

JIGSAW, TEAM- ASSISTED INSTRUCTIONAL STRATEGIES AND STUDENTS' ACHIEVEMENT IN SENIOR SECONDARY SCHOOL GOVERNMENT IN OBOLLO AFOR EDUCATION ZONE.

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Abstract

This study determined the effects of Jigsaw and Team-Assisted Instructional Strategies on Students' Achievement in Senior Secondary School Government in Obollo Afor Education Zone. Guided by two research questions and the corresponding null hypotheses, the study adopted pre-test post-test non-equivalent control group design. The sample for the study was 106 SSII Government students made of both males and females. The instrument for data collection was the Government Achievement Test (GAT). The instrument was face-validated and tested for reliability. The internal consistency of GAT was established using the Pearson product-moment correlation coefficient and the result yielded a correlation coefficient of 0.78. Data collected were analyzed using mean and standard deviation to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. The results showed among other things that students taught Government using Jigsaw and those taught using TAI instructional strategies demonstrated similar levels of content mastery, in favor of Jigsaw. The study further showed that the male students had slightly higher achievement in Government than their female counterparts taught with both Jigsaw and TAI instructional strategies, respectively. However, the difference was not statistically significant. It was therefore recommended among other things that Teachers of Government should adopt Jigsaw and TAI instructional strategies to improve students` academic achievement in the subject.

Keywords: Academic achievement, Gender, Government, Jigsaw, Team Assisted Instruction,

Introduction

Students' achievement in Government in some contents, such as pre-colonial administration, colonialism, political party, and party system, seem to be below average in comparison to other content areas as reported by the WAEC Chief Examiner's Reports of 2018, 2021,2022 and 2023. This has been linked to some factors, including instructional strategies. Studies show that there is undue reliance on Teacher-centered instructional activities (Hassan, 2023, Kayode-Olawoyin, 2017 & Ubulom & Ogwunte, 2017), which seem not to encourage active participation of learners, thereby not allowing them acquire needed skills such as critical thinking, problem solving, and positive civic actions, among others (Ugwonna, Ekpoto &

Onah, 2023). This trend no doubt suggests a shift of the learning experiences to appropriate choice of the instructional strategies.

Choosing an appropriate and effective instructional strategy by the Teacher could pave way for adequate instructional delivery, which in turn enhances students' knowledge and understanding of the lessons being taught in Government. Government as a subject in senior secondary school is an important discipline because it plays a key role in the development of society. In this regard Okoro, Ndukwe and Ike (2023) assert that Government remains an important means of teaching the people about individual rights and what duties and responsibilities the governed and the leaders should have. It inculcates the spirit of nationalism, and patriotism in learners, by enabling them to understand the system of government adopted in a country. This helps to find solutions to political problems that may arise in the future. Presently, though there is no universally accepted definition of Government, there are definitions that are acceptable at various places and occasions and for different purposes as far as they focus on the interrelationship between man and his social life as well as on the promotion of democratic society (Bello, 2021). Government is seen from three perspectives, government as an institution of a state, government as an art, and government as an academic field of study.

Government as an academic field of study is perceived as the study of agencies, political institutions and dynamics of the state. Government as an academic field of study also involves looking into the functions and relationships between the institutions concerned in the steering of the affairs of the state (Nkemka, 2015). In teaching and learning of Government as a subject matter, several strategies have been adopted by the teacher to drive their point to the students. A successful teaching and learning process is dependent on the type of teaching method or instructional strategies adopted by the teacher in the classroom (Okoro & Ezegbe, 2021).

Instructional strategies include all the approaches employed by the teacher to enable learners to actively take part in teaching and learning activities. Many studies have shown that the role of instructional strategies cannot be overemphasized because it most often determines student engagement, retention, interest, and achievement in any subject matter (Anagrolia & Muneja, 2020; Okoro, Ugwu, Ike, Ogbu, Nnadi, & Onyekwere, 2022). Several instructional strategies are used by Teachers to facilitate the teaching and learning process. These instructional strategies are categorized into student-centered and teacher-centered. The teacher-centered strategy is usually referred to as the conventional method which is characterized by the teacher dominating the classroom activities and making the students to be passive learners in the class.

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Student-centered method on the other hand is more innovative. The need for this strategy necessitate the shift from the teacher-centered strategies to a student-centered method that encourages cooperative learning where students are active participants in the teaching and learning activities in the classroom, Since the traditional way of teaching Government has not led to an increased students' achievment. Therefore, there is a need to change to appropriate strategies which enable the learners to understand the subject matter. One of the instructional strategies is cooperative learning startegy.

