THE IMPACT OF INSTRUCTIONAL MATERIALS IN TEACHING AND LEARNING BIOLOGY IN SENIOR SECONDARY SCHOOLS A CASE STUDY IN OREDO LOCAL GOVERNMENT AREA.

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MAY, 2024.

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A RESEARCH PROJECT SUMMITED TO THE DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY, FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF B.SC. (ED) DEGREE IN BIOLOGY EDUCATION

MAY, 2024.

CERTIFICATION

We the undersigned, certify that this research work was carried out by OSABUOHIEN OSA OKUNDIA in the Department Of Curriculum And Instructional Technology, Faculty of Education, University Of Benin, Benin City.

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DEDICATION

This research work is dedicated to the Almighty God for His infinite mercy, protection, undeserved grace, favour, boundless love, good health and divine provision for my life.

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ABSTRACT

The study was carried out to assess the impact of instructional materials in teaching and learning Biology in senior secondary schools a case study in Oredo Local Government Area. The study was guided by four research questions were raised to guide the study. The Descriptive survey research design was adopted for this study and the population of Senior Secondary School Students in Oredo Local Government Area. The sample size of one hundred students and twenty teachers made up the respondents was achieved using the simple random sampling technique. The data collected from both teachers and students were analyzed using the Cronbach Alpha statistics. An Alpha value of .78 and .72 were obtained. The data were analyzed, tabulated, interpreted and then discussed. Percentage and frequency were adopted as a method of data analysis.

The findings of the study therefore clearly revealed that; teachers consider instructional materials as key to academic performance. Lack of school library, lack of books and lack of reliable internet connection are some of the challenges encountered in the use of instructional materials. Improvisation and borrowing of instructional materials that are not available is of the method utilized in minimizing shortages of instructional materials. Following the findings of the study, the researcher recommends below; teachers should try hands on the production of simple aids so that students can see what they are talking about in the lessons. The government should establish resources centers to enable teachers borrow teaching aids which may not be in the schools.

CHAPTER ONE

INTRODUCTION

Background of Study

Instructional materials are print and non-print items that are rested to impact information to students in the educational process. Instructional materials include items such as: charts, textbooks, magazines, newspapers, pictures, recording videos etc. Instructional materials play a very important role in the teaching and learning process. It enhances the memory level of the students. At this time that education has spread wide and entirely, oral teaching cannot be the key to successful pedagogy; therefore the teacher has to use instructional materials to make teaching and learning process interesting (NIC hulls, 2003; Raw 2006) . According to Abdullahhi (2010), instructional materials are tools locally made or imported that help to facilitate the teaching/learning process. Obanga (2005) view them as materials things which are use to composed ported that could make tremendous enhancement of intellectual use impact the instructional materials

The use of instructional materials can enhance the learning achievement. Cronbach (2009) states the important elements of behaviour that provides the base for learning theory situation which consists of all the objects, persons and symbols in the learning environment. Experience in situation prepares a person to respond to similar situation in future. Use of instructional materials can appeal to the individual attention by creating interest goal that will help the learner achieve direct effort. Teacher's problem of motivation is essentially one of

arranging situation with instructional materials in which the learner will see goals he want to attain. Brown (2005) summarized the role of teaching aids as follows:

1. It promotes meaningful communication and effective learning.
2. They ensure better retention, thus making learning more permanent.
3. They help to overcome the limited classroom by making the inaccessible accessible.
4. They provide a common experience upon which late learning can be developed. They stimulate and motivate students to learn.
5. They encourage participation especially if students are allowed to manipulate materials used.

Osuala (2010) in his own contribution said it does not only help to motivate and develop interest on the part of the student, but also help to bring about an enhance respect for teachers knowledge of the subject. Instructional materials are also described as concrete or both to the sense organs during teaching (Aginna-Obu 2000).

The nature of the learning and the wide range of student's abilities in the average classroom necessitate a high degree of teachers and experience in the method of presenting the subject matter. This has been truncated with the unavailability of instructional materials in schools. However, a common goal a teacher carries wherever he is, is to make lesson presentation vitally fresh, stimulating and testing for their students. This will help the teacher to individualize the learning method as well as the content and also working according to the

student's need. This goal can be reached most effectively through the use of instructional materials

The need to emphasis on the use and importance of instructional materials in any learning and teaching environment cannot be underestimated. For any learning to take place, the teacher has to make use of these materials that would enable him to teach effectively. Equipment and other instructional materials to the some extent determine the method the teacher uses in teaching Biology. The method adopted could be demonstration, experimental, discussion etc. It is generally agreed by both teachers and school administrator that apart from the chalkboard and textbooks which are often available for the teacher to use, there are other materials that aid or are capable of complementing the teacher's effort in teaching/learning process. Those materials are commonly called "instructional materials".

One of the reasons why students in our secondary schools sometime find it difficult to comprehend immediately what is being taught by the teacher is the non availability of instructional materials that can easily convey the message of the lesson to the learners. Orji (2000) asserts that teaching aid is "the guidance of learning activities" that "a teacher uses to motivate and arouse student's desire to learn" From the fore-going statement, it can be agreed that for effective learning to take place, a student need to be properly guided by the teacher by way of employing various method and means through which his teaching could be meaningful.

