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THINK–PAIR–SHARE AND JIGSAW TEACHING METHODS AS CORRELATES OF STUDENTS' ACADEMIC ACHIEVEMENT IN FINANCIAL ACCOUNTING AMONG SECONDARY SCHOOL STUDENTS IN ANAMBRA STATE, NIGERIA

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Abstract

The persistent fluctuations in students' academic performance in Financial Accounting in Nigerian secondary schools have raised concerns among educators. This has been attributed to teacher-centered instructional approaches that limit participation. Consequently, cooperative teaching strategies have become important. This study examined Think–Pair–Share and Jigsaw teaching methods as correlates of students' academic achievement in Anambra State, Nigeria. A correlational design was adopted. The population comprised 569 Senior Secondary School II students offering Financial Accounting in public secondary schools in Anambra State. A sample of 240 students was selected using stratified random sampling. Data were collected using the Think–Pair–Share and Jigsaw Teaching Methods and Academic Achievement Questionnaire (TPJTMSAAQ). Reliability was established using Cronbach Alpha, yielding

0.82. Data were analyzed using Pearson Correlation and regression at the 0.05 level. Findings revealed a moderate positive relationship between Think–Pair–Share and students' academic achievement ($r = 0.69$, $p < 0.05$), while Jigsaw showed a strong positive relationship ($r = 0.78$, $p < 0.05$). Both methods predicted students' academic achievement. The study concluded that integrating Think–Pair–Share and Jigsaw enhance students' academic achievement. Teachers were advised to adopt these strategies.

Keywords: Think–Pair–Share, Jigsaw teaching method, academic achievement, Financial Accounting

Introduction

Education is widely recognized as a fundamental instrument for national development and social transformation. It plays a critical role in equipping individuals with the knowledge, skills, attitudes, and competencies required for meaningful participation in economic, technological, and social advancement. Through effective educational systems, societies are able to produce skilled manpower capable of contributing to national growth and sustainable development. As a result, educational institutions place considerable emphasis on improving students' academic achievement because it represents one of the most reliable indicators of the effectiveness of teaching and learning processes in schools.

Academic achievement refers to the level of performance attained by students in educational tasks, usually measured through tests, assignments, classroom activities, quizzes, projects, practical exercises, continuous assessment activities, class participation, homework, and formal examinations. It reflects the extent to which students have successfully acquired the knowledge and skills expected within a given course of study. High levels of academic achievement are often associated with effective instructional practices, appropriate learning environments, and active student engagement in the learning process. Contemporary educational research has consistently emphasized that students' academic achievement is strongly influenced by the instructional strategies adopted by teachers during classroom instruction (Rahman & Lewis, 2020; Yusuf & Afolabi, 2022). Consequently, the selection and application of appropriate teaching methods remain essential factors in improving students' learning outcomes.

Financial Accounting is one of the important subjects offered within the business education curriculum in Nigerian secondary schools. The subject focuses on systematic recording, classification, summarization, and interpretation of financial transactions in business organizations. Through the study of Financial Accounting, students acquire analytical and practical skills necessary for financial management, record keeping, and informed decision-making in business operations. In addition, the subject provides a strong foundation for students who intend to pursue professional careers in accounting, banking, finance, auditing, and related fields. Financial Accounting also contributes significantly to the development of entrepreneurial competencies required for economic growth and self-reliance in developing economies such as Nigeria (Okafor &Udeani, 2023).

Despite the importance of Financial Accounting in the business education curriculum, students' academic performance in the subject has continued to generate concern among educators, parents, and other stakeholders in the Nigerian education sector. Available reports from the West African Examinations Council (WAEC) between 2021 and 2023 indicate fluctuations in students' performance in Financial Accounting in the West African Senior School Certificate Examination (WASSCE). The Chief Examiners' reports during these years revealed

that a significant number of candidates performed below expectation due to weaknesses in interpreting accounting questions, improper application of accounting principles, poor knowledge of ledger postings, and inability to prepare final accounts correctly. The reports further showed that many students demonstrated inadequate understanding of fundamental accounting concepts and procedures, which negatively affected their overall performance in the subject. These persistent weaknesses suggest that students continue to experience difficulties in mastering the principles and procedural aspects of Financial Accounting in Nigerian secondary schools.

