

**EFFECTS OF MULTIMEDIA INSTRUCTIONAL MATERIALS ON EKITI STATE SECONDARY SCHOOL STUDENTS' ACADEMIC PERFORMANCE IN SOCIAL STUDIES**

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**Abstract**

*This study investigated the effects of multimedia instructional materials on academic performance of Ekiti State students in social studies. The population of the study consisted of all Junior Secondary Two (JS II) Social Studies Students in all public Secondary Schools in Ekiti South Senatorial District of Ekiti State. The sample of the study was 60 Junior Secondary Schools II Social studies students selected from two local government areas in Ekiti south senatorial district of Ekiti State using multi stage sampling procedure. Quasi experimental design was adopted for the study. Social Studies Achievement Test (SSAT) was used to collect data. The data collected in this study were subjected to t-test analysis at  $\alpha = 0.05$  level of significance. The findings revealed that students exposed to multimedia instructional materials performed better than those exposed to conventional materials. In addition, there was no gender difference in the academic performance of students in Social Studies exposed to multimedia instructional and conventional materials. Based on the findings, it was recommended, among others, that Social Studies teachers should adopt multimedia instructional materials to complement the teaching of Social Studies in order to improve students' performance.*

**Key words:** Multimedia Package; Instructional Material, Academic performance

**Introduction**

The main aspiration of Social Studies is to get students in school to better understanding the intricacies of man's existence on earth. With such an understanding, they would then be better equipped to live and interact more effectively and meaningfully within their own environments. Social studies is a learning programme with the aim to raise effective citizens who can solve problems by deciding on information in changing national and international circumstances almost in every aspect which uses the information and techniques from human and social sciences (Ozturk, 2006). The relevance of instructional materials in the teaching and learning of Social Studies needs not be over emphasized, considering the enormous positive influence they exert on the general performance of students. No wonder, Mezieobi, Fabura & Mezieobi (2008) argued that when any act of teaching is done without instructional resources, some learning may take

place depending on what is taught and the setting in which it is taught. But when teaching is effectuated with instructional materials much learning take place and content retention is enhanced.

With this assertion, if Social Studies looks at man and his world or environment from a holistic perspective-seeing the world as a whole, it then follows that knowledge, man's life and human behaviour cannot be better understood in fragments. This notion makes Social Studies according Mezieobi, Fubura & Mezieobi (2008) to adopt the integrative approach to knowledge by blending or fusing relevant content, concepts, methods and generalization, to make the students see the world as a whole, and in addition, develop and integrated view of reality and free himself from the narrow confines of traditional social science discipline. In view of Yusuf (2012), instructional materials are those things that the

teacher uses to enhance student learning such as books, charts audio-visual aids resource person and so on. It appears that if a student does not understand what is said by the teacher or what is written in a text book, the students are not going to learn the subject matter. But if the students are allowed to see and feel what is said or written by means of concrete objects, their chances of understanding what has been said is guaranteed.

It appears that the era of using manual instructional materials are phasing out as a result of educational technology. Most instructional materials are now in audio-visual form which can be referred to as multimedia instructional materials. Multimedia is the platform where a material is combined with text, graphs, audio and simulation. According to Ben (2010), multimedia is the multiple introduction of a material with picture or text. It is the synthesis of digital platforms such as text, audio, graph, animation, visual and video. In another explanation, multimedia sources created by using audio, video, visual, graph, text, animation to explain a subject is expressed as the use of different data types to explain an idea, an event or a subject. Multimedia package is introduced as a tool combining different platforms such as written, audial, numeric graphs and animation (Yusuf, 2012).

Multimedia allows teachers to integrate text, graphics, animation, and other media into one package to present comprehensive information for their students to achieve specified course outcomes. Multimedia permits the demonstration of complicated processes in a highly interactive, animated fashion and that instructional material can be interconnected with other related topics in a more natural and intuitive way.