Statement of the Problem

In spite of the importance of instructional materials to academic performance of students, it is observed that most students complain of being taught biological concepts by the use of lecture method, chalk and board and main verbal explanation making the learning process abstract to students and trying to think and draw assumptions and creating images of what the teachers is trying to explain or say inside their mind which sometimes be inline while some out of point or far from what the teacher is explaining.

It is on the strength of the above, that the researcher deems it necessary to research so as to highlight the role that instructional materials play in teaching and learning process and also study the problems that are associated with effective application of instructional materials in teaching and learning of Biology in senior secondary schools in Oredo.

Research Questions

Following research questions were formulated to guide the study.

1. Do instructional materials influence student's academic achievement?
2. Can students taught with instructional materials achieve higher score than those taught without the use of teaching aids?
3. Can instructional materials foster self-teaching and assessment there by permitting the learner to advance at his own pace?
4. Do instructional materials promote retention?

Purpose of the Study

This research is geared towards improving the teaching and learning of Biology students in secondary schools in Oredo Local Government Area of Edo State.

i. examine instructional materials influence student's academic achievement.
ii. find out if students taught with instructional materials achieve higher score than those taught without the use of teaching aids.
iii. investigate if the instructional materials foster self-teaching and assessment there by permitting the learner to advance at his own pace.
iv. investigate if the use of instructional materials promote retention.

Significant of Study

The results of this study will help teachers understand how to effectively use instructional resources to facilitate effective reading teaching and learning for their own benefit.

The study will identify the issues that prevent students from learning Biology effectively using instructional materials and will make recommendations for how to address these issues.

Students will gain from the study when teachers employ the usage of instructional materials in teaching Biology since it will answer the issue of students' abstract

thinking. Students will learn more if there are visual aids in the classroom that support the lessons being taught.

The government and school administrators will be able to address some issues with the provision and use of educational materials thanks to this study. Students would also benefit from the study since they stand to gain from any advancement in the lecturing style of the lecturers.

When the study is finished, it will be a source of knowledge and information for anyone in the public curious to learn more about how instructional materials are used to teach Biology to children .

Scope and Delimitation

This study examined how senior secondary Biology students in the senior secondary schools of the Oredo Local Government Area were taught using visual aids. Public Senior Secondary School students in Edo State's Oredo Local Government Area were the only ones included in the study.

Definition of Terms

Teaching: Is an occupation (Job we do), it is an enterprise (a cluster of activities a teacher may be engaged in during a specific time period).

Learning: Refers to a process which produces series of changes in human behaviour and experiences.

Instructional Materials: Are any item or element which a tutor uses to deliver the best teaching experience.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter presents the relevant literature for this study. The first part presents theoretical literature.

- Instructional Material Theories
- Sociocultural Theory of Teaching, Learning, and Development
- The Extent to which Instructional Materials Affect Student Performance
- Challenges that Teachers Face in Accessing Instructional Materials
- Challenge that Teachers Face is the Lack of Exposure and Limited Accessibility to Modern Instructional Facilities.
- Summary of Reviewed Literature

Instructional Material Theories

Instructional material theories assume that there is a direct link between the materials that the teachers use, and the students' learning outcomes. These outcomes include higher abilities to learn, quality strategies to learn and perform classroom activities and positive attitude towards learning. Further, these theories assume that instructional materials have the capacity to develop into students the highest order of intellectual skills as they illustrate

clearly, step by step how to follow the rules/principles and elaborate on the concepts, all of which have positive impact on solving new problems by analyzing the situation and formulating a plan (Gagné, 2005). According to Gagne et al, instructional materials can be used to develop higher learning abilities to the learners through self-teaching or guided learning. This implies that the instructional materials mainly comprise "eliciting performance" and "providing feedback on performance correctness," in addition to "providing learning guidance" for guided discovery learning. Many of Gagné's 9 ideas have broad implications for secondary teachers in community secondary schools in Oredo Area. Many of these ideas have capacity building undertones with themes of students' acquisition of critical thinking and problem-solving skills. However, the theory does not relate to whether or not students can think critically in what aspects or how they can solve a particular problem by themselves. However, I have the opinion that the purpose of instructional materials or technology in education is to stretch students' imagination and to encourage them to solve problems in their lives.

Similar ideas are held by Lev Vygotsky, a Russian psychologist who held a view that tools and signs, which are in a form of instructional materials, have the capacity to develop in students higher level of thinking, which is important in problem-solving activities. However, since they are considered to be domain-specific, the ways instructional materials can start cognitive development is yet to be studied with respect to classroom teaching. Thus, this study stretches these views.

Sociocultural Theory of Teaching, Learning, and Development

Sociocultural theory of teaching, learning and development is the second theory that framed this study. Largely inspired by the seminal works of Lev Vygotsky, this theory assumes that human minds do not develop by virtue of some predetermined cognitive structures that unfold as one matures. Rather, this theory posits that human's minds develop as a result of constant interactions with the social material world.

According to Vygotsky, human mind develop through interaction with materials in the learning process where people learn from each other and use their experiences to successfully make sense of the materials they interact with. These experiences are crystallized in 'cultural tools', and the learners have to master such tools in order to develop specific knowledge and skills in solving specific problems and, in the process, become competent in specific profession. In the classroom, these tools can be a picture, a model, or pattern of solving a problem. Most often however, such tools are combinations of elements of different orders, and human language is the multi-level tool par excellence, combining culturally evolved arrangements of meanings, sounds, melody, rules of communication, and so forth.