A variety of cooperative learning methods have been developed and Jigsaw and Team Assisted Instruction (TAI) have been identified as possible strategies that could be used in teaching Government as a subject in senior secondary schools in Obollo Afor Education Zone. Studies such as Gambari and Yusuf (2017) and Onuoha et al (2016) revealed that Jigsaw and TAI instructional strategies play remedial roles over traditional teaching methods, but these cooperative learning strategies can only achieve its intended outcomes when meticulously planned and structured, with appropriate learning materials and guidelines provided to all The Jigsaw is a cooperative learning technique that fosters teamwork, participants. cooperation, and a deeper understanding of knowledge (Onuoha, Eneogu, Asoqwa & Ngwuchukwu, 2016). This startegy is an effective way of learning as it allows learners to collaborate, share their knowledge, and take responsibility for their learning (Murphy, 2021). Jigsaw has increased positive educational outcomes by placing the learner at the center of teaching and learning activities. Jigsaw places emphasis on group dynamism and social interactions among learners. It involves dividing an average-sized class of 26 to 33 students into competency groups of four to six students, with each group assigned a specific topic to research. The individual members of each group then collaborate with the "experts" from other groups to research a sub-topic of the main topic. Finally, they return to their starting group and teach the rest of the group what they have learned. This approach encourages students to work together and helps them develop a deeper understanding of the materials being studied (Murphy, 2021).

Team Assisted Instruction (TAI) is also a form of cooperative strategy that provides space to build knowledge that allows students to collaborate and communicate with other students in groups that work together. According to Yusuf (2017), in TAI, students are organized into groups of 5-6 individuals with varying backgrounds. These groups receive assignments to complete, with personalized guidance from teachers available to those who require it. Within

these groups, students collaborate to tackle the assigned challenges. Those who may have encountered difficulty with problem-solving in the past receive assistance from their peers, resulting in each student's triumph being intimately connected to the collective success of the group. The TAI learning process comprises seven sequential steps, namely: placement test, teams, teaching groups, student creativity, study teams, fact tests, and team score and recognition. In this study, however, TAI is a strategy that involves the division of students into groups for the purpose of giving each group a task that would be presented by a group leader. It is pertinent to note that the success or failure of an individual in the task will determine the failure or success of the group.

Arising from this, achievement is a key measure of effectiveness in all spheres of life, including the success of students in meeting their educational goals. Achievement could be perceived as the range to which a person has fulfilled the stipulated objectives of a particular activity, event or goal (Ikeh, Ugwuanyi & Orji, 2016). In this context, it implies that the student has acquired knowledge through the teaching process. Similarly, Oladipupo (2015) sees students' academic achievement as an elicited response, showing performance in which, a learner is assigned a score representing his or her ability. The above definition means that academic ability is fundamental to students' academic achievement. Therefore, the success or otherwise of any student involved in the educational endeavor is determined through the student's academic achievement (Ekweoba, 2014).

Academic achievement is the capacity to operate efficiently and react perfectly to a given task ((Nworgu, 2015). It is the extent to which students have attained their educational stated objectives as well as student's cognitive attainment on the core subjects at the school level. Academic achievement includes a range of indicators, such as grades, test scores, and completion of coursework, that demonstrate the level of knowledge and skills that students have acquired. An aspect of this study investigated whether gender could influence students' academic achievement when exposed to Jigsaw and Team Assisted Instruction.

Gender is one of the factors also mentioned in the literature to have considerable effects on students' academic achievement especially in Government subjects. The impact of gender on students' achievement in Government has been a topic of concern for researchers. Thus, as one of the variables that could influence academic achievement in the study, the researchers determined how gender influence students' achievement in Government using TAI and Jigsaw instructional strategies in senior secondary schools in Obollo Afor Education Zone. Thus, the

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thrust of this study was to determine the effectiveness of Jigsaw and Team Assisted Instructional strategies on students` academic achievement in Senior secondary school Government in Obollo Afor Education Zone, Enugu State.

Purpose of the Study

The main purpose of this study was to determine the effects of Jigsaw and Team Assisted instructional (TAI) strategies on students' achievement in senior secondary school Government in Obollo Afor education zone. Specifically, the study determined the:

- mean achievement scores of secondary school students taught Government using Jigsaw and those taught using TAI instructional strategy in Government in Obollo Education Zone.
- 2. influence of gender on students' achievement when taught Government using Jigsaw and TAI instructional strategies in Obollo Education Zone.

Research Questions

The following research questions guided the study.

- 1. What are the mean achievement scores of secondary school students taught Government using Jigsaw and those taught using TAI instructional strategy in government in Obollo Afor Education Zone?
- 2. What is the Influence of gender on students' achievement when taught Government using Jigsaw and TAI instructional strategies in Obollo Afor Education Zone?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

- **Ho1:** There is no significant differences in the mean achievement scores of secondary school students taught government using Jigsaw and those taught using TAI instructional strategies in Government in Obollo Education Zone.
- **H02:** There is no significant difference in the mean achievement ratings of male and female students taught using Jigsaw and TAI instructional strategies.

