

## EFFECTS OF COOPERATIVE METHOD ON THE ACHIEVEMENT OF JUNIOR SECONDARY STUDENTS' READING COMPREHENSION SKILLS IN JOS NORTH LOCAL GOVERNMENT AREA, PLATEAU STATE, NIGERIA

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### Abstract

*The study investigated the effects of Cooperative Method on the achievement of junior secondary students' Reading Comprehension skills in Jos North Local Government Area, Plateau State. Two research questions and two hypotheses guided the study. The study adopted a quasi-experimental research design, specifically, the pre-test and post-test non-equivalent control group design. The population was 10,226 JS2 students in the 22 public secondary schools in the study Area for the 2023/2024 session. The sample was 93 students randomly selected from two intact classes of the two selected schools; one school had 50 students and was assigned the experimental group while the other had 43 students and was named the control group. The adapted instrument for data collection was Reading Comprehension Achievement Test (RCAT). It was validated by experts from both English Education and Measurement and Evaluation units. Data collected were analyzed using mean and standard deviation to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the null hypothesis at 0.05 level of significance. The finding of the study showed that the use of cooperative method was effective in enhancing the students' achievement in Reading Comprehension. The following recommendations were made by the researcher: Training courses should be organised for English language teachers/reading on the use of cooperative method to enable them improve students' achievement in reading comprehension.*

**Keywords:** Reading, Reading comprehension, cooperative method, achievement

### Introduction

Reading comprehension is a fundamental skill that is crucial for academic success across all subjects. It equips students with the ability to extract meaning from text, analyse information, and develop critical thinking skills. However, research suggests that many students struggle with reading comprehension, particularly in developing countries like Nigeria. Reading is a process of getting information from written material. It is also the ability of learners to pronounce words correctly as they acquire reading skills. According to Sheeba and Ahmad (2018), reading is an interactive

process between the reader and the text resulting in comprehension. Reading can also be described as a skill that involves the understanding of written language by finding out what the author has in mind through different strategies such as thinking, predicting, questioning, accessing, evaluating, and refining the author's message.

Reading is the recognition of signs, symbols or printed text. Ebibi (2022) states that reading is a paramount skill in English language as it plays a fundamental role in obtaining knowledge. Reading is the ability to obtain factual information and solve problems in school and even beyond; it is

also regarded as a tool for academic success. In other words, reading and the acquisition of necessary basic reading skills enhance students' academic achievement in most school subjects and particularly in English language. Reading and comprehension are like two sides of a coin and they are therefore sometimes used synonymously. Comprehension is the ability to understand the meaning of words, sentences, and texts (Stahl, 2017). It means reading with understanding. The ultimate goal of reading is to comprehend and extract meaning from a written text. Without comprehension, reading is a worthless exercise.

Reading comprehension is the ability to process text at the word level and create a profound idea from the discourse provided. Horwood (2019) defines reading comprehension as the process of constructing meaning from text. Moreover, reading comprehension also includes the ability of a person to translate the essence of the sentences in their own words. It also involves applying the text read in one's life. Reading comprehension involves the ability of learners to recognise words. Effective reading requires acquiring reading skills, which include the ability to understand speech sounds, to decode unfamiliar words, to read fluently, and to possess sufficient background information and vocabulary to foster reading comprehension. Strong reading comprehension skills are essential for success in all academic subjects, as students rely on them to comprehend textbooks, interpret assignments, and participate effectively in classroom discussions (Aminu & Abdullahi, 2020). In Nigeria, reading comprehension skills are crucial for academic success but often pose challenges due to factors such as language barriers, limited access to reading materials, and instructional methods that may not align with students' learning needs (Ebibi et al, 2025). Effective strategies to improve reading comprehension are essential to

mitigate these challenges and enhance educational outcomes in Nigerian schools.

Reading comprehension helps in developing students' knowledge, skills and experience and the ability to understand ideas in a text which makes them become competent and enthusiastic readers. Reading comprehension improves the academic performance and achievement of learners. This means that there is a positive relationship between reading comprehension and students' achievement. Students who do not comprehend what they read will not perform well in school. It is therefore important to teach reading comprehension in a manner that will improve students' achievement, especially those in secondary schools. According to Anderson (2018), students' achievement in reading comprehension is directly related to a child's success in the five fundamental or literacy skills which include phonemic awareness, alphabetic principle, fluency, vocabulary, and comprehension. When these literacy skills are understood and nurtured, they tend to encourage successful reading achievement among students.

