

Effect of argumentation learning strategy on senior secondary school students' academic performance in Government in Ibadan, Oyo State, Nigeria

Ifeoluwa Oluwaseyi Ajayi ¹, Bosede Abimbola Adesina (PhD) ² & Segun Lakin Oderinde³

^{1/3} Department of Arts and Social Science Education, Obafemi Awolowo University, Ile-Ife, Nigeria

Corresponding author: oderindesegun@yahoo.com, <https://orcid.org/0000-0002-3572-8363>

Abstract

In this investigation, the academic achievement of government pupils in secondary schools in Ibadan, Oyo State, was compared before and after they were exposed to teacher explanatory techniques and argumentation learning. The study looked at how well male and female government students retained material after using the Teacher Expository approach (TES) and Argumentation Learning Strategy (ALS), as well as how well they performed academically after using the argumentation learning approach. An experimental research design with a non-equivalent pretest-posttest control group was used. All 133 pupils from four senior secondary schools in Ibadan made up the study population, and they were chosen at random. While the control group B received instruction utilizing the teacher explanatory technique, the group performing the experiment A was introduced to the argument learning strategy. The gathered data was examined using the Government Performance Test (GPT). Prior to being exposed to the argumentation learning technique, academic performance did not significantly differ, according to the data. The academic achievement of pupils who received argumentation learning and instructor exposition tactics, however, differed significantly. There was a substantial difference in the retention of government concepts by students who were taught utilizing the argumentation technique. As a result, the study came to the conclusion that students who are exposed to argumentative learning strategies are more likely to remember the material than those who are exposed to explanatory.

Keywords: Argumentation learning strategy, Teacher expository strategy, Senior secondary school, Students' academic performance, Government

Introduction

Over the years, students' performance in Government in Senior School Certificate Examination has been fluctuating. However, Oderinde's (2020) research discovered that there has been variability in the learning outcomes of Nigerian students offering Government as a subject. On average, there has also been low performance. The West Africa Examination Council (WAEC) revealed the following in the Chief Examiner's reports from 2007 to 2016; problem of inconsistent results and low performance in Government which include poor descriptive skills,

disregard for the paper rubrics, and the use of abbreviations that are only understood by candidates. The most prevalent of these concerns is students' incapacity to comprehend fundamental Government concepts, which made them to provide brief and inappropriate answers to questions.

Furthermore, the main objective of teachers is to help students achieve the learning outcomes that are intended for them when teaching any subject that is part of the school curriculum. Determining whether students have actually understood what

the teacher wants them to be is the only method to assess how effective a teacher's instruction is (Coleman, 2015). The strategies teachers employ to assist students in learning are crucial to the accomplishment of learning objectives, and the approach they take in the classroom has a big influence on the degree to which students comprehend the principles of Government. The effectiveness of the teaching strategies employed by secondary school teachers is a major factor in determining students' academic performance, according to earlier research (Adeyemi, 2002; Bilesanmi-Awoderu, 2006; Inuwa, Abdullah & Hassan, 2018). For many years, teachers have used the expository method of instruction for teaching and learning of Government (Idoniboye-Obu & Gilbert, 2014). Researchers like Gillies and Boyle (2006) have promoted the use of argumentation as a learning strategy to help students perform better and comprehend Government's foundational ideas. Students' critical thinking abilities can also be greatly enhanced by argumentation (Ariza, Armenteros, & Castro, 2021). However, a number of studies concur that argumentation supports the development of critical thinking (Bathgate et al., 2015; Giri & Paily, 2020; Jiménez-Aleixandre et al., 2000; Jiménez-Aleixandre & Puig, 2012), and it is a highly effective way to help students develop their critical thinking skills (Ariza, Armenteros, & Castro, 2021).

In addition, a considerable body of literature has been produced by studying gender differences in academic achievement in light of the theory that suggests a connection between students' gender and academic achievement (Nenty, 2010; Atovigba, 2012; Agbaje & Alake, 2014; Onihunwa, Irunokhai, Sada, & Adesina, 2015). Some of these studies found no gender difference in students' academic performance, while others indicated a significant gender difference, with boys or girls performing better in particular courses. For example, a study by Adigun, Onihunwa, Irunokhai, Sada, and Adesina (2015) found no statistically significant differences in the academic achievement and retention of students enrolled in computer courses. Their

study's findings indicate that male students in private schools perform better than their male counterpart.

