

Original Research Article

## Effects of Two Modes of Homework on Secondary School Social Studies Students' Academic Achievement in Oyo Metropolis, Nigeria

Ismail Oyebanji AJIBADE (Ph.D)<sup>1\*</sup>, Timothy Adewole ADEDIGBA (Ph.D)<sup>1</sup>, Esther Omoniyi MOFOLUWAWO (Ph.D)<sup>1</sup>

<sup>1</sup>Department of Social Studies and Civic Education, Faculty of Social Science Education, Emmanuel Alayande University of Education, Oyo, Nigeria

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**Abstract:** This study examined the effects of two modes of homework on secondary school Social Studies students' academic achievement in Oyo Metropolis, Nigeria. The study adopted a quasi-experimental design involving pretest posttest control groups. The sample consisted of 300 Junior Secondary School two (JSS 2) students selected through simple random sampling techniques and assigned into three groups: traditional (100), online homework (100), and control group (100). Two instruments were used for data collection: Social Studies Achievement Test (SSAT) and Students' Focus Group Discussion Guide (SFGDG). Quantitative data was analyzed using the descriptive statistics such as mean and standard deviation. Inferential statistics Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance while the qualitative data were analyzed using content analysis. Findings revealed that both traditional and online homework modes significantly improved students' academic achievement in Social Studies compared to the control group. There was a significant main effect of treatment on students' academic achievement in Social Studies. Gender and age moderated academic achievement. The study concludes that the purposeful integration of traditional and online homework into the Social Studies instruction holds considerable promise for improving academic achievement among Junior Secondary School students in Nigeria. It is recommended that Social Studies teachers should deliberately incorporate both traditional and online homework strategies into their instruction to foster students' academic achievement.

**Keywords:** Traditional homework, online homework, Academic achievement, Social Studies, Secondary School Students.

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## INTRODUCTION

Education plays a crucial role in national development, social transformation, and the development of responsible citizens. In the Nigerian educational system, Social Studies has been introduced as an interdisciplinary subject designed to equip learners with knowledge, attitudes, values and skills necessary for effective participation in society. Social Studies aim to promote civic competence, critical thinking and social responsibility among students. The ultimate goal of Social Studies is to promote the development of responsible citizens with emphasis on the development of positive attitudes that can enable individuals to participate actively in democratic society and interdependent world (Ogunyemi, 2018; Fabule, 2019; National Council for the Social Studies, 2021).

However, despite the importance of Social Studies in shaping responsible citizens, it is important to note that students' academic achievement in Social Studies is still not very encouraging. This situation has remained a concern in many Nigerian secondary schools, where learners often demonstrate limited understanding of key concepts and low engagement with instructional content. Stakeholders have expressed concern over the past years regarding the academic achievement of students in Social Studies (Ogunyemi, 2018; Adebayo & Oladipo, 2020). Improving students' academic achievement remains a central goal of educational systems worldwide. One of the most widely used strategies to reinforce classroom learning and improve students' academic performance is homework. Homework refers to tasks assigned by teachers for students to complete outside the classroom. It provides opportunities for students to practice learned concepts,

consolidate classroom instruction and develop independent learning skills (Cooper, Steenbergen-Hu & Dent, 2018).

Traditionally, homework has been delivered in paper-based formats involving written exercises, reading assignments and problem-solving tasks. This form of homework, commonly referred to as traditional homework, remains prevalent in many educational systems, particularly in developing countries. Empirical evidence indicates that traditional homework remain a valuable instructional strategies. However, its effectiveness is mediated by several variables, including learners' age, task quality and socio-economic background (Guo, 2024).

Moreover, the rapid advancement of information and communication technology has transformed teaching and learning processes, leading to the emergence of online homework. Online homework involves the use of digital platforms and electronic devices to complete and submit homework. Research has shown that online homework can improve students' academic performance by providing immediate feedback, facilitating individualized learning and promoting active participation (Kohnke & Moorhouse, 2021). Despite the growing body of research on homework and academic achievement, there is limited empirical evidence comparing the effects of traditional and online homework in the context of Social Studies education in Nigeria. Understanding how these homework modes influence students' academic achievement is critical for informing instructional practices in contemporary classrooms.

In addition, moderating variables such as gender and age may influence students' academic achievement. Research suggests that differences in cognitive development, learning styles, and motivation may affect how students respond to various teaching and learning approaches (Schunk & DiBenedetto, 2020). Moreover, few studies have explored the moderating effects of gender and age in shaping students' responses to different homework modes. Therefore, it is important to examine whether gender and age moderate the effects of homework modes on students' academic achievement.

In view of these gaps, this study therefore determined the effects of traditional and online modes of homework on secondary school Social Studies students' academic achievement in Oyo Metropolis, Nigeria.

