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**EFFECTS OF RECIPROCAL LEARNING TECHNIQUE  
ON SECONDARY SCHOOL STUDENTS' ACADEMIC  
ACHIEVEMENT IN SOCIAL STUDIES IN BIU,  
BORNO STATE, NIGERIA**

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**Abstract**

*This study examined how Social Studies students in secondary schools in Biu, Borno State, performed academically when they used the reciprocal learning technique. Two research questions and one hypothesis were developed to guide the study in order to emphasise the goals. For this study, a quasi-experimental non-equivalent group design using the pretest posttest control group was employed. Two JSS students from two carefully chosen secondary schools in Biu, Borno State, made up the study's sample. The Social Studies Achievement Test (SSAT) was the study's instrument. The reliability coefficient of the instrument was found to be 0.87 by the application of the test-retest procedure, after face and content validity had been confirmed. While the t-test for independent samples was utilised to assess the null hypothesis at the 0.05 level of significance, percentage, mean, and standard deviation were employed to address research concerns. The study found that while gender had no discernible impact on students' performance in Social*

*Studies, there was a substantial difference in the experimental group's achievement levels before and after they were exposed to the reciprocal learning technique. This suggests that pupils exposed to expository learning and those exposed to reciprocal learning techniques differ significantly in their mean Social Studies scores. Consequently, it is advised that in order to boost student achievement, secondary school teachers implement the reciprocal learning strategy when teaching Social Studies and other courses.*

**Keywords:** Reciprocal learning technique, academic achievement, Social Studies.

### **Introduction**

In the global context, education is a tool for economic and technological change that aspires to achieve national development and is essential to achieving a number of goals. The goal of education, at all levels, including secondary education, is to provide students with the information, expertise, and practical experience needed for their first job. The purpose of secondary education is to prepare students for higher education as well as for useful living in society. This is stated in the national policy on education, which is a document that outlines the significance of secondary education as the transitional level between primary and tertiary education.

It is expected of junior secondary school students to give required courses that will prepare them for senior secondary school enrollment. Subjects like Social Studies are outlined in the National Policy on Education. Social Studies is a subject that holds a significant place in the academic programme and aids in the development of students' capacity for environmental adaptation as well as their understanding of how humans interact with the environment in general (Falade, 2017). Nevertheless, it has been noted that the teaching and learning of Social Studies has been characterised by the employment of the expository method, where the students remain passive learners, despite the subject's significance and relevance in the school curriculum. As a result, research-proven teaching

techniques should be used while instructing pupils in Social Studies.

Over the years, a number of methods have been used in junior secondary schools to teach and learn Social Studies, including the increasingly popular usage of expository learning (Gele & Okam, 2011). Students at this educational level have not done well in Social Studies, even with the acceptance and application of these strategies. The teaching and learning strategies used by teachers to teach Social Studies may be substantially to blame for these subpar results. According to Jong (2017), expository learning is a method in which the instructor or teacher gives the students information but preventing the students from contributing information—aside from occasionally responding to inquiries. Teachers frequently use this method when instructing Social Studies classes. Adu and Adeyanju (2013) state that some circumstances make it more difficult for students to learn and teach in a classroom setting. The problem of improper teaching methods, such expository learning, which prevents students from participating fully in the classroom, is more pressing. Therefore, it is necessary to adopt learning strategies that will result in a deeper comprehension of Social Studies subjects. One such tactic that can be applied in Social Studies instruction is the reciprocal learning strategy. It is a method of problem-solving designed to increase reading comprehension by encouraging thought while reading. Through a series of step-by-step activities, students who use the reciprocal learning technique develop the ability to take on the duty of assisting their classmates in deriving meaning from text. It is an interactive medium that fosters a high degree of social engagement and collaboration. It combines four distinct reading techniques: summarising, questioning, clarifying, and forecasting (Oczkus, 2013).

