

EFFECTS OF JIGSAW AND THINK-PAIR-SHARE TEACHING STRATEGIES ON ACADEMIC PERFORMANCE OF SENIOR SECONDARY STUDENTS IN ENGLISH LANGUAGE IN KADUNA STATE, NIGERIA

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ABSTRACT

The study assessed effects of Jigsaw and Think-Pair-Share teaching strategies on academic performance of senior secondary students in English language in Kaduna state, Nigeria. This study had three (3) specific objectives which include to determine the difference in the pre-test scores of students taught English Language in Seniors Secondary School using Jigsaw in Kaduna State, Nigeria, determine the difference in the performance of students taught English Language in Senior Secondary Schools using Jigsaw and Think-Pair-Share strategy in Kaduna State. Three research questions and three null hypotheses were formulated. Quasi-experimental research design was adopted for the study. The population of the study was 2097

SSII students admitted in 2022/2023 academic session in Zaria Quality Assurance Office, Kaduna State. Two intact classes of 134 SSII English Language students were used as sample. English Language Performance Test (ELPRT) was used as instrument for data collection. Mean and standard deviation were used to analyze the research questions while t-test statistical tool was used to test hypotheses at 0.05 level of significance. The results revealed that Jigsaw and Think-Pair-Share strategies is effective teaching English language students in Senior Secondary School, Kaduna State, Nigeria (p -value=.085). The study concluded that Jigsaw and Think-Pair-Share strategies improved the teaching and learning of English language in Senior Secondary School, Kaduna State, Nigeria. The study recommended that Secondary school authority should train teachers on use of cooperative strategies such as Jigsaw in teaching English Language in Senior Secondary School, Kaduna State, Nigeria. Secondary school authority should train teachers on use of cooperative strategies such as Think-Pair-Share in teaching English Language in Senior Secondary School, Kaduna State, Nigeria. Teachers should be motivated by the school authority to use Jigsaw and Think-Pair-Share strategies in the use of English language students in Senior Secondary School, Kaduna State, Nigeria

Keywords: Jigsaw, Think-Pair-Share, Academic Performance, English language

Introduction

The English Language plays a central role in Nigeria's educational system, functioning as the official medium of instruction and a core subject at all levels of education. It is not only vital for academic success but also for communication, social interaction, and professional development. However, despite its significance, students in Nigerian secondary schools particularly those in Kaduna State have continued to perform poorly in English Language, as reflected in their performance in public examinations such as WAEC and NECO. This persistent decline in academic achievement calls for a critical review of the instructional strategies used in teaching the subject.

Traditional teaching methods, especially lecture-based and teacher-centered approaches, continue to dominate many classrooms in Nigeria. These methods often promote passive learning, limit student engagement, and fail to cater to diverse learning styles. Consequently, students may struggle to comprehend, retain, and apply English Language concepts effectively. There is growing consensus among educators and researchers that more interactive, student-centered teaching strategies can significantly improve learning outcomes.

Among the promising alternatives are Think-Pair-Share and Jigsaw teaching strategies, both grounded in the principles of cooperative learning. The Think-Pair-Share (TPS) strategy involves a three-step process where students first think about a question individually, then pair up to discuss their thoughts, and finally share their ideas with the larger group. This encourages critical thinking, active participation, and communication. According to Naluraya, Nadrin, and Budi, 2014 Think-Pair-Share (TPS) is a cooperative learning strategy, students collectively

address an issue or respond to a query related to a designated reading material. This strategy necessitates that students independently contemplate a topic or respond to a question and thereafter exchange thoughts with their peers. Engaging in dialogue with a partner enhances involvement, directs attention, and facilitates students' understanding of the reading material. The TPS Strategy is an instructional approach that allocates more time for students to articulate their ideas to peers in the classroom.

On the other hand, the Jigsaw strategy, developed by Elliot Aronson, divides a topic into subtopics, with each student in a group responsible for learning and then teaching apportion of the content to their peers. This fosters accountability, collaboration, and deep understanding, as every student becomes both a learner and a teacher. Gambari, Olumorin, and Yusuf (2013) proposed that Jigsaw II necessitates students to collaborate in groups of four, five, or six individuals. Each student in a group is assigned a task that is exclusive to them, with no other individual in that group having access to it. Consequently, each student becomes proficient in their respective segment of the subject matter. Members of several groups, having studied the same subject, convene to exchange ideas and insights regarding their unique learning assignments to facilitate problem-solving. In this context, their specialized expertise is disseminated among other members of the original home group (Jigsaw group). The group that demonstrates superior performance is granted a collective reward. Consequently, Jigsaw II promotes collaborative efforts and incentivizes teamwork to achieve the objectives established by the group.