Learning by using such tools is not something that simply helps the mind to develop. Rather, this kind of learning leads to new, more elaborated forms of mental functioning. For example, when children master such a complex cultural tool as human language, this results not only in their ability to talk but leads to completely new levels of thinking, self-regulation and mentality in general. It is the specific organization of this tool

(e.g., the semantic, pragmatic and syntactic structures of language) that calls into being and in effect shapes and forms new facets of the child's mind. Importantly, cultural tools are not merely static 'things' but embodiments of certain ways of acting in human communities. In other words, they represent the functions and meanings of things, as discovered in cultural practices they are "objects-that-can-be used- for-certain-purposes" in human societies. As such, they can be appropriated by a child only through acting upon and with them, that is, only in the course of actively reconstructing their meaning and function. And such reconstruction of cultural tools is initially possible only in the process of cooperating and interacting with other people who already possess the knowledge (i.e. the meaning) of a given cultural tool.

This short account is presented here to illustrate the fact that the sociocultural approach, unlike that of instructional materials by Gagne discussed above, not only allows for a synthesis of teaching, learning, and cognitive development; it actively calls for it. This theory implies that instructional materials lead to cognitive development because they mediate learners' thinking through the tools, and such mediation constitutes the very cornerstone of mental development.

The Extent to which Instructional Materials Affect Student Performance

In his study Adeogun (2001) revealed a strong positive link between instructional resources and academic performance. According to Adeogun, schools that possess more instructional resources performed better than schools that have less instructional resources.

This finding supported the study by Babayomi (1999) that private schools performed better than public schools because of the availability and adequacy of teaching and learning resources. Adeogun (2001) noted that there was a low level of instructional resources available in public schools and hence commented that public schools had acute shortages of both teaching and learning resources further commented that effective teaching and learning cannot occur in the classroom environment if essential instructional resources are not available.

Fuller and Clark (1994) suggested that the quality of instructional processes experienced by a learner determines quality of education. In their view they suggest that quality instructional materials create into the learners quality learning experience. Mwiria (1995) also supports that students performance is affected by the quality and quantity of teaching and learning resources. This implies that the schools that possess adequate teaching and learning materials such as textbooks, charts, pictures, real objects for students to see, hear and experiment with, stand a better chance of performing well in examination than poorly equipped ones.

Challenges that Teachers Face in Accessing Instructional Materials

Teachers in community secondary schools most especially in rural community schools face some challenges in accessing instructional materials. One of the big challenges that teachers in community secondary schools face in accessing instructional materials is little funds provided by the government to community secondary schools for purchasing

instructional materials. Community secondary schools depend to the large extent on the government for funding. Very little support is received from local government and communities around the schools most especially in rural areas due to poverty. The funds are provided in form of capitation grants. The capitation grant is aimed at improving the quality of education by making sure that sufficient teaching and learning material are found at school level. In particular, the capitation grant is meant to finance the purchase of textbooks and other teaching and learning materials as well as to fund repairs, administration materials, and examination expenses (Uwazi, 2010).

However, while the number of students who are enrolled in schools has been increasing each year, education capitation grant has been dropping. Even without adjusting for inflation, the actual amount of money reaching schools for capitation grants is clearly much less today compared to what it was between 2002 and 2003. According to the Education Public Expenditure Tracking Survey of 2004, in the period 2002-2003 schools received an average of 5,400 shillings per pupil. In 21007/08 however, the money actually reaching the schools had declined to 4,189 shillings per pupil (URT, 2010). This amount of money is grossly insufficient to purchase a minimum set of textbooks apart from other instructional materials which are highly needed by the teachers. According to Onche (2014), government's Policy towards efficient provision of these aspects of educational resources has not been encouraging and has always not been well planned, monitored, supervised and evaluated with rural schools as the back bench of implication of these policies.

Challenge that Teachers Face is the Lack of Exposure and Limited Accessibility to Modern Instructional Facilities.

Most community secondary schools especially in rural areas do not have access to information communication technology (ICT) which could alleviate shortage of instructional materials. As we are in a new millennium, there is an increased awareness of the need to use modern scientific approach in teaching and learning processes in our schools.

At present, there is a universal recognition of information and communication technology as a major force in the dissemination of knowledge (Aina, 2013). Majority of teachers who were trained early 1990's and backward do not have skills in the field of Information and Communication Technology. Where there are skilled teachers, other problems naturally include problem of installation, maintenance, operation, network administration and local technicians to service or repair these equipment's and the other facilities. In most of the rural secondary schools, most of the facilities are non-existent, hence the traditional chalk and duster approach still dominates in secondary school pedagogy (Obasi, 2008).

Poor salary is also another challenge that teachers face. This is becomes a hindrance for them to purchase their own teaching materials or acquisition of new ideas, skills and knowledge by failure in enrolling for further educational programmes including Information and Communication Technology (ICT). With this, the academic and intellectual capacities of teachers and learners are bound to be affected substantially during classroom interaction

(Onche, 2014). Lack of sufficient skills and creativity may hinder teachers to improvise their own instructional materials.