Several factors contribute to poor reading comprehension achievement among Nigerian students. One of them is the overreliance on traditional, teacher-centred methods that emphasize rote memorization and passive learning (Ebibi, 2018; Bagga, 2018). Large class sizes and limited resources can further restrict opportunities for individualized instruction. Other contributing factors include a lack of teaching and learning materials, teachers' low levels of motivation, the use of untrained teachers, the absence of reading on the school timetable, a general poor attitude to reading, and teachers' limited command of English, which impacts student engagement with reading materials. Furthermore, Nigeria's multilingual environment presents additional challenges. Students from diverse linguistic backgrounds struggle with Standard

English, the primary language of instruction.

It is expected that students should excel in reading comprehension; however, their performance in reading comprehension skill is generally poor. This results in a negative impact on their overall performance in English and other subjects. The poor achievement of junior secondary school students in reading comprehension is attributed to teachers' method of teaching. It is essential to research into the pedagogical approaches that cater to these varied learning needs. In the field of education, particularly in developing countries like Nigeria, the effectiveness of instructional methods in enhancing student learning outcomes remains a critical area of research. Reading comprehension, a fundamental skill in academic achievement, requires robust instructional strategies to support student engagement and comprehension abilities. Cooperative learning has gained attention as a potentially effective approach in fostering academic success, particularly among junior secondary students.

According to Ebibi et al (2025), cooperative method is a teaching strategy in which students of mixed abilities are arranged in groups and rewarded according to the success of the group rather than the success of an individual. It is a teaching method that helps learners to actively participate in reading comprehension in the classroom. Isjoni and Gillies (2017) define cooperative method as a method that allows students to work in small groups to accomplish shared goals. They work interdependently in order to motivate group members. Cooperative learning, as a pedagogical approach, promotes active student engagement through structured group activities, collaborative problem-solving, and enhanced critical thinking skills (Ebibi et al, 2025). However, its application and effectiveness in Nigerian educational settings, particularly in improving reading comprehension skills

among junior secondary students, warrant further investigation. While studies on cooperative learning abound globally, there remains a notable research gap concerning its application and impact specifically on reading comprehension outcomes among junior secondary students in Nigerian contexts, particularly within Jos North Local Government Area. Thus, the study sought to ascertain the effects of cooperative method on the achievement of junior secondary students' reading comprehension skills.

### Research Questions

The following questions are posed to guide the study:

1. What is the difference in the mean literal comprehension achievement scores of the experimental and control groups?
2. What is the difference in the mean inferential comprehension achievement scores of the experimental and control groups?

### Hypotheses

The following null hypotheses will be tested at 0.05 level of significance in this study:

1. There is no difference in the mean literal comprehension achievement scores of the experimental and control groups.
2. There is no difference in the mean inferential comprehension achievement scores of the experimental and control groups.

### Methodology

This study employed the quasi-experimental design, specifically the non-equivalent pre-test and post-test control group design. The design was used because it was not possible to carry out random assignment of subjects into groups. The population for this study consisted of all the 10,226 JS II students in 22 public secondary schools in Jos North Local Government

Area for the 2023/2024 session. The sample comprised 93 students from two public secondary schools in the area. Two intact classes from School A and School B were used. School A, which had 50 students, was used as the experimental group, while School B, comprising 43 students, was used as the control group. The instrument for data collection was the Reading Comprehension Achievement Test (RCAT), which was adapted from the New Oxford Secondary English Course Book. The instrument was validated by two experts - one from the English Education Unit, Department of Arts Education and the other from the Research, Measurement and Evaluation Unit of the Department of Educational Foundations, both of the Faculty of Education, University of Jos. To establish the reliability of the RCAT, the test-retest method was employed. The pilot test scores were correlated using the Pearson Product Moment Correlation (PPMC), which yielded a reliability coefficient of 0.84. This was considered reliable. The treatment, which was classroom teaching, lasted for six weeks.

