Impact of Structured Debates on Nigerian Secondary School Students' Reading Outcomes and Reading Anxiety

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Abstract

Background: Reading proficiency is crucial for academic success, yet many students struggle with comprehension, do not engage in independent, self-motivated reading, and lack confidence in their <u>reading</u> abilities. The absence of a reading culture in Nigeria threatens the knowledge

economy, as those who lack reading proficiency are incapable of producing, accessing, or transmitting knowledge.

Purpose of the study: This study examined the potential of structured debate as an instructional strategy to address the reading outcomes of secondary school students in Calabar, Cross River State, Nigeria.

Methodology: A quasi-experimental design was employed with two groups: an experimental group engaged in structured debate activities and a control group following traditional reading instruction. Data on reading proficiency, reading anxiety, and reading autonomy was collected through standardized tests and surveys before and after the intervention. Three hypotheses were tested using analysis of covariance (ANCOVA), while the pre-test scores were used as covariates.

Results: The findings revealed that structured debate significantly improved students' reading proficiency and autonomy compared to the control group. However, no significant impact on reading anxiety was observed.

Unique contributions to knowledge: The study offers a new perspective on improving reading skills in a context where traditional methods have shown limitations. The study addresses a significant issue of poor reading proficiency in Nigeria, a context where reading culture is lacking, and offers structured debate as an innovative instructional strategy. The study provides empirical evidence that structured debates could be effective at enhancing reading skills, especially in the Nigerian context with implications for policy and practice.

Recommendations: Integrating structured debate into reading instruction is recommended as a promising approach to improving reading outcomes among secondary school students. In addition, teacher training institutions are advised to train pre-service teachers on deploying structured debates in reading instruction.

Keywords: Reading anxiety, reading proficiency, reading autonomy, secondary education structured debate

Introduction

Historically, the deployment of debates for pedagogical purposes is traceable to the Athenian Protagoras, who lived in the 4th Century before the Common Era. Freeley and Steinberg (2015) referred to him as the father of structured debates, even though it could be argued that humans have engaged in debates throughout history. The structured debate learning strategy is interactive, where students are provided with a topic and are expected to argue for or against it. It is procedural. It allows participants to engage in divergent rather than convergent thinking. The aim of the debate is not to regurgitate a prescribed solution but rather to think outside the box to suggest alternative pathways to the debate problem. However, debates are not a regular feature in schools, except perhaps for members of the Debate Club (Bellon, 2010).

By the nature of debates, their incorporation into the curriculum could have some cognitive benefits. It can complement other teaching strategies and keep students engaged in the content. In Kennedy's (2017) view, debates promote active classroom participation. Moreover, this form of active participation enables students to analyse, discuss, and apply content authentically instead of simply imbibing teacher-generated information. Debates, therefore,

bring students to the centre of the classroom narrative, especially where the focus is to enhance students' reading ability, foster reading autonomy and reduce reading anxiety.

Reading is central to formal education as it is a principal means by which students extract information across the curriculum. The impact of poor reading ability, unmitigated reading anxiety, and lack of reading autonomy is likely to reverberate throughout the academic and lifelong spectrum of the student (Omojuwa et al, 2009). In other words, reading proficiency ameliorates reading anxiety and autonomy, having both academic, social, economic, political, and even relational implications for the student. Consequently, teachers must devise ingenuous and innovative ways to enhance students' reading efficiency and autonomy while reducing reading anxiety. This study sought to find out if structured debates could be one such innovation.

Research tends to show that structured debates could improve comprehension. Sophia (2020) reported that participants in debate tournaments during the semester reported enhanced understanding, increased knowledge acquisition, and improved capacity to think critically. This cohered with Zare and Othman (2013), who found that debates fostered in participants not only the ability to interrogate but also to probe and present alternative viewpoints.

In debates, students can set their own parameters for judging the validity of an argument (Kennedy, 2017). Therefore, it is unsurprising that debates increase participants' interest and motivation (Yang & Rusli, 2012). Debates are likely to motivate students instrumentally and intrinsically to read as they ferret different texts for relevant information to support their arguments or to rebut their opponents' positions. Such engagement in reading various online or textual materials will likely enrich their vocabulary, improve reading fluency, and expand their reading speed and competence (Kennedy, 2019).

