

ASSESSMENT OF BASIC TECHNOLOGY TEACHERS ATTITUDE TOWARDS ADEQUACY AND UTILIZATION OF WORKSHOP FACILITIES IN JUNIOR SECONDARY SCHOOLS IN PLATEAU STATE

Mr. Hashimu Hamisu Umar, Mr. Imenka Wisdom Chukwuemeka, Mrs. Mshelbwala Racheal Benjamin

Science Education Department, Faculty of Education, Federal University Lokoja, Nigeria, Email

E-mail: hamisu.hashimu@fulokoja.edu.ng, wiodomimenka@gmail.com,
racheal.mshelbwala@fulokoja.edu.ng

Corresponding Author: hamisu.hashimu@fulokoja.edu.ng, 07036606446

Abstract

The study assessed the Basic Technology teachers' attitude towards adequacy and utilization of workshop facilities in junior secondary schools in Plateau State. To achieve this, three research objectives, with corresponding three research questions guided the study and no hypothesis was tested in the study. A survey research design was employed, which involved the use of structured questionnaire (ABTTAAUWF) and checklist to gather the required information from the target population (sampling frame). The population of the study comprised of 170 Basic Technology teachers in junior secondary school across the State and sample size determination table founded by Krejcie and Morgan was used to come up with a sampling frame of 118 teachers and a total of 118 questionnaires were administered. The data collected for the study were analyzed using mean and standard deviation present in SPSS software. The findings revealed that there are inadequate workshop facilities for Basic Technology in junior secondary schools in the state, the findings also indicated that the small workshop facilities available were not effectively utilized during teaching and learning processes in Basic Technology as this assertion was supported with the grand mean of 3.33 recorded in the result proving that the available facilities are not utilized by the teachers, and finally, the result further identified some strategies required for effective utilization of workshop facilities by the teachers of Basic Technology within Plateau State which includes; Provision of adequate workshop facilities by schools, School management should monitored teachers in class to ensure effective use of workshop facilities amongst other and its supported with a grand mean of 3.48 recorded in the result affirming that all the items are strategies needed for improving effective utilization of workshop facilities. Based on the findings of this study, it was concluded that workshop facilities are not adequate, the inadequate facilities are not utilized and some strategies for improving the facilities utilization were identified for Basic Technology teachers. The study recommended amongst others that School management should make adequate provision of fund to purchase the required workshop facilities for Basic Technology teachers.

Introduction

Basic Technology as a subject in junior secondary schools which was known before now as Introductory to Technology was introduced in the year 2007 in Nigeria. In order to reduce ignorance about technology and help to lay a solid foundation for skills acquisition in technology as a way forward for true national development, Basic Technology subject has been accorded a place in the school curriculum as a core subject like Mathematics and English Language. The word technology is derived from the Greek word “techne” meaning art of skill and “logia” meaning science of study (Abel, 2023). Basic Technology deals with the fundamental of engineering and technology which is to be taught as an integration of Technical Drawing, Building Construction, woodwork, Metal Work, Electrical and Electronics, Automobile Mechanic, Food Technology and Computer Education. The National Policy on Education (FRN, 2013) defined it as the aspect of education which leads to acquisition of practical and applied skills as well as basic scientific knowledge. Objectives of teaching Basic Technology subject in Nigerian Schools include: pre-vocational orientation for further training in technology, provide basic technology literacy for everyday life and to stimulate creativity (FME, 2007).

Based on the objectives stated above, every teacher is expected to develop positive attitude towards utilization of workshop facilities in Basic Technology in their various schools, since it is a skill oriented subject which introduced the students to technical and technology based courses in preparation for higher learning courses. Without the adequate and proper utilization of workshop facilities such objectives may likely face a serious set-back for preparing these students. The National Council on Education (NCE) approved a new curriculum structure which include Lower Basic Education Curriculum (primaries 1-3), Middle Basic Education Curriculum (primaries 4-6) and Upper Basic Education Curriculum (JSS 1-3) and as a result of this revised curriculum that

was based on a 9-years Basic Education, the subject title was changed from “Introductory Technology” to “Basic Technology” (Olarinde, Fakomogbon & Adetunde, 2017).

