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Instructional Materials, Students' Achievement and Retention in Physics in Abak Local Government Area, Akwa Ibom State, Nigeria

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ABSTRACT

The study investigates the instructional materials and students' achievement and retention in Physics in Abak Local Government Area, Akwa Ibom State, Nigeria. A quasi-experimental research design was adopted; the population for the study comprised all the Senior Secondary two Physics students for the 2025/2026 academic session in the 11 public co-educational Secondary Schools. A sample of 68 SSII students drawn from two schools in their intact classes through a purposive sampling technique was used for the study. The Physics Practical Test was used as an instrument for data collection. It was validated and subjected to reliability analysis with KR21 statistics. The result showed a reliability coefficient of 0.89 and was deemed appropriate for the main study. Mean and standard deviation were used in analysing the data, while ANCOVA was used in testing the hypotheses at 0.05 alpha level. The results showed that students taught using locally produced instructional materials showed significant achievement in their Physics scores compared to the standard instructional materials. Students taught using locally produced instructional materials showed significant retention in their Physics scores compared to the standard instructional materials. It was recommended that teachers should locally produce instructional materials to improve student achievement and retention in Physics.

Keywords: *Instructional materials, students' achievement, retention and Physics*

INTRODUCTION

The use of instructional materials in the teaching of Physics in secondary schools cannot be overemphasised. Instructional materials serve as moral boosters in Physics; they complement the practical in Physics. Physics is a subject that students should learn with

practical experience using equipment. This equipment gives the students a chance to observe and experiment, apply knowledge, solve theoretical and practical problems, discover, and explore their environment and improve their achievement and retention.

In Physics teaching, teachers conduct cognitive, affective, and practical assessments (Rahayu & Desma-Romadona, 2020). Practical assessments use local instructional materials, helping students move from abstract concepts to hands-on demonstrations. This approach aims to make Physics less difficult by allowing students to directly apply concepts such as experiments, formulae, calculations, graphs, and deductions (Utibe & Onwioduokit, 2019).

Physics is one of the science subjects at the secondary school level in Nigeria and serves as a requirement for students wishing to study Science, Technology, Engineering, and Mathematics (STEM) courses. It should be noted that students' performance in Physics at the West African Senior School Certificate Examination (WASSCE) and the National Examinations Senior School Certificate Examination (NECO-SSCE) has consistently remained below expectations (WAEC and NECO Chief Examiners' Report, 2026). This poor performance can be attributed to a lack of instructional materials in the school laboratories.

Onukwufor & Ugwu (2017) referred to academic achievement as a score which reflects the level of success a learner has attained after teaching and learning have taken place. In essence, it indicates the extent to which learning has taken place. In the context of this study, academic achievement refers to the attainment of an academic goal and target by a learner at the end of the learning process.

Academic achievement is an indicator to measure the degree of success or failure of a learner, especially at the end of a learning process. Academic achievement is the extent to which a student, teacher or institution has attained their short or long-term educational goals. Academic achievement is important for the successful development of young people in society. Students who perform well in school are better able to make a transition into adulthood and achieve occupational and economic success (Utibe, Uboh & Inyang, 2022).

Retention is the process by which new information is transferred from short-term memory to long-term memory. In other words, it is all about making new knowledge stick (Andriotis, 2017). Knowledge retention, therefore, can then be defined as the act or process of keeping in possession and using knowledge. Retention is the ability to store what has been learnt and recall what has been stored in memory. Retention is the ability to retain and later remember information or knowledge gained after learning into memory. The nature of the resources to be coded contributes to the level of retention. Retention is, therefore, the ability to recall learning experiences after about three weeks of learning and beyond. Conditions that relate to poor retention include such factors as lack or inadequate use of instructional. Insufficient and inappropriate use of instructional materials in the process of teaching and learning Physics can lead to poor retention of

knowledge (Inyang, Uboh & Utibe, 2022). Muhammad et al. (2025) noted that retention is high when the degree of original information is high. In other words, any means of teaching that may lead to effective learning may lead to higher retention. Locally produced instructional materials can contribute to the quality and level of retention in terms of meaningful, concreteness and image-evolving characteristics (Anyakaorah, 2021). Instructional materials are resources used by teachers to facilitate learning and improve students' understanding of difficult concepts. They range from textbooks and models to laboratory apparatus and other teaching materials (Akinbobola & Afolabi, 2019). However, many schools in the Abak local government area of Akwa Ibom State lack adequate laboratory mirrors for effective teaching (Effiong, 2020).