In addition, some studies have shown that debate-based instructional strategies significantly deepen students' comprehension, enhance their vocabulary and boost their reading proficiency (Kim & Lee, 2019, p. 456). Therefore, debates also help foster critical thinking, crucial to efficient and effective reading (Mojgan, 2012). On the contrary, Oros (2007) criticised debates for encouraging linear and dichotomous thinking

One of the variables often associated with reading is reading anxiety. Anxiety is the feeling of tension and fear that can significantly influence behaviour (Abad et al., 2021). Deploying a second language can generate anxiety, especially in public or formal situations. Although English is a lingua franca in Nigeria, it is a second language for most students forced to use it at school for learning and examination purposes. Using English in a formal situation can consequently produce anxiety, which, in turn, produces apprehension and negative emotions associated with language tasks (Horwitz, 2001), which can have a significantly negative impact on academic achievement. The structured debate strategy may mediate this.

Structured debates allow students to engage with complex topics, thus engendering critical thinking and communication skills (Walker & Yates, 2018). Since tasks are divided among team members (Beck & McKeown, 2001), structured debates reduce the pressure on individual students to comprehend vast amounts of information and increase their confidence. Moreover, by focusing on smaller chunks of the arguments within the debate, students can delve deeper into manageable portions of the text, with a reasonable reduction in anxiety (Graham & Hebert, 2016).

Since structured debates encourage collaboration, the sense of support erodes the feelings of isolation that would naturally result in anxiety (Greenwood & McMaster, 2005). Even the mere act of preparing, rehearsing and presenting arguments can boost students' confidence in articulating ideas (Yang & Liu, 2011). As students engage in debates, they have opportunities to put language learned to use with confidence fostered by practice. Such confidence can extend to

other language activities, such as reading. Similarly, a study by Ceneciro et al. (2023) found that debates reduced students' language use anxiety. Therefore, this study sought to determine the impact of structured debate on reading anxiety through a quasi-experiment.

Research associates debates with learner autonomy (Dang, 2012; Merbawani, 2022). One of the learner autonomy skills that debate fosters is research skills (Kasem, 2021). Inferentially, debaters need to equip themselves with evidence to present their arguments and buttress their points of view effectively. This forces them to engage in independent research and autonomous reading to gather information and data about their debate topic. One of the activities that independent learners engage in is debates.

Structured debate offers an opportunity for each student or team of students to delve into one aspect of a debate task, which could help nurture reading autonomy in participants. Reading autonomy describes a student's ability to engage in reading independently without prompting or cajoling (Deci & Ryan, 2000). It has to do with a student's ability to self-regulate in terms of choice of text, reading time, and reading purpose. According to Medina and Nagamine (2019),

...the self-learner student knows that he/she needs to actively participate in the learning process by reading all the material provided by the teacher, participating in organized classroom activities such as presentations and debates, prepare for exams, among other activities (p.152).

Although structured debate is collaborative, as participants work together in choosing a topic, gathering evidence, and preparing rebuttals, each participant develops a sense of ownership as they work on a particular subtopic (Greenwood & McMaster, 2005). According to Deci and Ryan (2000), students develop autonomy in reading choices and engagement as they prepare for and participate in debates. Since they have to monitor their comprehension of the materials they use in gathering evidence for their arguments, identify areas of further exploration, and adapt their arguments based on new evidence (Beck & McKeown, 2001), they develop metacognitive awareness, which enables them to become more conscious and strategic in their reading approach (Graham & Hebert, 2016).

Literature shows structured debates have implications for reading comprehension, critical thinking, reduced anxiety, and learner autonomy. Debates thrive on logical and analytical thinking (Graham & Hebert, 2016) and the presentation of credible evidence (Walker & Yates, 2018). However, a quasi-experiment has not sufficiently explored how structured debates could impact reading proficiency, reading anxiety, and reading autonomy.

Objectives of the study

The study investigated the effect of structured debates on students' reading outcomes. Specifically, the objectives of the study were to find out:

- 1. The mean difference in reading proficiency scores of students taught reading using structured debates and those taught conventionally.
- 2. The mean difference in reading anxiety scores of students taught reading using structured debates and those taught conventionally.
- 3. The mean difference in reading autonomy scores of students taught reading using structured debates and those taught conventionally.