### **Statement of the Problem**

Despite the importance of Social Studies in promoting civic competence, social awareness, and national development, many students continue to demonstrate unsatisfactory academic performance in the subject. Academic achievement of students in Social Studies is in a state of unsatisfactory which have remained a major source of concern among educators,

policy makers, and the society at large. Several factors have been identified as contributing to this problem including ineffective teaching strategies, inadequate learning resources and lack of student engagement.

Furthermore, many teachers still rely solely on traditional homework without exploring online alternatives. While some schools are beginning to adopt online homework systems without clear evidence of their effectiveness. Teachers utilize both traditional and online homework without clear empirical evidence guiding best practice remains unclear. There is also limited empirical evidence comparing the effects of traditional and online homework on students' academic achievement, particularly in Social Studies education within the Nigerian context. Additionally, most existing studies on homework have focused on subjects such as Mathematics and Science, with relatively few studies examining its impact on Social Studies learning outcomes. Moreover, the moderating roles of gender and age in influencing the effectiveness of homework modes have not been sufficiently explored in many educational studies. These gaps in existing research highlight the need for further investigation into how different homework modes influence students' academic achievement. This study therefore sought to fill these gaps by examining the effects of two modes of homework on secondary school Social Studies students' academic achievement in Oyo Metropolis, Nigeria.

### **Objectives of the Study**

The main objective of this study is to examine the effects of two modes of homework on secondary school Social Studies students' academic achievement in Oyo Metropolis, Nigeria. Specifically, the study seeks to:

- i. Compare the effects of traditional and online homework on secondary school Social Studies students' academic achievement.
- ii. Determine the effect of traditional homework on students' academic achievement in Social Studies.
- iii. Examine the effect of online homework on students' academic achievement in Social Studies.
- iv. Determine the moderating effects of gender and age on the relationship between traditional and online homework and secondary school Social Studies students' academic achievement.

### **Research Questions**

The following research questions guided this study:

- i. What is the difference in academic achievement between students using traditional and online homework?
- ii. What is the effect of traditional homework on Secondary School Social Studies students' academic achievement?
- iii. What is the effect of online homework on Secondary School Social Studies students' academic achievement?

- iv. Do gender and age moderate the effect of traditional and online homework on Secondary School Social Studies students' academic achievement?

### Research Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- H<sub>01</sub>:** There is no significant main effect of treatment on students' academic achievement in Social Studies.
- H<sub>02</sub>:** There is no significant main effect of gender on students' academic achievement in Social Studies.
- H<sub>03</sub>:** There is no significant main effect of age on students' academic achievement in Social Studies.

### Interview Guide (Qualitative)

The following questions were used for the qualitative approach.

- i. What is your perception of traditional and online homeworks in terms of ease of understanding and completion?
- ii. How does traditional or online homework help you to understand Social Studies topics?
- iii. What benefits do you gain when using traditional or online homework platforms in Social Studies?
- iv. What challenges do you face when doing traditional or online homework?

### Significance of the Study

The findings of this study would help to promote a better understanding of the effect of homework on students' learning outcomes and contribute to literature and body of research in related topics. Teachers' use of appropriate homework would help to promote positive change of attitude of students towards homework that would in turn improve students values, skills and interest in learning. Moreover, the study would inform policymakers, curriculum developers, teachers and students about the importance of homework and the need to develop a new perspective towards the question of homework's value and its effect on students' learning outcomes. Understanding the effects of homework on students' learning outcomes in Social Studies offers insights into effective educational practices that can enhance academic achievement and promote the development of socially responsible citizens. The findings would provide insights for educators on the most effective homework techniques, considering students' demographic factors. Policy-makers and school administrators can use the findings to design inclusive, effective homework policies that will support positive learning experiences and outcomes. Furthermore, this study would serve as a foundation for further research in educational practices related to student engagement and academic performance in Nigerian secondary schools.

### Theoretical Framework

#### Self-Determination Theory (SDT)

This study is anchored on Self-Determination Theory (SDT) developed by Deci and Ryan in (2000). The theory emphasizes the importance of motivation, autonomy, and competence in learning process. The theory posits that individuals are intrinsically motivated to learn when their psychological needs for autonomy, competence and relatedness are satisfied. Homework activities can promote autonomy by encouraging students to engage in independent learning outside the classroom. Traditional homework helps develop competence through repeated practice and reinforcement of classroom lessons. Online homework environments can also enhance learning by providing immediate feedback and interactive learning experiences. Self-Determination Theory is relevant in this study because it provides a framework for understanding how different homework modes may influence students' academic achievement. Homework can support these psychological needs by encouraging independent learning (autonomy), providing opportunities for practice (competence), and facilitating interaction with instructional content (relatedness). Traditional homework supports competence through repetition and reinforcement, while online homework enhances autonomy and engagement through interactive learning environments