In line with multimedia instructional materials, one of the primary tools in the hands of the Social Studies teachers for effective teaching and learning in the classroom are various multimedia materials. Therefore, for the objectives Social Studies to be achieved through proper utilization of instructional resources, there must be sound preparation on the part of the teachers before each lesson at every level of education. Instructional materials are perceived as vehicles for curriculum enhancement. Instructional materials have the potential for enhancing students' learning. These instructional materials provide teachers and students with vast quantities of information in an easily accessible and non-sequential format that can be used as teaching tools.

Multimedia eases education in terms of data usage, storage, share and transportation of the visual and non-visual written material, graphs, audios and other materials (Ozturk, 2006). Moreover, multimedia creates a familiar, various, economic and practical environment in education (Usun, 2000). Another contribution which multimedia makes to education is the increase in academic achievement of the students. When compared to traditional instruction, multimedia use increases the academic achievement of the students. The use of multimedia affects education positively when designed properly compared to traditional instruction, in terms of academic achievement (Akkoyunlu & Yilmaz, 2005).

#### **Statement of the Problem**

A plethora of research had indicated that there are many factors that determine the effectiveness of using multimedia instructional materials in teaching of Social Studies in secondary school in Nigeria. Educationists and psychologists have also provided the frame work for the understanding of the influence of utilization of instructional materials in teaching. Teaching becomes more

realistic and lasting because the students take part in teaching-learning situation. Considering the fact that instructional materials in teaching play vital roles in students' classroom interaction and development, it goes a long way to determine student's performance.

There has been observed low performance in Social Studies education in schools. The researcher's experience has shown that emphasis is laid more on provision and utilization of instructional materials in science subjects than those of subjects like Social Studies. Majority of the Social Studies teachers at all levels of education system at present seem to be characterized by lack knowledge of computer and its application. This appears to have led to serious problem of teachers' ineffectiveness because they may not have adequate knowledge on operating multimedia instructional materials and computer application to teaching and learning. Most of instructional materials used by Social Studies teachers are manual and may not be relevant to the Social Studies in this computer age. Hence, it has become very imperative to conduct this research to ascertain the performance of students in some selected junior secondary schools after exposing them to multimedia instructional materials.

#### **Purpose of the Study**

The study investigated the effects of multimedia instructional materials on the academic performance of Ekiti state secondary school students in Social Studies. It also determined the difference in the pre-test and post-test of students exposed to multimedia instructional materials and the conventional group. It further examined the interactive effects of gender on the academic performance of students taught Social Studies using multimedia instructional materials and conventional strategy.

#### **Research Hypotheses**

Based on the problem and purpose of the study, the following hypotheses were generated

1. There is no significant difference in the pre-test mean scores of students exposed to multimedia instructional materials and conventional method.
2. There is no significant difference in the post-test mean scores of students exposed to multimedia instructional materials and conventional method.
3. There is no significant difference in the pre-test and post-test mean scores of students exposed to multimedia instructional materials.
4. There is no significant difference in the pre-test and post-test mean scores of students exposed to conventional method.
5. There is no significant gender difference in the academic performance of students exposed to multimedia instructional materials.
6. There is no significant gender difference in the academic performance of students exposed to conventional method.

#### **Research Design**

The research design adopted for this study is quasi - experimental pre-test and post-test two group design (one experimental group and one control group).

The pattern of the design is as shown below.

$O_1$   $X_1$   $O_2$ : Experimental group  
(Multimedia Instructional Materials)  
 $O_3$  -  $O_4$ : Control group  
(Conventional method)

Where

$O_1, O_3$ ,- Pre-test (Performance before treatment)

$O_2, O_4$ , - Post-test (Performance after treatment)

$X_1$  - Treatment via Multimedia Instructional Material

- - Control group: Conventional Method

#### **Population, Sample and sampling techniques**

The population of the study consisted of all Junior Secondary Two (JS II) Social Studies Students in all public Secondary Schools in Ekiti South Senatorial District of Ekiti State. The sample of this study is made up of 60 students from two public secondary schools in Ekiti State, Nigeria. The sample was selected using multistage sampling procedure. In stage one, two Local Government Areas were randomly selected from Ekiti south senatorial districts. In stage two, one public secondary school was randomly selected from each of the two local government areas chosen for the study. In stage three, thirty students were selected from each of the schools using stratified random sampling technique. Purposive Sampling technique was used to group the schools into different experimental and control groups.