Moreover, various academics have defined the word "Government." Anyaele (2014) posits that there are three distinct definitions of government: government as an academic discipline, government as a process or art, and government as an institution of the state. This study aims to address the definition of government as an academic discipline, which is the study of political institutions, agencies, and state processes. Studying Government is crucial because it enables students to comprehend both how our government functions and their place in our social structure as citizens (Hall, 2013). Students who study Government also become knowledgeable citizens who can engage in the political process and cast ballots with understanding (Nwogu, 2010). In addition, studying Government enables us to comprehend how our government differs from others' and investigate the factors that contribute to government effectiveness and ineffectiveness in various situations.

Teachers must carefully consider learning strategies when implementing Government at the secondary school level. These strategies should support the development of desired values, attitudes, and skills, which will in turn support the accomplishment of Government curriculum goals. Students are not actively involved in traditional instructional methods. The students are not active learners; they are only passive learners. According to Mansaray (2011), learner-centred and student-friendly Government learning practices are necessary. Brainstorming, small group discussions, round table discussions, argumentation strategies, debate, play-way, and so forth are a few examples of these strategies.

Shah (2016) pointed out that research on classroom practices has primarily shown that teachers control the classroom and place a strong emphasis on rote memory of the subject matter. He emphasised that reading, practicing, paraphrasing, lecturing, repeating from textbooks, and memorization of

questions and answers are the main techniques. He also noted that some educators continue to teach government principles using traditional, teacher-centred approaches, even though learning should be enjoyable and not forced. Students should actively participate in the delivery of courses.

In recent years, the area of argumentation strategy has gained increased recognition in the educational community. As part of the practice of social science disciplines, Duschl, Schweingruber, and Shouse (2007) highlighted the necessity for education that emphasises understanding arguments and explanations. Students must understand "how we know what we know and why we choose to believe it over alternatives," a critical component of argumentation strategy, in addition to "what we know," in order to fully understand social science courses (Duschl, 2008).

In the same vein, Milanovic and Trivic (2020) pointed out that for students to improve their capacity for argument, they must engage in debating. According to Sevgi's (2016) research, the use of argumentation techniques improved critical thinking, decision-making, and argument-creation skills.

Moreover, research in the literature indicates that the use of argumentation techniques influences academic performance and has a positive impact on individuals' academic performance (Aslan, 2018; Cakan Akkas, 2017; Demircioglu & Ucar, 2015; Demirel, 2017; Dogru, 2016; Meral, 2018; Polat et al., 2016; Şahin, 2016). A review of the literature revealed that the use of argumentation strategy influences logical thinking skills (Aydın, 2013; Dogru, 2016; Ecevit, 2018).

Argumentation strategy comprises the process of generating reasons, defending convictions, and drawing conclusions in order to influence the ideas and/or behaviours of others (Walton, 2006). It may also be seen as a setting for discussion, opinion exchange and modification, meaning exploration, concept generation, and comprehension acquisition. The three primary goals of critical argumentation are concept identification, analysis, and evaluation. This study examined the impact of

argumentation learning strategies on students' academic performance in Government in Ibadan, Oyo State, based on the premise that these strategies will assist students in acquiring skills that will enable them to contribute equitably to the development of their community.

Statement of the Problem

It has been observed that students' results in Government subject at Senior School Certificate Examination have been fluctuating. According to WAEC Chief Examiners' reports from 2007 to 2016, students' inability to understand basic Government concepts is primarily to blame for the problem of fluctuating outcomes in the subject, leading to their weak and irrelevant responses to questions. The chief examiners' reports indicate that teaching and understanding of Government concepts require greater focus. Additionally, for decades, Government has been taught and learned through the use of the teacher-expository strategy. Argumentation strategy is one of the student-centred instructional learning methodologies that academics have supported. Research (Mansaray, 2011; Shah, 2016) has also linked the issue of variable and low average performance to teachers using ineffective teaching strategies. According to these studies, students' participatory strategies, which can help them develop critical thinking and meaningful learning skills, are also necessary for their performance to improve over time and to hold their attention. Furthermore, it is still unclear how gender affects the performance of Government students. Some research found that there is a significant gender difference in students' academic performance in Government, with boys and girls performing better. However, other studies found no gender difference. However, research on how argumentative learning strategies affect senior secondary school students' academic achievement in Government in Ibadan, Oyo State, is necessary.