Consequently, the following null hypotheses were tested:

- 1. The mean difference in reading proficiency scores of students taught reading using structured debates and those taught conventionally will not be significant.
- 2. The mean difference in reading anxiety scores of students taught reading using structured debates and those taught conventionally will not be significant.

3. The mean difference in reading autonomy scores of students taught reading using structured debates and those taught conventionally will not be significant.

Methodology

This section deals with the materials and methods that were employed in the study.

Study design

The study adopted a pre-test, post-test, nonrandomised control group quasi-experimental design. This design is most appropriate because it allows the use of intact classes assumed to have intricately the characteristics of normally distributed abilities. This design also permits the pre/post-testing of several hypotheses simultaneously (Onwioduokit, 2000).

Sample

From a population of 2,627 Junior Secondary School 3 students in Calabar Municipality and Calabar South, both in the Southern Senatorial District of Cross River State, Nigeria, a purposive sample of two homogenous public secondary schools was selected for this study. This was because the researchers wanted to examine participants who share similar practices and experiences regarding location, facilities and quality of teachers. One intact class was selected from each school and used as a treatment or control group, respectively. Each class had at least two streams of at least 30 students each. The decision to pick all the schools from one education zone was informed by the need for homogeneity and for the researchers to quickly move from one school to the other to ensure that the lesson packages were delivered as intended. The schools selected were those with a graduate teacher of English. The total number of students in these classes was one hundred and eighty-two (182). Details are in Table 1.

Table 1: List of schools and teaching strategies

S/N	School	Teaching strategies	School location		nder Female	Total
1.	A	Structured Debate	Calabar Municipality	31	58	89
2.	*B	Expository method	Calabar Municipality	42	51	93
		Total		73	109	182

^{*}Control

Instrumentation

Three kinds of instruments were used:

- (1) Affects Rating Scale (ARS)
- (2) Reading Proficiency Test (RPT); and
- (3) Reading Comprehension Packages

The researchers constructed a twenty-item structured questionnaire called the Affects Rating Scale with Likert-like ratings ranging from Strongly Agree to Strongly Disagree. They used it to collect data on reading anxiety and reading autonomy.

The Reading Proficiency Test (RPT) consisted of fifty questions covering key areas of the junior secondary English syllabus: comprehension, register (word meaning, synonyms, and antonyms), and summary. Each item had four options, and only one was correct.

The reading comprehension packages comprised six well-articulated lesson plans on using structured debate as a tool for teaching English comprehension by the teacher of English at the selected experimental school.

Validity of the instruments

The questionnaire was constructed based on the literature reviewed and the objectives formulated for the study to determine whether the instruments measured what they were intended to measure. The researchers asked two colleagues to help assess the instruments to ensure that the items were structured to elicit accurately the participants' opinions. The second strategy was to present draft copies of the instruments to two professionals in the Arts Education Department and three (3) in the Department of Measurement and Evaluation at the University of Calabar to vet.

A table of the specifications was drawn to ascertain the content validity of RPT, as reflected in Table 2. Adjustments were made in areas these professionals considered necessary.

Table 2: Table of specification

Question/Topic	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total
Comprehension	1	8	-	-	1	-	10
Cloze	-	-	10	-	-	-	10
Opp. in Meaning	10	-	-	-	-	-	10
Idioms	10	-	-	-	-	-	10
Nearest in Meaning	10	-	-	-	-	-	10
Total	31	8	10	-	1	-	50

Reliability of the instruments

The instrument was subjected to a trial test on fifty (50) students in a public secondary school that was not part of the study but had a population with similar characteristics to the sample under study. The Cronbach Alpha reliability range of 0.79 to 0.83 for the Affect Rating Scale was adjudged high. This is shown in Table 3. From the same table, the reliability estimate of 0.79 for the Reading Proficiency Test was also considered high.