The importance of technology, specifically Basic Technology in the development of Nigeria cannot be overemphasized. Basic Technology plays a vital role in Nigerian science education programme (Oludipe & Oludipe, 2021). The Basic Education Curriculum in Nigeria laid a strong foundation for basic technological skills of which the use of workshop facilities is of paramount importance in teaching and learning of Basic Technology in junior secondary schools in Nigeria, particularly Plateau State. Abdu-Raheem, (2016) opined that student’s academic achievement in Basic Technology has been lowered by the teachers’ poor attitude to the teaching of the subject matter. This poor academic achievement has affected the performance of Basic Technology students in Basic School Certificate Examination within Plateau State in the recent (2020-2023) examinations conducted in the state and most students find it difficult to conduct practical themselves, more so the students are not even familiar with the tools and equipments to be used. This assertion may not be unconnected to the inability of Basic Technology teachers to use of workshop facilities, since Basic Technology is a skill oriented subject. The examination body’s give a summative examination as a mode of graduation at the end of the study in the upper basic education, the examination given is the sole deciding factor of students’ success or failure, and it is also necessary in society for the purpose of manifesting and improving standard.

The present situation of this public examination bodies are becoming deplorable .The general public in Plateau State is indeed worried about the alarming increase in academic failure of students in Basic Technology in Basic Education Certificate Examination (BECE) conducted by NECO in secondary schools within the state, of which it may be as a result of poor attitudes of Basic Technology teachers’ towards the use of workshop facilities in the course of teaching. The

fluctuation in student's performance in this examination over the years is the main issue that prompted the researcher to go into this investigation. Consequently, it is necessary to make a systematic analysis into the teachers' attitude toward the adequacy and utilization of workshop facilities in the subject in order to identify and if possible diagnose and rectify the problems of effectiveness and sound evaluation to the relevant stakeholders in the education sector. In support of this, Abel (2023), said teachers' attitude affect the way he presents the workshop facilities to the students, which in turn affects students' achievements.

Teachers are indispensable factor for the growth and development of nation and educational system. In the absence of motivated, competent, skills equipped and properly prepared teachers, much should not be expected from any educational system and that include Basic Technology. No amount of resources put into the educational system can replace the role of a teacher. The National Policy on Education (NPE, 2013) attests to the importance of quality teachers to back up the provided infrastructure and facilities, curricular and instructional materials. Without this adequate facilities, Basic Technology teachers cannot deliver as expected. Teachers are expected to acquire some levels of experience and knowledge than the learners (Wenglinsky, 2002). Teachers' relationship, interaction, understanding and encouragement should enable a students or a person to reach the desired level potential. Teacher is expected to ensure the students learn by utilizing all appropriate, necessary and required materials and technologies such as instructional software as stated in (FRN, 2013).

Teachers are expected to acquire some technical education knowledge that will serve as a guide in the utilization of workshop facilities. If teachers are not interested to learning how to help the struggling Basic Technology students in their classroom, then there will be little value in equipping them with the required skills. Implicit in this notion is the importance of attitude.

Vaughan (2017) opined that the solution for struggling students may be very well start with teacher's attitude towards the issue.

Workshop facilities are any collection of materials that a teacher use in teaching and learning situations to help achieve desired learning objectives. It encompasses all the material and physical means that a teacher might use to implement instruction and facilitate student's academic performance. Considering the position of Basic Technology as a practical oriented subject, it is important on the teachers to provide and utilize workshop facilities for effective teaching and learning. However, Agina-Obu (2015) defined workshop facilities as concrete or physical objects which provide sound, visual stimuli or both to the sense organs during teaching. Workshop facilities can help students of Basic Technology in concretizing a learning experience so as to make learning exiting, interesting and interactive. Ikerionwu (2019) referred teaching aid as objects or devices which help the teacher to make a lesson much clear to the learner. From this assertion, students will not get clear picture of the subject as long as teachers' continue to display poor attitude towards the use of workshop facilities in the classroom which in turn result to poor academic performance of students most especially in BECE. Ogwa (2022) is of the view that a teacher who uses workshop facilities to deliver his/her lesson will convey more facts to the students at short intervals than one who use only oral speeches for lesson delivery. This explains how time saving is, if the teacher uses workshop facilities than lecture only. Lawal, Rumah and Amadi (2020); believes that classroom textbooks, laboratories, workshop facilities and other academic facilities facilitate teaching and learning process.