Most schools do not have a Physics laboratory; the few that have are poorly equipped (Owolabi & Oginni, 2020). The poor state of the Physics laboratory sometime caused the teachers to resort to the lecture method of teaching, which are likely to affect students' conceptual understanding, achievement and retention in Physics. Physics teaching should be practical in nature, using relevant instructional materials, which may be locally developed or standard supply. The science of using local instructional materials or resources to facilitate teaching, which are capable of performing the same role as the standard materials, is considered in this study. Laboratory equipment plays a crucial role in Physics education, as it enables students to conduct experiments and investigations that enhance their understanding of Physics concepts (Utibe & Agah, 2014).

The local production of laboratory apparatus has been identified as a viable alternative to the problem of inadequate instructional materials (Utibe & Onwiodukit, 2019). Locally produced instructional materials are those fabricated from readily available resources within the environment, which are cheaper, durable, and adaptable to the local context. This would not only make teaching resources available but also make teaching practical realities to the students, making learning more meaningful and practical (Nwosu, 2018).

The locally produced instructional materials make Physics teaching easier because students can actually reduce the abstraction using practical exercises. Laboratory practical promotes students' participation, resulting in improved achievement and retention (Muhammad & Ubendu, 2021). The laboratory practical enables students to translate abstract concepts into realities, thereby enhancing their understanding of Physics concepts. Musah & Umaru (2017) noted that the availability of instructional materials in the laboratory can facilitate effective teaching and learning of Science subjects, consequently, a good achievement and retention in Physics students.

Local production of instructional materials is a case of making available local substitutes in science materials in case of emergency or lack of standard materials in the process of teaching science. The use of such local materials has been useful to the teaching of science as it can influence the activities of the teacher as well as the interest

of the students (Harrison *et al.*, 2025). The production of alternative materials is initiated by the teacher and produced either by the teachers, students, a combination of teachers and students, or local craftsmen, for instance, carpenters and blacksmiths. The teacher uses the students for the production of some of the instructional materials or equipment. Onukwa & Unamma (2024) revealed that students taught practical Physics using laboratory activity performed significantly better than students who were taught practical Physics using individualised and lecturing activities.

According to Munir & Abubakar (2020), there was a significant difference in the mean scores of students' retention taught Physics using instructional materials than those taught using the lecture method. Also, teachers should improvise instructional materials that convey the same information as the original ones. Obikezie *et al.* (2022) revealed that there was higher knowledge retention when Chemistry students were taught using improvisation instructional materials than those who were taught with standard instructional materials. Locally made instructional materials can be provided by the teacher and students. The provision of instructional materials in this study was done by the combined efforts of the teachers and students.

Statement of the Problem

Despite the recognised importance of instructional materials in the teaching of Physics in secondary schools, students' performance in the subject has continued to be poor. A major factor attributed to the poor performance is the unavailability of adequate instructional materials for laboratory experiments. Secondary schools in Abak Local Government Area face the problem of inadequate laboratory apparatus. Consequently, teaching of Physics is dominated by lecture methods, leaving students with abstract ideas rather than practical experiences, which are likely to contribute to low achievement and retention, misconceptions and poor achievement of Physics concepts among students. While research has examined the effects of locally produced instructional materials in science education, few studies have focused specifically on the production and use of locally fabricated instruments for teaching. The problem, therefore, is the lack of empirical evidence on whether the use of locally produced instructional materials can significantly improve students' achievement and retention in Physics in Abak Local Government Area, which this study will provide at the end of the study.

