Educational Advancement and Development Journal (EADJ)
Volume 2 Number 1 June 2026, pp 29-39
E-ISSN: 3104-8390
https://neadafrica.com/journals/neadj

Assessment of Strategies for Enhancing the Teaching and Learning of Biology in Ikwuano Local Government Area, Abia State, Nigeria

Odo, Collens Ikechukwu, PhD
Department of Science Education,
College of Education,
Michael Okpara University of Agriculture, Umudike
Abia State, Nigeria
Email: collens.ikechukwu@gmail.com

Abstract

This study examined the strategies used to enhance teaching and learning of Biology in senior secondary schools in Ikwuano Local Government Area of Abia State. The study adopted a descriptive survey research design. The population of the study consists of 1200 senior secondary class two (SS 11) students and 15 teachers from all the public secondary schools in Ikwuano Local Government Area of Abia state. Two hundred and forty (240) students and 15 teachers from the public secondary schools in the area were selected using simple random sampling technique and census sampling respectively. The instrument for data collection was "Assessment of Strategies to Enhance Teaching and Learning of Biology Questionnaire" (ASETLBQ). The questionnaire was developed based on 4-point Likert scale of strongly agree, agree, disagree and strongly disagree. The instrument was validated by two expertise in Biology education and one expert in Measurement and Evaluation. The reliability of the instrument was established using Cronbach's alpha method and reliability index of 0.79 was obtained. Mean and standard deviation were used to answer the research questions while independent sample t-test was used to test the null hypothesis at 0.05 level of significance. The result revealed that great emphasis should be made on instructional materials and monitoring of student's ability, to boost students learning and teaching of biology in secondary schools. Based on the findings the following recommendations were made: Teachers should be trained on best way of teaching Biology with appropriate strategies to enhance teaching and learning and workshop and seminar should be organized by the science teachers association of Nigeria on area of strategies in teaching and learning of biology.

Keywords: Assessment, Strategies, Teaching, Learning, Biology.

History:
Received : April 6, 2026
Revised : May 27, 2026
Accepted : June 1, 2026
Published : June 30, 2026
**Corresponding author: collens.ikechukwu@gmail.com*

Publisher: Network for Educational Advancement and Deve lopment

INTRODUCTION

The need for research in strategies used to enhance the teaching and learning of biology and their mode of application in improving academic performance at different levels of education, especially at the secondary school level cannot be over emphasized. The need to strengthen the process of teaching and learning in secondary schools has become increasingly important, particularly in the teaching of Biology, due to students' persistent poor academic performance and low interest in the subject. Biology is a branch of natural science which deals with the study of living organisms (plants and animals), including their structures, functioning, evolution, distribution and interrelationships. The importance of biology as a science subject stands as the bedrock upon which many professional courses such as Medicine, Pharmacy, Nursing, Biochemistry, Genetic studies, Agriculture science among others, are laid. Also, it cuts across all spheres of human endeavors including nation building, considering the role it plays in various aspect of the economy and public life such as health, manufacturing, teaching, agriculture, disease and pest control, food production, research, biotechnology and research engineering (Bena, 2019). These areas which are linked to Biology has made it a subject that

is in high demand and are subsequently with very high enrolment of students in the external examination (Senior School Certificate Examination) when compared to what is obtain in other science subjects such as Physics and Chemistry. Evidence from external examination bodies has consistently shown that students' academic performance in Biology and other science subjects in Nigeria has remained unsatisfactory over the years. For instance, the West African Examinations Council (WAEC) reported a significant decline in candidates' overall performance in the 2025 West African Senior School Certificate Examination (WASSCE), where only 38.32% of candidates obtained credits in at least five subjects including English Language and Mathematics, compared to 72.12% recorded in 2024. WAEC further attributed part of the poor performance to students' weak preparation and poor performance in objective papers, including Biology. In addition, WAEC Chief Examiners' reports over the years have revealed persistent weaknesses among Biology students such as poor expression, inability to apply biological concepts, poor diagram drawing and labeling, and inadequate understanding of technical terms which may be attributed to teaching strategy.

