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EFFECT OF JIGSAW II LEARNING STRATEGY ON SENIOR SECONDARY SCHOOL STUDENTS' SELF-EFFICACY IN CIVIC EDUCATION IN MAKURDI LOCAL GOVERNMENT AREA, BENUE STATE

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ABSTRACT
This study examined the effects of Jigsaw II learning strategy on senior secondary school students' self-efficacy in Civic Education in Makurdi Local Government Area of Benue State, Nigeria. The study was motivated by observed low self-efficacy among students, reflected in poor confidence, lack of resilience, and limited task persistence. A quasi-experimental non-equivalent pre-test–post-test control group design was adopted. The population comprised 7,763 SS II students, from which 112 students were initially selected; however, 95 students (57 experimental and 38 control) completed the study and were analysed due to attrition. Data were collected using the General Self-Efficacy Scale (GSES) and Civic Education Performance Test (CEPT). The instruments were validated and had reliability coefficients of 0.78 and 0.95 respectively. The experimental group was taught using Jigsaw II strategy, while the control group was taught using the chalk-and-talk method. Data were analysed using mean, standard deviation, and ANCOVA at 0.05 significance level. Findings revealed that students exposed to Jigsaw II strategy had significantly higher self-efficacy than those taught using the conventional.

Keywords: Jigsaw II, self-efficacy, Civic Education, cooperative learning, secondary school students, Nigeria.

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Introduction

Education is generally designed to improve students' character and learning. The development of character is a crucial aspect of this process. This is why certain subjects are designed to teach students how to become exemplary citizens by inculcating in them the needed moral codes and the spirit of nation building. Civic Education is one of the subjects that is designed to accomplish this task. Civic education is a process of ensuring that students attain the needed knowledge that would help them to be morally upright and participate actively in a democratic society. The core objective of the subject at the secondary level of education is therefore to develop responsible citizenship by equipping learners with the political, cultural and democratic ideals that will enable them function as effective and productive citizens in Nigeria (FRN,2026). This objective can only be actualised when students' academic perform in the subject is commendable.

Students' academic performance in Civic education has not been impressive over the years. This is particularly worrisome because students' academic performance in the subject is often a reflection of their knowledge of ethics, politics and culture of the society. In addition, various studies around the globe have revealed lack of trained teachers (Chishiba, 2017), inadequate resources (Chileshe, 2018; Chanda, 2023),limited student engagement and limited time as key challenges reflecting poor performance in Civic Education among young students (Mweetwa and Sichinga, 2020).

In Nigeria, Jekayinfa, Mofoluwawo and Oladiran (2021) observed that lack of civic education and patriotic orientation had led to disorientation in schools and in the larger society. Studies have further established a connection between students' performance in Civic Education and there overall self-efficacy.

In most basic sense, self-efficacy entails the belief in oneself. That is, the belief that he or she can solve a particular problem or partake in a particular activity. Self-efficacy in relation to Civic Education refers to learners' beliefs about their capability to understand civic concepts, participate in civic processes and perform tasks associated with responsible citizenship.

Civic Education is rooted in Bandura's social cognitive theory. According to Bandura (1971), an individuals' beliefs in his or her abilities influence his or her motivation, effort, and performance. In addition, the belief in oneself is crucial for an active and informed citizen, influences their engagement in political processes, their willingness to express opinions and their commitment to upholding democratic values (Eidhof & de Ruyter, 2022).

Like students' performance in Civic education, studies (Kibuthu & Mausa, 2022; Kang'ori & Nyutu, 2016; Elum ,2022) have also shown that students have over the years demonstrated low self-efficacy in Civic Education. This may have resulted in students' deficiency in self-reliance, their lack of resilience when faced with difficult problems, especially in relation with their school works

Empirical literature have over the years investigated the cause and effect of students' poor academic performance and low self-efficacy in Civic Education. While some of these studies found that the problem emanates from students and school related factors, other studies maintain that an improved self-efficacy and academic performance are products of effective teaching strategies. This study assesses the efficacy of Jigsaw II Strategy in improving students' self-efficacy and academic performance in Civic Education.

