

Effects of Teachers' Use of Improvised Instructional Materials on Junior Secondary Students Achievement in Social Studies in Abua/Odual

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ABSTRACT

The study investigated the effect of teachers' use of improvised instructional materials on junior secondary students' achievement in Social Studies. This study became necessary because of the unavailability of instructional materials for teaching Social Studies in Secondary Schools. The study adopted quasi experimental research design and 120 JS2 students of Government Secondary School Abua in Abua/Odual Local Government Area of Rivers State formed the sample of the study. The instrument for data collection in this study is Social Studies Achievement Test (SSAT). Three research questions and three null hypotheses were used. The data collected was analyzed using mean and standard deviation to answer the three research questions, while t-test was used to test the hypotheses at 0.05 level of significance. The study revealed that students taught using teachers' improvised instructional materials performed better than students taught with traditional method. The mean difference was found statistically significant, meaning that the treatment was effective, making the experimental group perform better than the control group. The study also revealed that students taught Social Studies with teachers' improvised instructional materials significantly retained their learning, more than the students in the control group taught with the traditional method. Based on the findings, it is recommended that the teaching of Social Studies in the secondary schools should be practical based as the use of improvised instructional materials has to play a role in students' achievement. **Keywords:** Teacher, improvised, instructional materials, achievement, retention, Junior Secondary School

INTRODUCTION

Instructional materials are materials used by the teachers for teaching and learning to stimulate self-activity on the part of students. Also it can be seen as any device, pieces of equipment, graphics, representations and illustrations designed and used to help learners learn meaningfully.

The teaching of Social Studies without instructional materials may result in poor academic achievement. The mastery of Social Studies concepts might not be fully achieved without the use of instructional resources that the students are abreast with. Students learn when their thoughts and expectations interact with materials, ideas and people. Such interactions give learners meaningful developmental learning experience. It could also help to bridge the gap between the teacher and students in terms of understanding different concepts in the lesson, thereby making learning more immediate and more relevant (Mberekpe, 2013).

Instructional materials in teaching according to Babatunde (2005), help to increase learner's motivation, recall earlier learning, activate learner's response, give speedy feedback and encourage appropriate practice. But despite the importance of these instructional materials, government is not able to provide

these materials to our various schools, and for the very few school provided, they are in very limited or insufficient quantity. Teaching without these instructional materials such as computers, internet surfing, laptops, computers educational games, globes, first aid boxes and others, which in this paper is called the traditional method, has serious adverse effects on teaching and learning and consequently on students' achievement.

Instructional materials are essential aids to effective instruction but are not commonly found in contemporary schools in Nigeria due to high cost of production.

The lack of audiovisuals in sufficient number has given room for the improvisation of instructional materials among the teachers in our various schools, to enable the students have better understanding of what they are taught and change for better. According to National Teachers Institute (2007), improvisation is the making of substitutes from local materials found at home or school premises when the real or original equipment is not available. Generally, improvisation of instructional materials is an attempt to adapt and make use of local resources in the teaching/learning process when the ready-made materials are not available. The improvised materials should be able to convey special instructional message just as the original material. Improvisation is necessary for the acquisition of entrepreneurial skills for self-employment and sustenance. Some skills are needed for the teacher to be able to easily improvise many of these instructional materials. These include designing, measurement, observation, creativity and practical skills. Improvised instructional materials give teachers/students the pride of using their talents, allows a teacher to reproduce his potentials, in concrete form and expound teacher's knowledge of the subject matter. The importance of improvisation of instructional materials in junior schools for teaching/learning purposes cannot be over emphasized. To be able to promote quality instruction in our school system, there is need to pay attention to improvisation of instructional materials in the teaching/learning process. However improvisation demands adventures, creativity, curiosity and perseverance on the part of the teacher. Such skills are only realizable through well-planned training programme on improvisation. Improvisation serves the following purposes in the education system:

- (I) It reduces the money spent on the purchase of instructional material in educational institutions,
- (II) It ensures the realization of lesson objectives,
- (III) It helps in solving the problem of lack of instructional material in educational institutions,
- (IV) It gives room for a teacher to demonstrate his creative skills and gives room for the use of cheap local materials as alternatives to the expensive foreign ones.