However, despite the importance of Biology to the society, various science educators have expressed the concern over the poor achievement of students in biology in senior secondary school over the past decades (Njoku, 2018). Many factors have been attributed to students' poor achievement in biology including: The teaching method used by Biology teachers, the learning method adopted by the students, difficult nature of the topic/concept, lack of equipment and instructional materials for teaching Biology (Ibe 2020). The West African Examination Council (WAEC) Chief Examiners reports (2022, 2023, & 2024) have consistently stated some of the weakness of the candidates to be poor answers to questions, inability to adhere to instructions, poor interpretation of questions, poor definition, teaching methods and strategies used in teaching Biology.

Meanwhile, the Teachers Institute, NTI (2018b) remarked that conventional instructional method is teacher-centered, which lays explicit emphasis on the teaching and lesser concern to students input in the learning process. According to Adeyemi, (2021) conventional instructional method is characterized by emphasis on instructor's behavior rather than student minimal responses of students to instructional materials and delayed feedback on students' performance. Therefore, the search for effective and efficient delivery of instruction to students has been a major concern of science educators. Adeyemi (2021) suggested the use of activity-oriented strategies such as guided-inquiry, cooperative learning, demonstration, thinks and do, and many others to ensure result-oriented biology delivery in schools. This is supported by constructivist learning theory which states that learning is an active process wherein learners are able to form new ideas based on what their current knowledge is as well as their past knowledge using their cognitive structure. Jacinta (2017) agreed with the above statement by stating that student achieve better when teachers utilize student centered strategies. This will enhance teaching of Biology in schools.

Teaching at any level of education is to bring a fundamental change in the learner (Adunola, & Kunno 2021). To facilitate the process of knowledge transmission, teachers are to apply appropriate teaching technique that best suit specific objectives and level of outcomes. Research on teaching and learning should constantly endeavors to examine the extent to which different teaching technique enhance growth in student learning (Hightower, 2018). Quite remarkably, rampant poor academic performance by the majority of students is fundamentally linked to application of ineffective teaching technique by teachers to impact knowledge to learner (Adunola, 2019). Effectiveness of teaching technique indicates that the quality of teaching is often reflected to the achievement of the learners. According to Ayeni, (2020), teaching is a process that involves bringing about desirable changes in learners to achieve

specific outcomes. Adunola (2019) maintains that teachers need to be conversant with numerous teaching methods that take recognition of the magnitude of complexity of the concepts to be covered, if teaching is to be effective. Although successful learning is influenced by several factors beyond the teacher's control, the instructional techniques and teaching method adopted by the teacher remain a crucial determinant of students' learning outcomes and academic achievement. According to Adunola (2019) Biology teacher should adopt demonstration teaching method which emphasis practical activities through demonstration.

Demonstration method involves showing, explaining, or making concepts clear through the use of examples, illustrations, and experiments. The method becomes particularly useful when students find it difficult to connect theoretical knowledge with practical application. Through direct observation of concepts, procedures, and processes, students are provided with concrete learning experiences that make learning more meaningful, easier, and more effective. When teaching Biology in secondary School, teachers are often facing various problems related on how they can make their students understand basic biological phenomena, relevant terms and their application in everyday life. In order to overcome such problems, teachers must discover and apply new teaching techniques which are compatible with the needs, interests and the abilities of students, this will equally enhance assessment of the students learning outcome.

Assessment is an important aspect of teaching and learning. It is a process by which information is obtained relatively to some known objectives or goal. Assessment is the process of gathering information to monitor progress and make educational decision if necessary (Adikwu, Aduloju & Agi, 2016). Proper assessment and supervision can provide important information that helps teachers adjust and improve their teaching skills and process. Educational assessment is a systematic process of documenting and using empirical data on the knowledge, skill, attitudes, and beliefs to refine programs and improve students' learning. It also refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning process, skill acquisition or educational needs of students. Students' abilities and expected learning outcomes may not be effectively developed and properly assessed when appropriate teaching strategies are not adequately employed during instruction.

A strategy is a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem. It is also a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem. The concept of strategy has been borrowed from the military and adapted for use in business and educational aspects. A strategy is also a technique used by the teachers to help students become independent. Learning strategies include also when students independently select the appropriate method of learning and use them effectively to accomplish tasks or meet goals.