Methodology

The study adopted a quasi-experimental design; specifically, a pre-test post-test non-equivalent group design. The population consisted of all the 3,096 co-educational public SS2 senior secondary school Government students in Obollo Afor Education Zone. (P.P.S.M.B, Obollo Afor, 2024). Out of the 3,096 students, 1,557 are males while 1,539 are females. The sample size of the study consisted of 106 senior secondary school Government students (SS11) of four intact classes from two (2) public schools sampled from the forty-nine (49) co-educational public secondary schools in Obollo Afor Education Zone. Multi-stage sampling technique was adopted to arrive at 106 senior secondary school students in Obollo Afor Education Zone. In the first stage, purposive sampling technique was used to select one local government out of the three local government areas in Obollo Afor Education Zone. Also, a purposive sampling procedure was used to select the SS11 students. A purposive sampling procedure was also used to select co-educational public secondary schools in Obollo Afor Education Zone. The study utilized Government Achievement Test (GAT) for data collection. The GAT was made of two sections namely, A and B. Section A was on students` personal data while section B was on the 30 multiple-choice questions with A, B, and C alternative options. The 30 GAT question items were compiled by the researchers from the West African Certificate Examination past questions that are related to the topics and objectives of the lesson. The instrument was facevalidated by three experts, two from the Department of Social Science Education and one from the Department of Science Education (Measurement and Evaluation Unit), all from the University of Nigeria, Nsukka. Also, content validation was carried out to check the appropriateness of the table of specifications in the coverage of the content area and the level of objectives as specified in the curriculum. The reliability of the validated instrument (GAT) was established by administering 20 copies of the GAT no twenty (20) SS11 Royal Crown senior secondary school students from Nsukka Education Zone which is outside the study area. Data was administered for this study to the four intact classes. Data collected were analyzed using mean and standard deviation to answer the research questions. A mean benchmark of 2.50 was applied. This implies that each item that obtained a mean score of 2.50 and above was accepted while the items that obtain mean scores below 2.50 were rejected. The analysis of covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance.



Results

Table 1: Mean and standard deviation analysis of achievement scores of secondary schoolstudents taught Government using Jigsaw and those taught using TAI instructionalstrategies in Obollo Education Zone?

Groups		Pre-test		Post-test		Mean Gain Scores	Mean Gain Difference
	Ν	Mean	SD	Mean	SD		
Jigsaw	67	18.11	4.52	28.07	5.64	9.96	5.20
TAI	39	18.10	3.94	22.86	4.61	4.76	

Result in Table 1 show the mean achievement scores of secondary school students taught Government using Jigsaw and those taught using TAI instructional strategies in Obollo Education Zone. Jigsaw had a mean achievement score of 18.11 with standard deviation of 4.52 at pre-test and 28.07 with standard deviation of 5.64 at post-test. The mean gain score of students exposed to Jigsaw was 9.96. On the other hand, students who were exposed to TAI had mean achievement score of 18.10 with standard deviation of 3.94 at pre-test and 22.86 with standard deviation of 4.61 at post-test. The mean gain scores of the students exposed to TAI was 4.76. The mean gain difference of 5.20 was recorded for the two groups in favour of the students exposed to Jigsaw. The standard deviation of each group from the mean ranged from 3.94 - 5.64; indicating that the respondents were not too far from the mean and from one another in their responses, adding further validity to the mean.

Table 2: Summary of the 2-Way Analysis of Covariance (ANCOVA) on the difference in the mean achievement scores of secondary school students taught Government using Jigsaw and those taught using TAI instructional strategies in Government in Obollo Education Zone

	Type III Sum of							
Source	Squares	Df	Mean Square	F	Sig.			
Corrected Model	426.515ª	4	106.629	3.996	.008			
Intercept	957.981	1	957.981	35.901	.000			
PreGAT	75.065	1	75.065	2.813	.101			
Strategies	295.083	1	295.083	14.011	.002			
Gender	14.577	1	14.577	.546	.464			
Strategies*Gender	3.751	1	3.751	.141	.710			
Error	1147.402	101	26.684					
Total	33504.000	106						
Corrected Total	1573.917	105						

Result of the analysis in Table 2 revealed that Jigsaw and TAI have significant effect on the mean achievement scores of secondary school students in Government. This is because the calculated F-valve of 14.011associated with the strategies has a probability value of .002 and therefore significant at .05 level of significance. This implies that exposing secondary school students to Jigsaw and TAI significantly increased their achievement in Government. Therefore, the null hypothesis of no significant difference in the mean achievement scores of students taught Government using Jigsaw and TAI in senior secondary schools in Obollo Afor Education Zone is rejected. Therefore, the inference drawn is that there is a significant difference in the mean achievement scores of students taught Government scores of students taught Government scores of students taught Government using Jigsaw and TAI in Senior secondary schools in Obollo Afor Education Zone is rejected. Therefore, the inference drawn is that there is a significant difference in the mean achievement scores of students taught Government using Jigsaw and those taught using TAI instructional strategies in Government in Obollo Afor Education Zone.