From the foregoing, qualitative education in Basic Technology can only be achieved when both the students and the teachers' are comfortable with relevant facilities available to teach. To this end, adequacy and utilization of workshop facilities is important for effective teaching and

learning of Basic Technology in Plateau State and that make the study on the assessment of the teachers attitude towards the adequacy and utilization of workshop facilities in Basic technology in junior secondary schools in Plateau State, Nigeria.

Statement of the Problem

Basic Technology is an integrated subject in the curriculum of Junior Secondary Schools where students are supposed to acquire basic knowledge, skills and attitudes about technologies. In order to improve students' academic performance in Basic technology, teachers' are expected to utilize workshop facilities for effective teaching of the content areas of the subject curriculum. It is recently observed that most of the student who sat for the Basic Education Certificate Examination (BECE) in Basic Technology within Plateau State continues to fail this examination, especially during the practical part of the content area, which may be as a result of poor attitude of teachers' towards the use of workshop facilities during teaching, since is practical oriented subject. This poor attitude to the utilization of the facilities by the teachers' in Plateau State, if left unchecked will continue to affect the performance of students in Basic Technology at BECE. In conformity with this assertion, Abdu-Raheem, (2016) opined that student's academic performance in Basic Technology has been lowered by the teachers' poor attitude to the teaching of the subject matter. The failure of students could be attributed to attitude of teachers towards utilization of workshop facilities in content area of the curriculum since the subject is practical oriented. Therefore, there is urgent need for the assessment of Basic Technology teachers' attitude towards the adequacy and utilization of workshop facilities in Junior Secondary Schools within the state to provide empirical data for the relevant stakeholders in the education sector.

Aim and Objectives of the Study

The aim of the study is to assess Basic Technology teachers' attitude towards adequacy and utilization of workshop facilities in Junior Secondary Schools in Plateau State, specifically objectives of the study seek to:

- 1) Determine the adequacy of workshop facilities used in teaching Basic Technology in Junior Secondary Schools in Plateau State.
- 2) Determines whether teachers' use the available workshop facilities in teaching Basic Technology in Junior Secondary Schools in Plateau State.
- 3) Determine the strategies needed for improving the effective use of workshop facilities by Basic Technology teachers' in Junior Secondary Schools in Plateau State.

1.4 Research Questions

The following research questions were put forward to guide the study:

- 1) What is the adequacy of workshop facilities used in teaching Basic Technology in Junior Secondary Schools in Plateau State?
- 2) To what extent do Basic Technology teachers make use of the available workshop facilities in teaching Basic Technology in Junior Secondary Schools in Plateau State?
- 3) What are the strategies needed for improving the effective use of workshop facilities by Basic Technology teachers in Junior Secondary Schools in Plateau State?

Reviewed of Related Literatures

The relevant literatures were reviewed under the following subheadings; Theoretical Frame Work and the study was guided by Charles A. Prosser second theory of Vocational Education which state that;

“Effective vocational training can only be given where the training jobs are carried on in the same way with the same operations, the same tools and the same machines as in the occupation itself”

The implication of this theory to the study is that, Basic Technology teachers’ must have recent employment experience in order to be skillful in the use of the latest equipment since the subject is practical oriented and must make adequate use of the same types of tools and equipment as would be currently found in employment. Likewise, the Basic Technology teachers’ must use live work or work identical to that provided in employment for instructional experience rather than pseudo which further emphasized the effective utilization of workshop facilities when teaching and learning Basic Technology. Further emphasized here is that the skills taught by Basic Technology teachers’ to students’ should follow the same basic practices as industrial employers would anticipate and Basic Technology students’ should be able to move from the training situation to employment situation with little need of adjustment.

The review also covered an overview of workshop facilities in junior secondary schools, effectiveness of workshop facilities in teaching and learning Basic Technology, influence of workshop facilities on junior secondary schools academic achievements, effectiveness of workshop facilities on students learning interest in Basic Technology, Benefits of workshop facilities on students psychomotor skills in Basic Technology and eight (8) reviewed of relevant empirical studies.