This study, therefore, seeks to examine the effect of Think-Pair-Share and Jigsaw teaching strategies on the academic performance of senior secondary school students in English Language in Kaduna State, Nigeria. It will compare the effectiveness of these two strategies, focusing on their impact on students' understanding, participation, and academic achievement.

The findings of this study will be of considerable importance to various stakeholders in the education sector:

- Teachers and educators will gain insights into practical, interactive teaching methods that can improve student engagement and performance.
- School administrators and curriculum developers will benefit from evidence-based recommendations for enhancing instructional delivery. Policy makers may use the results to inform teacher training programs and educational reform policies.
- Students stand to gain the most, as improved instructional strategies can lead to better understanding, greater participation, and higher academic achievement in English Language.

In summary, this study explores the effectiveness of Think-Pair-Share and Jigsaw teaching strategies in enhancing the academic performance of senior secondary school students in English Language in Kaduna State. The research aims to provide actionable insights that can transform teaching and learning in Nigerian classrooms. The study will contribute to the

growing body of educational research advocating for interactive, student-centered learning environments that promote academic excellence and holistic development.

A feasibility study by the researcher (2024) revealed that Secondary School strategy of teaching subject including English Language has been under criticism in a short while. The conventional strategy of teaching reading and writing in English Language is designed towards making the students inactive in the classroom, which might have resulted in poor academic performance of Senior Secondary School students in English Language in Kaduna State. This view is in line with Yusuf (2014), who revealed that most teachers at secondary schools' level in Kaduna State do not use student-centered approach or strategy to teach English Language for effective curriculum implementation. An effective system in the contemporary educational landscape should facilitate extensive social interaction and engagement between teachers and students to yield positive outcome creating a supporting, open, and interactive environment for student is essential.

The researcher also observed that in most Senior Secondary Schools, there is an issue of inadequate teaching and learning material, anxiety of writing and speaking English Language, Poor and inadequate infrastructure, this is also a serious obstacle faced by most of these Senior Secondary Schools as lecture halls, laboratories and other facilities are dilapidated and inadequate. Overcrowded classrooms which have direct impact on the quality of teaching and instructional delivery, it is also impossible for the individual learner to get attention from the teacher.

These specific objectives were set to:

- determine the differences in the pre-test and post-test scores of students taught English Language in Senior Secondary Schools using Jigsaw in Kaduna State, Nigeria;
- examine the difference in the pre-test and post-test scores of students taught English Language in Senior Secondary Schools using Think-Pair-Share in Kaduna State, Nigeria;
- compare the difference in the post-test performance scores of students taught English Language in Senior Secondary Schools using Jigsaw and those taught English Language using Think-Pair-Share in Kaduna State, Nigeria,

The following research question will guide this study:

- What is the difference in the pre-test and post-test scores of Students taught English Language in Senior Secondary School using Jigsaw in Kaduna State, Nigeria?
- What is the difference in the pre-test and post-test scores of Students taught English Language in Senior Secondary School Using Think-Pair-Share in Kaduna State, Nigeria?

- What is the difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary School in Kaduna State, Nigeria?

Based on the research questions, the following hypotheses are formulated to be tested:

HO₁ There is no significant difference between the pre-test and post- test scores of students taught English Language in Senior Secondary Schools using Jigsaw in Kaduna State, Nigeria.

HO₂ There is no significant difference between the pre-test and post-test scores of students taught English Language in Senior Secondary School using Think-Pair- Share in Kaduna State, Nigeria.

HO₃ There is no significant difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary Schools, Kaduna State, Nigeria.

Methodology

This study adopted quasi-experimental research design. The design was used with two experimental groups with a total of 134 students using intact classes. All experimental groups were given pretest to access the entry capacity of students. The experimental group (EG₁) was taught English Language using Jigsaw1 strategy, the experimental group (EG₂) was taught English Language using Think-Pair-Share strategy.

At the end of the six weeks treatment period, a post-test was administered to both groups of students that evaluated the effectiveness of Jigsaw1 and Think-Pair-Share strategies on students' performance in Senior Secondary School English Language in Kaduna State, Nigeria. This is in line with Aliyu (2016), and quasi-experimental design can be used to investigate cause-effects relationship between independent and dependent variables.

Result

Research Question One: What is the difference in the pre-test and post-test scores of Students taught English Language in Senior Secondary School using Jigsaw in Kaduna State, Nigeria?

To address this research question, the data obtained from the pretest and post-test were analyzed using mean and standard deviation. A summary of the analysis was presented in Table 1.

