



## Effects of Using Instructional Materials on the Academic Performance of Secondary School Students' in Economics in Jos-North Local Government Area of Plateau State

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### Abstract

*This study was carried out to investigate the effects of using instructional materials on the academic performance of senior secondary school students' in economics in Jos-North Local Government Area of Plateau State. Two research questions were used for the study. The design of the study was experimental: the area of the study was two secondary schools (one public and one private secondary school) out of 22 public schools and 97 private schools in Jos-North Local government area of Plateau state. The sample of the study was 87, comprising of 44 and 43 SS 2 Economics students respectively. The research questions were analyzed using descriptive statistics such as mean, standard deviation and standard error mean. The instrument used in the study was the Economics Students' Achievement Test (ESAT). The instrument was a 20-item multiple choice test covering the following topics: the theory of demand and supply and population, which were covered during instruction. The instrument was trial tested on 20 students selected from a different school outside the study area using the Kuder-Richardson formula and the reliability of 0.84 was obtained. Hence, the reliability co-efficient was found to be reliable. The students were grouped into experimental and control groups by way of randomization. The findings showed that the experimental group scored higher than the control group which indicates that the use of instructional materials was more effective in teaching economics in secondary schools. Based on the findings of the study, it was recommended among others that teachers should be trained and re-trained through workshops, seminars and conferences in order to acquire necessary skills for the improvisation and utilization of instructional materials for teaching economics.*

**Key words:** Academic Performance, Economics, Instructional Materials

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### Introduction

Education is generally seen as an instrument for effective national development. In the teaching and learning process, the goals of education in Nigeria include a united, strong and self-reliant nation, a free and democratic society, a just and egalitarian society, a great and dynamic economy and land full of bright opportunities for all citizens, they are given cognizance (FGN, 2004). Education is therefore a connective tissue in the society. Okongo, Ngao, Rop & Nyongesa, (2015) revealed that the standard of education in Nigeria is falling, the problem of education emerged from the neglect which the sector suffered from the 1980s leading to the gradual erosion of the system. The problems include among others inadequate learning facilities such as lack of teaching tools and moderate classrooms and the acute shortage

of qualified teachers (Okongo, Ngao, Rop & Nyongesa).

For a teacher to attain the set goals of education and for students to gain from such teaching experience, the use of instructional materials is important. Instructional materials are all types of materials or facilities used in the teaching and learning process. These include books, government documents, artifacts, instructional sheets, computers, radio sets, television sets, social media and magazines among others (Janovsky & Brooks, 2015). They are used for teaching at primary, secondary and tertiary levels of education.

Instructional materials in secondary schools enhance and improve teachers' competence; they also make learning more useful and meaningful to the students as they are being presented with a real life experiences and

materials for learning. The use of instructional materials is seen to determine the academic performance of students in schools. Yusuf (2012) disclosed that academic performance is the knowledge and skills that students have mastered in a subject or a course, it is basically a measure of how well students have performed in the various assessment items set for them based on some educational criteria determined by professional educators.

Economics is one of the subjects that require the use of instructional materials for teaching in secondary schools. Economics as a subject was introduced into the Nigerian secondary school system in 1966 (Azi & Drenkat, 2021). It was introduced after the Second World War on the need for the country to rehabilitate, reconstruct and reconcile the war ravaged economy. It is not a compulsory subject and it is only taught in senior secondary classes in Nigeria.

Students' academic performance in the subject has not been encouraging because available statistics from West Africa Examinations Council (WAEC) examination results from 2014 to 2018 shows that the percentage performance of students in economics in Plateau state from the result analysis is lower than most of the results of other subjects. It also shows that the percentage of students' poor performance in other subjects (those with grades F9 to D7) is usually more than 65 percent of the total examination candidates each year. In economics, 75 percent of the students scored grades between F9 to D7 within the period under review (Education Statistics Unit, Plateau state, 2019). The reason for this poor performance could be due to inadequate instructional materials needed to teach economics in secondary schools.