Jigsaw II Learning strategy is a cooperative learning approach that was first developed by Elliot Aronson and his students at the University of Texas in 1971. In Jigsaw, students are grouped and each student in the group takes responsibility for an aspect of the task, then teaches it to the other group members. Like the pieces of a jigsaw puzzle, students then fit their individual tasks

together to form a complete body of knowledge. The strategy empowers students to take charge of their learning, aids retention, peer tutoring, communication skills and retrieval of concepts (Sabbah, 2018).

The Jigsaw II learning strategy is an extension of the original Jigsaw Model. The strategy was developed by Slavin in 1986. Jigsaw II is a cooperative learning strategy where students become "experts" on specific material, teach it to their team and take individual quizzes that are aggregated into team scores. Unlike the original Jigsaw, this version emphasizes team recognition and individual accountability to improve motivation, academic performance and reading comprehension. It integrates cooperative learning with structured assessment and group reward systems.

Researchers have over the years conducted studies to determine the efficacy of Jigsaw II strategy in improving students' academic self-efficacy and academic performance. Okeke and Wokocha (2024) after a study on the efficacy of Jigsaw II strategy found that Jigsaw instructional strategy significant improved students' performance and in civic education. Similarly, Michael and Akusyakubu (2022 found that Jigsaw II Strategy significantly improved the academic performance of students in Civic. Education.

Like students' academic performance, previous studies have also established the effect of Jigsaw on students' self-efficacy. In this light, Kosberg (2024) found that Jigsaw II cooperative learning strategy improved the self-efficacy of 14-year-old secondary school students in Civic Education. Akomolafe (2022) who discovered high academic self-efficacy levels among Oye-Ekiti secondary school students taught with Jigsaw II learning strategy.

Purpose of the Study

The general purpose of this study was to investigate Effect of Jigsaw II Learning Strategy on Students' Self-Efficacy and Performance in Civic Education of Secondary School Students in Makurdi Local Government Area, Benue State. The study seeks to:

1.Ascertain the effect of Jigsaw II learning strategy on students' performance in Civic Education in Makurdi Local Government Area of Benue State.

2. Determine the effect of Jigsaw II learning strategy on students' self-efficacy in Civic Education in Makurdi Local Government Area of Benue State.

Research Questions

The following research questions were raised to guide the study:

1. What is the difference between the mean performance scores of senior secondary 11 students taught Civic Education using Jigsaw II learning strategy and the conventional 'chalk and talk' method in Makurdi Local Government Area of Benue State?

2. What is the difference between the mean self-efficacy rating of secondary school II students taught Civic Education using Jigsaw II learning strategy and chalk and talk method in Makurdi Local Government Area of Benue State?

Hypotheses

The following hypotheses will be tested at 0.05 level of significance:

1. There is no significant difference between the mean performance scores of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy Chalk-and-Talk Method in Makurdi Local Government Area of Benue State?
2. There is no significant difference between the mean self-efficacy ratings of Secondary School II Students when taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State?

Methods

The researcher adopted a quasi-experimental design, specifically the non-equivalent pre-test post-test control group design. The population of the study comprised of all the 7,763 Senior Secondary School Students in 22 schools in Makurdi Metropolis in the 2025/2026 academic session. The sample size was 112 students from two public secondary schools in Makurdi Local Government Area of Benue State. The researcher arrived at the sample using purpose sampling technique.

Two researcher-developed instruments were used for data collection: The General Self-Efficacy Scale (GSES) by Bandura and the Civic Education Performance Test (CEP). The General Self-Efficacy Scale (GSES) by Bandura has 10 items and a 4-point rating scale with the response modes of Strongly Agree (SA) = 4, Agree (A) 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. On the other hand, is the GSES is a 50-item multiple choice test developed by the researcher based on the units of Civic Education Curriculum selected for the research. Three experts scrutinized the instruments to establish their face and content validity. Feedbacks from the experts were used to improve the validity of the instruments.