### REVIEW OF RELATED LITERATURE

Research has consistently shown that homework enhances students' academic performance when it is well structured and aligned with classroom instruction (Fernandez-Alonso, Suarez-Alvarez, & Muniz, 2019). Empirical evidence suggests that traditional homework contributes positively to students academic achievement by reinforcing classroom instruction (Fan, Cai, He, & Fan, 2017). Studies have shown that online homework can improve students' academic achievement by enhancing engagement and providing immediate feedback (Zhong & Wang, 2021). Research has shown that gender differences in academic achievement may arise from variations in learning styles, motivation, and access to learning resources. Studies have found that male and female students respond differently to instructional strategies, including homework practices (OECD, 2021). Female students are often reported to exhibit higher levels of diligence and consistency in completing homeworks, while male students may demonstrate greater variability in engagement. Findings on gender differences remain inconclusive, as some studies report no significant differences in academic achievement between male and female students (Schunk & DiBenedetto, 2020). Age is an important factor that influences students' cognitive development, learning capacity, and academic performance. Research indicates that older students often perform better academically due to increased maturity and learning experience (OECD, 2021).

## Empirical Review

Several empirical studies have examined the influence of homework on students' academic achievement and learning engagement. For instance, Haq, Shakil and Din (2020) investigated the impact of homework on students' academic performance at the secondary school level and found that homework significantly enhances students' academic achievement by promoting independent learning habits and reinforcing classroom instruction. Similarly, Sullyman (2021) examined homework practices in Nigerian secondary schools and reported that students who consistently completed homework demonstrated higher academic achievement and improved retention of instructional content compared with those who rarely engaged in homework activities.

In another related study, Grodner and Rupp (2013) conducted a field experiment to determine the role of homework in improving students' learning outcomes. Their findings revealed that students who were required to complete homework achieved higher test scores and better course grades than those who were not assigned homework. The study further indicated that homework particularly benefits students who initially exhibit lower academic performance.

In addition, Buijs and Admiraal (2013) investigated the role of homework in enhancing student engagement in secondary education. Findings revealed that homework designed with interactive and learner-centred strategies significantly increases students' participation and understanding of subject content. Within the Nigerian context, Soretire (2019) reported that homework plays a significant role in improving secondary school students' academic performance and retention of learning materials. The study emphasized that homework tasks should be carefully structured and aligned with classroom instruction in order to maximize their effectiveness. Earlier research by Monotti (2005) also demonstrated that students who regularly completed homework exhibited higher academic achievement and stronger learning motivation compared to their

counterparts who did not complete homework consistently.

## MATERIALS AND METHODS

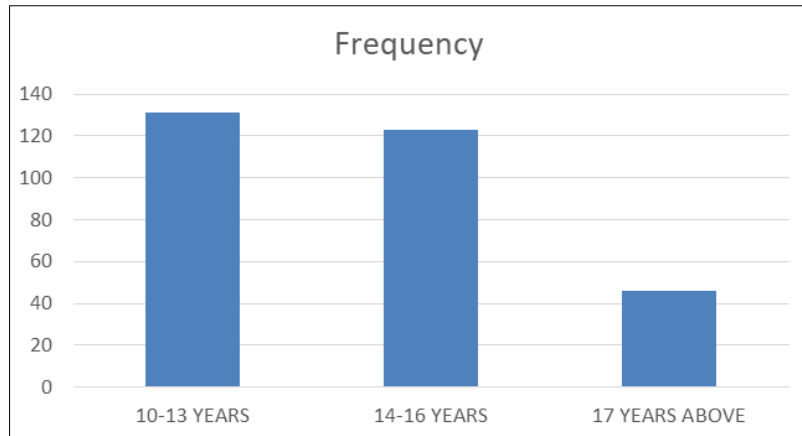
The study employed mixed methods (quantitative and qualitative approaches). It adopted a quasi-experimental pretest-posttest control group research design to determine the effects of two modes of homework on Secondary School Social Studies students' academic achievement. In this design, three groups of students were involved: Traditional Homework Group (100), Online Homework Group (100) and Control Group (100). The experimental groups were exposed to the treatment, while the control group received the conventional teaching method without structured homework intervention. The population for this study consisted of all Junior Secondary School two (J.S.S 2) students offering Social Studies in Public Secondary Schools in Oyo Metropolis, Nigeria. Six Public secondary schools were purposively selected based on availability of basic technological facilities and willingness of the school to participate in the study. A total sample of 300 students were randomly selected for this study, 50 students were randomly selected from each school. Two instruments were used for data collection in this study. These are: Social Studies Achievement Test (SSAT) and Students Focus Group Discussion Guide (SFGDG). The instruments were subjected to content and face validity by experts in Social Studies Education. The reliability of the Social Studies Achievement Test was determined using test-retest which yielded 0.82 coefficient. The data collected were analyzed using both descriptive statistics (frequency, percentage, mean and standard deviation) and Inferential statistics - Analysis of Covariance (ANCOVA) at 0.05 level of significance. Ten (10) students were randomly selected from the two experimental groups to participate in the students focus group discussion sessions. Qualitative data collected were analyzed using content analysis. Ethical standards were maintained throughout the study.