The dearth of instruction materials has gradually affected students' performance in economics. The rapid and recurrent decline in secondary students' academic performance in economics as indicated by the senior secondary school certificate examination conducted annually by West African Examination Council (WAEC) has been a matter of great concern to educationists and the society as a whole. The poor academic performance of the students in the subject is an indication that most students do not



understand the basic principles and concepts been taught to them by their teachers.

Researchers over the years have adduced many reasons for the poor performance of students in economics which include among others poor teaching methods, lack of qualified teachers, lack of relevant textbooks, inadequate instructional materials and out dated curriculum content (Bukoye, 2019). These problems have led to the cases of students' poor performance in the subject; efforts have been directed towards addressing the problem of poor performance of students which include use of formative testing procedures, use of different teaching methods, use of graded questions, use of relevant instructional materials as well as individualized instructions.

Despite all the importance attached to the use of instructional materials, there seems to be a problem in terms of employing and adequately using them. In line with the importance attached to economics, the continued poor performance of students in the subject may lead to ripple effects which may underline the future development of the country, because it limits the learner's choice on career opportunities and also makes learning and mastering of the subject difficult, hence the set objectives of the subject may hardly be achieved due to poor performance of students. Therefore, there is the need for a study to investigate the effects of instructional materials on senior secondary school students' academic performance in economics in Jos-North Local Government Area of Plateau State, Nigeria.

### **Purpose of the Study**

1. Determine the average academic performance of SS 2 students in economics before exposure to instructional materials.
2. Determine the average academic performance of SS 2 students in economics after exposure to instructional materials.

### **Research Questions**

1. To what extent does the use of instructional materials affect the average academic performance of SS 2 students in economics before exposure to it?
2. To what extent does the use of instructional materials affect the average

academic performance of SS 2 students in economics after exposure to it?

### Literature Review

Historically, instructional materials came into existence long ago when the slate was first introduced as a supplement to books and teaching. This gradually gave birth to the chalkboard which is widely used in Nigeria's educational institutions, from such, thousands of tools and devices came into use in the teaching and learning process. Some of the instructional materials used include: pictures, chalkboard, radio, computer, typewriter, charts, models, television sets, maps, graphs, among others (Carmo, 2020). The use of instructional materials according to Abdullahi (2010) is the art of designing a replica of something to make it function or play the role of the real thing for effective teaching and learning.

The National Policy on Education in Section 10 stated that government is expected to facilitate the implementation of educational planning and objectives and promote the efficacy of education. The objectives include among others to enhance teaching and improve the competence of teachers, to make learning more meaningful for children, to reduce educational costs and to develop and promote an effectiveness of innovative materials in schools (FRN, 2014). The government recognizes the important role of instructional materials in the teaching and learning process and has made arrangement of how instructional materials will be provided in the primary, secondary and tertiary levels of Nigeria's educational system.

Yusuf, Maina, & Dare., (2013) observed that there is a lack of adequate and appropriate instructional materials for effective teaching and learning in secondary schools. Secondary school's levels in Nigeria play a key role in shaping how individuals deal with various spheres of private, social and civil life. However, the low performance of students in economics and other subjects has persisted despite the desperate attempts to provide enough teachers, facilities and in-service training for teachers and provision of other necessary materials, thus posting a lot of concerns to all stakeholders in the education sector (Taiwo, 2009). The use of instructional materials has been seen as a panacea to the

continues poor performance of students in secondary schools.

Idongesit and Ekukinam, (2019) examined the effect of improvised technological instructional media on students' performance in some selected primary science concepts. A pre-test and post-test, non-randomized experimental design was adopted for the study. The population comprised of 3,368 primary six pupils from 48 public primary schools in Akwa Ibom State while 219 primary six pupils from two schools formed the sample for the study. A t-test statistical analysis revealed that there is no significant difference of the post-test performance of intact classes exposed to improvised science equipment and those not exposed to the standard equipment, indicating that pupils benefited equally from the standardized and improvised equipment with t-calculated score of 1.34 below the t-critical 2.92. The reviewed study is similar to the present study because both studies adopted experimental design; the reviewed study was however conducted in primary schools while the present study was conducted in secondary schools.