Local governments and communities around community secondary schools are supposed to provide resources most especially funds to these schools so that teachers can use them to access instructional materials. But very often this is not the case due to number of reasons. Some local communities have very narrow tax base. Also the performance of local councils in the collection of their own revenue have been recorded very poor.

According to Galabawa (1993), there are few types of councils in Tanzania, which can manage to collect government grants. Many local authorities however have found themselves unable to deal with such a rapid increase in expenditure and their budget deficit increase. Education is one of the sectors, which are mostly affected by this situation. Poverty is another reason, which may hinder members of the community in supporting teachers and schools financially so that they can access instructional materials. According to Kimego (2011), Parents and communities participation differ from rural to urban communities and from one mode of economy to another. Parents who are involved in cash crops economy have economic ability to finance education compared to parents who are not involved in cash crop economy. For example pastoral communities such as Masai have displayed poor financing strand for their children. Teachers who work in such areas have more challenges in accessing instructional materials.

Another challenge that teachers face in accessing instructional materials is lack of clear policy and monitoring mechanisms to ensure that enough funds are provided to community secondary schools for purchasing instructional materials and also these funds are used for the intended purpose. As Onche (2014) comments, government's Policy towards efficient provision of these aspects of educational resources has not been encouraging and has always not been well planned, monitored, supervised and evaluated with rural schools as the back bench of implication of these policies Strategies to Minimize the Challenges of Attaining and using Quality Instructional Materials.

There are a number of strategies, which can be used in order to minimize the challenges of attaining and using quality instructional materials. According to studies done in different parts of the world including Africa, one of the strategies is improvisation of instructional materials. Eshiet (1996) states that improvisation involves sourcing, selection and deployment of relevant instructional materials into the teaching-learning focus in the absence or shortage of standard materials for a meaningful realization of specified educational goals and objectives.

According to studies done by Abodelraheem & Al-Rabane (2005), Udosen (2011) and Ibe-Bassey (2012) some creation of improvised media of low technological materials and resource-centred learning can enlarge the limited knowledge base of any course of study and enrich instruction to a guaranteed quality. It can also promote strategies that ensure the integration of technology in the teaching and learning process of basic science education.

Their findings are in agreement with the findings of Dodge (1997) who observed that using technologies like simulation devices open new horizons for individual learning tools, the environment resources and services. The use of ICT can also minimize some of the challenges in accessing instructional materials. According to UNESCO (2004), the use and rapid spread of electronic communications has the capacity to affect the quality and efficiency of basic education throughout the world. The ease with which teachers and students can gather information over the Internet on virtually any topic has the potential to transform instructional content and pedagogical practice.

Moreover, courses developed by the best teachers in one country can be made available to students across many countries. Newer technology-based instructional strategies, incorporating the Internet and the World Wide Web (WWW), can therefore be used more to expand communication and increase access to resources. Tinio (2002), points out that ICT has potentials in increasing access and improving relevance and quality of education in developing countries. Tinio further states the potentials of ICT as follows: ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems.

Most studies that look into the students performance, do not attach it with inadequacy or lack of instructional materials. Although studies in Tanzania (see for example those of Sumra and Rajani, 2006; Hakielimu, 2007; Makombe et al, 2010) have lamented on poor performance in secondary schools, they did not link this situation with inadequate

quality instructional resources. These studies are clear that there is a problem in secondary schools and this is directly linked to inadequate quality instructional materials and thus, it will contribute to the literature on quality education in Oredo.

Conceptual Framework: Conceptual framework in this study is based on Bloom's (1982) model of evaluation because of its suitability in utilization and usage of instructional materials in the process of teaching and learning. It was useful in examining the interdependence of variables, teaching materials, teaching and learning process to students' performance as an outcome. The model consists of three items: Predictor variables, Mediating variables and Performance. A Model for Explaining Role of Instructional Materials in Students' Academic Performance

According to Bloom (1982) predictor variables and mediating variables influence greatly students' performance. The idea contained in the model that if the predictor variables and mediating variables were of high quality, then teaching and learning process would produce high academic performance

The model examines the relationship between variables, availability and effective use of adequate and quality instructional materials in the process of teaching and learning for higher performance. It is anticipated that if there were enough and quality instructional materials in the teaching transaction, and well utilization of those materials, they would contribute to quality teaching and students' high academic performance. It was also hoped

that students would be more motivated to learn when they are exposed to quality instructional materials because their motivation would determine their success.

Summary of Reviewed Literature

This chapter presented the relevant literature for this study. The first part looked at theoretical literature. This is focused on two theories: Instructional material theories and Sociocultural theory of teaching, learning, and development. The second part presented literature that revolved around the three objectives developed in chapter one. These included: the extent to which instructional facilities affect student performance; the challenges that teachers in community secondary schools face in accessing instructional materials; and the strategies that teachers use to minimize the challenges of attaining and using quality instructional materials. The last part presented conceptual framework that was developed by Stufflebean comprised of the context, input, process and output.