#### Instrumentation

The instrument used for this study is a self-constructed Social Studies Achievement Test (SSAT). The instrument was used for pre-test and post-test. The content of SSAT used for pre-test was reshuffled for the post-test in order to prevent carry-over effect. The instrument was validated by content validity method. It was given to three Social Studies teachers to ascertain the content validity of the instrument. Pearson Product Moment Correlation statistics formula was used to establish the reliability coefficient of 0.81 for SSAT.

**Table 1:** t-test analysis for Pre - test Mean Scores of Students in Experimental and Control Groups

Variations	N	Mean ( $\bar{X}$ )	SD	df	$t_{cal}$	P (Sig)	Rem.
Multimedia	30	44.67	2.80	58	1.002	0.320	Not Significant
Conventional	30	43.87	3.36				

$P < 0.05$

Table 1 shows that the t-cal value of 1.002 is not significant because the P value (0.320) > 0.05 level of significance. This implies that null hypothesis is not rejected. Hence, there was no significant difference in the pre-test mean scores of students

#### Experimental Procedure

The Social Studies Achievement Test (SSAT) was administered to experimental and control groups as Pre-test in order to ascertain the entry point of each group. The reshuffled Social Studies Achievement Test (SSAT) which served as post-test was administered to the two groups after teaching the groups for 4 weeks using the school scheme of work. The experimental plan was as follows:

Duration	Activities
1st week	Training of research assistants and administering of pre-test
2nd - 5th week	Teaching of the students via multimedia instructional materials and conventional method
6th week	Post-test

After treatment, the scores in pre-test and post-test in the two groups were collated and subjected to appropriate statistical analysis. The six hypotheses were analyzed by t-test at  $\alpha = 0.05$  level of significance.

#### Results

**Hypothesis 1:** There is no significant difference in the pre-test mean scores of students exposed to multimedia instructional materials and conventional method.

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**Hypothesis 2:** There is no significant difference in the post-test mean scores of students exposed to multimedia instructional materials and conventional method.

**Table 2:** t-test analysis for Post - test Mean Scores of Students in Experimental and Control Groups

Variations	N	Mean ( $\bar{X}$ )	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Multimedia	30	85.40	4.30	58	26.32	0.00*	Significant
Conventional	30	57.00	4.06				

\*P&lt;0.05

Table 2 shows that the t-cal value of 26.32 is significant because the P value (0.000) <0.05 at 0.05 level of significance. This implies that null hypothesis is rejected. Hence, there was a significant difference in the post-test mean scores of students exposed to multimedia instructional materials and conventional method. The mean score showed a significant

difference of 28.40 in favour of students exposed to multimedia instructional materials.

**Hypothesis 3:** There is no significant difference in the pre-test and post-test mean scores of students exposed to multimedia instructional materials.

**Table 3:** t-test analysis for pre-test and post-test mean scores of students exposed to multimedia instructional materials

Variations	N	Mean ( $\bar{X}$ )	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Pre-test	30	44.67	2.80	58	43.53	0.00*	Significant
Post-test	30	85.40	4.30				

\*P&lt;0.05

Table 3 shows that the t-cal value of 43.53 is significant because the P value (0.000) <0.05 at 0.05 level of significance. This implies that null hypothesis is rejected. Hence, there was a significant difference in the pre-test and post-test mean scores of students exposed to multimedia instructional materials. The mean score showed a significant difference

which indicate that multimedia instructional materials was very effective.

**Hypothesis 4:** There is no significant difference in the pre-test and post-test mean scores of students exposed to conventional method.

