs and corrections were taken into consideration in the questionnaire before final administration. The reliability of the instrument was determined by collecting the same data from the sampled respondents who were not finally part of the study and the information gotten was compared and discovered consistent. The reliability was estimated using test retest technique with 0.79 confidence level.

Results

Research Question One: What are the available visual instructional materials for teaching Geography in Senior Secondary Schools?

Table 1: Available Visual Instructional Materials for Teaching Geography in Senior Secondary Schools.

S/N	Variables	Available	Available (%)	Not Available	Not Available (%)	Mean
1	Pictures	102	82.90	21	17.10	1.18
2	Economic Map	28	22.80	95	77.20	1.78
3	Population Map	29	23.60	94	76.40	1.78
4	Atlas Map	114	92.70	9	7.30	1.07
5	Climate and Vegetation	48	39.00	75	61.00	1.61
6	Contour Map	25	20.30	98	79.70	1.80
7	Map of Nigeria	119	96.70	4	3.30	1.03
8	Models	50	40.70	73	59.30	1.59
9	Temperature Map	10	8.10	113	91.19	1.92
10	Rain guage	35	28.50	88	71.50	1.72
11	Topography Map	43	35.00	80	65.00	1.65
12	Wind Vane	65	52.80	58	47.20	1.47
13	Thermometer	27	22.00	96	78.00	1.78
14	Textbook	123	100.00	0	0.80	1.00
15	Computer	79	64.20	44	35.80	1.34
	Weighted Mean					**1.51**

Source: *Field survey 2021*

Table 1 answered the research question one on available visual instructional materials for teaching Geography in Senior Secondary Schools in Osun State, where 82.90% (1.18) respondents indicated they had pictures, 22.80%(1.78) respondents indicated they had economic map, 23.60%(1.78) respondents indicated that they had population map 92.70% (1.07) respondents indicated they had atlas map, 39% (1.61) respondents indicated they had climate and vegetation map, 20.30% (1.80) respondents indicated they had contour map, 96.7% (1.03) respondents indicated they had models, 8.1% (1.92) respondents indicated they had rain guage, 35% (1.65) respondents indicated they had wind vane, 22% (1.78) respondents indicated they had thermometer,100% (1.0) respondents indicated they had textbook, while 44.6% (1.34) respondents had computer. This shows the weighted mean to be 1.51. The mean was determined by adding and dividing (2+1/2=1.51).

Research Question Two: Do Geography teachers use the visual instructional materials for teaching the subject in Senior Secondary Schools in Osun State?

Table 2: The Use of Visual Instructional Materials for Teaching Geography in Senior Secondary Schools.

S/N	Variables	Use	Use (%)	Not Use	Not Use (%)	Mean
1	Pictures	101	82.10	22	17.9	1.18
2	Economic Map	26	21.10	97	78.90	1.79
3	Population Map	28	22.80	95	77.20	1.77
4	Atlas Map	112	91.10	11	8.90	1.16
5	Climate and Vegetation	49	39.80	74	60.20	1.60
6	Contour Map	22	17.90	101	82.10	1.82
7	Map of Nigeria	118	95.9	5	4.10	1.04
8	Models	49	39.80	74	60.20	1.60
9	Temperature Map	14	11.38	109	88.62	1.91
10	Rainguage	32	26.00	91	74.00	1.74
11	Topography Map	38	30.90	85	69.10	1.69
12	Wind Vane	64	52.00	59	48.00	1.48
13	Thermometer	21	17.07	102	82.93	1.99
14	Textbook	123	100	0	0	1.00
15	Computer	0	0.0	123	100.0	1.00
	Weighted mean					**1.51**

Source: *Field survey, 2021*

Table 2 answers research question two on whether the Geography teachers make use of visual instructional materials in teaching the subject in Senior Secondary Schools in Osun State.From the table 2, 82.10% (1.18) respondents used pictures, 21.19% (1.79) respondents used economic map, 22.8% (1.77) respondents used population map, 91.1% (1.16) respondents used atlas map, 39.8% (1.60) respondents used climate and vegetation map and models respectively, 17.9% (1.82) respondents used contour map, 95.9% (1.04) respondents used Map of Nigeria, 11.38% (1.91) respondents used temperature map, 26 (1.74) respondents used rainguage, 30.9 (1.69) respondents used topography map, 52% (1.48) respondents used wind vane, 17.07% (1.83) respondents used thermometer, 100% (1.00) respondents used textbooks while 50.4% (1.50) respondents used computer. This showed the total weighted mean to be 1.51.

Research Question Three: To what extent do Geography teachers use instructional materials for teaching the subject in Senior Secondary Schools in Osun State?

Table 3: Level of usage of visual instructional materials by Geography teachers to teach the subject in Senior Secondary Schools in Osun State.