During the treatment, students in the experimental group were taught reading comprehension skills – literal, inferential and critical comprehension, main and subordinate idea identification, and others using the cooperative learning method, while the control group was taught the same content but with the discussion method. After the treatment, the post-test was administered in the eighth week. Data collected were analysed using mean and standard deviation to answer the research questions, while the Analysis of Covariance (ANCOVA) was used to test the null hypotheses at the 0.05 level of significance.

### Results

The results presented below are from the data collected based on the two research questions and the two corresponding null hypotheses that guided the study.

#### Research Question One

What is the difference in the mean literal comprehension achievement scores of the experimental and control groups?

**Table 1: Achievement Scores of Students in Literal comprehension in the Experimental and Control Groups**

Group	Pre-test			Post-test		Mean Gain	$\bar{x}$ - difference
	N	Mean	SD	Mean	SD		
Experimental	50	11.50	5.912	23.60	2.680	12.1	8.27
Control	43	9.19	3.923	13.02	4.245	3.83	

Table 1 presents the pre-test and post-test achievement mean score of students in the experimental and control groups in literal comprehension. In the experimental group the post-test achievement mean score was 23.60 and standard deviation of 2.68, higher than the pre-test mean score of 11.50 and standard deviation of 5.91 with a mean gain of 12.1, indicating that there was improvement in the achievement of students after treatment. Also, for the control group the mean score was 9.19 and a standard deviation of 3.92 in

the pretest. The post-test mean score of students was 13.02 and a standard deviation of 4.25. The findings show that students in the experimental group had a higher achievement mean score (23.60) after treatment using cooperative method than those in the control group (13.02) who were taught using discussion method with a mean difference of 8.27. This means that at the pre-test the students in both groups had a poor achievement and were almost at the same level, but after the intervention the experimental group performed better than

the control group. This implies that cooperative method does improve students' achievement in literal comprehension.

**Research Question Two**

What is the difference in the mean inferential comprehension achievement scores of the experimental and control groups?

**Table 2: Achievement Scores of Students in Inferential comprehension in the Experimental and Control Groups**

Group	N	Pre-test		Post-test		Mean Gain	$\bar{x}$ - difference
		Mean	SD	Mean	SD		
Experimental	50	9.40	4.911	22.30	3.671	12.9	8.37
Control	43	8.26	4.209	12.79	4.794	4.53	

Table 2 shows the pre-test and post-test achievement mean score of students in the experimental and control groups in inferential comprehension. In the experimental group the post-test achievement mean score was 22.30 and standard deviation of 3.67, higher than the pre-test mean score of 9.40 and standard deviation of 4.91 with a mean gain of 12.9, indicating that there was improvement in the achievement of students after treatment. The control group the mean score was 8.26 and a standard deviation of 4.21 in the pretest. The post-test mean score of students was 12.79 and a standard deviation of 4.79. The findings show that students in the experimental group had a higher achievement mean score (22.30) after

treatment using cooperative method than those in the control group (12.79) who were taught using discussion method with a mean difference of 8.37. This means that at the pre-test the students in both groups had a poor achievement and were almost at the same level, but after intervention the experimental group performed better than the control group. This implies that cooperative method does improve students' achievement in inferential comprehension

**Hypothesis 1**

There is no significant difference in the mean literal comprehension achievement scores of the experimental and control groups.

**Table 3: ANCOVA Result on Achievement Mean Scores of students in literal Comprehension**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	2686.233 <sup>a</sup>	2	1343.116	119.811	.000	.889	
Intercept	4662.241	1	4662.241	415.888	.000	.813	
Covariate	100.048	1	100.048	8.925	.004	.434	
Group	2240.812	1	2240.812	199.888	.000	.756	
Error	1008.928	90	11.210				
Total	36250.000	93					
Corrected Total	3695.161	92					

a. R Squared = .727 (Adjusted R Squared = .721)

Analysis of Covariance (ANCOVA) was conducted to determine if a significant difference exists in the achievement mean score of students in literal comprehension when exposed to and

those not exposed. Table shows that  $F(1,90) = 90, p < 0.05$ , since the p-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected, indicating that there was a significant effect of

metacognitive strategies on achievement of students in answering literal questions. The result further reveals an adjusted R squared value of .721 which means that 72.1 percent of the variation in the dependent variable which is achievement in literal composition is explained by variation in the treatment of cooperative method, while the remaining is due to other factors not included in this

study. This implies that cooperative method does improve students' achievement in literal comprehension.