Purpose of the Study

The purpose of the study is to examine the effect of locally produced instructional materials on students' achievement and retention in Physics in Abak, Akwa Ibom State, Nigeria. Specifically, the study seeks to:

1. Compare the difference in the mean achievement scores of students taught using the local and standard instructional materials in Physics.

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2. Compare the difference in the mean retention scores of students taught using the local and standard instructional materials in Physics.

Hypotheses

To guide the researcher in the conduct of the study, the following null hypotheses were tested at a 0.05 level of significance:

1. There is no significant difference in the mean achievement scores of students taught using the local and standard instructional materials in Physics.
2. There is no significant difference in the mean retention scores of students taught using the local and standard instructional materials in Physics.

Significance of the Study

The study will be beneficial to the students, teachers, curriculum planners and researchers. The work, when published, will help improve students' performance in Physics and ensure high-quality Physics candidates for the Senior Secondary School Certificate Examinations. Again, the work will help produce more qualified candidates for science and technology in the tertiary institutions of learning, which in turn will boost national wealth and development.

The study will help motivate Physics students and teachers to develop an interest in utilising local teaching materials in the teaching and learning of science. This study will help clarify among teachers the need for continuous and regular improvement of suitable instructional materials for teaching and learning science.

This study will be useful to science curriculum planners in reviewing the science curriculum by emphasising the local production of instructional materials to meet the needs of society. This study will provide data to researchers in the field of Physics education on the usage of local instructional materials.

METHOD

This study adopts a quasi-experimental pretest and posttest comparison group design. The structure is as shown below:

E_1 (locally produced instructional materials): O_1 (pre-test) X (Treatment) O_2 (post-test)

E_2 (standard instructional materials): O_1 (pre-test) X (Treatment) O_2 (post-test)

The study was conducted in the Abak Local Government Area of Akwa Ibom State. The reason for choosing Abak for this study is that most laboratories in the schools are poorly equipped. Abak has 11 public secondary schools (Abak Britannica, 2026).

The population comprises all Senior Secondary Two (SS2) Physics students for the 2024/2025 session (LEC, Abak, 2026) selected using a simple random sampling technique. The sample for this study consisted of 68 (30 in the experimental group I and 38 in the experimental group II) drawn from two secondary schools.

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One instrument and one treatment package were used to gather data for the study. Physics Practical Test (PPT) was developed using past Physics practical questions of the West African Senior School Certificate Examinations (WASSCE). The instruments were used for teaching and training students for the local production of instructional materials and measuring the students' pre-test, post-test achievement and retention scores in Physics. The pretest and posttest contain the same set of items.

The Physics Practical Test (PPT) was subjected to face validation using a panel of three experts consisting of two Physics lecturers and one Research, Measurement and Evaluation lecturer in the Department of Science Education, Akwa Ibom State University, Mkpat Enin. The evaluators were expected to assess the instrument and lesson package to provide a solution to the study. The suggestions from the three evaluators were incorporated into the final production of the instrument and lesson package. The instrument was administered to a trial testing group of 30 Physics students who were not part of the main subjects for the study, but were found to be equivalent in all respects of Physics knowledge to the subjects in the study. The internal consistency of the Physics Achievement Test (PAT) was determined using KR21 statistics since the instrument was polychotomously scored. The value of 0.89 was obtained, meaning the instrument was reliable for assessing students' achievement and retention in Physics.

To obtain data for the study, relevant permission was obtained from the Director of Schools, Local Education Committee (LEC), Abak, for the use of the two selected secondary schools in the Local Education Area. The approval was conveyed to the Principals of the selected schools for proper use of Physics students, teachers and laboratory facilities in the schools for the conduct of the study. They were briefed on the purpose and the benefit of the study to the students.

A professional Physics teacher from each of the two selected secondary schools were recruited and briefed on the local production of instructional materials and Physics practical test, test administrations and scoring. The students in Experimental Group 1 were trained to produce local instructional materials and used in the main practical, while the students in Experimental Group 2 were trained on the production of the local instructional materials, but they were made to use standard instructional materials in the main practical. The purpose of the local and standard instructional materials was to test their effect on students' achievement and retention in Physics.