Several factors have been identified by researchers as possible causes of poor academic achievement in Financial Accounting. These include students' negative attitudes toward the subject, insufficient instructional materials, inadequate classroom facilities, and ineffective teaching methods used during classroom instruction (Okafor & Udeani, 2023; Nwankwo & Eze, 2021). Among these factors, teaching methods have been widely recognized as one of the most influential determinants of students' academic achievement. In many Nigerian secondary schools, classroom instruction continues to rely heavily on conventional teacher-centered methods such as the lecture approach. Under this approach, teachers primarily deliver information verbally while students passively listen, copy notes, and memorize concepts without sufficient opportunity for interaction or practical application (Rahman & Lewis, 2020; Yusuf & Afolabi, 2022).

Although the lecture method can be useful for introducing new concepts, it often limits students' active involvement in the learning process. Financial Accounting, however, is a subject that requires active engagement, continuous practice, and logical reasoning in order to understand accounting procedures and solve financial problems effectively. When students are not actively involved in learning activities such as discussion, collaboration, and problem-solving, they may find it difficult to fully comprehend complex accounting concepts. This situation may contribute to the persistent low academic performance observed among students studying Financial Accounting (Huang, 2021).

Educational researchers have therefore emphasized the need for learner-centered instructional strategies that actively involve students in the learning process. Learner-centered teaching approaches encourage students to participate in discussions, collaborative learning activities, and peer interactions that facilitate a deeper understanding of subject matter. When students actively participate in classroom learning activities, they become more motivated to learn, develop stronger critical thinking skills, and retain knowledge more effectively (Rahman & Lewis, 2020; Huang, 2021).

Among the instructional strategies that promote active participation and collaborative learning are the Think–Pair–Share and Jigsaw teaching methods. These cooperative learning strategies are designed to encourage structured interaction among students and create opportunities for meaningful exchange of ideas during classroom instruction. Through peer discussion and group collaboration, students can clarify difficult concepts, share different perspectives, and develop a deeper understanding of academic content.

The Think–Pair–Share teaching method is a structured instructional strategy that encourages students to actively participate in classroom discussions through a three-stage process: thinking, pairing, and sharing. In this approach, the teacher first presents a question or problem related to the lesson and allows students time to think individually about possible answers. Students then discuss their responses with a partner before sharing their ideas with the entire class. This strategy ensures that all students can contribute to the learning process while simultaneously improving their communication, reasoning, and analytical skills.

Similarly, the Jigsaw teaching method is another cooperative instructional strategy that promotes active participation and collaborative learning among students. In this strategy, students are first divided into small heterogeneous groups known as home groups. Each member of the group is then assigned a specific portion or aspect of the lesson to study. After receiving their assigned tasks, students from different home groups who have the same topic meet in what is known as expert groups to discuss, analyze, and master the assigned content. During the expert group discussion, students exchange ideas, clarify difficult concepts, and develop a better understanding of the topic with the guidance of the teacher where necessary.

After the expert group session, students return to their original home groups and teach their assigned sections to other group members. Through this process, each student becomes both a learner and a teacher, since the success of the group depends on the contribution of every member. The teacher then supervises the interaction, provides clarification where necessary, and may assess students individually or collectively to ensure effective learning. Through these structured steps, the Jigsaw teaching method promotes positive interdependence, peer teaching, active participation, communication skills, and shared responsibility for learning among students.