In this regard the literature reviewed was conducted outside Oredo Local Government Area, hence this research seek to investigate the impact of instructional materials in teaching and learning biology in senior secondary schools a case study in Oredo Local Government Area.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter provides a description of the methodology, which was used in this study. It includes description of the

- Research Design
- Population of the Study
- Sample and Sampling Technique
- Research Instrument
- Reliability of the Instrument
- Validity of the Instrument
- Method of data Collection
- Method of Data Analysis

Research Design

Aaker (2002) defines a research design as the detailed blue print used to guide a research study towards its objectives. Method design, sample design and analysis design was used. Cross section studies were used during data collection. According to Saunders et al (2004) a cross sectional design allows data to be collected at a single point in time without repetitions from a sample selected to represent some large population and therefore using

minimum time and resources. In this study, the design was favourable because of limited resources like time, labour (personnel) and transport.

A descriptive survey research design was adopted for this study which is to investigate the influence of parental socio economic status on students' academic achievements in Oredo Local Government Area of Edo State.

Population of the Study

The population of study comprises of twelve thousand and fifty nine (12,059) students in the fourteen (14) public Senior Secondary schools in Oredo Local Government Area of Edo- State.

Sample and Sampling Technique

It comprise of four (4) public secondary schools randomly selected from the total population of fourteen (14) public secondary schools in Oredo Local Government Area of Edo State. And in each school, 5 teachers and 20 students filled semi-structured questionnaire. In each school. The population studied comprised of both sexes regardless of age. The total number of respondents were 120.

Table 1: Number of students and teachers selected from each of the sample schools.

S/N	Names of schools	Number of students	Number of Teachers
1.	Edo College	25	5
2.	Idia College	25	5
3.	Oredo Girls Secondary School	25	5
4.	Edokpolor Grammar Schools	25	5
	Total	**100**	**20**

Research Instrument.

The study involved the use of questionnaire with both open ended and close ended questions. Data was collected from all respondents forming the necessary study population. Self administered questionnaire was used where by the respondent was required to read and answer the questions given, while at a given condition that is inability to comprehend the questions the researcher would ask a respondent a series of questions.

Validity of Research Instruments

The instrument was designed by the researcher and subjected to careful scrutiny by the project supervisor to ensure that it measures what it is supposed to measure. Her comments and suggestions proved very useful in improving the quality of the instruments. Two other lecturers who are expert in the field of study one from the Faculty of Education (Department of Curriculum and Instructional Technology), University of Benin, Benin City were also carried out validity on the instrument. The corrections and recommendations were built into the final draft of the instruments.

Reliability of the Instruments

In order to carry out the reliability of the questionnaire and checklist, it were pilot-tested on 20 students drawn from outside the target sample but within the population. These students were not involved in the main study. The data collected from both teachers and students were analyzed using the Cronbach Alpha statistics. An Alpha value of .78 and .72 were obtained.

Method of Data Collection

The questionnaires was administered by the researcher who visited the schools in person and meet with the principal and introduced herself as a student from the faculty of Education University of Benin, Benin-City showing her identity card. The researcher personally delivered the questionnaires to the respective schools and respondents who were randomly selected by the researcher. The on the spot collection enabled the researcher to obtain 100% return of the filled questionnaire, it also helped the researcher to offer assistance to the respondents when need arose.

Method of Data Analysis

Data were analyzed using descriptive statistics namely frequency distribution and percentages and mean value.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

Introduction

This chapter presents and discusses findings from the field. The first part discusses the background information of the respondents, the second part discusses findings on the views of teachers and students on the extent to which instructional facilities affect students performance, the third part discusses findings on the challenges facing teachers in community secondary schools in accessing instructional materials and the last part of this chapter discusses findings on the strategies that teachers used to minimize the challenges of attaining and using quality instructional materials.

Presentation of Results

Socio-Demographic Characteristics

This section describes the general background information about the categories of respondents, students and teachers.

Table 1: Summary of Information of Respondents.

Participants	Expected Numbers	Actual Numbers	Percentages
Students	100	100	100%
Teachers	20	20	20%

Table 1. Indicates that all 100 questionnaires for students who were sampled to participate in the study were returned to the researcher, which makes 100% of the expected respondents from students. 20% of the expected teachers return the questionnaire to the researcher. This implies that 100% of the expected number of respondents which is 120 participated in the study.

Students Demographic Information

The students' demographic information comprises of sex and their form (class of study). The information is summarized in Table 2.

Table 2. Demographic Information for Students (n= 100)

SEX	**SS1**	**SS2**	**SS3**	**Total**
Male Frequency	14	14	16	44
% of Total	14%	14%	16%	44%
Female Frequency	18	19	19	56
% of Total	18%	19%	19%	56%
Total Frequency	32	33	35	100
% of Total	32%	33%	35%	100%

Table 2. shows that out of 100 students participated in the study 56% were female and 44% were males. However for each class the respondents were 25%. Equal proportion of

respondents were done in order to get the opinions on the effectiveness of the instructional materials across classes irrespective of gender. Gender presentation by classes was also considered.

Teachers Demographic Information

Demographic characteristics of the teachers who took part in the study were also determined. These characteristics included; gender, academic qualifications and working experiences. The responses were summarized and recorded

Table 3: Demographic Information of the Teachers; Gender (n= 20).

Schools	Male	Female	Total
Edo College	2	3	5
Idia College	1	4	5
Oredo Girls Secondary School	1	4	5
Edokpolor Grammar Schools	2	3	5
Total Frequency	6	14	20

Table 3: Shows that each school had a total number of 5 respondents which is 20% of all teacher respondents. In each school, the researcher thought of gender representation in order to get information across gender among teachers in the selected schools.