Objectives of the Study

The general objective of this article was to examine the effect of argumentation learning

strategy on senior secondary school students' performance in Government in Ibadan, Oyo state. The specific objectives of this study are to:

- 1) Examine the academic performance of students in Government Performance Test (GPT) before exposure to argumentation learning strategy;
- 2) Examine the difference in academic performance of students taught using argumentation learning strategy and those taught using teacher expository strategy;
- 3) Examine the retention of students' taught using Argumentation Learning Strategy (ALS) and those Taught Using Teacher Expository Strategy (TES) in Government in the study area; and
- 4) Compare the academic performance of male and female students in Governments after exposure to argumentation learning strategy.

Research Hypotheses

To achieve the objectives of the study, the following research hypotheses were tested:

H₀₁: There is no significant difference in the academic performance of students in Government Performance Test (GPT) before exposure to argumentation learning strategy

H₀₂: There is no significant difference between the academic performance of students exposed to argumentation learning strategy and those exposed to teacher expository strategy

H₀₃: There is no significant difference between the retention of students taught using argumentation learning strategy (ALS) and those taught using teacher expository strategy (TES).

H₀₄: There is no significant difference between the academic performance of male and female students after using argumentation learning strategy.

Methodology

Research Design

The non-equivalent pretest-posttest control group experimental research design was utilized in this study, and no randomization was used to avoid interfering with the administrative operations and activities of the schools that were used. The graphic below illustrates the study's design:

Q ₁	X ₁	Y ₂	O ₃
Q ₄	X ₂	Y ₅	O ₆

Where Q₁, Q₄, are the test before treatment (pre-test)

X₁= argumentation treatment condition

X₂= teacher expository treatment condition

Y₂, Y₅, are the tests after treatment (post-tests)

O₃, O₆, are the retention tests.

Population, Sample and Sampling Technique

The population for the study consisted of senior secondary school students offering Government in Ibadan, Oyo State. One hundred and thirty-three Senior Secondary School Two (SSSII) students from Ibadan make up the study sample. There are eleven Local Government Areas in Ibadan, and two of them were chosen using simple random sampling methods. Using a simple random sample technique, two senior secondary schools from each of the LGAs were chosen, and from each school, one Government intact class was chosen, for a total of four Government intact classes. A control group and an experimental group were assigned to the students in the four intact classes. The experimental group A was treated using the argumentation learning strategy, while the control group B was instructed using the teacher expository strategy.

Research Instrument

Government Performance Test (GPT) on basic concepts in Government was administered to students. There were multiple-choice questions on the GP. The researchers modified the items/questions, which cover many areas of government concepts, from previous WAEC question papers. There were fifty multiple-choice questions on the test, each with four lettered

options, A–D. The test lasted for one hour and twenty minutes. Each of the 50 multiple-choice questions in the test was worth two points, or a 100% grade.

Research Package

The researchers developed lesson plans that were utilised to teach the research subjects. These plans were based on argumentation and teacher expository strategies. Topics under basic concepts in Government that were used for the study are sovereignty, rule of law, democracy, and legitimacy. These subjects were chosen in accordance with the findings of the WAEC Chief Examiner's 2007–2016 study, which showed that most students struggled with basic government concepts, particularly those covered in the report. In addition, a test blueprint was created to specify how many items were allocated to each topic and cognitive level.

Validation and Reliability of Research Instruments

Two teachers with at least ten years of experience teaching Government in a senior secondary school and experts in curriculum studies were given the research instrument for vetting in order to carry out face validation of the instrument. Trial testing was then carried out in a different local government area by distributing the instruments to an intact class (SSII) that was excluded from the study. Tests of difficulty and reliability were run on the trial testing data. Fifty questions were chosen for the GPT after the results underwent tests of reliability and complexity. The students were given the validated items. The selection process focused on questions with difficulty indices between 0.25 and 0.75 because these were deemed moderate, questions below 0.25 because they were deemed too difficult, and questions above 0.75 because they were deemed too simple. As a result, the

original collection of 70 objective questions had to be reduced to just 50. Using the Kuder Richardson formula 20 (KR-20), the test's reliability coefficient was 0.78, showing the instrument's dependability.