## RESULTS

**Table 1: Age Distribution**

Age	Frequency	Percentage
10-13 YEARS	131	43.7
14-16 YEARS	123	41.0
17 YEARS ABOVE	46	15.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: Fieldwork, 2026



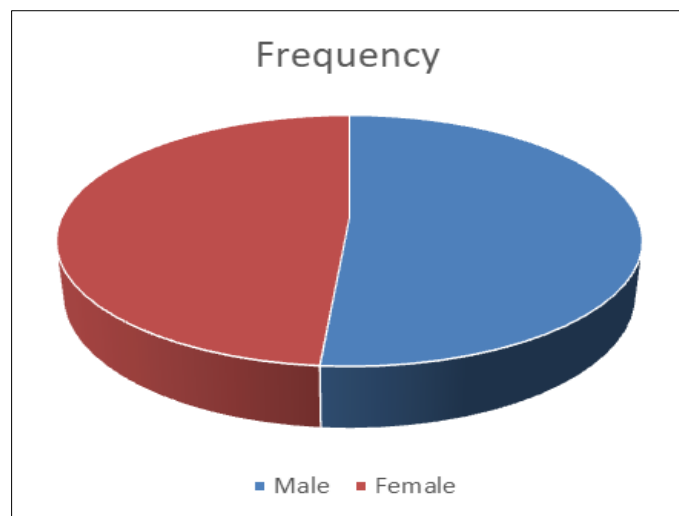
The age distribution of the 300 participants reveals that the majority of respondents fell within the 10–13 years age bracket, accounting for 131 students (43.7%), followed closely by those aged 14–16 years who constituted 123 students (41.0%). The least represented age group was students aged 17 years and

above, comprising only 46 students (15.3%). This distribution is consistent with junior secondary school students are predominantly within the 10–16 years age range. The relatively small proportion of older students (17 years and above) may reflect late enrollment or grade repetition among a minority of participants

**Table 2: Gender Distribution**

Gender	Frequency	Percentage
Male	154	51.3
Female	146	48.7
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: Fieldwork, 2026



The sex distribution of the 300 participants indicates a near-equal representation of male and female students. Male students constituted a slight majority with 154 respondents (51.3%), while female students

accounted for 146 respondents (48.7%). The marginal difference of 2.6 percentage points between both groups suggests a fairly balanced gender representation within the sampled schools in Oyo Metropolis.

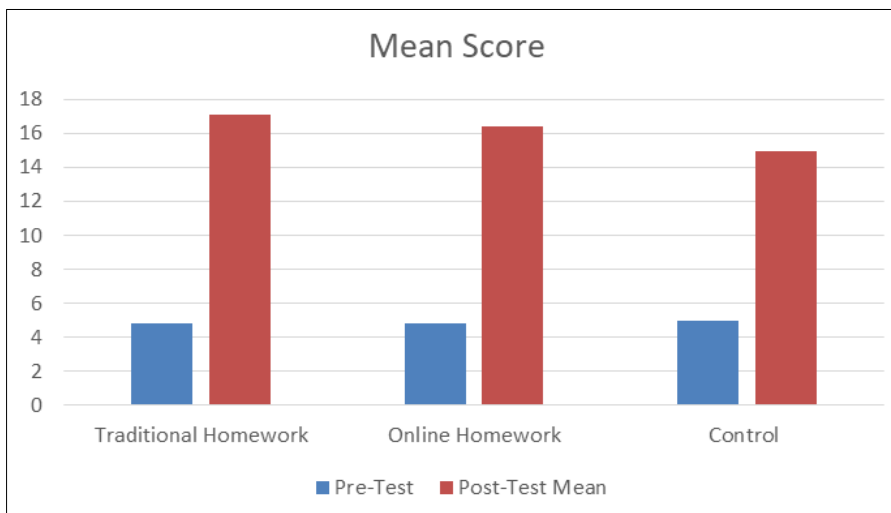
**Table 3: Treatment Distribution**

Treatment	Frequency	Percentage
Traditional homework	100	33.3
Online home work	100	33.3
Control	100	33.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: Fieldwork, 2026.

The treatment distribution of the 300 participants shows a perfectly equal allocation across all three experimental conditions, with each group comprising exactly 100 students (33.3%). Experimental Group 1, assigned traditional (paper-and-pencil) homework, Experimental Group 2, assigned online

homework, and the Control Group, which received no homework assignment, each accounted for one-third of the total sample. This equal distribution was deliberately achieved through the purposive and random sampling techniques adopted in the study's methodology.



**Table 4: Treatment and Achievement Mean Scores**  
Source: Fieldwork, 2026.

Table 4 shows the mean achievement scores of students in the Traditional Homework, Online Homework, and Control groups at the pre-test and post-test stages. At the pre-test level, the mean scores were similar: Traditional Homework (4.84), Online Homework (4.81), and Control (4.97), indicating that the groups had nearly the same achievement level before the treatment. After the intervention, improvement was observed in all groups. The Traditional Homework group

recorded the highest post-test mean score (17.1), followed by the Online Homework group (16.4), while the Control group had the lowest mean (14.97), suggesting that homework strategies improved students' achievement.

