

The Impact of Mediated Teaching on Secondary School Students' Academic Achievement in Social Studies

A Study in Ogun State, Nigeria

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ABSTRACT

This study therefore determined the effects of mediated teaching on secondary school students' academic achievement in social studies in Ogun state. A pretest, posttest, control group quasi-experimental design was employed for the study. Six secondary schools (public and private) in Ogun State were randomly selected. Two instruments were used for data collection, are Social Studies Academic Achievement Test and the Mediated Teaching Academic Achievement Questionnaire. The hypotheses were tested using Analysis of Covariance at 0.05 level of significance. Treatment has a significant effect on students' achievement ($F(2,110) = 17.269$ $P < 0.05$). This means that there is a significant difference in the achievement of students exposed to teaching with instructional resources than those students taught without instructional resources. It was recommended that government, school authorities, and other stakeholders should provide enough instructional resources for teaching and learning. Where the resources are unavailable or insufficient, teachers are encouraged to improvise.

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Introduction

Education contributes to the growth of the national economy by improving the skills and productive capacity of people. There is hardly any industrialized country without a well-developed education and training system – a system that not only provides a rich variety of programs or courses that respond to both personal and national development needs but also seeks to remove barriers to adult participation [1]. In Nigeria, emphasis is usually placed on secondary school students' good academic achievement because of its direct positive effect on national development.

Many studies have been carried out to explore factors affecting students' achievement. Instructional resources possess some inherent advantages that make them unique in teaching [2]. For one thing, they provide the teacher with interesting and compelling platforms for conveying information since they motivate learners to learn more and more. Also, by providing opportunities for private study and reference, the learner's interest and curiosity are increasingly stimulated. Further, the teacher is assisted in overcoming physical difficulties that could have hindered his effective presentation of a given topic. They generally make teaching and learning easier and less stressful. They are equally indispensable catalysts for the social and intellectual development of the learners. To Oni [3], incessant workers' strikes, inadequate facilities, and an unconducive environment, among others, are common with public schools.

Instructional resources are integral components of teaching-learning situations; it is not just to supplement learning but to complement its process. It is then shown that if there must be an effective teaching-learning activity, utilization of Instructional resources will be necessary. Ema and Ajayi [4] assert that teaching equipment and resources have changed over the years, not only to facilitate teaching-learning situations but also to address the instructional needs of individuals and groups. Instructional resources are made up of objects such as printed, audio, and visual that aid in the successful delivery of lessons [5]. To this end, Instructional resources are said to be objects or things that the teacher can use in the classroom while teaching to ease their teaching activities. However, Instructional resources cannot address all the teaching-learning problems but they can go a long way in solving them, simply because, they are additional apparatus that can influence the reality of teaching and learning activities.

Ololube [6] explained that the concept of teaching aids has gone through several evolutionary stages from simple aids, instructional technology, and media to communication and educational technology. This, however, tells us that Instructional resources are not just objects or equipment used during the teaching-learning process but there those objects improvised by the teacher to make conceptual abstraction more concrete and practical to the learners. Instructional resources are the relevant resources utilized by a teacher during the

instructional process for the purpose of making the contents of the instructions more practical and less vague.

Without a teacher who is knowledgeable, instructional resources cannot create change and progress the only time it begins to make an impact is when the teacher begins to make use of it and allows it to take over its values. This portrays the professional attributes of the teacher and general knowledge or his creativity in selecting, developing, and using Instructional resources effectively. Effective communication is usually the result of a careful selection of the appropriate medium or combination of media available by an effective teacher. This is to ensure the transmission of a message from one source to another by the use of form or illustration that seems desirable and depicts the real situations of the audience. It is referred to as the interaction of an individual or group with the environment through all the senses.

Instructional resources are in various classes, such as audio or audio, visual or audiovisual. Thus, audio Instructional resources refer to those devices that make use of the sense of hearing only, like radio, audio tape recording, and television. Visual Instructional resources, on the other hand, are those devices that appeal to the sense of sight only such as the chalkboard, chart, slide, and filmstrip. An audio-visual instructional resource, however, is a combination of devices that appeal to the sense of both hearing and seeing such as television, motion picture, and the computer. Among the Instructional resources the classroom teacher uses, the visuals out-numbered the combination of the audio and audio-visual [8].