Table 3: Cronbach alpha reliability estimate of the instruments

S/N	Variable	Item	Mean	SD	α-Coefficient
1.	Reading Anxiety	10	15.20	2.34	0.83
2.	Reading Autonomy	10	15.10	2.19	0.78
3.	Reading Proficiency Test	50	24.76	5.22	0.79

Procedure for data collection

The research procedure for the collection of data was divided into three stages: (a) the pre-test stage, b) the treatment stage, and (c) the post-test stage. The experiment was done in 5 weeks.

- a). The pre-test stage: The researchers sought permission from the principals of the two schools selected for this study through an access letter. After this, the researchers, as the resource person, trained one JSS3 teacher of English Language (research assistant) from the school selected as the experimental school to use the learning packages to implement the structured debate (treatment). The training and administration of the pre-test by the research assistants on the participants (subjects) took the first week
- b). Treatment stage: The two schools were taught concurrently for 3 weeks. School A (treatment group) was taught using structured debate as provided in the instructional package, while the control group (School B) received instructions without a similar intervention. The instructional package was based on Unit 1 of New Concept English for Junior Secondary Schools by Ademola-Adeoye F. et al. (Third Edition), published by LearnAfrica, the recommended text for all secondary schools in Cross River State. Debate topics were derived from comprehension passages that would be studied in the treatment period by both the experimental and control schools. The execution of structured debates first followed the pre-reading activities, studying keywords, reading the passage by students, and discussing the contents. Then, the teacher, working with the class, crafted a debate topic from the Comprehension passage. For instance, Unit One of the book had a comprehension passage on 'Danger Signs on the Road'. The debate topic was "The house resolves that government should prioritise intelligent warning signs over traditional warning signs on our highways." For week two, the passage was on science and technology. The debate topic was "We resolve that Science and Technology hold the key to our happiness." In week three, Examination malpractice was the theme of the comprehension passage. From the passage, the debate topic was "Moral persuasion is preferable to punishment if we must curb examination malpractices." The class was divided into three groups for each topic: affirmatives, negatives and neutrals. The groups selected their speakers to present their viewpoints to the whole class. The teacher provided detailed written guidelines. The structure of the debate was:

Opening statement – 5 minutes
Rebuttals – 5 minutes
Summary by each team – 5 minutes
The teacher served as a judge during the debates.

c). Post-test stage: The researchers supervised the teachers of the two schools as they administered the two instruments to their respective classes on the same day. The items were virtually the same, except that they were reordered.

Procedure for data preparation/scoring

After collecting the data, a coding schedule (scoring key) was designed to code all the responses from ARS and RPT. In ARS, positively worded items were scored from 4 points to 1 point, while negatively worded items were scored from 1 point to 4 points, as shown in Table 4. In RPT, each question was awarded 1 point for each correct answer and 0 points for each wrong answer. The maximum grade for each affect variable was 40, and the minimum was 1. Under anxiety, one of the affected variables, 1-20 scores, was classified as low anxiety, while 21-40 had high anxiety. The same applies to self-concept. However, scores 1-15 for reading autonomy were considered lower autonomy, 16-30 for intermediate autonomy, and 3-40

for upper autonomy. In RPT, the scores 0-19 were awarded lower achievers, 20-35 average achievers and 36-50 higher achievers. The RPT was to determine the student's reading proficiency when taught with different teaching strategies and under different affective dispositions. However, the same test was used as a pre-test and post-test, with items being rearranged in the post-test. Given these, all students who scored from 0-39% were considered low achievers, and those who scored from 40-69% were average achievers, while those who scored from 70 and above were considered high achievers.

Table 4: Scoring of Affects Rating Scale

Response	Abbreviation	Sco	ore	
		Positive items	Negative items	
Strongly agree	SA	4	I	
Agree	A	3	2	
Disagree	D	2	3	
Strongly agree	SD	1	4	
Results				

For the analysis, null hypotheses were restated and tested using the analysis of covariance (ANCOVA) at a confidence level of 0.05. The pre-test results served as covariates in all the analyses. The results are presented in this section.

Hypothesis One. The mean difference in reading proficiency scores of students taught reading using structured debates and those taught conventionally will not be significant.