### Hypothesis 2

There is no significant difference in the mean inferential comprehension achievement scores of the experimental and control groups.

**Table 4: ANCOVA Result on Achievement Mean Scores of students in Inferential Comprehension**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	2222.023 <sup>a</sup>	2	1111.012	66.924	.000	.598	
Intercept	4529.015	1	4529.015	272.813	.000	.752	
Covariate	131.510	1	131.510	7.922	.006	.081	
Group	1930.791	1	1930.791	116.304	.000	.564	
Error	1494.106	90	16.601				
Total	33525.000	93					
Corrected Total	3716.129	92					

a. R Squared = .598 (Adjusted R Squared = .589)

Analysis of Covariance (ANCOVA) was conducted to determine if a significant difference exists in the achievement mean score of students in inferential comprehension when exposed to and those not exposed. Table 4 shows that  $F(1,90) = 116.30$ ,  $p < 0.05$ , since the p-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected, indicating that there was a significant effect of cooperation method on achievement of students in inferential composition. The result further reveals an adjusted R squared value of .721 which means that 72.1 percent of the variation in the dependent variable which is achievement in inferential composition is explained by variation in the treatment of cooperative method, while the remaining is due to other factors not included in this study. This implies that cooperative method does improve students' achievement in inferential comprehension.

### Discussion

The study examined the effect of the cooperative learning method on the

achievement of junior secondary school students' reading comprehension skills in Jos North Local Government Area, Plateau State, Nigeria. The findings revealed that before the treatment, students in both groups were almost at the same level and had a poor achievement, but after the intervention, the experimental group performed better than the control group. This implies that the cooperative learning method does improve students' achievement in literal comprehension. Furthermore, after the treatment, the students in the experimental group who were exposed to cooperative learning were found to have a higher mean score than those in the control group. The result could be attributed to the fact that the method encourages active engagement with the text, fosters critical thinking skills, and promotes a deeper understanding of the material. In addition, the students in the experimental group did better than their counterparts in the control group because the cooperative learning method encouraged positive interdependence where group members share a common

goal and each member's success is dependent on the collective efforts of the group. Individual accountability ensures that each group member is held accountable for their contribution to the group's work, thus ensuring that all participants are engaged and responsible for their learning. The finding affirms the work of Wael (2014) who found that College of Education students in Riyadh were very poor in educational statistics and educational research before they were exposed to the cooperative learning method and later improved tremendously after they were taken through a cooperative learning class for some weeks. The finding is equally in agreement with Ebibi et al (2025) who undertook a study on the effects of cooperative learning strategy on senior secondary students' achievement in composition writing and discovered that students who were taught composition writing using cooperative learning strategy outperformed their counterparts to who were exposed to a conventional method.

Another finding was that there was a significant difference in the achievement of students in inferential comprehension in the experimental and control groups. This is an indication that those who were exposed to the cooperative method performed better than those in the control group who were taught using the discussion method. The finding supports Alshammari (2015) who found that the exposure of students to cooperative learning helped in improving their reading process. Similarly, this finding is in line with that of Gull and Shehzad (2015) who examined the effects of cooperative learning on students' academic achievement in the subject of education and found that the results showed that there was a significant difference between the scores of the experimental and control groups in favour of the former who were taught using the cooperative method during treatment.

## Conclusion

The study shows that the use of the cooperative learning method enhanced students' achievement in reading comprehension in junior secondary schools more than the discussion method. Students learn in a less stressful environment, participate actively in the learning process where their views are valued and recognised. This enables the teacher to identify students' areas of effectiveness and weaknesses in order to properly guide them. In the process of learning in a group, students build confidence, share ideas and have good mastery of the content to be learned.

## Recommendations

Based on the findings of the study, the following recommendations were made:

1. English Language teachers should adopt learner-friendly teaching methods such as the cooperative learning method to help students improve specifically, in their literal, inferential and critical comprehension achievement.
2. It is also recommended that teachers of reading comprehension in the various secondary schools should use the cooperative learning method in teaching reading comprehension skills.

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