S/N	Variables	Always	Always (%)	Frequently	Frequently (%)	Not at all	Not at all (%)	Mean
1	Pictures	22	17.90	85	69.20	22	17.90	1.98
2	Economic Map	6	4.90	19	15.40	97	78.90	2.71
3	Population Map	10	8.10	18	14.60	95	77.20	2.62
4	Atlas Map	30	24.40	83	67.50	10	8.90	1.85
5	Climate and Vegetation	13	10.60	36	29.30	74	60.20	2.46
6	Contour Map	12	9.80	10	8.10	101	82.10	2.66
7	Map of Nigeria	42	34.10	76	61.80	5	4.01	1.71
8	Models	9	7.30	42	33.50	74	60.20	2.75
9	Temperature Map	10	8.10	4	3.30	109	88.60	2.72
10	Rain guage	3	2.40	29	23.60	91	74.00	2.63
11	Topography Map	13	10.60	24	19.50	85	69.10	2.53
12	Wind Vane	3	2.40	61	49.60	59	48.00	2.41
13	Thermometer	5	4.10	16	13.00	102	82.90	2.71
14	Textbook	109	88.60	14	11.40	0	0.00	1.11
15	Computer	0	0.00	0	0.00	123	100.00	2.34
	Weighted mean							**2.01**

Source: *Field Survey, 2021*

This table shows that the textbooks are always used by most of the respondents with 88.6% (1.11) level of usage, followed by map of Nigeria with 34% (1.71) level of usage, economic map had 4.9% (2.71) usage, population map had 8.1% (2.62) usage, atlas map had 24.40% (1.85), climate and vegetation map had 10.6% (2.46), contour map had 9.76% (2.66) usage, models had 7.3% (2.75) usage, weather map had 8.1% (2.72) usage, rainguage had 2.4% (2.63) usage, topography map had 10.6% (2.53), wind vane had 2.4% (2.41) usage, thermometer had 4.1% (2.71) usage, while computer had 8.90% (2.34) usage. This showed the total weighted mean to be 2.01.

Discussion

Findings of the study revealed that textbooks were available in all schools. Atlas, map, map of Nigeria, pictures were also available in most schools, while economic map, population map, contour map, temperature map, thermometer and rainguage were less available. This implies that many schools had prominent instructional materials. This finding is consistent with the findings of Olokooba (2015) and Okobia (2011) who found that instructional materials for subjects in secondary schools were available in various percentage, but were not effectively used in schools for instructional purposes.

In the study, findings shows that pictures, atlas map, map of Nigeria, textbooks and windvane were effectively used by the teacher in schools while other visual instructional materials like economic map, contour map, temperature map and thermometer were not used. This indicates that non-availability of the materials affect the usage which may also effective teaching and students' performance in Geography. This finding supported the finding of Jekayinfa (2005) who reported that many instructional materialswere not effectively use in the schools for instructional purposes. Some the materials were used for administrative purpose and school decoration. It is in line with the findings of Lathin and Onthirets (2011) who found that instructional materials were not utilized in the teaching due to ill-preparedness of teachers.

Findings of the study also revealed that only textbooks were always used by most of Geographyteachers; pictures, atlas map, map of Nigeria and models were frequently used while other visual instructional materials were not used. This implies that non-availability and usage of instructional materials determined the extent of using the materials in the classroom. The finding is consistent with finding of Olokooba (2015) who discovered that minimal use of instructional materials in classroom was so common in many secondary schools in Nigeria.

Conclusion

It can be concluded that visual instructional materials for teaching Geography were available because all the 15 essential visual materials for teaching the subject that were listed on the questionnaire were available. Also, according to the research statistics, the available visual materials were not equally available in all the schools. Only textbooks were 100% available. It also concluded that the available visual materials have not been effectively and judiciously utilized by the teachers to teach Geography. Only textbook had 100% usage by the teachers.

According to responses from the respondents, temperature map, thermometer and contour map are hardly used by the teachers and have never been used at all to teach Geography in schools where they were available. Moreover, important visual instructional materials like map of Nigeria, climate and vegetation, pictures and atlas map were only used occasionally to teach Geography in schools where they were available, but no one used computer to teach the subject.

Recommendations

Based on the findings and conclusion of the study, the following recommendations are made:

a. Seminars and workshop aim at educating the principals and teachers on the importance and advantages of using visual instructional materials in teaching and learning Geography should be organized regularly.
b. The principals and officials of the Ministry of Education should ensure regular supervision to enhance effective use of visual instructional materials in the teaching of Geography in Senior Secondary Schools.
c. Teachers of Geography should endeavour to make proper use of visual instructional materials to teach the subject and also improvise where standard instructional materials are not available.

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