The descriptive statistics obtained the means of the treatment (X=36.37) and the control (X=18.11) groups. These were compared to see whether there was a statistically significant difference in reading proficiency between students in the school where the structured debate strategy was deployed and the school where it was not. From the result in Table 6, the F-ratio of 778.21 is adjudged significant because the p-value (.000) is less than 95% (.05) confidence level. Consequently, the null hypothesis is rejected, implying that the difference between the mean scores in reading comprehension of students taught with structured debates and those instructed via the conventional routes is significantly different.

Table 5: One-way analysis of covariance results on the effect of structured debate on reading proficiency among students

Groups	Mean		Std. D	eviation	N
Structured debate	36.3778	3.90971			89
Control Group	18.1111	1.70856			93
Total	27.2444	9.66205			182
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7514.596 ^a	2	3757.298	411.68	000. 0
Intercept	1422.334	1	1422.334	155.84	3 .000
Pre-test	6.996	1	6.996	.767	.384

Groups	7102.558	1	7102.558	778.214	.000
Error	794.026	179	9.127		
Total	75112.000	182			
Corrected Total	8308.622	181			

a. R Squared = .904 (Adjusted R Squared = .902)

Hypothesis Two: The mean difference in reading anxiety scores of students taught reading using structured debates, and those taught conventionally will not be significant.

The analysis showed that the means of the treatment (X=18.00) and the control (X=18.11) were similar. A comparison of the means with the pre-test scores was inserted as the covariates in the Analysis of Covariance (ANCOVA), which showed an F-ratio of 425. The decision rule was to reject the null hypothesis if p <.05. However, with a p-value of .516, which is greater than .05, the hypothesis that proposed no significant difference in reading anxiety scores between the students who participated in structured debates and those in the intact class where the conventional instructional strategies were deployed was upheld. Table 6 shows the details.

Table 6: One-way analysis of covariance results on the effect of structured debate learning strategy on reading anxiety among students

Groups	Mean	1	Std. Dev	riation	N	
Structured debate	18.00	00	3.23335		89	
Control Group	18.21	31	2.13201		93	
Total	18.00	00	2.72318		182	
Source	Type III Sum of Squares	Df s		Mean Square	F	Sig.
Corrected Model	200.877 ^a	2		100.438	19.032	.000
Intercept	21.827	1		21.827	4.136	.045
Method	2.245	1		2.245	.425	.516
Pre Anxiety Group	200.877	1		200.877	38.065	.000
Error	459.123	179		5.277		
Total	29820.000	182				
Corrected Total	660.000	181				
a. R Squared = .304 (Adjusted R S	quared = .288)					

Hypothesis Three: The mean difference in reading autonomy scores of students taught reading using structured debates and those taught conventionally will not be significant.

Data analysis was performed using the ANCOVA. The means of the pre-test scores served as covariates. The result showed that for the quasi-experimental group, where structured debates were employed, a mean reading autonomy score of 16.9111 and for the control group, who received their lessons conventionally, a mean reading autonomy score of 13.8667. The calculated F-ratio (F=39.18) was adjudged as significant because the p-value (.000) is lower than the confidence level, which was set at 95% (0.05). Therefore, the null hypothesis could not be retained. This means that the mean score of students taught reading using structured debates was significantly different from that of the group that received their lessons in the conventional methods. The result is presented in Table 7

Table 7: One-way analysis of covariance results on the effect of structured debate learning strategy on reading autonomy among students

Groups	Mea	n	Std. Devi	iation	N	
Structured debate	16.91	111	2.60089		89	
Control Group	13.86	667	2.21154		93	
Total	15.38	389	2.84701		182	2
Source	Type III Sum of	Df		Mean Square	F	Sig.
	Squares					
Corrected Model	235.270^{a}	2		117.635	21.053	.000
Intercept	369.661	1		369.661	66.158	.000
Method	218.973	1		218.973	39.189	.000
				26.725	4.783	.031

178

182

181

5.588

Discussion of findings

a. R Squared = .326 (Adjusted R Squared = .311)

Corrected Total

Error

Total

The data analysis showed a significant difference in reading proficiency between secondary school students taught with structured debates and those who were not. In other words, students exposed to structured debates had significantly higher reading proficiency than those not. This could be because engaging in debates involved students preparing, researching, and engaging in practice must have honed their debating skills and reading comprehension skills, as they had to read widely. The finding aligns with extant literature that associates debate with enhanced skills in critical thinking and information extraction (Kennedy, 2019; Sophia, 2020). This could be because the mastery of the subject matter as the classroom teacher may be assigned helps the students engage in reading efficiently, primarily where what was assigned to the students is fully comprehended. Moreover, students exposed to structured debate may not just accept what the teacher gives them unquestioningly. However, they may be motivated to seek further understanding of the work by learning at their own pace.