The instruments GSES and CEPT were subjected to trial testing by administering them to 20 students in a school outside the ones sampled for the study. Scores obtained were used to ascertain the reliability coefficient of CEPT and GSSQ using Kuder Richardson formula 20 (K-R_{20}) and Cronbach Alpha respectively. K-R_{20} was used to determine the reliability of CEPT because the test items have varying levels of difficulties and were dichotomously scored. On the other hand, Cronbach Alpha was used to ascertain the reliability of GSES because the items have no right or wrong answers. Subsequently, while CEPT yielded a reliability coefficient of 0.95, GSES yielded a coefficient of 0.78.

To effectively collect data, the researcher-trained teachers in the selected schools. These teachers served as research assistants. The teachers taught and assessed students' performance at the end of the experimental process. Data generated was analysed using Mean and Standard Deviation to answer the research questions and Analysis of Covariance (ANCOVA) to test the hypotheses at 0.05 level of significance.

Results

Research Question 1: What is the difference between the mean performance scores of senior secondary school II students taught Civic Education using Jigsaw learning strategy and chalk-and-talk method in Makurdi Local Government Area of Benue State?

Table 1: Mean Performance Scores of Students Taught Civic Education Using Jigsaw II Learning Strategy and Chalk and Talk Method

Strategy		Pre-test	Post-test	Mean gain
Jigsaw	Mean	10.11	32.28	22.17
	N	57	57	
	Std. Deviation	2.91	6.52	
Chalk and Talk	Mean	13.04	22.52	9.47
	N	38	38	
	Std. Deviation	3.41	5.16	
Mean difference				12.7

Table 1 presents the Mean Performance Scores of Students Taught Civic Education Using Jigsaw II Learning Strategy and Chalk and Talk Method. The table shows that the mean performance scores of students taught using Jigsaw strategy is 10.11 with a standard deviation of 2.91 at pre-test and 32.28 with a standard deviation of 6.52 at post-test. On the other hand, the mean performance scores of students taught using chalk and talk (control) is 13.04 with a standard deviation of 3.41 at pre-test and 22.52 with a standard deviation of 5.16 at post-test. Table 5 further shows that the mean gain in retention of students taught using Jigsaw is 22.17 and 9.47 for chalk and talk. The difference between the mean performance scores of students taught using Jigsaw and chalk and talk is therefore 12.17 in favour of Jigsaw strategy. This means that students taught using Jigsaw strategy performed better than the ones taught with chalk and talk.

Research Question 2: What is the difference between the mean self-efficacy rating of secondary school II students taught Civic Education using Jigsaw II learning strategy and those taught using the chalk and talk method in Makurdi Local Government Area of Benue State?

Table 2: Mean Self-efficacy Ratings of Students Taught Civic Education Using Jigsaw II Learning Strategy and Chalk and Talk Method

Strategy		Pre-test	Post-test	Mean gain
Jigsaw	Mean	9.11	27.56	18.85
	N	57	57	
	Std. Deviation	2.21	5.29	
Chalk and Talk	Mean	12.66	20.70	8.04
	N	38	38	
	Std. Deviation	2.92	4.89	
Mean difference				10.81

Table 2 presents the mean self-efficacy ratings of students taught Civic Education using Jigsaw II learning strategy and chalk and talk method. The table shows that the mean self-efficacy ratings of students taught using Jigsaw strategy is 9.11 with a standard deviation of 2.21 at pre-test and 27.56 with a standard deviation of 5.29 at post-test. On the other hand, the mean self-efficacy ratings of students taught using chalk and talk (control) is 12.66 with a standard deviation of 2.92 at pre-test and 20.70 with a standard deviation of 4.89 at post-test. Table 2 further shows that the mean gain in self-effficacy of students taught using Jigsaw is 18.85 and 8.04 for chalk and talk. The difference between the mean self-efficacy ratings of students is therefore 10.81 in favour of Jigsaw II learning strategy. This means that students taught using Jigsaw strategy had higher self-efficacy than the ones taught with chalk and talk .