The use of instructional resources can appeal to individual attention by creating interest [6]. The goal of the learner is what he wishes to attain. Since goals direct efforts, the teacher's problem of motivation is essentially one of arranging situations with instructional resources in which the learner will see goals he wants to attain. A person interprets a situation to take action If relevant aids are made available it will be easy for a teacher and student to predict what can be expected to happen if various actions are taken. A person chooses whatever action he expects to give him the greatest satisfaction. The use of instructional resources can facilitate the decision of a person toward taking the right action. Actions followed by their results are called consequences. If instructional resources are used, the prediction would be rewarding and consequences will justify the work done by a person, he will feel full satisfaction.

Teaching students at any level of education without instructional media has always been unproductive. Effective communication and transmission of ideas and contents would only remain abstract, and retention would be minimized or hampered. It is therefore essential that teachers at all levels of instruction find appropriate learning resources to facilitate the teaching and learning process. Varieties of learning resources and materials should be

integrated into the teaching of various school concepts; this would no doubt increase students' understanding, retention, and transfer of learning.

Many schools in sub-Saharan Africa suffer from very poor conditions of learning in dilapidated or half-completed buildings, insufficient desks, overcrowded classrooms, inadequate learning resources, poorly educated and poorly motivated teachers, and the use of recitation as the dominant vehicle for learning. The provisions of facilities under the basic education system over the years have suffered many setbacks and its attendant influences on school performance variables cannot be over-emphasized. Instructional resources are being used efficiently and actively to facilitate the teaching-learning process in most of the advanced countries. However, the situation is different in most of the developing countries as well as in Nigeria, where instructional resources are either unavailable or inadequate. This therefore necessitated the current research into the effects of mediated teaching on secondary school students' academic achievement in social studies in Ogun state. The following hypotheses are tested at 0.05 level of significance:-

- Ho 1: There is no significant main effect of treatment on students' academic achievement in social studies in Ogun state
- Ho2: There is no significant interaction effect of gender on students' academic achievement in social studies in Ogun state
- Ho3: There is no significant interaction effect of parental educational background on students' academic achievement in social studies in Ogun state
- Ho4: There is no significant interaction effect of treatment and gender on students' academic achievement in social studies in Ogun state
- Ho5: There is no significant interaction effect of treatment and parental educational background on students' academic achievement in social studies in Ogun state
- Ho6: There is no significant interaction effect of gender and parental educational background on students' academic achievement in social studies in Ogun state
- Ho7: There is no significant combined effect of treatment, gender, and parental educational background on students' academic achievement in social studies in Ogun state

Material and Methods

A pretest, posttest, control group quasi-experimental design was employed for the study. The main effects of instructional resources and interaction effects of gender and parental educational background were tested on students' academic achievement in social studies. A random sampling technique was used to select six secondary schools in Ogun State with two

(public and private) in each of the three senatorial districts. All Junior Secondary School 2 students in intact classes were used in both experimental and control group classes. The selected students were randomly assigned to both experimental and control groups. A stratified sampling technique was used to select male and female students, from high, average, and low parental educational backgrounds. Two instruments were used for data collection, the Social Studies Academic Achievement Test (SSAAT) and the Mediated Teaching Academic Achievement Questionnaire (MTAAQ). SSAAT comprised 20 objective questions of multiple choice to determine the success or failure of students in social studies. MTAAQ covered 20 modified Likert model scale of 4 points refined scale where students indicated their level of agreement or disagreement to questions on the influence of instructional resources on academic achievement. The seven hypotheses were tested using Analysis of Covariance (ANCOVA) at a 0.05 level of significance.

Results

A. Ho 1: There is no significant main effect of treatment on students' academic achievement

From the summary of the ANCOVA of the post-test achievement score presented in Table 1, Treatment has a significant effect on students' achievement ($F_{(2,110)} = 17.269$ $P < 0.05$). This means that there is a significant difference in the achievement of students exposed to teaching with instructional resources than those students taught without instructional resources. Based on these findings, the null hypothesis that there is no significant main effect of treatment on students' academic achievement in social studies in Ogun state is rejected.