The term “reciprocal learning technique” can also apply to cooperative learning, reciprocal peer tutoring, or cooperative learning teaching. This method lets students form hypotheses as they read, establish goals for reading and comprehension, encourages questioning, helps them draw conclusions, processes the meanings of the text, and connects the text to other texts and their own frames of reference. Summarising necessitates that

readers recognise the primary ideas of the text in a sequential manner. It also enables readers to recognise and clarify new language and concepts. Every tactic in the reciprocal learning approach, according to Hashey and Connors (2016), encourages students to watch and learn from their teachers over the course of several class periods. Once students have mastered them, they are practised with feedback from teachers and peers. It might be clear that pupils are interacting with one another or with their teachers. According to Ojo (2015), this approach is learner-centered and allows students to act as both tutors and tutees, benefiting from both roles in a reciprocal manner. This method encourages students to take ownership of their own and other people's learning, enhances student discussion, and makes learning reciprocal. Teachers, on the other hand, act as role models for their pupils, encouraging them to reflect on their own reading processes and to participate fully in the educational process. In order for students to witness the process in action, teachers begin reciprocal teaching by modelling the four comprehension strategies through group instruction. Students then take turns guiding their small groups through each stage of summarising, questioning, clarifying, and forecasting until they feel at ease and confident with the procedure.

The reciprocal learning technique is theoretically based on cognitive learning theory, which is predicated on the following ideas: knowledge is actively constructed by learners based on their preexisting cognitive structures; it explains how individuals learn by mentally processing the information they receive rather than merely reacting to environmental stimuli; and it uses this theory to explain how mental processes are influenced by both internal and external factors. Because it is predicated on mental processes with multiple components that are based on reciprocal learning technique, such as attention, observing, perception, interpreting, organising, memory (storing and retrieval), categorising, and forming generalisations, the cognitive learning theory is pertinent to this study.

The academic success of students in many subject areas, including Social Studies, has prompted a constant search for teaching

methods that will increase students' performance in those disciplines as well as their understanding of those subjects. As a result, one of these tools that can help students understand more, read more, develop their critical thinking abilities, solve problems more effectively, communicate more effectively, and involve themselves more both individually and collectively is the reciprocal learning technique (Doolittle, 2016).

In Social Studies, a lot of junior secondary school pupils in Borno do badly. Students' dismal results in the Basic Certificate Examinations (BECE) throughout time are evidence of this. Teachers, parents, curriculum experts, and assessors have been concerned about the persistent trend of low academic performance among pupils in Borno State, as suggested by several research (Uroko, 2010, Adedoja, Abidoye & Afolabi 2013). When teaching Social Studies to students, teachers have traditionally relied on the expository technique of instruction. However, this approach fails to help students develop a conceptual understanding of the subject's foundational content areas, makes learning dull and uninteresting, fails to capture students' attention, and fails to involve students in learning activities. This terrible failure can be ascribed to the explanatory technique's poor effectiveness in Social Studies instruction at the junior secondary school level.

Furthermore, educators continue to look for other acceptable and useful teaching methods to use while instructing junior secondary school pupils in Social Studies. Therefore, in an attempt to minimise student failure to the absolute minimum, an effective teaching strategy that will aid in raising students' accomplishment in Social Studies is required due to its lack of effectiveness. Gender is another significant factor that has garnered a lot of attention regarding students' performance in Social Studies and other science courses. Gender is a psychological concept used to describe characteristics and behaviours that people are expected to exhibit based on whether they were born male or female. Sexuality refers to biological distinctions between men and women, whereas gender refers to characteristics and behaviours that a specific culture deems proper for each gender. Nonetheless, a number of studies (Kokar,

2015) have demonstrated that female students outperformed their male peers in the sciences, while other studies concluded that gender has no appreciable impact on academic performance. In this regard, gender interpretations have been applied to students' academic performance as well as their acquisition of other abilities, according to Akagbogu and Ajiwoju (2015). As a result, there is continuous discussion regarding the impact of gender differences on junior secondary school pupils' academic performance because the findings have been inconsistent. Therefore, it is necessary to determine whether these differences in student achievement in Social Studies actually exist. The ongoing decline in student success, together with the paucity of data on the impact of the reciprocal learning approach on students' performance in Social Studies and other subjects, has alarmed researchers as well as everyone with good intentions for this nation. In light of this, it is necessary to close the research gap caused by the paucity of studies on the subject and advance knowledge by extending the body of literature on the subject in question in Borno State, Nigeria.