Odo (2015) carried out a study on the effects of students' improvised instructional materials on students' achievement in physics. Five research questions and five null hypotheses guided the study. The study employed a non-equivalent quasi-experimental research design. The sample for the study comprised of 149 SSII students in Obollo Afor Education Zone of Enugu State. Data were analyzed using mean, standard deviation and the Analysis of Covariance (ANCOVA). The results of the study revealed that students taught physics using student' improvised instructional materials performed better than students taught using conventional materials; While both studies were conducted in secondary schools using SS 2 students, the reviewed study however used physics as a subject while the present study used economics as a subject.

From the reviewed studies on instructional materials, it was seen that there have been studies carried out on the effect of instructional materials on students' academic performance in different subject areas and in different locations, but no study has been carried out on the effect of instructional materials on senior secondary school



students' performance in economics in Jos-North Local Government Area of Plateau State, Nigeria.

### Methodology

The study employed experimental research design, it specifically employed the quasi-experimental design. In the quasi-experimental design, the researchers employed the use of non-equivalent control-group design, where there are two groups which are not composed on the basis of randomization but on the basis of using intact groups that is, the researchers found it difficult to carry random assignment of subjects to groups. In the non-equivalent group quasi-experimental research design, treatment of stimulus was administered to only one of the two groups whose members were randomly assigned and are considered the gold standard which means that there could be an important difference between the experimental group and the control group. The researchers were able to manipulate the independent variable to participants that were not randomly assigned to conditions or orders of condition and the independent variable was manipulated before the dependent variable was measured.

The quasi-experimental research design was used because it is not possible for the researchers to carry out a random assignment of subjects to groups, the management of the sampled schools did not allow the researchers to split a class for the purpose of the study, the quasi-experimental design eliminates the directionality problem; the quasi-experimental study was conducted to evaluate the effectiveness of a treatment for educational intervention.

The target population for this study consisted of all SS 2 secondary school economics students in Jos- North Local Government Area of Plateau State, Nigeria. The total population of the study was 1,524 SS 2 secondary school economics students in 97 secondary schools (Jos- North Education Area Office, 2020). The study as already described adopted perfect post-test non-equivalent control group design. To determine the sample size for this study, a cluster sampling technique was used to select two schools with intact SS 2 classes in Jos-North Local Government Area of Plateau State, Nigeria. Students in both the



experimental and control groups were selected from all SS2 Economics classes. The sample for the experimental group was made up of 44 students while the control group was made up of 43 students.

The researchers employed the proportionate stratified sampling technique; this was based on the high frequency representation of the population of the various statuses in order to ensure fair representation of respondents in the final sample. On the sampling technique, two schools were statistically utilized with one school picked from public schools while the other was picked from private schools within the study area.

The instrument developed for the purpose of this study was the Economics Students' Achievement Test (ESAT) which was administered to the two groups after instruction. The researchers developed the instrument with the help of two experts from economics education and one expert from measurement and evaluation programmes, all from the University of Jos. To ensure reliability, the instrument was trial tested on 20 students selected from a secondary school outside the study area using Kuder-Richardson formula, and the reliability coefficient was found to be 0.84. That means the instrument was reliable.

In the treatment, classroom teaching lasted for 2 weeks using 8 lesson periods for all the classes involved. This was done by the regular economics teachers of the classes, who were specially trained by the researchers. The topics for the instruction were extracted from SS 2 syllabus at the time of the study. The two groups were given the same content treatment but the experimental group was taught with the use of instructional materials and the control group was taught without the use of instructional materials. Post-test was administered after treatment. During the post-test, the researchers administered the ESAT instrument to both the experimental and control groups in their respective schools. Objective question sheets were provided for the students to fill in the correct answers for the ESAT. The researchers marked the sheets of the ESAT to obtain the students' scores after the treatment. This was done within the period of the experiment.

Descriptive research statistics such as mean, variance and standard deviation was used to



analyze the research questions. The reason for choosing the descriptive research statistics was to determine whether any differences exist between the means of the two groups. That is, the experimental group and the control group after treatment. The descriptive statistics of mean, variance and standard deviation was robust and had the capacity of evaluating the data.