Table 1. ANCOVA of Post Test Achievement scores of instructional resources and students' academic achievement

Source of variation	Sum of Square	Mean Square	F	Sig of F
Covariates	170.900	170.900	2.525	.133
Inst-res	170.900	170.900	2.525	.133
Main effects	2447.850	1489.570	7.234	.000*
2-way interaction	375.287	46.911	.693	.698
Inst-res x Gnd Instr-res x parental-ed	223.930	55.983	.827	.509
	115.177	57.588	3.851	.428
3-way interactions	301.771	75.443	1.115	.350
Inst-res x Gnd x Parental-ed	301.771	75.443	1.115	.350
Explained	3295.808	183.100	2.705	.000
Residual	18341.447	67.681		
Total	21637.255	74.869		

To provide information on the performance of each group, the MCA is presented in Table 2.

Table 2. Multiple Classification Analysis (MCA) of post-test Achievement Scores According to Treatment, gender, and parental educational background (Grand Mean = 21.37)

Variable + Category	N	X	Dev'n	Eta	Unadjusted X	Adjusted Independents + Covariates	
						Dev'n	Beta
Group							
• TRT	57	23.07	1.70		23.16	1.79	
• Control	55		.33				
Parental-Ed							
• Low	56	20.38	-.99	.09	20.78	-.59	.07
• Average	34	21.66	.29		21.40	.03	
• High	22	22.75	1.38		23.00	1.63	
Gender							
• Male	49	21.44	.07	.01	21.53	.16	.20
• Female	63	21.28	-.09		21.17	-.20	
Multiple R ²						.121	
Multiple R						.348	

Table 2 shows that students exposed to instructional resources performed better ($\bar{X} = 26.18$) than those not exposed to instructional resources ($\bar{X} = 16.91$). Table 3 further reveals the sources of the significant main effect obtained in Table 1

Table 3. Scheffe Multiple Range Comparison (at 0.05 level of Significance)

Treatment	Mean	Exp	Control
Exp	23.16		*
Control	16.86	*	

* Denotes pairs of groups significantly different at 0.05 level

Table 3 shows that students exposed to teaching with instructional resources performed significantly better ($\bar{X} = 23.16$) than those exposed to the conventional group ($\bar{X} = 16.86$). The interaction effect of gender on students' achievement is not significant ($F_{(2,110)} = .164$; $P > 0.05$). This means that there is no significant difference in the achievement scores of male and female students. Therefore, Ho2 is not rejected. The summary of ANCOVA has shown that parental educational background has a significant effect on students' attitudes towards social studies ($f_{(2,110)} = 3.851$; $P > 0.05$). This means that there is a significant difference in the post-test scores of students with literate educational backgrounds and students of the illiterate. Hence, Ho3 is hereby rejected.

B. Ho4: There is no significant interaction effect of treatment and gender on students' academic achievement

The summary of ANCOVA in Table 1 has shown that the interaction effect of treatment and gender has no significant effect on students' achievement scores in written expression ($f_{(2,110)} = .827$; $P > 0.05$). Therefore, the null hypothesis which states that there is no significant

interaction effect of treatment and gender on students' academic achievement in Ogun state-owned tertiary institutions' staff schools is not rejected.

C. Ho5: There is no significant interaction effect of treatment and parental educational background on students' academic achievement

The summary of the ANCOVA revealed that the interaction effect of treatment and parental educational background has a significant effect on students' attitudes to social studies ($f_{(2,110)} = 3.851$; $P > 0.05$). Therefore, the null hypothesis that there is no significant interaction effect of treatment and parental educational background on students' academic achievement in Ogun state-owned tertiary institutions' staff schools is rejected.

D. Ho6: There is no significant interaction effect of gender and parental educational background on students' academic achievement

The summary of ANCOVA has shown that the interaction effect of gender and parental educational background contribute significantly to variation in students' achievement in written expression ($f_{(2,110)} = 1.115$; $P > 0.05$). Therefore, the null hypothesis that there is no significant interaction effect of gender and parental educational background on students' academic achievement in Ogun state-owned tertiary institutions' staff schools is rejected.

E. Ho7: There is no significant combined effect of treatment, gender, and parental educational background on students' academic achievement

The summary of the ANCOVA shows the 3-way interaction effect of treatment, gender, and parental educational background on students' academic achievement ($f_{(2,110)} = 2.705$; $P > 0.05$). Therefore, the null hypothesis that there is no significant combined effect of treatment, gender, and parental educational background on students' academic achievement in Ogun state-owned tertiary institutions' staff schools is rejected.