Table 3: Mean and standard deviation analysis of the influence of gender on students'achievement when taught Government using Jigsaw and TAI instructional strategies inObollo Afor Education Zone

Gender		Pre-test		Post	Post-test		Mean Gain Difference
	Ν	Mean	SD	Mean	SD		
Male	48	19.19	4.21	26.63	2.42	7.44	0.16
Female	58	17.02	5.43	24.30	3.36	7.28	

Result in Table 3 shows the influence of gender on students' achievement when taught Government using Jigsaw and TAI instructional strategies in Obollo Education Zone. The male students had mean achievement score of 19.19 with standard deviation of 4.21 at pre-test and 26.63 with standard deviation of 2.42 at post-test. The mean gain score of male students was 7.44. On the other hand, female students had mean achievement score of 17.02 with standard deviation of 5.43 at pre-test and 24.30 with standard deviation of 3.36 at post-test. The mean gain scores of the female students was7.28. The mean gain difference of 0.16 was recorded for the two groups in favour of the male students. The standard deviation of each group from the mean ranged from 2.42 - 5.43; indicating that the respondents were not too far from the mean and from one another in their responses, adding further validity to the mean.

Hypothesis 2: There is no significant difference in the mean achievement scores of male and female students taught using Jigsaw and TAI instructional strategies



Result of the analysis in Table 2 above revealed that gender as a factor in the study does not have a significant effect on the mean achievement scores of secondary school students in Government. This is because the calculated F-valve of 0.546 has a probability value of .464 is greater than the .05 level of significance. This implies that gender does not have a significant influence on the mean achievement scores of students taught using Jigsaw and TAI instructional strategies. Therefore, the null hypothesis of no significance difference in the mean achievement scores of male and female students taught using Jigsaw and TAI instructional strategies is accepted. Therefore, the researchers concluded that there is no significance difference in the mean achievement scores of male and female and female and female students taught using Jigsaw and TAI instructional strategies in Obollo Afor Education Zone based on gender.

Discussion

The findings of the study showed that the mean and standard deviation of secondary school students taught Government using Jigsaw and those taught using TAI are closely related, indicating that the respondents demonstrated similar level of understanding despite being taught with two different instructional strategies, namely Jigsaw and TAI. In line with the above findings, Fatokubo and Samuel (2018) found that it exists in the attitude, achievement, and retention in Basic Science when exposed to Computer-assisted Jigsaw II, TAI, and Learning Together Cooperative Instructional Strategies, and that teachers should be encouraged to adopt computer-supported cooperative learning strategies so as to improve and promote social interaction, active learning, discovery learning, motivation, learning by doing, and learning by experience among students. Similarly, this study is in line with Afifah, Isnani and Wikan (2019) which found that the proportion test on students using the TAI instructional strategy is effective in improving problem-solving skills, learning effectiveness, and mathematics learning achievement of students, and that proper use of TAI instructional strategy is capable of facilitating learning. Further finding showed that gender has no significant influence on students' achievement when taught Government using Jigsaw and TAI in the study area. This implies that the two strategies are not gender sensitive, showing its efficacious nature across gender. This finding aligns with the findings of Ugwonna et al (2020); Nejati, Rajaee, Iran, Hassani, Sahrapou and Tak (2014) which found that males and females did not differ when taught with student-centered instructional strategies. Thus, Jigsaw or TAI instructional strategies can be applied effectively in classes involving male and female students.

Conclusion

This research work examined the effectiveness of Jigsaw and Team Assisted instructional (TAI) strategies on students' achievemen in senior secondary school Government in Obollo Afor education Zone. Furthermore, the study investigated the mean achievement scores of male and female secondary school students taught Government using Jigsaw and TAI instructional strategies in Government in Obollo Education Zone. The study's findings showed that students taught with Jigsaw showed slightly higher mean achievement than those taught with TAI. Further findings revealed that gender is not a significant factor in the use of both Jigsaw and TAI in enhancing students' achievement in Government content. Based on the findings, this study concludes that both Jigsaw and TAI instructional strategies are effective in engaging students irrespective of gender.

Recommendations

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

- 1. The use of Jigsaw and Team Assisted Instruction should be encouraged by the curriculum planners for use in Government lessons.
- 2. Schools and Teachers of Government should adopt Jigsaw and TAI instructional strategies so as to improve students` academic achievement in the subject.
- 3. There should be prompt supervision of Teachers to ensure compliance with the appropriate instructional strategies.

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