**Table 4:** t-test analysis for pre-test and post-test mean scores of students exposed to conventional method

Variations	N	Mean ( $\bar{X}$ )	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Pre-test	30	43.87	3.36	58	13.65	0.00*	Significant
Post-test	30	57.00	4.06				

\*P&lt;0.05

Table 4 shows that the t-cal value of 13.65 is significant because the P value (0.000) <0.05 at 0.05 level of significance. This implies that null hypothesis is rejected. Hence, there was a significant difference in the pre-test and post-test mean scores of students exposed to conventional method. The mean score showed a significant difference which indicate

that conventional method was effective but not as effective as multimedia instructional materials

**Hypothesis 5:** There is no significant gender difference in the academic performance of students exposed to multimedia instructional materials.

**Table 5:** t-test analysis for gender difference in the academic performance of students exposed to multimedia instructional materials

Variations	N	Mean ( $\bar{X}$ )	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Male	15	85.07	4.93	28	0.42	0.678	Not Significant
Female	15	85.73	3.69				

P<0.05

Table 5 shows that the t-cal value of 0.42 is not significant because the P value (0.42) > 0.05 level of significance. This implies that null hypothesis is not rejected. Hence, there was no significant gender difference in the academic performance

**Table 6:** t-test analysis for gender difference in the academic performance of students exposed to conventional method

Variations	N	Mean ( $\bar{X}$ )	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Male	15	57.87	3.96	28	1.18	0.249	Not Significant
Female	15	56.13	4.10				

P<0.05

Table 6 shows that the t-cal value of 1.18 is not significant because the P value (0.249) > 0.05 level of significance. This implies that null hypothesis is not rejected. Hence, there was no significant gender difference in the academic performance of students exposed to conventional method.

### Discussion

The study revealed a no significant difference in the pre-test scores of students in Social studies exposed to multimedia instructional materials and conventional method. This implies that the groups were homogeneous at the commencement of this study. Table 2 revealed a significant difference in the post-test scores of students in Social studies exposed to multimedia instructional materials and conventional method. The significant difference is in favour of students exposed to multimedia instructional materials. It implies that when multimedia instructional materials were used by teachers to complement teaching of social studies, it is effective than conventional materials. The result agrees with Sulaiman (2013) who concluded that students exposed to multimedia instructional materials will perform better than students

of students exposed to multimedia instructional materials.

**Hypothesis 6:** There is no significant gender difference in the academic performance of students exposed to conventional method

exposed to conventional methods in Social Studies.

The study also revealed that significant differences existed between the pre-test and post-test mean scores of students exposed to multimedia instructional materials and conventional materials in Social studies. Though a large difference existed between pre-test and post-test score of students exposed to multimedia instructional materials, unlike conventional materials where the difference was minimal. This implies that multimedia instructional materials are more effective than conventional materials. The result agrees with Kosma (2016) who concluded that multimedia instructional material is a very effective method of teaching.

The study further revealed that there was no significant difference between male and female in Social Studies on the academic performance when using multimedia instructional materials in teaching of Social Studies which is in accordance to Ben (2010), who concluded that there is no gender disparity when students are exposed to multimedia instructional materials.

In addition, the study revealed that there was no significant difference between male and female in Social Studies on the academic performance when using conventional materials in teaching of Social Studies. This finding is in consonance with Sulaiman (2012) who concluded that there is no significant difference in academic performance between male and female in social studies when exposed to conventional materials.

### Conclusion

It can be concluded from the findings that the use of multimedia instructional materials are very effective in increasing students' academic performance in Social Studies. Multimedia Instructional materials are effective in the teaching and learning of Social Studies than the conventional instructional materials. There is also no gender disparity in students' response to multimedia instructional and conventional materials

### Recommendations

Based on the findings, it is hereby recommended that Social Studies teachers should incorporate multimedia instructional materials to complement their teaching in order to improve student's performance, social interaction skills and foster meta-cognition in students. Social studies teachers should be given adequate orientation through workshops and seminars to update their knowledge in the use of computer since multimedia instructional materials relies on computer technology.

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