The gap observed is availability and adequacy of workshop facilities and its influence on Basic Technology students in junior secondary schools across Plateau State is not reviewed based on the available literatures at the researcher disposal. The study therefore filled this gap and assessed Basic technology teachers' attitude towards adequacy and utilization of workshop facilities in Junior Secondary Schools in Plateau State.

Methodology

The study employed descriptive survey research design. According to Dalen and Meyer (1963), survey research design refers to a study in which a group of people or items are studied by collecting and analyzing data from a representative sample of the entire group. This involved the use of structured questionnaire (ABTTAAUWF) and checklist to obtain the needed data for the study. Survey research design was employed in this study because a large number of schools were dealt with and information on assessment of Basic Technology teachers' attitude towards the adequacy and utilization of workshop facilities was obtained from an unbiased sample of respondents (teachers') and the results was generalized on the entire population in the study area whereas, A checklist is a structured data collection tool or planning instrument listing items to confirm their presence, absence or completion. The checklist was employed in the study to confirm the presence, absence and completion of the workshop facilities. The study was conducted in Plateau State which cut across the 17 Local Governments in the state. The population of the study comprised 170 junior secondary schools teachers' of Basic Technology in the state (Field survey, 2023). Nwachukwu, (2018), viewed population of the study as a group of individuals who share common characteristics that are within a stipulated geographical location. Sample size determination table founded by Krejcie and Morgan (1970) was used to come up with a sample

size of 118 teachers of Basic Technology that were simple randomly drawn from the selected secondary schools offering Basic Technology in the state.

Instrument captioned assessment of Basic Technology teacher's attitude toward adequacy and utilization of workshop facilities (ABTTAAUWF) questionnaire and checklist adapted from Sambo (2015) was employed for data collection. According to Kothari, (2017), a questionnaire is a set of item statement design to solicit the opinion of the respondents while A checklist is a structured data collection tool or planning instrument listing items to confirm their presence, absence or completion (Sambo, 2015). The checklist was employed in the study to confirm the presence, absence and completion of the workshop facilities.. The research instruments (questionnaire) were validated by three experts from Abubakar Tafawa Balewa University, Bauchi, Faculty of Technology Education, Department of Vocational and Technology Education. Both face and content validation of the instrument was ascertained. To ensure internal consistency of the items, the reliability of the instrument was ascertained using Cronbach' Alpha at 0.7 level of significant. The study analyzed the data using simple descriptive statistic that involved the use of Statistical Package for the Social Science (SPSS) software.

Finally, the study used the statistical methods through mean and standard deviation usable in the software and analyzed the data collected and answered the research questions. The mean data which was 2.5 (decision rule) and above was accepted and any mean that is below 2.5 was rejected

Results and Discussions

Results

The data obtained by administering the 118 questionnaires is presented below:

Table 1: Questionnaire Issued

Items	Frequency	Percentage (%)
Number Return	101	85.59
Number not Returned	17	14.41
TOTAL	118	100

Decision Rule: The accepted mean is 2.5 (SA = 4, A = 3, DA = 2 and SD = 1, $4+3+2+1=10$, $10/4 = 2.50$) any mean below 2.5 is considered rejected. A = Adequate, MA = Moderately Adequate, NA = Not Adequate.

Research Question 1: What is the adequacy of workshop facilities used in teaching Basic Technology in Junior Secondary Schools in Plateau State?

Table 2 below revealed basic workshop facilities like drawing board, tee square, set square, magnet, ammeter, voltmeter, electrical cable, soldering iron, plier, screw driver, gimlet, plastic and rubber, ceramic, hammer, hack saw, power hacksaw, surface planner, drilling machine, scribes, center punches, dies and stock, spanners, hand files, lathe machine, Alley keys, circular saw, overhead projector and models with corresponding percentages of 20%, 20%, 50%, 53.33%, 14.29%, 10.%, 30%, 16.66%, 16%, 35%, 20%, 20%, 20%, 8%, 30%, 0%, 0%, 0%, 28.59%, 23.33%, 16.67%, 12%, 10%, 0%, 0%, 0%, 0% and 30% respectively. This finding revealed that there is no available workshop facilities used for teaching Basic Technology within Plateau State.