**Research Question One:** What is the difference in academic achievement between students' using traditional and online homework?

**Table 5: Mean and Standard Deviation of academic achievement score Using Traditional and Online Homework**

Treatment	N	Pre-Test		Post-Test		Mean Difference	Std.Dev. Difference
		Mean	Std.dev.	Mean	Std.dev.		
Traditional Homework	100	4.840	1.195	17.100	0.927	12.260	0.268
Online Homework	100	4.810	2.330	16.400	2.137	11.590	0.193

Source: Fieldwork, 2026.

The data presented in Table 5 examines the difference in academic achievement between students assigned traditional homework and those assigned online homework, using pre-test and post-test mean scores. For the Traditional Homework group (n=100), the pre-test mean score was 4.840 (SD=1.195), which increased substantially to a post-test mean of 17.100 (SD=0.927), yielding a mean difference of 12.260 with a standard deviation difference of 0.268. Similarly, the Online Homework group (n=100) recorded a pre-test mean of 4.810 (SD=2.330), which improved to a post-test mean of 16.400 (SD=2.137), producing a mean difference of 11.590 with a standard deviation difference of 0.193. Comparatively, both groups demonstrated considerable academic improvement from pre-test to post-test, confirming that homework regardless of mode positively

influenced students' academic achievement in Social Studies. However, the Traditional Homework group recorded a higher mean difference (12.260) compared to the Online Homework group (11.590), suggesting that traditional homework yielded a slightly greater academic gain. Furthermore, the Traditional Homework group exhibited a lower post-test standard deviation (0.927) compared to the Online Homework group (2.137), indicating greater score consistency and homogeneity among students who completed paper-and-pencil assignments. The narrowing standard deviation difference in the traditional group (0.268 vs. 0.193) further reinforces this consistency. These findings suggest that while both homework modes are effective instructional tools for improving Social Studies achievement among JSS 2 students in Oyo Metropolis,

traditional homework appears marginally more effective in enhancing and stabilizing academic performance outcomes.

**Research Question Two:** What are the effects of traditional homework on secondary school students' academic achievement in Social Studies?

**Table 6: Mean and Standard Deviation difference of academic achievement score Using Traditional Homework and Control group**

Academic Achievement Score	N	Pre-Test		Post-Test		Mean Difference	Std.Dev. Difference
		Mean	Std.dev.	Mean	Std.dev.		
Traditional Homework	100	4.840	1.195	17.100	0.927	12.260	0.268
Control Group	100	4.970	2.012	14.960	1.693	6.620	0.319

Source: Fieldwork, 2026.

Table 6 presents the comparative academic achievement scores of students assigned traditional homework and those in the control group who received no homework. The Traditional Homework group (n=100) recorded a pre-test mean of 4.840 (SD=1.195), rising substantially to a post-test mean of 17.100 (SD=0.927), yielding a mean difference of 12.260 (SD difference=0.268). Conversely, the Control Group (n=100) recorded a pre-test mean of 4.970 (SD=2.012), improving modestly to a post-test mean of 14.960 (SD=1.693), with a mean difference of only 6.620 (SD difference=0.319). The considerably higher mean difference recorded by the Traditional Homework group

(12.260) compared to the Control Group (6.620) demonstrates that traditional homework significantly enhanced students' academic achievement in Social Studies. The lower post-test standard deviation of the Traditional Homework group (0.927) relative to the Control Group (1.693) further indicates greater score consistency among students who completed paper-and-pencil assignments.

**Research Question Three:** What are the effects of online homework on secondary school students' academic achievement in Social Studies?

**Table 7: Mean and Standard Deviation difference of academic achievement score Using Online Homework and Control group**

Academic Achievement Score	N	Pre-Test		Post-Test		Mean Difference	Std.Dev. Difference
		Mean	Std.dev.	Mean	Std.dev.		
Online Homework	100	4.810	2.330	16.400	2.137	11.59	0.193
Control Group	100	4.970	2.012	14.960	1.693	6.620	0.319

Source: Fieldwork, 2026.

Table 7 examines the effect of online homework on students' academic achievement in Social Studies compared to the Control Group. The Online Homework group (n=100) recorded a pre-test mean of 4.810 (SD=2.330), which rose substantially to a post-test mean of 16.400 (SD=2.137), yielding a mean difference of 11.590 and a standard deviation difference of 0.193. The Control Group (n=100) recorded a pre-test mean of 4.970 (SD=2.012), improving to a post-test mean of 14.960 (SD=1.693), with a mean difference of 6.620 and a standard deviation difference of 0.319. Both groups demonstrated academic improvement over the study

period; however, the Online Homework group recorded a markedly higher mean gain (11.590) compared to the Control Group (6.620). This clearly indicates that the use of online homework significantly enhanced students' academic achievement in Social Studies beyond what was observed without any homework intervention.