Instructional strategies are all the things the teachers use to aid the learners in their learning process; they are the means used to bring about effective teaching and learning. According to Obara and Okoh (2018), instructional strategies and materials are "all the things the teacher utilizes to interactively enhance, motivate and facilitate teaching and learning in an attempt to ensuring the achievement of a set objectives." The effectiveness of instructional materials and strategies depends upon the manner and degree to which they meet the needs of the teacher and students. Instructional strategies and materials are selected based on the principles of provision of accurate materials that will enrich and support the curriculum, taking into consideration the interest, abilities and maturity levels of the students. Teachers should be encouraged in every way to use instructional strategies as it makes learning more concrete and meaningful (Buseri &Dorgu, 2020).

Teachers need to use different instructional strategies to ensure students centered method in the classroom for creativity, innovative and critical thinking purpose in students. Classroom teaching is likely to be more effective when it is informed by an understanding of how students learn. It is therefore important that, the major implications of instructional strategies be reflected in classroom practice. In recent times, emerging research findings seem to show that instructional strategies are becoming increasingly popular in the teaching of various subjects in the secondary school level of education in Nigeria, (Osakwe, 2019).

These instructional strategies involve resolution of problems, active practice participations of learners in the teaching process and emphasis on process rather than products of learning. Some of these strategies and approaches according to Osakwe (2019) are categorized under conventional and innovative, instructional strategies which are classified under conventional are mostly those routine, well-knowing ones which teachers use predominantly. They are usually teacher-centered with little or no activities for students. These include teaching method such as lecture, story-telling, recitation and so on. On the other hand, the innovative strategies include those ones that are much more recent which are predominantly learner-centered. These include questioning, inquiry/problem solving, role-play and dramatization (Adediran, 2019).

There is no doubt that teaching strategies are necessarily tailored to the goals of the educational process; therefore this study is aimed to assess the strategies used to enhance teaching and learning of biology in senior secondary schools and to examine the extent to which these strategies can contribute to the improvement of teaching and learning.

Purpose of the study

The purpose of the study is to assess the strategies that are used to enhance the teaching and learning of Biology in Ikwuano Local Government Area of Abia State.

Specifically this study sought to:

1. find out the strategies for enhancing teaching and learning of Biology in senior secondary schools
2. find out how the teachers make use of these strategies in enhancing teaching and learning of Biology in senior secondary schools
3. To find out how students are adapting to these strategies for enhancing teaching and learning of Biology in senior secondary schools.

Research questions

1. What are the strategies to enhance teaching and learning of Biology in senior secondary schools?
2. To what extent do the teachers make use of these strategies for effective teaching and learning of Biology in senior secondary schools?
3. To what extent do the students are adapting to these strategies for effective teaching and learning of Biology in senior secondary schools?

Hypotheses

HO_1: There is no significant difference between the mean responses of teachers and students on the strategies for enhancing teaching and learning Biology in senior secondary schools.

HO_2: There is no significant difference between the mean responses of teachers and students on the use of teaching strategies for effective teaching and learning of Biology in senior secondary schools.

HO_3: There is no significant difference between the mean responses of teachers and students on the extent to which students learn and adapt to the strategies for effective teaching and learning of Biology.

METHODOLOGY

The study adopted descriptive survey design. A survey design according Ibe (2020) centers on individual and their opinions, belief, motivation and behaviour. The study was considered suitable since it solicit information from the students and teachers in senior secondary school in Ikwuano Local Government Area of Abia State. The population of the study consists of 1200 senior secondary class two (SS 11) and 15 teachers from all the public secondary schools in Ikwuano Local Government Area of Abia state. Two hundred and forty (240) students and 15 teachers from the public secondary schools in the area were selected using simple random sampling technique and census sampling technique respectively. The instrument for data collection was "assessment of strategies to enhance teaching and learning of biology questionnaire" (ASETLBQ). The instrument has two sections; A and B. Part A of the questionnaire provides information on Personal data of the respondents while part B centred on the request for the respondents which is in three clusters to complete the questionnaire meant to answer the research questions posed for the study. The questionnaire was constructed on the basis of research questions on a four-point scale, coded as follows: Strongly Agree (SA) .----4, Agree (A) ---3, Disagree ----2 and Strongly Disagree ----1.