Procedure for Data Collection

Data collection lasted for six weeks. The teaching was carried out simultaneously in the four schools that comprise the sample. Permission was sought from the school authorities before the exercise was carried out. After being informed of the study's goal, the school administration offered their full cooperation and assigned Government teachers to help. The Government teachers obtained guidance and instruction on how to use an argumentative learning approach in the classroom. Also, during the first week, a pre-test was administered to the students in the experimental and control groups. This was done in order to ascertain students' academic equivalence before treatment. The second to fifth weeks were used to administer the treatment to students in the experimental group, while students in the control group were taught using the teacher-expository strategy. A post-test was administered to students during the sixth week to determine their performance after the treatment.

Method of Data Analysis

Inferential statistical procedures were employed to analyse the acquired data in accordance with the specified hypotheses. The t-test was used to determine whether there was a significant difference between the students' academic performance before and after they were exposed to the argumentation learning approach. A t-test was also used to look at the academic achievement gap between pupils exposed to argumentation learning and those exposed to teacher expository strategies.

Presentation of Results and Discussion

Table 1: Analysis of Pre-Test Scores of Students in the Experimental and Control Groups

Groups	N	$\bar{X}$	SD	Df	T	p-value
Experimental	68	49.47	9.342	131	0.887	0.376
Control	65	48.18	7.176			

$P < 0.05$

Table I shows that there is no significant difference in the mean scores of the two groups in the GPT on the pre-test ($t=0.887$, $p=0.376$). This is an indication that the entry levels of the students for the study were not different before the administration of the

treatments. This implied that the students had the same background knowledge of the subject matter before the administration of the treatment (Argumentation Learning Strategy).

Table 2: Analysis of the Performance of Students' Taught Using Argumentation Learning Strategy (ALS) and those Taught Using Teacher Expository Strategy (TES)

Groups	N	$\bar{X}$	SD	Df	T	p-value
ALS(Experimental)	68	68.76	6.935	131	10.961	0.000
TES(Control)	65	56.25	6.195			

$P < 0.05$

Table II shows that students taught using the teacher expository technique (56.25) and students taught using the argumentation learning strategy (68.76) had different mean achievement scores. According to the study, ($t= 10.961$, $p < 0.05$). At the alpha level (α) 0.05 significant ($p < 0.05$), the null hypothesis (H_0) is rejected due to the estimated t-value above the critical t-value. This demonstrates a noteworthy disparity in academic achievement

between students instructed in the use of the teacher expository approach (TES) and those instructed in the use of the argumentation learning strategy (ALS). The findings indicate that the teacher expository approach (TES) is not as effective as the argumentation learning strategy (ALS) in raising students' performance in Government topics.

Table 3: Analysis of the Retention of Students' Taught Using Argumentation Learning Strategy (ALS) and those Taught Using Teacher Expository Strategy (TES)

Groups	N	$\bar{X}$	SD	Df	T	p-value
Experimental	68	69.18	5.422	132	12.226	0.000
Control	66	57.05	6.055			

$P < 0.05$

Table III shows that students taught using the teacher expository technique (57.05) and students taught using the argumentation learning strategy (68.18) had different mean achievement scores. According to the study, ($t=12.226$, $p < 0.05$). At the alpha level (α) 0.05 significant ($p < 0.05$), the null hypothesis (H_0) is rejected due to the estimated t-value above the crucial t-value. This demonstrates

that there was a notable difference in students' retention between those taught using the teacher expository strategy (TES) and those taught using the argumentation learning strategy (ALS). The findings indicate that the teacher expository strategy (TES) is not as effective as the argumentation learning strategy (ALS) for improving students' retention of government topics.

Table 4: Analysis of the Responses on Gender Difference of Students' Academic Performance Taught Using Argumentation Learning Strategy (ALS)

Groups	N	$\bar{X}$	SD	Df	T	p-value
Male	60	62.07	5.422	128	-0.702	0.484
Female	70	57.05	6.055			

$P < 0.05$

Table IV analysis revealed that $t = -0.702$ and $p = 0.484$. As the computed t-value is less than the critical t-value, Table 4 shows that the null hypothesis (H_0) is accepted at alpha level (α) 0.05 significant ($p < 0.05$). This indicates that male and female students who were taught using the argumentation learning strategy (ALS) did not significantly differ in their academic achievement. The result shows that teaching the argumentation strategy (ALS) has no significant effect on gender.