Table 4: Demographic Information of the Teachers; Academic Qualifications (n= 20)

Qualification	Frequency	Percentage
NCE	5	25.0
Degree	13	65.0
Masters	2	10.0
Total	20	100.0

Table 4. Shows the academic qualification of the teachers in the study area. The findings indicate that the qualification is good. 25 % have NCE, 65% have degree and 10% have master degree. In the teaching professional the teachers in the study area have the required amount of education for teaching in secondary schools.

Table 5: Demographic Information of the Teachers Working Experiences (n= 20)

Working Experience	Frequency	Percentage
Below 10 years.	10	50.0
Between 10 – 20 years	6	30.0
Above 20 years.	4	20.0
Total	20	100.0

Table 5: Indicates that many teachers in the study area are relatively new employed staff of less than 10 years in the teaching profession. 50% of the teacher respondent pointed out that they had less than 10 years in the teaching. This is due to the fact that many teachers were employed during the establishment of community secondary schools at that time.

The Views of Teachers and Students on the Extent to which Instructional Materials Affect Students Performance.

The first objective sought to solicit information from the teachers on their views about the extent to which instructional facilities affect student performance. Three questions were used to solicit information for this objective. First the research wanted to establish types of instructional materials normally available and used in secondary schools, and second the perception and opinions on their effectiveness in on students' performance. Questionnaire was used to collect information from 20 teachers and 100 students. The following are the

responses. Common Instructional Materials Used in the Study Area. The common instructional materials used by teachers in the study area are summarized in Table 6.

Table 6: Availability of instructional materials for the teaching of Biology in schools.

Instructional materials	Agree	Disagree	Total
1. Charts	73	27	100
2. Posters	77	23	100
3. Maps	54	46	100
4. Computer	60	40	100
5. Video tape recorders	50	50	100
6. Cassette tape recorders	46	54	100
7. Chalk boards	84	16	100
8. Projectors	55	45	100
9. Hand lens	54	46	100
10. Biology Laboratory	54	46	100

Table 6 above shows that 73 of the respondents indicated that they have Charts, 77 have Posters, 54 have Maps, 60 Computers, 50 have Video tape recorders, 46 have Cassette tape recorders, 84 have Chalkboards, 55 have Projectors, 54 have Hand lens and 54 have Biology Laboratory.

From the responses, it is clear that Charts, posters, Computers and Chalkboard were the most common instructional materials used in secondary schools. When one looks critically on these materials, they are ready made and the teachers are not required to develop them, nor buy them individually. Normally these materials are purchased by the schools. This may lead us into believing that teachers in community secondary schools do not bother to develop or create their own instructional materials, nor do they bother to ask their students to make them. The second questions want to find out the impact of instructional materials in teaching and learning and their level of importance in teaching and learning. The responses are presented in the Table 7.

Table 7: The impact of instructional materials in teaching and learning.

Questions	**Agree**	**Disagree**	**Total**
Instructional materials make learning real and permanent	92	8	100
Instructional materials make learning lesson interesting	96	4	100
Instructional materials make learning faster	98	2	100
Instructional materials promote retention	93	7	100

Table 7.Above shows that there is relationship between the use of instructional materials in teaching and learning of students. This is because 92 of the respondents agree that instructional materials make learning real and permanent and 96 indicated that they make lessons interesting. The presentation also revealed that 98 of the respondents agree that they make learning faster and 93 of them of the opinion that instructional materials promote retention.

Opinions on the Effectiveness of Instructional Materials for Students Performance. The researcher wanted to explore the views of teachers on the extent to which instructional materials facilities and affect students performance. This question had a goal to determine the reasons why the teachers used instructional materials in teaching. The findings are summarized in Table 8.

Table 8: Factors that affects the use of instructional materials in the classroom.

Questions	Agree	Disagree	Total
1. Poor remuneration.	14	6	20
2. Poor condition of service.	12	8	20
3. Low social status	6	14	20
4. Teachers work load.	16	4	20
5. Time management.	14	6	20

Table 8. Above shows how certain factors can affect the use of instructional materials in the classroom by the teachers, 6 of the respondents indicated that they do not use instructional materials in the classroom because of poor remuneration, 8 of the respondents indicated that they do not use them because of poor condition of service, 14 of the respondents indicated that they do not use them because of low social status, 4 of the respondents indicated that they do not use them because of teachers work load and 6 of the respondents indicated that they do not use them because of time management.

Adeogun, (2001) assert that there is a very strong positive significant relationship between instructional resources and academic performance.

As Adeogun suggested, schools endowed with more resources performed better than schools that are less endowed. The respondents in this study are in agreement with the literature. This is corroborated by the study by Babayomi (1999) that private schools performed better than public schools because of the availability and adequacy of teaching and learning resources.

Discussion findings

The study aimed at finding out challenges facing teachers and students in secondary schools in accessing and using instructional materials. The goal was to determine whether the challenge emanated from the schools or from the inability of teachers to develop the instructional materials. Challenges facing teachers in accessing instructional materials

The researcher thought to investigate on the challenges that teachers face in accessing instructional materials they need for teaching are ready made and found in shops. Indicated that many teachers had qualifications and the required professionalism in the teaching. The only problem that teachers had was motivation to effective execute their professionalism which include developing instructional materials.