**Research Question Three:** Do gender and age moderate the effects of traditional and online homework on secondary school Social Studies students' learning outcomes

**Table 8: Effects of Gender and Age of Traditional and Online Homework on Secondary School Social Studies Students' Learning Outcomes**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	802.406 <sup>a</sup>	16	50.150	55.323	.000	.758
Intercept	8219.000	1	8219.000	9066.699	.000	.970
Group * Age	215.160	3	71.720	79.117	.000	.456
Group * Gender	9.402	2	4.701	5.186	.006	.035
Age * Gender	.647	2	.324	.357	.700	.003
Group * Age * Gener	9.312	3	3.104	3.424	.018	.035
PRE TEST	.026	1	.026	.028	.866	.000
Error	256.541	283	.907			
Total	79338.000	300				
Corrected Total	1058.947	299				

a. R Squared = .758 (Adjusted R Squared = .744)

Source: Fieldwork, 2026.

The ANCOVA results presented in Table 8 examined whether gender and age moderate the effects of traditional and online homework on Social Studies students' learning outcomes. The Corrected Model was statistically significant ( $F=55.323$ ,  $p=.000$ ), explaining 75.8% of the variance in academic achievement ( $R^2=.758$ , Adjusted  $R^2=.744$ ), indicating a strong model fit. The interaction effect of Group and Age (GROUP\*AGE) was significant ( $F=79.117$ ,  $p=.000$ ,  $\eta^2=.456$ ), revealing that age substantially moderates the relationship between homework mode and learning outcomes, with a large effect size. The Group and Gender interaction (GROUP\*Gender) was also significant ( $F=5.186$ ,  $p=.006$ ,  $\eta^2=.035$ ), confirming that gender moderates homework effects, albeit with a small effect size. The three-way interaction of Group\*Age\*Gender was equally significant ( $F=3.424$ ,

$p=.018$ ,  $\eta^2=.035$ ), suggesting a combined moderating influence of both age and gender on homework effectiveness. However, the Age\*Gender interaction was non-significant ( $F=.357$ ,  $p=.700$ ,  $\eta^2=.003$ ), indicating that age and gender independently, rather than jointly, moderate attitudinal and achievement outcomes. The pre-test covariate was non-significant ( $F=.028$ ,  $p=.866$ ), confirming that prior academic differences did not confound the results. In short, these findings confirm that both age and gender are significant moderating variables in determining the effectiveness of homework modes on Social Studies learning outcomes among the students.

**Analysis of Research Hypotheses**

**Hypothesis One: Ho<sub>1</sub>:** There is no significant main effect of treatment on students' academic achievement in Social Studies

**Table 9: ANCOVA Table Showing Treatment Effect on Students Academic Achievement in Social Studies**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	238.518 <sup>a</sup>	3	79.506	28.685	.000	.225
Intercept	10180.725	1	10180.725	3673.074	.000	.925
Treatments	238.497	2	119.248	43.023	.000	.225
PRE TEST	.412	1	.412	.148	.700	.001
Error	820.428	296	2.772			
Total	79338.000	300				

a. R Squared = .225 (Adjusted R Squared = .217)

Source: Fieldwork, 2026.

Table 9 presents the ANCOVA results testing the null hypothesis that there is no significant main effect of treatment on students' academic achievement in Social Studies. The Corrected Model was statistically significant ( $F=28.685$ ,  $p=.000$ ), accounting for 22.5% of the variance in academic achievement ( $R^2=.225$ , Adjusted  $R^2=.217$ ). Crucially, the main effect of Treatment was statistically significant ( $F=43.023$ ,  $p=.000$ ,  $\eta^2=.225$ ), indicating a significant difference in academic achievement across the three treatment groups Traditional Homework, Online Homework and Control. This finding led to the rejection of the null hypothesis,

confirming that homework mode (traditional and online) significantly influences students' academic achievement in Social Studies. These results therefore establish that assigning homework, whether traditional or online, produces significantly superior academic achievement compared to compare group.

**Hypothesis Two (Ho<sub>2</sub>):** There is no significant main effect of gender on students' academic achievement in Social Studies.

**Table 10: ANCOVA Table Showing Treatment and gender Effect on Students achievement in Social Studies**

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	473.034 <sup>a</sup>	6	78.839	39.425	.000	.447
Intercept	10207.130	1	10207.130	5104.323	.000	.946
PRE TEST	.003	1	.003	.002	.968	.000
Treatment	248.856	2	124.428	62.223	.000	.298
SEX	219.408	1	219.408	109.720	.000	.272
Treatment * SEX	13.483	2	6.741	3.371	.036	.022
Error	585.913	293	2.000			
Total	79338.000	300				

a. R Squared = .447 (Adjusted R Squared = .435)

Source: Fieldwork, 2026.