Table 2: The Adequacy of Workshop Facilities Used by Basic Technology Teachers in Plateau State

S/N	ITEMS	MINIMUM REQUIRED	AVAILABLE QUANTITY	PERCENTAGE (%)	REMARKS
1	Drawing board	50	10	20	NA
2	Tee squares	50	10	20	NA
3	Set squares	20	10	50	MA
4	Magnets	15	8	53.33	MA
5	Ammeters	14	2	14.29	NA
6	Voltmeters	10	1	10	NA
7	Electrical cables	10	3	30	NA
8	Soldering irons	30	5	16.67	NA
9	Pliers	25	4	16	NA
10	Screw drivers	20	7	35	NA

11	Gimlet	10	2	20	NA
12	Plastic and Rubber	5	1	20	NA
13	Ceramic Materials	5	1	20	NA
14	Hammers	25	2	8	NA
15	Hack saws	10	3	30	NA
16	Power Hacksaws	2	0	0	NA
17	Surface Planners	2	0	0	NA
18	Drilling Machines	2	0	0	NA
19	Scribers	35	10	28.59	NA
20	Center punches	30	7	23.33	NA
21	Dies and stock	30	5	16.67	NA
22	Spanners	25	3	12	NA
23	Hand Files	30	3	10	NA
24	Lathe Machine	1	0	0	NA
25	Alley Keys	15	0	0	NA
26	Circular Saw	2	0	0	NA
27	Overhead projector	2	0	0	NA
28	Models	20	6	30	NA

Source: Field Survey, 2023

Research Question 2: To what extent do Basic Technology teachers make use of the available workshop facilities in teaching Basic Technology in Junior Secondary Schools in Plateau State?

The descriptive data presented in the table 3 revealed that group of one hundred and eighteen (118) respondents (teachers) has agreed that Basic Technology teachers in junior secondary schools in the state are not effectively using workshop facilities in the classroom when teaching Basic Technology. All the items 29, 30, 31, 32, 33, 34, 35, 36, had their mean as 3.46, 3.33, 3.52, 3.33, 3.44, 2.98, 3.12, and 3.46 with corresponding standard deviation of 0.54, 0.79, 0.56, 0.65, 0.70, 0.85, 0.73, and 0.58 respectively, with a grand mean of 3.33. This shows that the mean value of each item was above the cut-off point of 2.50 and the standard deviations of all the items have accepted significance of 0.66, indicating that all the eight (8) categories of items are accepted by the teachers which affirmed the fact that teachers in junior secondary schools in the state are not utilizing workshop facilities when teaching Basic Technology.

Table 3: Extent of Using Workshop Facilities by Basic Technology Teachers in Junior Secondary Schools Across Plateau State

S/N	ITEMS	N	MEAN	SD	REMARK
29	I don't find teaching of Basic Technology interesting without using workshop facilities	118	3.46	0.50	Accepted
30	I don't used workshop facilities when teaching Basic Technology	118	3.33	0.79	Accepted
31	Lack of using workshop facilities hindered effective teaching of Basic Technology	118	3.52	0.56	Accepted
32	School have not provided workshop facilities, hence the reason of not utilizing it	118	3.33	0.65	Accepted
33	Teaching of Basic Technology in my school is more of theory than practical due to absent of workshop facilities	118	3.44	0.70	Accepted
34	I do exhaust my lesson period when workshop facilities are involved	118	2.98	0.85	Accepted
35	I don't use workshop facilities throughout this term in my school	118	3.12	0.73	Accepted
36	Effective use of workshop facilities and effective teaching in Basic Technology are two sides of the same coin.	118	3.46	0.58	Accepted
Grand Mean		3.33			

Source: Field Survey, 2023

Research Question 3: What are the strategies needed for improving the effective use of workshop facilities by Basic Technology teachers in Junior Secondary Schools in Plateau State?

Table 4 below confirmed that the group of one hundred and eighteen (118) respondents (teachers) has agreed with all the five (5) categories of the strategies needed for improving the effective utilization of workshop facilities by Basic Technology teachers. All the items in the table have mean value of 3.38, 3.55, 3.48, 3.30, and 3.70 with corresponding standard deviation of 0.67, 0.50, 0.75, 0.76 and 0.46 respectively. This showed that the mean value of each item was above the cut-off point of 2.50 indicating that all the five (5) categories of strategies are needed by Basic Technology teachers' towards effective utilization of workshop facilities.