The instructional materials locally made using resources in the environment as alternative is called improvised instructional materials. These will include pictures, beads, lock and lockets, tread in making costume, toys, flashcards, worksheets, maps, atlases, globes, graphs, charts, posters and others. Improvised instructional materials may not be identical with the traditional one; therefore teachers should be skilful in their handling and using them (Mberekpe, 2013). The teacher initiates the production of the alternative resources, which can be constructed by either the teacher or the local artisans e.g. carpenters, blacksmiths and others. The teacher may use the students for improvising some of the needed materials or equipment. This may help to develop creativity and the spirit of resourcefulness among the teacher and the students. Most importantly, the teacher should make sure that these materials produced or substituted will be able to serve the same purpose as the traditional instructional materials (Mberekpe, 2013).

Dike (2017) advocated that many teachers are frustrated when they are unable to find the right type of instructional materials to use to concretize a concept. Often times, these teachers admire instructional materials produced by colleagues and wish they had similar skills. Skills for producing instructional materials are many, but can only be acquired through diligent practice.

To produce an instructional material, an instructional developer must first of all plan his activities. Planning is a paper and pencil activity. For instance, an engineer or an architect never constructs a bridge or designs a house without first of all considering the aims and objectives of the project. It is only when the aims and objectives are known that an engineer or architect can think of the type of materials to use, the cost of such materials or of alternative materials, etc. Likewise, it is necessary for an instructional developer to determine the aims and objectives of his instructional development. It is only when the aims

and objectives of an instructional development are known that an instructional developer can think of the resources to use. This Planning involves the following activities:

- (a) Identify the needs for the instructional production
- (b) Translating needs into instructional objectives.
- (c) Describing the intended audience.
- (d) Outlining desired content.
- (e) Conduct task analysis
- (f) Apply learning, communication, management principles.

Some challenges confront teachers in the improvisation of instructional materials. They include the following:

1. Some teachers find it difficult to use the improvised instructional materials.
2. The improvised instructional materials are not aligning with curriculum guidelines and timelines.
3. Most teachers are not confident in the use of improvised instructional materials; and
4. The unavailability of the materials and others.

Studies have shown that Secondary School students are exhibiting poor performance in Social Studies (Shodeinde, 2015). This poor performance has resulted to poor achievement in examinations (Shodeinde, 2015). In our march towards technological advancement, we need nothing short of good achievement in Social Studies at all level of schooling. Unfortunately, achievement of students in Social Studies has not improved in the last decade (Shodeinde, 2015). The researcher linked the poor achievement trend in Social Studies particularly to the lack of instructional materials in schools due to poor funding of schools. The poor funding of schools has hindered the principals from providing the teachers with adequate instructional resources.

In this study, the independent variable is also referred to as the experimental or treatment variable while the students' achievement dependent variable. There are two basic groups involved in an experimental study- the experimental or treatment group and the control group. The experimental group is that group to which treatment is administered while the control group is that group to which no treatment is administered.

Purpose of the study

The main purpose of study is to investigate the effects of teachers' use of improvised instructional materials on junior secondary school students' achievement in Social Studies in Rivers State.

This study specifically determined:

1. The pretest mean achievement scores of Social Studies students in the experimental group and the control group
2. The pretest and posttest mean achievement scores of students taught Social Studies with teacher improvised instructional materials and those taught with the traditional method.
3. The posttest mean and retention of learning scores of students taught Social Studies with teacher improvised instructional materials and those taught with the traditional method.

Research Questions

The following research questions were used for this study:

1. What are the comparative pretest mean achievement scores of Social Studies students in the experimental group and the control group?
2. What is the pretest and posttest mean achievement scores of students taught Social Studies with teacher improvised instructional materials and those taught with the traditional method?
3. What is the pretest mean and retention of learning scores of students taught Social Studies with teacher improvised instructional materials and those taught with the traditional method?

Hypotheses

The following null hypotheses were tested in this study:

H₀₁: There is no significant difference between pretest mean achievement scores of Social Studies students in the experimental group and the control group.

- Ho₂:** There is no significant difference between the pretest and posttest mean achievements scores of students taught Social Studies with teacher improvised instructional materials and those taught with the traditional method.
- Ho₃:** There is no significant difference between the posttest mean and retention mean scores of students taught social studies with teacher improvised instructional materials and those taught with the traditional method.

METHODOLOGY

Research Design

This study employed the quasi experimental research design, involving pre-test, post-test, and non-equivalent groups. This type of research design is appropriate in studying the effects of teachers' use of improvised instructional materials on Junior Secondary students' achievement.