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Hypotheses

Hypothesis 1: There is no significant difference between the mean performance scores of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State

Table 3: ANCOVA of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2242.671[a]	2	1121.335	31.283	.000	.405
Intercept	5405.707	1	5405.707	150.810	.000	.621
Pretest	73.295	1	73.295	2.045	.156	.022
Group	2211.347	1	2211.347	61.693	.000	.401
Error	3297.687	92	35.844			
Total	82050.000	95				
Corrected Total	5540.358	94				

Table 3 shows that F(1,95) = 0.000; p .000 < 0.005. Based on this result, the null hypothesis which states that There is no significant difference between the mean performance scores of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State is rejected. This implies that there is significant difference between the mean performance scores of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State. The partial eta square of .401 obtained for the strategy means that Jigsaw II learning strategy has large effect size after controlling for other effects.

Hypothesis 2: There is no significant difference between the mean self-efficacy ratings of Secondary School II Students when taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State

Table 4: ANCOVA of self-efficacy ratings of Secondary School II Students when taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1717.508[a]	2	858.754	43.558	.000	.486
Intercept	2800.755	1	2800.755	142.061	.000	.607
Pretest	599.845	1	599.845	30.425	.000	.249
Group	895.502	1	895.502	45.422	.000	.331
Error	1813.798	92	19.715			
Total	59022.000	**95**				
Corrected Total	3531.305	**94**				

Table 4 shows that F(1, 95) = 45.422; p .000 < 0.005. Based on this result, the null hypothesis which states that there is no significant difference between the mean self-efficacy ratings of Secondary School II Students when taught Civic Education using Jigsaw II Learning Strategy and

Chalk-and-Talk Method in Makurdi Local Government Area of Benue State is rejected. This implies that there is significant difference between the mean self-efficacy ratings of Secondary School II Students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State. The partial eta square of .331 obtained for the strategy means that Jigsaw II learning strategy has large effect size after controlling for other effects.

Discussion of Findings.

The first finding of the study is that there is significant difference between the mean performance scores of Senior Secondary School II students taught Civic Education using Jigsaw II Learning Strategy and Chalk-and-Talk Method in Makurdi Local Government Area of Benue State. This means that students perform better in Civic Education when taught with Jigsaw II learning strategy than when taught with the conventional chalk and talk method. This improvement in academic performance could be due to the operational mechanism of Jigsaw II learning strategy. The strategy gives students the opportunity of work together in teams as they learn new contents. As a result, it fosters mutual responsibility and gives low-achievers the opportunities to learn from peers who have mre knowledge of the content. Also, the strategy is activity -based and student-centred unlike the chalk-and talk that has less activities and wholly centred on the teacher. The finding agrees with Okeke and Wokocha (2024) who found that Jigsaw instructional strategy significant improved students' performance and in civic education. The finding also concurs with Michael and Akusyakubu (2022) who found that there is significant difference in the mean performance scores of Social Studies students taught using Jigsaw II cooperative learning strategy and those taught with conventional Strategy.

The second finding of the study is that there is significant difference between the mean self-efficacy ratings of Secondary School II Students taught Civic Education using Jigsaw II learning strategy and chalk-and-talk method in Makurdi Local Government Area of Benue State. This indicates that students' self-efficacy ratings improve when taught with Jigsaw II learning strategy. The finding could be due to certain psychological benefits of Jigsaw. The tasks that students accomplish when using jigsaw may give them the right motivation that elevate their level of self-efficacy. Similarly, commendation from the teacher after students' completion of a puzzle may boost their (students') self-efficacy. The finding is in tandem with Kosberg (2024) who found that Jigsaw II cooperative learning strategy improved the self-efficacy of 14-year-old secondary school students in Civic Education. The finding also agrees with Akomolafe (2022) who discovered high academic self-efficacy levels among Oye-Ekiti secondary school students taught with Jigsaw II learning strategy.

Conclusion

Based on the findings of this study, it is concluded that the Jigsaw II learning strategy is a highly effective instructional approach for enhancing both performance and self-efficacy of secondary school students in Civic Education. The strategy promotes active learning, peer collaboration, and shared responsibility, which collectively contribute to improved understanding and retention of instructional content.

Recommendations

the following recommendations are made inline with the findings of this study:

1. Civic Education teachers should adopt Jigsaw II learning strategy. This is because, based on the findings, the strategy significantly improves students' academic performance
2. School administrators should ensure that teachers use productive strategies like Jigsaw II to improve students' confidence in themselves.

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