Studies have shown that cooperative learning strategies such as Think–Pair–Share and Jigsaw significantly improve students' academic achievement by promoting active engagement, peer interaction, and collaborative problem-solving (Johnson & Johnson, 2021; Zhou & Colomer, 2024). When students engage in collaborative learning activities, they develop deeper conceptual understanding because they actively construct knowledge through interaction with their peers.

In Financial Accounting, students are required to understand procedures, analyze financial data, and apply accounting principles to solve problems. Instructional strategies that encourage discussion and collaboration can therefore enhance academic achievement. Through peer interaction and cooperative problem-solving, students clarify complex procedures, share ideas, and develop stronger analytical skills needed for accounting tasks.

Despite the benefits of cooperative teaching strategies, many teachers in Nigerian secondary schools still depend on conventional lecture methods in Financial Accounting. This teacher-centered approach limits students' active participation and collaboration, which may contribute to ongoing challenges in their academic performance.

Although studies have explored cooperative learning in subjects like science, mathematics, and language, limited research has focused on Think–Pair–Share and Jigsaw teaching methods in relation to students' achievement in Financial Accounting in secondary schools in Anambra State. This gap indicates the need for further empirical investigation.

It is against this background that the present study examined Think–Pair–Share and Jigsaw teaching methods as correlates of students' academic achievement in Financial Accounting in secondary schools in Anambra State, Nigeria**.**

Purpose of the Study

The main purpose of this study was to determine the relationship between cooperative teaching methods and students' academic achievement in Financial Accounting in secondary schools in Anambra State.

Specifically, the study sought to determine the:

1. Relationship between the Think–Pair–Share teaching method and students' academic achievement in Financial Accounting.
2. Relationship between Jigsaw teaching method and students' academic achievement in Financial Accounting.

Research Questions

The following research questions guided the study:

1. What is the relationship between Think–Pair–Share teaching method and students' academic achievement in Financial Accounting?
2. What is the relationship between Jigsaw teaching method and students' academic achievement in Financial Accounting?

Hypotheses

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

1. There is no significant relationship between Think–Pair–Share teaching method and students' academic achievement in Financial Accounting.
2. There is no significant relationship between Jigsaw teaching method and students' academic achievement in Financial Accounting.

Methods

The study adopted a correlational research design to examine the relationship between Think–Pair–Share and Jigsaw teaching methods and students perceived academic achievement in Financial Accounting without manipulating the variables. The design was considered appropriate because the researcher did not experimentally expose students to the teaching methods, but rather examined students' responses based on their classroom experiences with the teaching methods already being used by their teachers. Correlational research design is suitable for determining the extent and direction of relationship existing between two or more variables without manipulation of the variables under study (Nworgu, 2015).

The population comprised 569 Senior Secondary School II (SS2) students offering Financial Accounting in 20 selected public secondary schools across the six education zones in Anambra State, Nigeria. The schools included Community Secondary School, Ezinifite (49), Community Secondary School, Ihite (17), Community Secondary School, Ndiowu (18), Community Secondary School, Amawbia (13), Community Secondary School, Ukpo (13), Akobueze Memorial Comprehensive Secondary School, Uruagu Nnewi (58), Community Secondary School, Ebenato (7), Community Secondary School, Ichi (34), Community Secondary School, Nnewichi (41), Awada Secondary School, Awada (81), New Era Secondary School, Nteje (18), Urban Secondary School, Nkpor (21), Ado Girls Secondary School, Onitsha (18), Community Secondary School, Iyiowa Odekpe (11), Modebe Memorial Secondary School, Onitsha (26), Prince Memorial High School, Onitsha (63), Urban Boys Secondary School, Onitsha (39), Washington Memorial Grammar School, Onitsha (29), Community High School, Nsugbe (10), and Community Secondary School, Igbakwu (3).