Population and sample of the study

The population of the study consists of all the JSS II Social Studies students of Government owned Secondary Schools in Abua/Odual Local Government Area of Rivers State, totaling 400 students. Simple random sampling technique was used to select one school from all the government owned Secondary schools in the Local Government Area. The sample size of this study was 120 students (60 in experimental group and 60 in control group) selected from the list of best performing students after a pre-test. In a descending order of scores, the 120 students were split into two groups (60 students in each group: experimental and control) using the "even and odd" classification.

This study made use of three instruments,

- (a) Social Studies Achievement Test (SSAT) for pre-test and post-test.
- (b) Lesson notes for the experimental and the control groups.
- (c) Improvised instructional materials.

Social Studies Achievement Test (SSAT)

Social Studies Achievement Test was drawn from the Junior WAEC past questions from (2013-2017) to test students' achievement in eight topics of Social Studies, such as meaning of Social Studies and its objectives, meaning, types and advantages of a family, responsibility of family members, conditions for marriage and effects of lack of readiness on marriage relationship, meaning, kinds and forms of drugs abuse, consequences of drugs abuse and ways of discouraging drug abuse in Nigeria. It consists of (50) multiple choice objective test items with 5 options (A, B, C, D, E) per item.

Lesson note on experimental and control group

The lesson notes on Social Studies for experimental and control groups were developed by the researcher used as lesson plan throughout the duration of the teaching, and it was based on eight topics: meaning of Social Studies and its objectives, meaning, types and advantages of a family, responsibility of family members, conditions for marriage and effects of lack of readiness on marriage relationship, meaning, kinds and forms of drugs abuse, consequences of drugs abuse and ways of discouraging drug abuse in Nigeria. This teaching was done with the help of research assistants in the school, which were trained by the researcher. The lesson notes for experimental group included teacher's improvised instructional materials while that of the control group did not.

Improvised instructional materials

The improvised instructional materials on social studies were developed by the researcher and with the help of the students, while some were drawn by artisans, which can be seen as pictures in the lesson plan of the experimental group.

RESULTS

Research Question 1

What are the comparative pretest mean achievement scores of Social Studies students in the experimental group and the control group?

Table1: Pretest mean achievement scores for experimental and control group

Group	N	\bar{X}	SD	Mean diff	Remark
Experimental	60	28.03	7.88	0.3	(Insig)
Control	60	27.73	9.34		

Table 1 shows the mean achievement score of the pretest for experimental group (n=60); and control group (n=60) as 28.03 and 27.73 respectively, resulting to a mean difference of 0.3. The result is insignificant.

Research Question 2: *What is the pretest and posttest mean achievement scores of students taught Social Studies with teachers improvised instructional materials and those taught with the traditional method?*

Table 2: Pretest and Posttest mean achievement scores of Experimental and Control groups

Group	N	Pretest		Posttest		Gain Score
		X_1	SD_1	X_2	SD_2	
Experimental	60	28.03	7.44	67.10	11.45	39.07
Control	60	27.73	9.34	51.97	8.01	24.24

Table 2 revealed that experimental group had a mean gain of 39.07 and the control group had 24.24. The result suggests that the use of improvised instructional materials is more effective than the traditional teaching method in teaching Social Studies.

Research Question 3: *What is the posttest mean and retention of learning scores of students taught Social Studies with teachers improvised instructional materials and those taught with the traditional method?*

Table 3: Posttest mean achievement scores and Retention Test scores of Experimental and Control groups

Group	N	Posttest (X)	SD	Retention Test	SD	Mean Loss	%
Experimental	60	67.10	11.45	60.34	11.14	6.76	10.07
Control	60	51.97	8.01	48.23	6.74	5.74	11.04

Result in table 3 shows that the experimental group had a mean score of 67.10 in the posttest and a mean score of 60.34 in the retention test with a mean loss of 6.76 representing 10.07 %. The control group had a mean score of 51.97 in the posttest and a mean score of 48.23 in the retention test, with a mean loss of 5.74 representing 11.04%. With these results, it shows that students taught Social Studies with teacher improvised instructional material retained more knowledge than those taught with traditional method.

Hypotheses

The following Hypotheses were used for this study:

Ho₁: There is no significant difference between pretest mean achievement scores of Social Studies students in the experimental group and control group.