Table 4: Strategies Needed for Improving Effective Use of Workshop Facilities by Basic Technology Teachers in Plateau State

S/N	ITEMS	N	MEAN	SD	REMARK
37	Provision of adequate workshop facilities by schools	118	3.38	0.67	Accepted
38	Adequate funding of Basic Technology workshop by government	118	3.55	0.50	Accepted

39	Schools should be organizing seminars frequently on the importance of workshop facilities during teaching	118	3.48	0.75	Accepted
40	School management should monitor teachers in class to ensure effective use of workshop facilities	118	3.30	0.76	Accepted
41	Government should always give priority to professional teachers during recruitment	118	3.70	0.46	Accepted
Grand Mean		3.48			

Source: Field Survey, 2023

Discussion of Findings

In research question one; the findings revealed that, there are no adequate workshop facilities required for Basic Technology teachers. The findings also showed that, the available basic facilities present in most junior secondary schools within the state are in lower quantity. It further revealed that the available facilities in most schools cannot serve the teachers up to 30% of the expected task upon them. The finding is consistent with the findings of the prior studies of Emenno and Yiiloo, (2022) who reported that the workshop facilities for teaching Basic Technology in secondary schools were grossly inadequate. Similar finding was reported by Odesanmi (2015) that instructional materials recommended for teaching Basic Technology are not adequate in secondary schools.

In research question two; the findings revealed that most teachers in junior secondary schools in Plateau State are not effectively utilizing workshop facilities during teaching and learning Basic Technology and that was supported by the accepted grand mean of 3.33 which is above the decision rule of 2.5. It showed that inadequate workshop facilities provided by schools management for teaching Basic Technology hindered its utilization by teachers. As a result, the findings also showed that, the teaching and learning of Basic Technology in most of the schools

are more of theoretical that is, without having practical. It further revealed that lack of using the appropriate workshop facilities in the classroom by Basic Technology teachers rendered the teaching and learning process ineffective. The finding is in agreement with the findings of study conducted by Emennu and Yiiloo, (2022) who reported that the workshop facilities for teaching Basic Technology in secondary schools were grossly inadequate. Similar finding was reported by Odesanmi (2015) that instructional materials recommended for teaching Basic Technology are not adequate in secondary schools. Lawal, Rumah and Amadi (2020) also confirmed this finding in their studies conducted in Katsina metropolis.

In research question three, the findings found that some strategies are needed to improved Basic Technology teacher's utilization of workshop facilities. Some of these factors include; provision of adequate workshop facilities to enhance learning, giving priority to professional teachers during recruitment of teachers, organizing seminars to sensitized teachers on why utilization of workshop facilities is important during the teaching and learning processes, provision of adequate text books for teachers and adequate funding by the authorities to improve effective use of workshop facilities by the teachers in junior secondary schools in Plateau State. The findings of these studies agreed with the findings of Abel (2023) and Lawal, Rumah, and Amadi, (2020)

Conclusion and Recommendations

Conclusion

The empirical evidence provided in this study on the assessment of Basic Technology teachers' attitude toward adequacy and utilization of workshop facilities in junior secondary schools in Plateau State indicated that, there are no adequate workshop facilities required for Basic Technology teachers in the schools, most teachers in junior secondary schools in Plateau State are

not effectively utilizing workshop facilities during the teaching and learning processes. Giving priority to professional teachers during recruitment of teachers, organizing seminars to sensitised teachers and adequate funding by the authority to improve the use of workshop facilities by the teachers in junior secondary schools in Plateau State are some of the strategies needed to improve the effective use of workshop facilities during teaching and learning in Basic Technology.

Therefore, the academic performance of junior secondary school students in Basic Technology that has persistently remained discouraging over the years especially in their national examination (BECE) can be significantly improved or enhance in the subject by providing and efficient use of workshop facilities during the teaching and learning processes.

Limitations of the Study

- 1) The study was limited to only junior secondary schools students' in Plateau State.
- 2) The study focused only on Basic Technology teachers' attitude towards utilization of workshop facilities.