### **Objectives of the Study**

The aim of this research is to find out the effects of reciprocal learning technique on secondary school students' academic achievement in Social Studies in Biu, Borno State. Specifically the study determined:

- i. the effect of reciprocal learning technique on the academic achievement of students in Social Studies; and
- ii. the mean score of students in the experimental group before and after intervention.

### **Research Questions**

The following research questions guided the study:

- i. To what extent does reciprocal learning technique affects the academic achievement of students in Social Studies in Biu, Borno State?
- ii. What is the mean score of students in Social Studies in the experimental group before and after intervention?

## **Hypothesis**

H<sub>0</sub>: There is no significant difference in the mean score of male and female students in Social Studies in the experimental group in Biu, Borno State.

## **Methods**

A quasi-experimental research approach, namely a pre-test, post-test non-equivalent group design, was used in this work. The study's need to ascertain how an intervention affects students' academic performance in a given subject area led to the design selection. All junior secondary school two students in Biu, Borno State, made up the study's population. The JSS two kids were selected because, by the time they reach this level, they should be prepared to move on to senior secondary school. They should also be able to read and comprehend written materials. In Biu, there are 22 public secondary schools serving 1624 JSS 2 pupils. Using straightforward voting, two secondary schools were chosen at random and placed in the control and experimental groups. 54 students were used as samples; 24 made up the experimental group and 30 made up the control group.

Data were gathered using a tool called the "Social Studies Achievement Test (SSAT)," which had 50 multiple-choice questions. The instrument's face validity and content were determined. Reliability was assessed using the test-retest approach, and the reliability value of 0.87 was deemed sufficient. In order to ascertain the impact of treatment on the experimental group, the SSAT was given to both the control and experimental groups simultaneously during the pre-test and again after the intervention. Simple percentage, mean, and standard deviation were used to answer the two research questions, and the t-test of independent samples was used to test the null hypothesis.

## **Results**

**Research Question One:** To what extent does reciprocal learning technique affects the academic achievement of students in Social Studies in Biu, Borno State?

**Table 1:** Extent of Reciprocal Learning Technique affects the achievement of students in Social Studies

Achievement Level	Experimental Group Pre-Test		Experimental Group Post-Test	
	Frequencies	Percentage (%)	Frequencies	Percentage (%)
Low (0-45)	22	92.31	0	0
Moderate (46-69)	2	7.69	8	30.77
High (70-100)	0	0	16	69.23
<b>TOTAL</b>	<b>24</b>	<b>100</b>	<b>24</b>	<b>100</b>

Table 1 revealed the extent to which reciprocal learning technique affects the achievement of students in Social Studies. In experimental group 22 students representing 92.31% were at Low achievement level while 2 students representing 7.69% were at moderate achievement level. While after intervention 8 students representing 30.77% were at moderate achievement level and 16 students representing 69.23% were at High achievement Level. This implies that majority of the students in Social Studies Achievement Level before intervention was low and after intervention was high.

**Research Question Two:** What is the mean score of students in Social Studies in the experimental group before and after intervention?

**Table 2:** t-test Analysis of pretest and posttest Social Studies mean scores of students in the experimental

Groups	N	$\bar{X}$	SD	df	$t_{cal}$	p-value
Pre-Test	24	38.50	5.49	50	-12.75	0.000
Post-Test	24	64.12	8.65			

Table 2 shows the t-test Analysis of pretest and posttest Social Studies mean scores of students in the experimental. Before intervention the Students exposed to Reciprocal Learning Technique



had Pre-test Mean score and standard deviation of  $38.50 \pm 5.49$  and a Post-test Mean score and standard deviation of  $64.12 \pm 8.65$  with a calculated t-value of 12.75 and p-value of 0.000. Since the p-value is less than 0.05 it therefore means that the mean score increases significantly after intervention showing the effectiveness of reciprocal learning technique.

### **Hypothesis Testing**

There is no significant difference in the mean score of male and female students in Social Studies in the experimental group in Biu, Borno State.