The instrument was validated by two expertise from Biology Education and one in measurement and Evaluation all from Science Education Department, all from Michael Okpara University of Agriculture, Umudike and the reliability of the instrument was determined using Cronbach alpha technique and a reliability coefficient of 0.82 was obtained. The instrument was administered by the researcher to the Biology students and teachers in each of the selected schools and collected on the sport to enhance high return. Mean and standard deviation were used to answer the research questions while the null hypothesis was tested using independent sample t-test at 0.05 alpha level. Any mean item response above 2.5 was accepted while item below 2.5 was rejected. On the other hand, the null hypothesis for this study was accepted when the significance of P-value is $\geq$ 0.5 Alpha level and rejected when the significance of P-value is $\leq$ 0.5 Alpha level.

RESULTS

Research Question 1

What are the strategies to enhance teaching and learning of Biology in senior secondary schools?

Table 1: Mean responses of students and teachers on strategies to enhance teaching and learning of Biology in senior secondary schools

S/N	Items	Students N= 240			Teachers N= 15		
		$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
1.	Teachers should make use of instructional materials while teaching	3.07	0.91	Agreed	3.12	1.02	Agreed
2.	Teachers should make use of active learning method to teach	3.02	0.75	Agreed	3.09	0.81	Agreed
3.	Teachers should communicate the subject content at the beginning of the lesson	2.91	0.70	Agreed	2.78	0.69	Agreed
4.	Teachers should give assignment to enhance the student	3.11	0.94	Agreed	2.98	0.70	Agreed
5.	Teachers should regularly evaluate the students to check the students progress in learning	2.99	0.90	Agreed	2.74	0.76	Agreed
	Grand mean	**3.02**	**0.84**	**Agreed**	**2.94**	**0.79**	**Agreed**

Table 1 showed that the students and teachers accepted items in table 4.1 as strategy for enhancing teaching and learning of Biology in senior secondary schools. The students had grand mean of 3.02 with standard deviation of 0.84. The teachers had grand mean of 2.94 with standard deviation of 0.79. Based on the cut-off point of 2.5 it implies that the students and teachers accepted the items as strategy for enhancing teaching and learning of Biology in senior secondary schools.

Hypothesis 1

There is no significant difference between the mean responses of teachers and students on the strategies for enhancing teaching and learning Biology in senior secondary school.

Table 2: t-test Analysis of Mean rating scores of students and teachers on the strategies for enhancing teaching and learning Biology in senior secondary school

Variables	N	$\bar{X}$	SD	Df	t-calculated	t-critical	Remark
Students	240	3.02	0.84				
				253	0.37	1.96	NS
Teachers	15	2.94	0.79				

N=Number of respondents, $\bar{X}$ = Mean, SD= Standard deviation, df= degree of freedom.

Data in table 2 showed that the calculated t- value is 0.37 and the critical t-value is 1.96 at 253 degree of freedom. The t-calculated is less than the t-critical therefore the null hypothesis stated was accepted. Since the t-calculated value is less than the t-critical value inference drawn is

that there was no significant difference in the mean rate of teachers and students on the strategies for enhancing teaching and learning Biology in senior secondary school.

Research Question Two

To what extent do the teachers make use of these strategies for effective teaching and learning of Biology in senior secondary schools?

Table 3: Mean responses of students and teachers on the extent teachers make use of strategies for effective teaching and learning of Biology in senior secondary schools

S/N	Items	Students N= 240			Teachers N= 15		
		$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
6.	Teachers displays a list of questions on the chalkboard to get the attention of the students	3.04	0.92	Agreed	3.00	1.00	Agreed
7.	Teachers makes the students to work together to create ideas	2.87	0.89	Agreed	2.80	0.81	Agreed
8.	Teachers use visual aids in teaching the students	2.74	0.66	Agreed	2.81	0.79	Agreed
9.	Teachers distributes instructional handout such as chart to stimulate students curiosity	3.03	1.01	Agreed	2.72	0.88	Agreed
10.	Teachers respond to questions of of the students at their confusing moment	3.00	0.97	Agreed	2.98	0.81	Agreed
	Grand mean	**2.93**	**0.89**	**Agreed**	**2.86**	**0.85**	**Agreed**

Table 3 showed that the respondents accepted that teachers make use of the strategies for effective teaching and learning of biology in senior secondary schools. The items in the table had mean value above 2.5 cut-off marks set for the study and with grand mean of 2.93 and 2.86 and standard deviation of 0.89 and 0.85. Since the grand mean is above 2.5, it implies that teachers make use of the strategies for effective teaching and learning of Biology in senior secondary schools.