Table 4: T-test comparison of Pretest means achievement scores of the experimental and the control group

Group	N	\bar{X}	SD	df	t-Crit	t-Cal	Sig-Level	Remarks
Experimental	60	28.03	7.44	118	1.66	0.19	0.05	insignificant
Control	60	27.73	9.34					

Table 4: Shows that the calculated t-value of 0.19 is less than the critical t-value of 1.66, hence the null hypotheses is not rejected, meaning that there is no significant difference between the means achievement of the experimental and control group at pretest and any observed difference could be attributed to sampling error.

Ho₂: There is no significant difference between the pretest and posttest mean achievement scores of students taught Social Studies with teachers improvised instructional materials and those taught using traditional method.

Table 5: T-tests comparison of the achievement scores of Pretest and Posttest of experimental and control group.

Group	N	Pretest		Posttest		df	t-Crit	t-Cal	Sig-Level
		\bar{X}_1	SD	\bar{X}_2	SD				
Experimental	60	28.03	7.44	67.10	11.45	59	1.67	22.19	0.05
Control	60	27.73	9.34	51.97	8.01	59	1.67	15.25	0.05

The result of the t-tests in Table 5 showed that the t- Cal (22.19) was higher than the t-critical of (1.67) for the experimental group and for the control, the calculated and critical t-values were 15.25 and 1.67 respectively. Hence the null hypothesis is rejected, meaning that there is a significant difference between the mean achievement scores of the experimental group and the control group.

Ho₃: There is no significant difference between the posttest mean and retention mean scores of students taught Social Studies with teachers improvised instructional materials and those taught with the traditional method.

Table 6: T-test comparison of the Posttest scores and the Retention scores of the experimental and control group.

Group	N	Posttest		Retention Test		df	t-Crit	t-Cal	Sig-Level
		\bar{X}_1	SD	\bar{X}_2	SD				
Experimental	60	67.10	11.45	60.34	11.14	59	1.67	3.28	0.05
Control	60	51.97	8.01	48.23	6.74	59	1.67	2.59	0.05

The result of the t-tests in Table 6 showed that the calculated t-value (3.28) was higher than the t-critical of (1.67) for the experimental group and for the control, the calculated and critical t-values were (2.59) and (1.67) respectively. Hence the null hypothesis is rejected, meaning that there is a significant difference between the mean retention scores of the experimental group and the control group.

DISCUSSION OF FINDINGS

Before the treatment, the experimental group and the control group were equivalent in their achievement of Social Studies; as the difference between the pretest measures obtained from both groups was not found to be statistically significant. This finding rests on the fact that junior Secondary School students have been taught the same contents of Social Studies when they were in junior secondary school one (J.S.S.1). However, after the treatment, students taught Social Studies with teachers improvised instructional materials performed better than those taught with traditional method. The mean difference was found statistically significant. Hence, teaching Social Studies with teacher improvised instructional materials was effective than teaching with traditional method. These findings are similar to the findings of Shodeinde (2015) in Social Studies, Apondi (2015) in Mathematics and Mberekpe (2013) in Biology, who in their separate studies found that students taught with improvised instructional materials performed significantly better than those taught with traditional method. This study found that students taught Social Studies with teachers' improvised instructional materials significantly retained their learning more than the students in the control group taught with traditional method. This implies that teachers improvised instructional materials improved students' retention of learning than the use of traditional teaching method. These findings are in agreement with Ugbe & Dike (2012) in chemistry, Adeyanyu (2005) in Business studies and Yusuf (2003) in Agricultural science, reported that students in the experimental group taught various topics with teachers improvised instructional materials performed significantly better than those in the control group in the retention test. According to Von Glasersfeld (2001) by teaching students to think, they will gradually begin to realize that conscious reflection secretes understanding which helps in transfer of learning and improves students' retention of learning.

CONCLUSION

From the results obtained in this study on the effect of teachers' use of improvised instructional materials on Junior Secondary students' achievement in Social Studies, it was found that students taught Social Studies using improvised instructional materials performed better than students taught using traditional method. Also students taught Social Studies using improvised instructional materials had a higher mean retention test score, than those taught traditional method. So therefore teachers should try to be imparting knowledge to the students with the use of improvisation of teaching aids.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made.

- a. The teaching of Social Studies in the Secondary Schools should be practical as the use of improvised instructional materials has to play a role in the students' achievement.
- b. Teachers should try to improvised instructional materials and encourage students to do same, to enable them have a better understanding of Social Studies concepts.

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