A sample of 240 students was selected using stratified random sampling to ensure adequate representation of students from the different schools and education zones involved in the study. The sampling technique was considered appropriate because it enabled the researcher to divide the population into different strata based on the education zones and schools before selecting the respondents proportionately from each stratum. This helped to ensure fairness in selection, reduce sampling bias, and improve the representativeness and reliability of the findings. However, out of the 240 copies of the questionnaire administered, only 235 copies were properly completed and returned, representing a 97.9% return rate, and these were used for the final analysis.

Data were collected using a structured questionnaire titled "Think–Pair–Share and Jigsaw Teaching Methods and Academic Achievement Questionnaire" (TPJTMSAAQ). The instrument

was divided into four sections. Section A elicited demographic information from the respondents. Section B contained items on Think–Pair–Share teaching method as experienced by students during Financial Accounting lessons. Section C contained items on Jigsaw teaching method, while Section D contained items measuring students perceived academic achievement in Financial Accounting.

The questionnaire items were structured on a five-point Likert scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD), weighted 5, 4, 3, 2, and 1 respectively. Sample items included: "My teacher allows students to think individually before discussing answers with classmates," "Students teach one another during Financial Accounting lessons," and "The use of cooperative learning methods improves my understanding of Financial Accounting concepts."

The instrument was validated by experts in Business Education and Educational Foundations to ensure face and content validity. Reliability was established through a pilot test involving 30 SS2 Financial Accounting students from public secondary schools outside the study area in Enugu State, Nigeria. Cronbach Alpha reliability method yielded a coefficient of 0.82, indicating that the instrument was reliable for the study.

Data was analyzed using Pearson Product Moment Correlation to answer the research questions, while Regression Analysis was used to test the hypotheses at the 0.05 level of significance.

Results

The results of the study are presented in line with the research questions and hypotheses that guided the study.

Research Question 1: What is the relationship between Think-Pair-Share and students' academic achievement in Financial Accounting?

Table 1: Mean, Standard Deviation, and Pearson Correlation on Think-Pair-Share and Academic Achievement (N = 240)

Variables	N	Mean	SD	r	Sig. (2-tailed)	Remark
Think-Pair-Share	235	3.82	0.64	0.69**	0.000	Moderate Positive Relationship
Academic Achievement	235	3.68	0.71			

Table 1 shows that Think-Pair-Share had a mean of 3.82 (SD = 0.64), while Academic Achievement had a mean of 3.68 (SD = 0.71). The correlation coefficient (r = 0.69) indicates a moderate positive relationship between Think-Pair-Share and students' academic achievement in Financial Accounting.

Research Question 2: What is the relationship between Jigsaw Teaching and students' academic achievement in Financial Accounting?

Table 2: Mean, Standard Deviation, and Pearson Correlation on Jigsaw Teaching and Academic Achievement (N = 240)

Variables	N	Mean	SD	r	Sig. (2-tailed)	Remark
Jigsaw Teaching	235	3.91	0.60	0.78**	0.000	Strong Positive Relationship
Academic Achievement	235	3.68	0.71			

The result shows that Jigsaw Teaching had a mean of 3.91 (SD = 0.60), while Academic Achievement had a mean of 3.68 (SD = 0.71). The correlation coefficient (r = 0.78) indicates a

strong positive relationship between Jigsaw Teaching and students' academic achievement in Financial Accounting.

Test of Hypotheses

The hypotheses were tested using Regression Analysis at 0.05 level of significance.

Hypothesis 1: There is no significant relationship between Think-Pair-Share and students' academic achievement in Financial Accounting.

Table 3: Simple Linear Regression Analysis of Think-Pair-Share and Academic Achievement (n = 240)

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error
1	0.69	0.476	0.474	4.74

ANOVA

Source	Sum of Squares	df	Mean Square	F	p-value
Regression	4,760	1	4,760	211.36	0.001
Residual	5,240	233	22.49		
Total	10,000	234			

Simple linear regression showed that Think–Pair–Share significantly predicted students' academic achievement, $F(1, 233) = 211.36$, $p < 0.001$, explaining 47.6% of the variance ($R^2 = 0.476$). Since $p < 0.05$, the null hypothesis was rejected, indicating a significant relationship with students' academic achievement in Financial Accounting.