To predict the effects of the locally produced instructional materials, both groups were given a pre-test. This established baseline equivalence. At the end of two weeks of training and teaching, the students were given the posttests. Three weeks of waiting were allowed for the students, after which the retention test was administered to the students (groups 1 and 2). The duration for the entire research work was five weeks.

The data were analysed using mean and standard deviation scores. The hypotheses formulated were tested at a 0.05 level of significance using ANCOVA with pretest scores as covariates.

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RESULTS AND DISCUSSION

Table 1: Mean achievement score difference of students taught using the local and standard instructional materials

Groups	N	Pretest Mean ($\bar{x}$)	SD	Posttest Mean ($\bar{x}$)	SD	Mean Gain	Mean Difference
Local	30	7.84	1.15	19.63	1.62	11.79	0.29
Standard	38	7.67	1.12	19.17	1.37	11.50	

Table 1 reveals the pre-test mean and standard deviation scores ($\bar{x}$=7.84, SD=1.15) of the group of students taught using locally produced materials and post-test mean and standard deviation scores ($\bar{x}$=19.63, SD=1.62) of the same group, with a mean gain of 11.79. Also, the pre-test mean and standard deviation scores ($\bar{x}$=7.76, SD=1.12) of the group of students taught using standard instructional materials and a post-test mean and standard deviation scores ($\bar{x}$=19.17, SD=1.37) of the same group, with a mean gain of 11.50. The standard deviation scores in both groups reveal that students' achievement did not differ widely based on either of the instructional materials used. Also, the mean of the two groups shows that students' mean achievement score increased under the use of both locally produced and standard instructional materials. More so, the difference for the mean gains in both groups was 0.29, in favour of the local group.

Table 2: Mean retention score difference of students taught using the local and standard instructional materials

Groups	N	Pretest Mean ($\bar{x}$)	SD	Posttest Mean ($\bar{x}$)	SD	Mean Gain	Mean Difference
Local	34	7.74	1.02	20.18	1.42	12.62	0.82
Standard	34	7.79	1.25	19.41	1.16	11.86	

Table 2 reveals the pre-test mean and standard deviation scores ($\bar{x}$=7.74, SD=1.02) of the group of students taught using local materials and retention mean and standard deviation scores ($\bar{x}$=20.18, SD=1.42) of the same group with mean gain of 12.62. Also, the pre-test mean and standard deviation scores ($\bar{x}$=7.79, SD=1.25) of the group of students taught using standard instructional materials and a retention mean and standard deviation scores ($\bar{x}$=19.41, SD=1.16) of the same group with mean gain of 11.86. The standard deviation scores in both groups reveal that students' retention did not differ widely based on either of the instructional material used. Also, the mean of the two groups shows that students' mean retention score increased differ widely based either

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of the instructional material used. More so, the difference for the mean retention gains in both groups was 0.82, in favour of the local material group.

Table 3: Significance of difference in the mean achievement scores of students taught using the local and standard instructional materials

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	24.42[a]	8	3.052	1.38	0.22	0.16
Intercept	538.49	1	538.49	243.99	0.00	0.81
PreScore	0.28	1	0.28	0.13	0.72	0.00
Groups	3.00	1	3.00	1.36	0.25	0.02
Error	130.22	59	2.21			
Total	25817.00	68				
Corrected Total	154.63	67				

a. R Squared = 0.158 (Adjusted R Squared = 0.44)
b. Dependent Variable: Postest

Table 3 shows the significance of the difference in the mean achievement scores of students taught using local and standard instructional materials in Physics. With an F-ratio of 1.34 and a p-value of 0.25, which is greater than the 0.05 level of significance, the null hypothesis, which states that there is no significant difference in the mean achievement scores of students taught using local and standard instructional materials in Physics, was not significant. Therefore, the null hypothesis that there is no significant difference in the mean achievement scores of students taught using the local and standard instructional materials in Physics is not rejected. Hence, there is no significant difference between the mean achievement scores of students taught using the local and standard instructional material in Physics. The effect size of 0.02 indicates that 2% change in students' achievement in Physics can be attributed to the use of either local or standard instructional material.