The results concur with the findings by Onche 2014; He pointed out that, lack of using instructional materials in secondary schools was very much related to insufficient skills and creativity among the teachers. These, Onche opined, may hinder teachers from improvising their own instructional material

The third objective aimed at assessing the strategies that teachers use to minimize the challenges of attaining and using quality instructional materials.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The objective of the study was to examine the extent to which the selected community secondary schools in Oredo Area utilize quality and adequate instructional materials in classrooms. The researcher reviewed related literatures on the impact of instructional materials for academic performance and established that there was limited research on the same locality. The limited research on this motivated the researcher to carry out this study. The study used cross sectional survey design since the area under the study has been extended and the entire population could not be covered on individual basis. The survey design employed enabled the researcher to be able to generalize the characteristics of the entire population because of its sample. The target population included Teachers and Students in Oredo Area.

The study used both probability and non-probability sampling methods. The probability sampling was used to select students and teachers in selected schools where simple random sampling was used. The instruments which were used to collect data in this study included questionnaires. Questionnaires were used to collect data from students and teachers. The collected data were coded and the analyzed and the results were presented in condensed form in terms of tables and figures.

The findings for the research questions of this study are as follows:

The first objective of this study was to explore the extent to which instructional materials affect students' performance. The findings revealed that teachers consider instructional materials as key to academic performance. This implies that the Schools with inadequacy of instructional materials and instructors are likely to perform low where as schools with adequate instructional materials and instructors are likely to perform high.

The second objective was to examine the challenges that teachers in community secondary schools face in accessing instructional materials. The findings show that schools are faced with different problems to include among others; Lack of school library, lack of books and lack of reliable internet connection. This implies that many schools perform low. In order to raise academic performance in these schools teachers need to be creative in preparing relevant instructional materials and be dedicated to improvisation. However in a situation where there is no even a single book, a teacher should buy some working tools including books otherwise she/he will be abusing the profession.

The third objective was to assess the strategies that teachers use to minimize the challenges of attaining and using quality instructional materials; The findings show that in schools that have no libraries teachers borrow books from nearby schools, some buy their own books, the heads of schools also use portion of capitation funds to purchase books that they keep in cupboard for teachers and students to borrow though they are not enough. Another strategy that is used is improvisation, in which few teachers develop and use

instructional materials such as posters and models. This implies that teachers in the study area are not comfortable with the working environment due to lack of working tools, a situation which may demotivate them to dedicate themselves to work.

Conclusion

When thoroughly analyzed, the role of visual aids cannot be separated from the teaching–learning process either partially or completely. The aspect of visual aids must be given substantial emphasis in order to establish any relevant educational program in terms of execution. Instructional resources serve to broaden the range of experiences available to students, as well as to supplement and complement the teacher's verbal explanations, thereby enriching the learning experience and increasing the teacher's interest in a wide range of learning activities. It is the responsibility of the Biology teacher to aid him/her in achieving the objectives of teaching a subject matter by providing adequate visual aids that will enable him/her to achieve his/her objectives, hence improving the academic achievement of the students taught.

Recommendations

In the light of the conclusion drawn from the analysis and facts presented in the study, the researcher endeavored to make some recommendations. These recommendations were aimed at paving way for Nigerian schools in Edo State and Oredo Local Government Area in particular to improve more on creating and uses of instructional materials in all the secondary

schools. In doing so it will help the students to carry out their learning activities with a lot interest to ensure their good academic achievement at the end of their senior school examination in Biology.

The researcher therefore recommends that:

- The government should provide instructional materials in schools to enable teachers use them in instruction.
- The government should establish resources centers to enable teachers borrow teaching aids which may not be in the schools.
- The government should organize workshops, seminars and conferences for teachers to enable them up-date their knowledge on new developments on the use of instructional materials.
- Teachers should try hands on the production of simple aids so that students can see what they are talking about in the lessons.
- School heads should supervise their teachers more closely to ensure that the available instructional materials are effectively utilized.
- Findings could be made on the variable that enhance students academic performance such as environment, age, textbook, psychological needs, teachers related factors and counseling services in schools.

- It is therefore hoped that if the above recommendations are properly carried out, it will help to improve more the performance of students in senior secondary school Biology in Oredo Local Government Area and Edo State at large.

REFERENCES

Adeogum, A. A. (2001). The principal and the financial management of public secondary schools in Osu State. *Journal of Educational System and Development. 5*(1) 1 – 10.

Aina, L. O. (2013). *Information, knowledge and the gatekeepers*. The One Hundred and Thirty-Second Inaugural Lecture delivered at the University of Ilorin, Nigeria.

Al-Rabane, A. H. (2005). Utilization and benefits of instructional media in teaching social studies courses. *Malaysian Online Journal of Instruction Technology, 2*(1), 1-4.

Babayomi A. A. (1999). *Comparative study of the Teaching and Learning Resources in Private and Public Secondary Schools in Logos State.* Masters Thesis, Department of Educational Administration, University of Lagos, Nigeria.

Bloom, B. S. (1982). *A Primer for Parents, Teachers and other Educators: All Our Children Learning*. New York: Mcgraw-Hill.

Chonjo, P. N. (1994). The quality of Education in Tanzania primary schools: an assessment of physical facilities and teaching learning materials. *UTAFITI (new series) l*(1), 36 – 47.