Table 1: Pre-test and Post-test performance of Students taught English Language in Senior Secondary School using Jigsaw in Kaduna State, Nigeria

Variable	N	Mean	SD	Mean Diff.
Pre-test Jigsaw	65	48.32	14.28	
				37.03
Post-test Jigsaw	65	85.35	13.61	

Source: (Field survey, 2024)

Table 1 showed the pretest and posttest of students taught English Language using Jigsaw. The results revealed a pre test score of 48.32 and post-test score of 85.35 with a mean difference (improvement) of 37.03. This indicated that Jigsaw strategy is effective in teaching students' English language in Senior Secondary School, Kaduna State, Nigeria.

Research Question Two: What is the difference in the pre-test and post-test scores of Students taught English Language in Senior Secondary School Using Think-Pair-Share in Kaduna State, Nigeria?

To address this research question, the data obtained from the pretest and post-test were analyzed using mean and standard deviation. A summary of the analysis was presented in Table 2.

Table 2 Pre-test and Post-test Performance of Students taught English Language in Senior Secondary School Using Think-Pair-Share in Kaduna State, Nigeria

Variable	N	Mean	SD	Mean Diff.
Pre-test Think-Pair-Share	69	46.62	16.50	
				38.3
Post-test Think-Pair-Share	69	84.92	14.87	

Source: (Field survey, 2024)

Table 2 showed the pretest and post-test of students taught English Language using Think-Pair-Share. The results revealed a pre test score of 46.62 and post-test score of 84.92 with a mean difference (improvement) of 38.03. This indicated that Think-Pair-Share strategy is effective in teaching students' English language in Senior Secondary School, Kaduna State, Nigeria.

Research Question Three: What is the difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary School in Kaduna State, Nigeria?

To answer this research question, a test result was used and the summary of the scores is presented in Table 3

Table 3: Mean and standard deviation on difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary School in Kaduna State, Nigeria

Variable	N	Mean	SD	Mean Diff.
Post-test Jigsaw	65	85.35	13.61	.43
Post-test Think-Pair-Share	69	84.92	15.31	

Source: (Field survey, 2024)

The analysis of results in Table 3 showed the difference between the post-test performance scores of students taught English Language using Jigsaw and Think-Pair-Share strategies in Senior Secondary Language School in Kaduna State. The results revealed 85.35 and 84.92 post-test mean performances of students taught English Language in Senior Secondary School using Jigsaw and Think-Pair-Share strategies respectively with a mean difference of .43. This indicated that Jigsaw and Think-Pair-Share strategies are highly effective and can be used to teach English language students in Senior Secondary School, Kaduna State, Nigeria.

Hypothesis One: No significant difference between the pre-test and post- test performance scores of students taught English Language in Senior Secondary School using Jigsaw in Kaduna State, Nigeria

The pre-test and post-test administered to the students were analyzed using the paired sample t-test. The summary of the tested hypothesis is presented in Table 4.

Table 4: Pre-test and post-test performance scores of students taught English Language using Jigsaw strategy in Senior Secondary School in Kaduna State, Nigeria.

Variable	Mean	SD	Df	t-cal.	Sig.
Pre-test Jigsaw	48.32	14.28	128	25.52	.000
Post-test Jigsaw	85.35	13.61			

Source: (Field survey, 2024)

Table 4 showed a significant difference between the pre-test and post- test performance scores of students taught English Language using Jigsaw strategy. The result revealed t-cal of 25.52 with a p-value of .000. The null hypothesis was rejected because the p-value of .000 is less than 0.05 level of significance. This indicate that the difference between the pre-test and post-test scores of Students taught English Language using Jigsaw strategy is significant in favor of post-test. This meant that the Jigsaw strategy effectively enhanced the learning of English Language in Senior Secondary School in Kaduna State, Nigeria.

Hypothesis Two: No significant difference in the pre-test and post-test scores of Students taught English Language in Senior Secondary School Using Think-Pair-Share in Kaduna State, Nigeria

Data from the pre-test and post-test administered to the students were analyzed using the paired sample t-test. The summary of the tested hypothesis is presented in Table 5.

Table 13: Pre-test and Post-test scores of Students taught English Language in Senior Secondary School Using Think-Pair-Share in Kaduna State, Nigeria

Variable	Mean	SD	Df	t-cal.	Sig.
Pre-test Think-Pair-Share	46.62	16.50	136	24.01	.000
Post-test Think-Pair-Share	84.92	14.87			

Source: (Field survey, 2024)

Table 5 indicated a significant difference in the pre-test and post- test performance scores of students taught English Language using Think-Pair-Share strategy. The result revealed a t-cal of 24.01 with a p-value of .000. The null hypothesis was rejected because the p-value of .000 is less than 0.05 level of significance. This implied that the difference between the pre-test and post-test performance of Students taught English Language using Think-Pair-Share strategy was significant in favor of post-test. Therefore, the Think-Pair-Share strategy effectively enhanced the learning of English Language in Senior Secondary School in Kaduna State, Nigeria.