Table 10 presents the ANCOVA results showing the effects of treatment and gender on students' achievement in Social Studies. The result indicates that gender has a significant main effect on students'

achievement ( $F(1,293) = 109.720$ ,  $p < .05$ ). Since the significance value (.000) is less than the 0.05 level of significance, the null hypothesis stating that there is no significant main effect of gender on students'

achievement in Social Studies is rejected. This implies that male and female students differed significantly in their achievement scores. The partial eta squared value of .272 shows that gender accounted for about 27.2% of the variance in students’ achievement, indicating a moderate effect size. In addition, the interaction between treatment and gender was also significant ( $F = 3.371$ ,  $p =$

.036), suggesting that the effectiveness of the homework modes varied across gender groups.

**Hypothesis Three:**

**H03:** There is no significant main effect of age on Students’ academic achievement in Social Studies.

**Table 11: ANCOVA Table Showing Treatment and Age Effect on Students’ Academic Achievement in Social Studies**

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	761.806 <sup>a</sup>	8	95.226	93.258	.000	.719
Intercept	9956.530	1	9956.530	9750.781	.000	.971
PRE TEST	.029	1	.029	.028	.866	.000
Treatment	253.626	2	126.813	124.192	.000	.460
Treatment * AGE	523.288	5	104.658	102.495	.000	.638
Error	297.140	291	1.021			
Total	7938.000	300				

a. R Squared = .719 (Adjusted R Squared = .712)

Source: Fieldwork, 2026.

Table 11 presents the ANCOVA results on the effect of treatment and age on students’ academic achievement in Social Studies. The findings reveal that treatment had a significant effect on students’ achievement ( $F(2,291) = 124.192$ ,  $p < .05$ ). The result also shows that the interaction effect of treatment and age was statistically significant ( $F(5,291) = 102.495$ ,  $p < .05$ ). Since the significance value (.000) is less than the 0.05 level of significance, the null hypothesis stating that there is no significant main effect of age on students’ achievement in Social Studies is therefore rejected. This implies that students’ age significantly influenced their academic achievement in Social Studies across the treatment groups.

**FINDINGS AND DISCUSSION**

The findings of this study examined the effects of two modes of homework, traditional and online, on secondary school Social Studies students' learning outcomes in Oyo Metropolis, Nigeria, with gender and age considered as moderating variables. The discussion that follows interprets the results in relation to the research questions and hypotheses tested.

The results from the research questions revealed that both traditional and online homework modes significantly improved students' academic achievement in Social Studies when compared to the control group that received no homework. Specifically, the Traditional Homework group recorded the highest post-test academic achievement mean score (17.100), followed by the Online Homework group (16.400), while the Control group recorded the lowest (14.960). This finding underscores the instructional value of homework as a reinforcement tool, consistent with the position of Haq, Shakil and Din (2020), who established that homework at the secondary school level supports and encourages students' academic progress through content mastery, skill development and improved academic discipline.

Similarly, Sulyman (2021) confirmed that homework positively influences pupils' academic performance, reinforcing the view that structured out-of-class assignments remain a viable instructional strategy for improving learning outcomes. The marginal superiority of traditional homework over online homework in academic achievement may be attributed to the structured, familiar nature of paper-and-pencil tasks, which demands direct cognitive engagement without the distractions typically associated with digital platforms. This aligns with Grodner and Rupp (2013), whose field experiment demonstrated that homework completion exerts a meaningful positive effect on student learning outcomes, with structured assignment formats contributing significantly to achievement gains across treatment conditions.

The ANCOVA results for Hypothesis One confirmed that treatment had a statistically significant main effect on both students' academic achievement ( $F=43.023$ ,  $p=.000$ ,  $\eta^2=.225$ ). The null hypothesis was therefore rejected in both instances. This finding affirms that the mode of homework assigned to students is a meaningful determinant of learning outcomes, supporting the position of Buijs and Admiraal (2013), who argued that well-designed homework assignments enhance student engagement and academic performance in secondary education, particularly when tasks are purposefully structured to reinforce classroom instruction. The finding is further corroborated by Soretire (2019), whose study on two modes of real-life homework among Nigerian pupils in Basic Science similarly established that homework mode significantly influenced pupils' learning outcomes, lending local empirical validity to the present findings within the Nigerian educational context.

Regarding Hypothesis Two, gender was found to have a statistically significant main effect on students' academic achievement ( $F=109.720$ ,  $p=.000$ ,  $\eta^2=.272$ ),

with the null hypothesis rejected. This indicates that male and female students differed significantly in their achievement scores across treatment groups. The significant interaction between treatment and gender ( $F=3.371, p=.036$ ) further suggests that the effectiveness of homework modes was not uniform across both sexes.