486.119

721.389

22035.000

Furthermore, data analysis showed no significant influence of structured debates on reading anxiety. The quasi-experimental study investigating the impact of structured debates on reading anxiety did not yield a significant difference between the exposed and non-exposed

groups. Although no studies directly link structured debates with reading anxiety, inferences have been drawn from the efficacy of debates in promoting self-confidence (Yang & Liu, 2011).

However, the finding that no difference exists in anxiety levels between the experimental and control schools may be accounted for by baseline reading anxiety levels in both groups being too low for structured debates to produce any significant change. Perhaps future studies could target participants with pre-existing reading anxiety levels and implement structured debate to find out the remedial effect on reading anxiety. Moreover, an extended implementation period might have had a significant effect.

Regarding the impact of structured debate on students' reading autonomy, data analysis indicated that the structured debate strategy led to higher reading autonomy scores. The finding aligns with the conceptualisation of autonomy as taking charge of one's learning (Hedeen, 2013) and developing responsibility for learning (Bouwma-Gearhart & Bess, 2012). Structured debate could facilitate autonomy since students must search for information pertinent to their debate topics or tasks, gather and sort such information logically and coherently, and update their understanding in the light of new evidence, often without overt teacher supervision. Also, the engagement with the debate processes may not have sharpened the participants' research skills but also their capacity for self-reflection, which promotes metacognitive awareness (Graham & Hebert, 2016), which is required for independent study.

However, the study does not account for how other variables, such as teacher motivation, frequency of reading engagements, and the competitiveness of debate, may have contributed to the findings. This could be explored in further studies.

Conclusion

The study investigated the influence of structured debate instructional strategy on reading outcomes. Three hypotheses were tested based on data obtained through a quasi-experimental study. The findings were that structured debate significantly affected secondary school students' reading proficiency and autonomy. However, the influence of structured debates on reading anxiety was insignificant.

Therefore, the findings suggest that incorporating structured debates as an instructional strategy can benefit secondary school students. Structured debates could be an excellent way to improve students' reading comprehension and critical thinking abilities, which could lead to improved academic success. Moreover, structured debates can foster self-directed learning and encourage learners to become more active and involved readers.

While structured debates had no significant impact on reading anxiety, future research could look into ways to adapt the debate style to alleviate anxiety, potentially providing a more inclusive learning environment.

Recommendations

Anchored on the findings, the researchers recommend as follows:

1. Teachers of English should include debates in their instructional strategies. Teachers can organise debates around certain themes or issues that arise from a reading text.

2. Curriculum planners such as the National Educational Research and Development Council (NERDC) should incorporate structured debates in the English Language curriculum.

3. Teacher training institutions should train teachers of English Language and Literature in English to implement the structured debates in their classes.

Limitations of the study

The study's intact classes eliminated randomization, limiting the ability to establish a causal relationship between structured debates and observed improvements. Other factors that differed between the groups, besides the intervention, could have influenced the results. The experimental group was also from a single school, which may limit the generalisability.

Future research

Since this study was quasi-experimental, more rigorous research methods may be needed to confirm the causal association between structured debates and reading skills. It might also be beneficial to identify the components of structured debate that account for reading competence and autonomy. Finally, future studies could focus on adapting structured debates to help students with reading anxiety and public speaking apprehension.

Ethical considerations

The two participating teachers signed informed consent. In addition to the written permission from the school principals for their schools to participate in the study, each student was given a consent form for their parents or guardians to sign. Student participation was based strictly on parental consent and student assent. The Faculty of Education of the Ethical Review Board, University of Calabar, approved the research.

Conflict of interest

There was no conflict of interest.

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