Hypothesis Three: No significant difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary School in Kaduna State, Nigeria

Data collected from the post-test administered to the students taught Jigsaw and Think-Pair-Share strategies were analyzed using an independent sample t-test and were summarized and presented in Table 6.

Table 6: Difference between the post-test performance scores of students taught English Language using Jigsaw and those taught using Think-Pair-Share in Senior Secondary School in Kaduna State, Nigeria

Variable	Mean	SD	Df	t-cal.	Sig.
Post-test Jigsaw	85.35	13.61	132	1.74	.085
Post-test Think-Pair-Share	84.92	15.31			

Source: (Field survey, 2024)

The analysis of results in Table 16 showed the difference in the post-test performance scores of students taught English Language in Senior Secondary School using Jigsaw and Think-Pair-Share strategies. The result revealed a t-cal of 1.74 with a p-value of .085. The null hypothesis was retained because the p-value of .085 is greater than 0.05 level of significance. Which implied that the difference between the post-test performance of Students taught English Language using Jigsaw and Think-Pair-Share strategies was not statistically significant. This therefore, meant that the Jigsaw and Think-Pair-Share strategies effectively taught English Language in Senior Secondary School, Kaduna State, Nigeria.

Findings

Based on the data analysis, the following findings were obtained:

- Jigsaw strategy effectively enhanced the learning of English Language because there is a difference between pre-test and post-test performance of students taught English language, and the difference is statistically significant $p\text{-value}=.000 < 0.05$ significance.
- Think-Pair-Share strategy effectively enhanced the learning of English Language because there is a difference between pre-test and post-test performance of students taught English language, and the difference is statistically significant $p\text{-value}=.000 < 0.05$ significance.
- There is no significant difference between the post-test of students taught English language using Jigsaw and Think-Pair-Share strategies. Both effectively teach English language in **Conclusion**

Based on the findings, the study concluded that Jigsaw and Think-Pair-Share strategies improved the teaching and learning of English language in Senior Secondary School, Kaduna State, Nigeria. Therefore, it implies that English language students' performances will keep improving when teachers use Jigsaw and Think-Pair-Share strategies during teaching and learning in in Senior Secondary School, Kaduna State, Nigeria.

Recommendations

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

- Secondary school authority should train teachers on use of cooperative strategies such as Jigsaw in teaching English Language in Senior Secondary School, Kaduna State, Nigeria.
- Secondary school authority should train teachers on use of cooperative strategies such as Think-Pair-Share in teaching English Language in Senior Secondary School, Kaduna State, Nigeria.
- Teachers should be motivated to use Jigsaw Strategy in teaching English Language in Senior Secondary School, Kaduna State, Nigeria

References

- Anzalina, L. Ningrum, A. B.(2023) Enhancing Reading Proficiency: An Investigation into the Effectiveness of Think-Pair-Share and Jigsaw. *Journal of English Language teaching and cultural studies* 177| JELTS Vol. 6 No. 2.
- Fasasi, K. M. & Istifanus, H. (2022). Effect of Jigsaw II Cooperative Learning Strategy on Senior Secondary School Students' Academic Achievement in Algebra in Gombe State, Nigeria. *AJSTME*, Volume 8, Issue 2. 169-175, ISSN: 2251-0141.
- Gambari, I.A; Olumorin, C.O & Yusuf, M.O (2013).Effectiveness of computer –supported Jigsaw II co-operatives learning on the performance of SSS Students in Physics. *Global Media Journal*, 1(II), 1-13 Retrieved from www.slide-share.net/2/12/2023
- Hussaini, H. & Mohammed S. K. (2023) Effect of Think-Pair-Share Strategy on Senior Secondary School Students' Performance in Reading Comprehension in Gombe State, Nigeria. *Journal of Education, Department of Arts and Social Science Education, Faculty of Education*, Gombe State University, Gombe, Nigeria. 13., 4(1): 88-94. ISSN: 2756-6021 (print) 2756-6013 (online).
- Naluraya, D.R Nadrum T. F & Budi, N.(2014). Increasing Reading Comprehension of the Eleventh Grade Students through Think-Pair-Share you (TPS) Technique. *e-journal of English Language teaching society (ELTS)* .ISSN 23311841
- Noer, W. I. Eli-kraise, S. Anggoro S. D. & Suemith, M. (2023). The Implementation of Jigsaw Methods in Enhancing English Language Comprehension among Health Polytechnic Students. *Anglophile Journal* Vol. 3, No. 2.
- Yusuf, A. R., Owede, V. C., & Bello, M. B. (2018). Effect of Think-Pair-Share Instructional Strategy on Students' Achievement in Civic Education in Bayelsa, Nigeria. *Anatolian Journal of Education*, 3(2), 47-62.