For Hypothesis Three, age significantly moderated students' academic achievement, as evidenced by the significant treatment-age interaction ( $F=102.495, p=.000, \eta^2=.638$ ), leading to the rejection of the null hypothesis. This finding aligns with Minotti (2005), who reported that homework prescriptions tailored to learners' developmental and cognitive characteristics produced significantly different achievement and attitudinal outcomes among middle school students, reinforcing the view that age-related factors meaningfully shape how students respond to homework interventions.

### **Qualitative Analysis**

This section presents the results of the qualitative content analysis of the focus Group Discussion involving ten (10) JSS 2 Social Studies students. The analysis focused on students' experiences with traditional and online homework. Two broad viewpoints emerged from the discussion. A majority opinion, reflecting views shared by most participants and a minority opinion, representing less frequently expressed ideas. The qualitative data generated through the focus group discussion were analyzed using content analysis. The following steps were followed: All interview responses were audio-recorded and transcribed verbatim. The researchers carefully read through all transcripts to gain deep understanding of students' perception of homework modes. Content analysis was appropriate for this study because it allows systematic examination of textual responses; it reduces researchers bias through structured coding; it enables integration of qualitative insights with statistical findings; it supports mixed-method triangulation; and it provides empirical depth to explain quantitative outcomes.

#### **1. What is your Perception of Traditional or Online Homework in Terms of Ease of Understanding and Completion?**

In response to this question, most students perceived traditional homework as easier to understand and complete. They explained that homework that is directly linked to classroom teaching is clearer and less confusing. Being able to refer to their notebooks and class examples help them complete tasks with confidence. Although online homework is considered more convenient, easy to type and mistakes can be deleted neatly, many students feel it sometimes lack clear instructions.

However, few students viewed online homework as easier to understand and to complete. These students feel that online tasks are quicker and

required less writing but understanding depends on how clearly the task was explained beforehand.

#### **2. How Does Traditional or Online Homework Help you Understand Social Studies Topics/ Concepts?**

In response to this question, most students clearly preferred traditional homework as the most effective mode for understanding Social Studies concepts. They believed that traditional homework reinforced classroom teaching, allowed them to revisit their notes and help them follow explanations given by their teacher. They have more confident understanding topics when learning occur in a structured and familiar format where homework can be cross-checked.

In contrast, few students preferred online homework for understanding Social Studies. They perceived online tasks as helpful because they provide additional explanations, visuals, and opportunities to explore topics beyond the classroom.

The dominance of traditional homework preference highlights the importance of teacher-led instruction in supporting conceptual understanding.

#### **3. What Benefits do you Gain When Using Traditional or Online Homework Platform in Social Studies?**

Majority of the students associated greater benefits with traditional homework. These benefits include through real-life examples and better understanding of lessons, improved retention of concepts, increased confidence and readiness for tests and examinations. Traditional homework is viewed as closely related to school expectations and assessment demands.

However, few students identified greater benefits in online homework, particularly in terms of increased interest, enjoyment and development of basic digital skills. This group of students valued the flexibility and interactive nature of online homework more than examination-related outcomes.

#### **4. What Challenges do you Face When Completing Traditional or Online Homework?**

The majority of students reported facing more challenges with online homework. Common difficulties include unreliable internet connectivity, lack of access to digital devices, limited data, power supply problems. These challenges often affect their ability to complete online homework effectively. In Contrast, the minority of students experienced greater difficulty with traditional homework, particularly when homework involved extensive writing and are time-consuming, lack of learning materials and support at home.

The qualitative findings supported the quantitative results: traditional homework produced higher achievement scores; students expressed stronger

positive attitudes towards online mode. The triangulation strengthens the credibility of the results.

## CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it can be concluded that homework is an effective instructional strategy for improving students' academic achievement in Social Studies. Both traditional and homework and online homework significantly enhance students' academic achievement compared with conventional teaching methods. The study therefore highlights the importance of integrating structured homework activities into social studies instruction to improve students' learning outcomes. Similarly, gender and age significantly moderated students' academic achievement in Social Studies. This implies that instructional strategies, including homework design should be sensitive to gender-related differences in order to maximize learning outcomes. Students' level of maturity and cognitive development plays an important role in determining their academic performance. These findings underscore the importance of considering learner characteristics when implementing instructional strategies. Therefore, differentiated homework practices that align with students' developmental levels and learning needs are essential for improving academic achievement in Social Studies.

Based on the findings of this study, the following recommendations are made: Social Studies teachers should regularly assign homework to students as a means of reinforcing classroom instruction and improving academic achievement. Teachers should incorporate both traditional and online homework strategies in order to maximise students' learning opportunities. Teachers should design meaningful and engaging homework that promotes critical thinking and problem-solving skills. School administrators should provide adequate technological facilities such as internet access and digital learning tools to support the implementation of online homework. Educational policymakers should encourage the integration of technology into classroom teaching and homework practices in secondary schools. Students should improve their digital competence by developing basic Information Communication Technology skills.

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