Table 3 revealed that there is no significant difference between the mean achievement scores of students taught using the local and standard instructional material in Physics. The outcome of the comparison indicated that the use of local and standard instructional materials in teaching significantly enhanced students' achievement in Physics. This result could be attributed to the fact that both the students who were exposed to local and standard instructional materials in teaching can achieve equally in Physics. The result of this finding is in line with Nwosu (2018), whose study investigated the effect of locally produced instructional materials on students' performance in Basic Science, and all students were able to make use of instructional materials. Also, Effiong

(2020) and Inyang, Uboh & Utibe (2022) found that the use of instructional materials contributes to students' achievement.

Table 4: Significance of difference in the mean retention scores of students taught using the local and standard instructional materials

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	20.55[a]	8	2.569	1.51	0.17	0.17
Intercept	553.68	1	553.68	324.82	0.00	0.85
PreScore	0.21	1	0.21	0.12	0.73	0.00
Groups	8.00	1	8.00	4.69	0.03	0.07
Error	100.57	59	1.71			
Total	26764.00	68				
Corrected Total	121.12	67				

. R Squared = 0.17 (Adjusted R Squared = 0.06)
. Dependent Variable: Retention

Table 4 shows the significance of the difference in the mean retention scores of students taught using the local and standard instructional materials in Physics. With an F-ratio of 4.69 and a p-value of 0.03, which is less than the 0.05 level of significance, the null hypothesis, which states that there is no significant difference in the mean retention scores of students taught using the local and standard instructional materials in Physics, was found to be significant. Therefore, the null hypothesis two is rejected. Hence, there is a significant difference between the mean retention scores of students taught using the local and standard instructional material in Physics. The effect size of 0.07 indicates that 7% change in students' retention in Physics can be attributed to the use of either local or standard instructional material.

Table 4 revealed a significant difference between the mean retention scores of students taught using the local and standard instructional materials in Physics. The retention scores of students taught using the local and standard instructional materials in Physics were compared. The outcome of the comparison indicated that the use of local and standard instructional materials in teaching significantly enhanced students' retention in Physics. This result could be attributed to the fact that students who were exposed to local instructional material in teaching achieve better in Physics due to their participation in its production. The result of this finding is in line with Harrison *et al.* (2025), whose study compares the effect of the production of locally made meter bridges and students' achievement in Physics in Mkpat Enin, Akwa Ibom State, Nigeria. Also, Munir & Abubakar (2020) and Obikezie *et al.* (2022) in similar studies found that the use of instructional materials contributes equally to students' retention in Physics.

CONCLUSION AND RECOMMENDATIONS

The study investigates the instructional materials and students' achievement and retention in Physics in Abak Local Government Area, Akwa Ibom State, Nigeria. The findings reveal a significant difference in the mean retention scores of students taught using the local and standard instructional materials in Physics. The researchers hereby concluded that students' exposure to locally made instructional materials in teaching Physics was found to be most effective in facilitating students' achievement and retention. Consequently, Physics teachers should utilised locally made instructional materials in teaching Physics to promote students' achievement and retention.

REFERENCES

Abak Britannica (2026). History about Abak Available online at https://www.britannica.com/ abak/nigeria/britannica.

Abak Local Education Committee (2026). Students' enrolment figure for 2024/2025 Academic Session in Abak Local Government Area of Akwa Ibom State.

Akinbobola, A. O. & Afolabi, F. (2019). Effect of instructional materials on students' academic performance in Physics. *Journal of Science Education and Research*, 15(2), 45–56.

Andriotis, N. (2017). Make your eLearning stick: 8 tips and techniques for learning retention. *https://www.talentlms.com/blog/8-tips-techniques-learning-retention.*

Anyakaorah, D. C. (2021). Improvisation of instructional materials for effective teaching and learning of computer in junior secondary schools in Ebonyi State. *Unizik Journal of Educational Research and Policy Studies*. 8(1), 115-128.