Hypothesis 2

There is no significant difference between the mean responses of teachers and students on the use of teaching strategies for effective teaching and learning of biology in senior secondary schools.

Table 4: t-test Analysis of Mean rating scores of students and teachers on the use of teaching strategies for effective teaching and learning of Biology in senior secondary schools

Variables	N	$\bar{X}$	SD	Df	t-calculated	t-critical	Remark
Students	240	2.93	0.89				
				253	0.30	1.96	NS
Teachers	15	2.86	0.85				

N=Number of respondents, $\bar{X}$ = Mean, SD= Standard deviation, df= degree of freedom

Data in Table 4 reveal that the calculated t- value is 0.30 and the critical t-value is 1.96 at 253 degree of freedom. The t-calculated is less than the t-critical therefore the null hypothesis stated was accepted. Since the t-calculated value is less than the t-critical value inference drawn is that there was no significant difference in the mean rating of students and teachers on use of teaching strategies for effective teaching and learning of Biology in senior secondary schools.

Research Question Three

To what extent do the students learn and adapt to these strategies for effective teaching and learning of Biology in senior secondary schools?

Table 5: Mean responses of students and teachers on extent students learn and adapt to these strategies for effective teaching and learning of Biology in senior secondary schools

S/N	Items	Students N= 240			Teachers N= 15		
		$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
11.	The nature of the lesson delivered is one that encourages the ability of the students.	3.10	0.99	HE	2.97	0.83	HE
12.	Collaborative assignment are being given to the students.	2.78	0.82	HE	2.91	0.74	HE
13.	The subject content is communicated to the students at the beginning of the term.	3.11	0.96	HE	3.03	0.90	HE
14.	The use of instructional aids in teaching helps the students to learn.	3.01	0.90	HE	2.89	0.84	HE
15.	The students are being guided with the use of set induction when teaching.	3.04	0.88	HE	2.85	0.75	HE
	Grand mean	**3.00**	**0.91**	**HE**	**2.93**	**0.81**	**HE**

Results in table 5 showed that students and teachers accepted items in the table as extent students learn and adapt to strategies for effective teaching and learning of Biology in senior secondary schools. The items had grand mean of 3.00 and 2.93 for students and teachers respectively and standard deviation of 0.91 and 0.81 for students and teachers respectively. This implies that the respondents accepted the items to a high since the grand mean is above 2.5 cut-off point set for the study.

Hypothesis 3

There is no significant difference between the mean responses of students and teachers on the extent to which students learn and adapt to the strategies for effective teaching and learning of Biology.

Table 6: t-test Analysis of Mean rating scores of students and teachers on the extent to which students learn and adapt to the strategies for effective teaching and learning of Biology

Variables	N	$\bar{X}$	SD	Df	t-calculated	t-critical	Remark
Students	240	3.00	0.91				
				253	0.11	1.96	NS
Teachers	15	2.93	0.81				

N=Number of respondents, $\bar{X}$ = Mean, SD= Standard deviation, df= degree of freedom

Data in table 6 reveal that the calculated t- value is 0.11 and the critical t-value is 1.96 at 253 degree of freedom. The t-calculated is less than the t-critical therefore the null hypothesis stated was accepted. Since the t-calculated value is less than the t-critical value inference drawn is that there was no significant difference in the mean rating of students and teachers on the extent to which students learn and adapt to the strategies for effective teaching and learning of Biology.

Discussion of findings

The result of analysis showed students and teachers accepted that strategies to enhance teaching and learning of biology in senior secondary schools are making use of instructional materials when teaching, making use of active learning method to Teach and teachers should communicate the subject content at the beginning of the lesson among others. The corresponding hypothesis affirmed that there was no significant difference between the mean responses of teachers and students on the strategies for enhancing teaching and learning biology in senior secondary school. This finding was in line with Adediran, (2019) who under took a study on the strategies for enhancing the teaching and learning of economic in secondary schools in Ebonyi state. The result of the study revealed that appropriate methodology, adequate facilities, employment of qualified teachers, establishment of cordial relationship between parents and teachers, instructional materials, practical task and monitoring of students ability and the need for developing problem solving skill to boost students learning abilities.