**Table 3:** t-test Analysis of Posttest Social Studies Mean scores of male and female students after intervention

Groups	N	$\bar{X}$	SD	df	$t_{cal}$	p-value
Male	12	40.33	5.40	24	1.626	0.117
Female	12	36.93	5.25			

Table 3 shows the t-test Analysis of pretest Social Studies mean scores of male and female students after intervention. Male students had a Pre-test Mean score and standard deviation of  $40.33 \pm 5.40$  and female students had a Pre-test Mean score and standard deviation of  $36.93 \pm 5.25$  with a calculated t-value of 1.63 and p-value of 0.117. Since the p-value is greater than 0.05 the null hypothesis is upheld meaning that there is no significant difference between the Posttest Social Studies mean scores of male and female students after intervention.

### **Discussions**

The first goal was to ascertain how the reciprocal learning approach affected the academic performance of Social Studies students. Table 2 analysis showed how much the reciprocal learning approach influences students' Social Studies achievement. Two children, or

7.69% of the experimental group, represented moderate achievement, while 22 students, or 92.31% of the group, were at the low achievement level. Following the intervention, 16 students, or 69.23% of the total, were at the high achievement level, and 8 students, or 30.77%, were at the moderate achievement level. This suggests that the majority of pupils had low achievement levels in Social Studies prior to intervention and high achievement levels following it. This result is consistent with that of Ojo (2015), who found that when students were taught utilising a reciprocal teaching strategy as opposed to a conventional method, there was a substantial difference in their achievement.

Finding the experimental group's mean score both before and after the intervention was the second goal. Table 3 analysis displays the t-test. analysis of the experimental students' mean scores on the Social Studies pretest and posttest. Prior to the intervention, the students who were taught the Reciprocal Learning Technique had a mean score of  $38.50 \pm 5.49$  on the Pre-test and a mean score and standard deviation of  $64.12 \pm 8.65$  on the Post-test, with a t-value of 12.75 and a p-value of 0.000. The efficiency of the reciprocal learning technique is demonstrated by the substantial rise in the mean score following the intervention, as indicated by the p-value of less than 0.05. The results of this study are consistent with those of Falade (2017), who demonstrated that reciprocal teaching is an effective strategy that raises students' awareness while simultaneously enhancing their academic performance.

Table 4 Analysis displays the t-test. Analysis of the mean results for male and female students in Social Studies on the pretest following the intervention. Male pupils took a pretest. Pre-test results for female students were  $40.33 \pm 5.40$  with a mean score and standard deviation. A estimated t-value of 1.63 and p-value of 0.117 are associated with a mean score and standard deviation of  $36.93 \pm 5.25$ . The null hypothesis is supported since the p-value is larger than 0.05, indicating that there is no discernible change between the mean Posttest Social Studies scores of male and female students following the intervention. This runs counter to research by Kokar (2015), who discovered that when students are taught

using the reciprocal learning approach, their academic performance varies depending on their gender.

### **Conclusion**

The study proved that students' performance in Social Studies was greatly impacted by the reciprocal learning technique. The study has advanced our understanding of the use of the reciprocal learning technique in Nigerian Social Studies classrooms. The stages of preparation, modelling, involvement, and cooperation are all included in the reciprocal learning technique. The difficulties of teaching Social Studies and other subjects in secondary schools will be reduced by its later application in the subject. It is reasonable to assume that the Reciprocal Learning Technique significantly raised secondary school pupils' Social Studies achievement. This suggests that the model will assist in improving the consistently subpar performance displayed by students. According to multiple research, students in secondary schools and postsecondary institutions alike can benefit from the regular application of the reciprocal learning technique.

### **Recommendations**

Based on the findings of this study, the following recommendations are deemed necessary:

The Reciprocal Learning Technique should be promoted among secondary school teachers to be used in the teaching of Social Studies and other topics. Thus, it is important to embrace and apply the reciprocal learning technique, which guides students through the five stages of learning: preparation, modelling, participation, and cooperation.

At all educational levels (elementary, secondary, and tertiary), secondary school teachers should also receive effective training on the principles, applications, and practises of the Reciprocal Learning Technique. More specifically, it is essential to effectively organise, rearrange, and modify the secondary school curriculum. This will promote adaptability in the Reciprocal Learning Approach while delivering worthwhile educational opportunities in Social Studies classrooms.

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