F. Summary of Findings

The findings from this study revealed that:

- There was a significant main effect of treatment on students' academic achievement in social studies in Ogun state
- There was no significant interaction effect of gender on students' academic achievement in social studies in Ogun state
- There was a significant interaction effect of parental educational background on students' academic achievement in social studies in Ogun state
- There was no significant interaction effect of treatment and gender on students' academic achievement in social studies in Ogun state
- There was a significant interaction effect of treatment and parental educational background on students' academic achievement in social studies in Ogun state

- There was a significant interaction effect of gender and parental educational background on students' academic achievement in social studies in Ogun state
- There was a significant combined effect of treatment, gender, and parental educational background on students' academic achievement in social studies in Ogun state.

Discussion

The findings of this study corroborated the results of previous researchers who have explored the significance of learning aids in the educational process. For instance, Omoniyi [2],[9] and Omoniyi and Oluniyi [5] asserted that learning can be significantly reinforced with a variety of learning aids, as these resources stimulate cognitive engagement, enhance understanding, and ultimately make the learning process more efficient and effective. The presence of diverse instructional materials provides learners with multiple modes of content delivery, catering to different learning styles and preferences. In agreement with the findings of Yusuf [10], this study further confirmed that learning aids, which include instructional resources and devices, play a crucial role in facilitating teaching and learning experiences in educational settings. These instructional tools come in various forms, such as visual aids (charts, diagrams, models), audio-visual aids (videos, multimedia presentations), and tangible real-life objects that provide a hands-on learning experience. The availability and strategic use of these learning aids in the classroom setting have been found to significantly enhance students' academic performance and overall achievement [6],[11].

Moreover, the importance of mediated teaching in the educational process has been emphasized by scholars such as Omoniyi [2], Oni [3], and Adeyanju [12] who argue that instructional resources hold greater potential in the learning process compared to traditional teaching methods. While conventional resources such as textbooks, chalkboards, and broadcast media (radio/television and films) have long been dominant in instructional practices, research indicates that learning aids provide a more dynamic and engaging educational experience [6],[13]. These resources not only supplement verbal instruction but also help bridge the gap between abstract concepts and real-world applications, thereby making learning more meaningful for students.

Furthermore, this study supports the perspective that educational media are powerful tools capable of stimulating multiple sensory modalities, including sight, hearing, and touch [8],[14]-[16]. Engaging multiple senses during learning fosters deeper cognitive processing, improves retention, and enhances overall comprehension. By providing an interactive platform, learning aids empower students to explore topics in a hands-on manner, develop

problem-solving skills, and cultivate their intellectual and creative abilities. In alignment with the findings of Omoniyi [2],[9], this study confirms that learning aids and instructional resources offer a problem-based learning environment where students are encouraged to actively engage with content, think critically, and apply their knowledge in meaningful ways. Rather than passively absorbing information, learners are prompted to take an active role in constructing their understanding, which ultimately fosters long-term academic growth and knowledge retention.

Conclusion

The findings of this study highlight the crucial role of instructional resources in enhancing teaching and learning outcomes. To maximize their effectiveness, teachers should actively integrate low-cost or locally available instructional materials into their daily classroom activities, ensuring that learning remains engaging and accessible. Additionally, school administrators and educational agencies should prioritize continuous professional development by regularly training and re-training teachers on the effective use of instructional resources to improve pedagogical practices.

Collaborative learning among teachers should also be encouraged, as shared experiences and strategies can foster innovative teaching approaches that optimize the use of instructional materials. Furthermore, the government, school authorities, and other stakeholders have a significant responsibility to ensure the adequate provision of these resources to facilitate effective teaching and learning. In cases where instructional materials are insufficient or unavailable, teachers should be proactive in improvising with locally sourced alternatives. However, they must carefully consider the appropriateness of these resources about the subject matter, teaching methodology, and the learners' needs, abilities, and interests.

Finally, both teachers and students should cultivate a positive attitude toward the use and maintenance of instructional materials available in their schools. Proper handling and preservation of these resources will ensure their long-term usability and sustainability, ultimately contributing to a more effective and enriched learning environment. By implementing these recommendations, educators and stakeholders can collectively enhance the quality of education and promote better learning experiences for students.

Conflict of Interest

The authors declare that there is no conflict of interest.

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