The findings also showed that teachers displays a list of questions on the chalkboard to get the attention of the students, teachers makes the students to work together to create ideas and Teachers use visual aids in teaching the students to high extent. The corresponding hypothesis affirmed that there was no significant difference between the mean responses of teachers and students on the use of teaching strategies for effective teaching and learning of biology in senior secondary schools. This finding agreed with the view (Ibe, 2020) whose theory argues that it is impractical for teachers to make all the current decisions and dump the information to students without involving students in the decision process as well as assessing students' ability to construct knowledge.

The result further showed that students and teachers accepted that the nature of the lesson delivered is one that encourage the ability of the students, Collaborative assignment are being given to the students and the use of instructional aids in teaching helps the students to learn among others to high extent were strategies adapted for effective teaching and learning of biology in senior secondary schools. The corresponding hypothesis affirmed that there was

no significant difference between the mean responses of students and teachers on the extent to which students learn and adapt to the strategies for effective teaching and learning of biology. This finding was in line with Burseri and Dorgu, (2020), who under took a study on the strategies for enhancing the teaching and learning of economic in secondary schools in Ebonyi state and reported that students and teachers have adapted to teaching innovative but the requisite resource needed to use in teaching in line with the new teaching strategies are not readily available.

CONCLUSION

Great emphasis should be made on instructional materials and monitoring of student's ability, to boost students learning and teaching of biology in secondary schools. The adequate use of instructional materials by the teachers facilitates learning environment. It gives the students full concentration and pay attention in class. This study recognized that Biology studies in secondary schools would result to biology literate citizens who can apply the theory and practical's of the knowledge of biology in the society.

RECOMMENDATIONS

From the findings gotten from the analysis of the data, the researcher made the following recommendations:

1. Teachers should be trained on best way of teaching Biology with appropriate strategies to enhance teaching and learning.
2. Workshop and seminar should be organized by the science teachers association of Nigeria on area of strategies in teaching and learning of Biology.
3. Teachers who should teach Biology studies should be expertise in the field and registered teachers. Teachers registration council of Nigeria should sit up on their duty to ensure that is only expertise in the field should be allowed to teach Biology.

REFERENCES

Adediran A.A (2019). Students centred Teaching methods and utilization of instructional strategies for effective social studies teaching. Paper presented at the 58th world Assembly of the international council of education for teaching (ICET) at the university of Ontario institute of technology.

Adeyemi, D.A. (2021). Parental involvement interest in a schooling and school environment as predictors of academic self-efficacy among fresh secondary school students in Oyo State. *Electronic Journal of Research in Education Psychology*. 5-3, 163-180.

Adunola, M. & Kunno J. N (2019) *Teaching practice and Micro teaching in Nigeria*. Owerri Canno publishers.

Ayeni, A. J. & Afolabi, E.R. (2020). Teachers instructional task performance and quality assurance of students learning outcomes in Nigeria secondary schools. *Journal of Research Studies in Education Technology.* 1(10), 33-42.

Bena, U. C. (2010). The extent to availability and utilization of biology equipment materials in schools in Onitsha Education Zone. Implication of economic crisis in Nigeria. *51st Science Teacher Conference*, 218-225.

Burseri I, J. C &Dorgu, T. E (2020).The relevance of instructional materials for effective curriculum delivery in Nigeria. *Proceeding of state facility of education* Lagos state university.

Ibe, H. N. (2020). Boosting biology student achievement and self-concept through constructivist-based instructional model.(CBIM).*Global Journal of Educational Research.*16(2), 36.

National Educational and Research Development council (2018). *National Curriculum on Biology for Senior Secondary Schools* 1-3. Abuja N.E.R.D.C. press.

Obaru, J.K &Okoh, C. (2018) Instructional materials production: The need for improvisation and innovation. *Africa journal for education and developmental studies* (AJEDS)2 (1&2), 129-136.

Osakwe E. (2019). Navigating the nation through today's shame to tomorrow's fame. Social studies at Pilat 17th in the series of inaugural lectures, Delta state university, Abruka, Fed. 29th.

Osuala, E. C. (2001). *Foundation of vocational education*. Cape publishers.