Effiong, E. A. (2020). Resource availability and utilization in secondary school Physics in Akwa Ibom State. *Nigerian Journal of Education and Practice,* 8(1), 22–30.

Harrison, V. E., Utibe, U. J. & Atabang, A. A. (2025). Production of locally made meter bridge and students' achievement in Physics in Mkpat Enin, Akwa Ibom State, Nigeria. *AJSTME,* 11(3), 252-260. https://www.ajstme.com.ng.

Inyang, F. N., Uboh, D. E. & Utibe, U. J. (2022). The Effect of demonstration, guided-discovery and expository instructional methods on senior secondary students' achievement in Physics in Ikot Abasi Local Government Area of Akwa Ibom State, Nigeria. *Journal of Research in Education and Society*, 13(2), 124 - 135.

Muhammad B., Musa B. & Dunah L. G. (2025). Effect of multimedia-enriched lecture method on retention among secondary school Physics students in Kano metropolis, Nigeria. *Communication in Physical Sciences*, 12(3) 873-879.

Muhammad, L. H. & Ubendu, N. (2021). Assessment on influence of school mapping on allocation of science laboratories in secondary schools in Kaduna State, Nigeria. *Alhikmah journal of education*, 8(1), 306-314.

Munir A. & Abubakar A. A. (2020). Effects of instructional materials on academic performance and retention among senior secondary school Physics students in Katsina metropolis, Nigeria. *FUWGESTJ: Journal of the General Studies Unit, Federal University Wukari*, 2(3), 80 - 90.

Musah, A. & Umaru, A. A. (2017). Effects of availability and utilization of biology laboratory facilities and students' academic achievements in secondary schools in Yobe State, Nigeria. *International Journal of Innovative Social & Science Education Research* 5(2), 1-8.

NECO Chief Examiners' Report (2026). Chief examiners' report on students' performance in Physics. National Examinations Council.

Nwosu, A. A. (2018). Effects of locally produced instructional materials on students' performance in Basic Science. *International Journal of Education Studies*, 4(2), 56–66.

Obikezie M. C., Eke J. A. & Abumchukwu A. A. (2022). Comparative effects of teaching with improvised instructional materials and standard instructional materials on secondary school students' academic retention in chemistry, *Journal of STM Education.* 5(1), 13-17.

Onukwa, C. & Unamma, A. (2024). Locally produced instructional materials and students' academic performance in Physics. *International Journal of Educational Research and Innovation,* 12(2), 55–70.

Onukwufor, J. N. & Ugwu, C. J. (2017). Self-concept, Test Anxiety and Achievement Motivation as Predictors of Academic Achievement in Physics among Secondary School Students in Rivers State, Nigeria. *Journal of Education and Practice, 8*(33), 80 - 90.

Owolabi, T. & Oginni, O. (2020). The Role of Improvisation in Science Teaching. *Journal of Educational Development*, 14(4), 72–85.

Rahayu, A. & Desma-Romadona, D. D, (2020). "Deskripsi implikasi sosial dari fisika, sikap terhadap penyelidikan dalam fisika dan adopsi dari Sikap Ilmiah," *Schrödinger: Journal of Physics Education (SJPE),* 1(1), 13-17.

Utibe, U. J. & Agah, J. J. (2014). Entrepreneurship development using Physics education. *International Journal of Extensive Research*. 2, 1-6.

Utibe, U. J. & Onwioduokit, F. A. (2019). Guided-Discovery, demonstration methods and physics students' acquisitions of entrepreneurial skills in household electrical circuit sketch and wiring in Akwa Ibom State. *Journal of CUDIMAC*. 6(1), 9 – 21.

Utibe, U. J., Uboh, D. E. & Inyang, F. N. (2022). Effects of individualized, cooperative learning strategies and students' achievement in Physics among public secondary schools in Mkpat Enin Local Government Area of Akwa Ibom State, Nigeria. *Journal of Research in Education and Society,* 13(2), 57-69.

WAEC Chief Examiners' Report (2026). Chief examiners' report on students' performance in Physics. West African Examinations Council.