Recommendations

Based on the findings of this study, the following recommendations were raised;

- 1) School management should make adequate provision of fund to purchase the required teaching facilities for Basic Technology teachers.
- 2) Teachers should create a balance between the teaching and utilization of workshop facilities in the classroom to apprehend students' attention in the class.
- 3) Government should collaborate with schools management in assessing the needed facilities required by the teachers of Basic Technology and adequate fund should be released to schools management to equip their workshops to standard.

References

- Abdu-Raheem, B. (2016). Effects of instructional materials on secondary schools students academic achievement in Social Studies in Ekiti State, Nigeria. *World Journal of Education*, 6(1), 8898-8898. <https://doi.10.5430/wje.v6n1p32>
- Abel, B. I. (2023). Instructional materials utilization for effective teaching and learning of basic technology in the universal basic education (U.B.E) programme in Nigeria. *International Journal of Advanced Research in Management and Social Science*. 12(6), 122-138. www.garph.co.uk
- Agina-Obu, T.N. (2015). The relevance of instructional materials in teaching and learning. In Robert-Okah.I &Uzoeshi, K.C. (Eds). Theories and practice of teaching, Port Harcourt: Harey publication.
- Dalen, D. B. & Meyer, W. T. (1963). Understanding Educational Research: An introduction. *British Journal of Educational Studies*, 11(2), pp. 195-195. <https://phillispaper.org>
- Emennu, P., & Yiiloo, S. (2022). Availability of instructional materials in teaching basic technology in secondary schools in Khana local government area, Rivers State. *Journal of Contemporary Science and Engineering Technology*, 1(1), 89-103. <https://rajournals.org>
- Federal Ministry of Education (2007). 9years Basic Education Curriculum. Basic Technology for J.S.S 1-3 Abuja: Nigeria Educational Research and Development Council (NERDC) Press.
- Federal Republic of Nigeria, (2013). The National Policy on Education. Lagos: NERDC.
- Ikerionwu, J. C. (2017). Importance of aids and resources in classroom teaching. *ijhssi. National Journal of Education*, 5(1), pp.87-96. <https://journals.eznwaohaetorc.org>
- Kothari, C. R. (2017). Research Methodology. Second Edition, New Age International Limited Publishers, New Delhi, India.
- Krejcie, R. V., & Morgan, D. W. (1970). Sample size table for finite population. www.scribd.com
- Lawal, Y. R., Rumah, A. A., & Amadi, J. (2020). Utilization of instructional materials in teaching chemistry in senior secondary schools in Katsina metropolis. *International Journal of Environment, Agriculture and Biotechnology*, 5(1), 2456-1878. <https://dx.doi.org/10.22161/ijeab.51.32>

- Nwachukwu, E. C. (2018). *An Introduction to Understanding Educational Research*. Book Ltd, Adeniji Street, Liberty Road Ibadan.
- Odesanmi, A. O. (2015). Assessing the availability of instructional materials used in the teaching and learning of basic technology in Bauchi local government area of Bauchi State. *Harvard Research and Publications International*, 3(8), pp.160-172. www.scribd.com
- Olarinde L. A, Fakomongbon M. A. & Adetunde I. (2017) Assessment of Instructional Resources for Teaching Basic Technology in Junior Secondary Schools in Ogbomoso, Nigeria. *IJRO- Journal of Educational Research*, 2(7), 113-158, <https://doi.org/10.53555/er.v2i7.297>
- Oludipe, D. I., & Oludipe, B, D. (2021). Do teachers qualification and experience influence academic performance of students in basic science in junior secondary schools in Nigeria. *Journal of Education in Black Sea Region*, 6(2), 148-164. <https://doi.org/10.31578/jebs.v6i2.239>
- Sambo, A. A. (2015). *Research method in education*. Ibadan: Stirling Hording.
- Vaughan, J. L. (2017). A scale to measure attitudes teaching reading in content classroom. *International Journal of Humanities and Social Science*, 20(7), 605-609. <https://ijhss.thebrpi.org>
- Wenglinsky, H. (2002). How school matter. the link between teacher classroom practice and students' academic performance. *Educational Policy Analysis Archives*, 13(2), 89-97 <http://epaa.asu.edu/epaa/vion12>.