## Results

**Research Question One:** To what extent does the use of instructional materials affect

**Table 1: Descriptive statistics showing the effects of the use of instructional materials on the academic performance of economics students taught with instructional materials as compared to those taught without it.**

Group	N	Mean	S.D	Standard Error Mean
Experimental Group	44	17.09	2.624	0.395
Control group	43	10.81	2.575	0.393

Result in Table 1 shows that experimental group has the mean scores of 17.09 with the standard deviation of 2.624 and the standard error mean of 0.395 while the control group has the mean scores of 10.81 with the standard deviation of 2.575 and the standard error mean of 0.393. The results therefore revealed that students taught economics with the use of instructional materials had a better mean score than those taught without the use of instructional materials.

**Table 2: Average performance of Pre-Test and Post-Test Economics Students in SS 2 in Jos-North Local Government Area of Plateau State, Nigeria**

Source	N	Mean	Standard Deviation	Standard Error Mean
Pre-test	87	7.33	2.923	0.313
Post-test	87	13.32	4.881	0.523

Result in Table 2 shows that students who were taught economics after exposure to instructional materials and those who were taught economics without the use of instructional materials in SS 2 Secondary Schools in the study area had the mean scores of 13.32, standard deviation of 4.881 and the standard error mean of 0.523 in their post-test while in the pre-test before instruction to SS 2 economics students had the mean score of 7.33, standard deviation of 2.923 and the standard error mean 0.313. The result



the average academic performance of SS 2 students in economics before exposure to it? The students' post-test was analyzed to determine the effect of instructional materials on senior secondary school performance of economics students as compared to those in experimental group and control group in Jos-North Local Government Area of Plateau State, Nigeria. Table 1 shows the effect of the use of instructional materials on the academic performance of economics students taught with instructional materials as compared to those taught without it.

**Research Question Two:** To what extent does the use of instructional materials determine the average academic performance of SS 2 economics students after exposure to it?

The mean scores of pre-test and post-test of students taught economics with the use of instructional materials were calculated to determine the treatment effects of the use of instructional materials. Table 2 shows the average performance of pre-test and post-test economics students in SS 2 in Jos-North Local Government Area of Plateau state, Nigeria.

revealed that the students had a better mean score in post-test.

## Discussion of the Findings

Findings of research question one revealed a significant difference in the performance of students taught economics with the use of instructional materials when compared with those students taught economics without the use of instructional materials. As a result, experimental group had the mean scores of 17.09 and a standard deviation of 2.624 while

the control group had the mean scores of 10.81, with a standard deviation of 2.575. The findings revealed that students taught economics with the use of instructional materials had a better mean score than those students taught economics without the use of instructional materials. Therefore, this finding agreed with the findings of Idongesit and Ekukinam (2019) which revealed that locally produced instructional materials have a significant impact in the realization of the objectives of public primary education and that teachers should be trained on how to improvise.

Findings of research question two revealed that there is a significant difference in the pre-test and post-test mean scores of the experimental group of economics students who were given test before using instructional materials. The result shows that economics students had a mean score of 7.33, with a standard deviation of 2.923 in their pre-test while the experimental group has a post-test mean scores of 13.32, with a standard deviation of 4.881. The result revealed that the students had a better mean scores in post-test compared to their pre-test. This finding opposed the opinion of Odo (2015) who revealed that students' performance can only get better when taught with the use of adequate instructional materials.

### Conclusion

Based on the findings of this study which revealed that instructional materials are relevant in the teaching and learning of economics in secondary schools, which was seen in the increase in the academic performance of students in the experimental group over control group and those in post-test over pre-test. This implies that the use of instructional materials is necessary in teaching economics in secondary schools. It can therefore be concluded that the use of instructional materials motivates learners to pay more attention in the learning activities, so as to comprehend effectively and thereby improve their performance.

### Recommendations

Based on the findings of this study, the researchers therefore recommend the following:



1. Teachers should be trained and re-trained through workshops, seminars and conferences by government.
2. Instructional materials should be provided to teachers by the relevant agencies. This will motivate learners to pay more attention in the teaching and learning process.

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