Clark, L. M. (2009) *Teaching tools teaching in the secondary school*. New York: Macmillan publishing co. Inc

Dodge, K. (1997). Socialization mediators of the relation between socio-economic status and child conduct problems. *Child Development 65*(2): 649-665.

Eshiet, I. T. (1996). Improvisation in science teaching. Abak: Belpot (Nig) Co. Farrant, J. S. (1980) Principles And Practices In Education. Singapore: Longman

Eshiet, L. T (2013). The use of instructional materials in the teaching of science" (ed) in fundamental of education technology Unicross

Gagne', R. M., Wager, W. W., Golas, K. C. & Keller, J. L. (2005). *Principles of Instructional Design*. Belmost, CA: Thompson.

Ibe-Bassey, G. S. (2012). *Educational technology: The teaching learning process and the falling standard of education in Nigeria*. 35th Inaugural lecture series of the University of Uyo, Uyo. Nigeria.

Kimago, H. R. (2011). *Study Guide for Med APPS Course*. Dar es Salaam: University of Dar es Salaam.

Obasi, E. (2008). *Challenges for secondary education in the culturally diverse Nigerian society*. Being text of lead paper at the National Association of Sociologists of Education (NASE) conference holding at the University of Nigeria. Nsuka, Nigeria.

Onche, A. (2014). Meeting the Challenge of Accessibility and Utilization of Modern Instructional Materials in Rural Secondary Schools in Nigeria. *International Journal of Multidisciplinary Studies I*(2): 1 – 13.

Tinio, V. L. (2002). *ICT in Education*: UN Development Programme. (Retrieved on April 2016 from http:www.eprmers.org).

Udosen, I. N. (2011). Instructional media: An assessment of the availability and frequency of use by social studies teachers in Akwa Ibom State. *Journal of Educational Media & Technology (JEMT) Nigeria, 15(2),* 141 – 160.

UNESCO, (2004). *Adapting technology for school Improvement:* A global perspective, Washington DC: International Institute for Educational Planning.

URT, (2010). *Education Sector Development Programme: Secondary Education Development Plan (July 2010 – June 2015)*, Dar es Salaam, Ministry of Education and Vocational Training.

Uwazi, (2010). *Capitation grants for education. When will it make a difference?* Dar es Salaam: Published Uwazi at Tweweza. Vygotsky, L. S. (1978). *Mind in Society*. Cambridge: Harvard University press.

APPENDICES

STUDENTS QUESTIONNAIRE

DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY

FACULTY OF EDUCATION

UNIVERSITY OF BENIN, BENIN CITY.

Questionnaire on students' perception about the impact of instructional materials in teaching and learning Biology .

Dear Respondent,

Kindly complete the following questions as may be required by the instructions in each of the section. All information provided by you will be treated with utmost confidentiality. Thanks for your cooperation.

Section A: Demographic information.

Name of school: ……..……

Sex: Male ( ) Female ( )

Subject group: Science ( ) Social science ( ) Art ( )

Section B: Students' perception about the Impact of Instructional Materials in Teaching and Learning of Biology in Secondary Schools.

Please tick the appropriate responses that agree with your opinion. Strongly agree (SA), Agree (A), Strongly disagree (SD) and Disagree (D).

Table 1: The impact of instructional materials in teaching and learning of students in Biology .

Questions	SA	A	SD	D
1. Instructional materials make learning real and permanent.				
2. Instructional materials make learning lesson interesting.				

3. Instructional materials make learning faster.				
4. Instructional materials promote retention.				

Table 2: Availability of instructional materials for the teaching of Biology in schools.

Instructional materials	**SA**	**A**	**SD**	**D**
5. Charts				
6. Posters				
7. Maps				
8. Computer				
9. Video tape recorders				
10. Cassette tape recorders				
11. Chalk boards				
12. Projectors				
13. Hand lens				
14. Biology Laboratory				

Thank you.

TEACHERS QUESTIONNAIRE
DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY
FACULTY OF EDUCATION
UNIVERSITY OF BENIN, BENIN CITY.

Questionnaire on teachers perception about the impact of instructional materials in teaching and learning Biology .

Dear Respondent,

Kindly complete the following questions as may be required by the instructions in each of the section. All information provided by you will be treated with utmost confidentiality. Thanks for your cooperation.

Section A: Demographic information.

School name: .....

Put a tick in the appropriate box.

Sex of the respondent: Male ( ) Female ( )

Age of the respondent: 18-30 years ( ), Between 30- 45 years ( ) and Above 45 years ( )

Level of teacher professional: N.C.E holder ( ), Degree holder ( ) and Master holder ( )

Teaching Experiences: Below 10 years ( ), Between 10-20 years ( ) and Above 20 years ( )

Section B: Teachers perception about the Impact of Instructional Materials in Teaching and Learning of Biology in Secondary Schools.

Please tick the appropriate responses that agree with your opinion. Strongly agree (SA), Agree (A), Strongly disagree (SD) and Disagree (D).

Table 3: Factors that affect the use of instructional materials in the classroom.

Questions	SA	A	SD	D
15. Poor remuneration.				
16. Poor condition of service.				
17. Low social status				
18. Teachers work load.				
19. Time management.				

Thank you.