Discussion of Findings

This study looked at how senior secondary school pupils in Ibadan, Oyo State, performed academically in government classes when using the argumentation learning technique. The results of the investigation on research goal one demonstrated that the experimental groups' and the control group's pre-test scores did not differ significantly. This proved that the children in each group had comparable skills before the intervention was put into place. It suggests that the students who took part in the study had about similar government-related backgrounds.

The study's findings on research objective two demonstrated a noteworthy distinction in students' academic performance when exposed to the teacher's expository strategy and when they were exposed to the argumentation learning strategy. Additional investigation reveals that students who were taught the argumentation learning strategy excelled their peers who were taught the explanatory method by the teacher. This demonstrates that the argumentation learning strategy is more effective than teacher's expository strategy in helping students enhance their academic performance in government. The results of the study concurred with those of Aslan (2018), Cakan Akkas (2017), Demircioglu and Ucar

(2015), Demirel (2017), Dogru (2016), Meral (2018), Polat et al. (2016), and Sahin (2016), whose studies show that the application of argumentation techniques benefits and influences academic performance.

The study also supports the findings of Gillies and Boyle's (2006) study, which examined the impact of field trips and argumentation strategies on the academic performance of biology students in Pleatue State with varying degrees of scientific literacy, lend support to this. He discovered that for the group with the highest level of scientific literacy, the argumentation approach yielded the best mean achievement scores in Biology both before and after the test. Students who used the argumentation approach in the classroom participated in class activities and interacted with one another, which improved students' academic performance.

Additionally, the findings of this study is in line with the study conducted on the impact of argumentation technique on students' achievement in Business Education at the College of Education Kotangora, Kaduna State by Galton, Wall, and Pell (2009), which showed that students' achievement was significantly impacted by the argumentation learning strategy. This was made possible by the argumentation learning technique, which corrected incorrect ideas and accepted learners' differing viewpoints.

The data gathered from research objective three showed that there was a substantial difference in the retention of students who were taught expository strategies by teachers vs students who were exposed to arguments. Students who were taught the argumentation technique

outperformed those who were taught the teacher expository strategy, according on additional observations made from the means of the two strategies. This is consistent with Cohen's (2011) study, which examined the impact of the argumentation strategy on students' academic performance and retention in Commerce in Imo State's senior secondary schools. He discovered that on the retention exam, students who were taught using the argumentation approach had a higher mean score than those who were taught using the lecture method. This indicates that when it comes to improving students' retention skills, argumentation technique outperforms lecture method.

The results of research objective four showed that, when exposed to the argumentation learning strategy, there was no significant difference in the academic performance of male and female students. This is at odds with the findings of Agwagah's (2010) study, which examined the impact of argumentation instruction strategy on the physics achievement of SSS students and found that gender had no discernible impact on students' physics achievement when argumentation instruction was used.

Conclusion and Recommendations

According to the study's findings, students' academic achievement in government was improved more by the argumentation learning technique than by the teacher's expository strategy. The study also discovered that when it came to helping students retain basic government concepts, the teacher's explanatory approach was less effective than the argumentation learning strategy. Hence, it can be said that students who are subjected to argumentative learning techniques have a higher chance of remembering material than those who are exposed to explanatory techniques. The study's findings led to the following conclusions, which led to recommendations: Argumentation learning strategy has features such as the active participation of students and teachers as well as

interaction among students. These features should be used in implementing Government lessons.

- 1) The giving of assignments on the topic for the next class, which is a vital aspect of argumentation learning strategy, should be integrated into the curriculum of Government.
- 2) Teachers of Government should adopt an argumentation strategy instead of an expository strategy for teaching their students.
- 3) Trainings and seminars should be organised by ministries of education and related government agencies for the training or retraining of teachers on how to make use of argumentation strategies for teaching Government effectively.
- 4) Policymakers and curriculum planners should not only emphasise the effective teaching strategies to be used, they should also monitor their implementation and ensure that argumentation learning strategy and other effective strategies are used in teaching Government.

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