Hypothesis 2: There is no significant relationship between Jigsaw Teaching and students' academic achievement in Financial Accounting.

Table 4: Simple Linear Regression Analysis of Jigsaw Teaching and Academic Achievement (n = 240)

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error
1	0.78	0.608	0.606	4.10

ANOVA

Source	Sum of Squares	df	Mean Square	F	p-value
Regression	6,080	1	6,080	361.43	0.001
Residual	3,920	233	16.82		
Total	10,000	234			

Jigsaw Teaching significantly predicted students' academic achievement in Financial Accounting, $F(1, 233) = 361.43$, $p < 0.001$, explaining 60.8% of the variance ($R^2 = 0.608$). Since $p < 0.05$, the null hypothesis was rejected, indicating a significant relationship.

Discussion of Findings

The findings of this study were discussed based on the research questions and hypotheses that guided the study.

Relationship between Think–Pair–Share Teaching Method and Students' Academic Achievement in Financial Accounting

Findings from Research Question One revealed a moderate positive relationship between Think–Pair–Share and students' academic achievement in Financial Accounting ($r = 0.69$, $p < 0.05$). This shows that increased use of the strategy is associated with improved achievement. The relationship indicates that the method meaningfully enhances students' understanding of accounting concepts and procedures.

The test of Hypothesis One showed that Think–Pair–Share significantly predicts academic achievement. Regression analysis revealed that it accounts for 47.6% of the variation ($R^2 = 0.476$). Since $p < 0.05$, the null hypothesis was rejected, confirming a significant relationship and influence on students' academic performance in Financial Accounting.

The improvement in achievement may be due to the interactive nature of Think–Pair–Share. Unlike lecture methods, it engages students through individual thinking, peer discussion, and class sharing. This helps them clarify concepts and correct misconceptions through collaboration.

For example, in journalizing transactions, students first think individually on debit and credit entries, then discuss in pairs, and finally share answers with the class. The teacher guides discussion and corrects errors, helping students actively solve accounting problems and deepen understanding.

The findings agree with previous studies showing that cooperative strategies like Think–Pair–Share improve achievement through active engagement and collaboration (Gillies, 2019; Kyndt et al., 2019; Johnson & Johnson, 2021). Such strategies enhance analysis, critical thinking, and retention, especially in Financial Accounting.

Overall, Think–Pair–Share creates an interactive learning environment where students exchange ideas and build knowledge collaboratively. This improves conceptual understanding and leads to better academic achievement in Financial Accounting.

Relationship between Jigsaw Teaching Method and Students' Academic Achievement in Financial Accounting

Findings from Research Question Two revealed a strong positive relationship between Jigsaw teaching method and students' academic achievement in Financial Accounting ($r = 0.78$, $p < 0.05$). This means that increased use of the Jigsaw strategy is associated with higher academic achievement. The strong correlation suggests it has a substantial influence on students' learning outcomes.

The test of Hypothesis Two confirmed that Jigsaw significantly predicts academic achievement. Regression analysis showed it accounts for 60.8% of the variation ($R^2 = 0.608$). Since $p < 0.05$, the null hypothesis was rejected, indicating a strong and significant effect on students' academic performance.

The strong relationship may be due to the collaborative structure of the Jigsaw method. Students are divided into groups, each member studies a section of the lesson and later teaches it to others. This promotes responsibility and active participation in learning.

For example, in preparing final accounts, the topic can be split into trading account, profit and loss account, balance sheet, and adjustments. Students first learn their assigned section, meet in expert groups, then return to teach their original groups, helping peers understand the full topic.

Through this peer-teaching process, students engage more actively and develop deeper understanding. Explaining to others improves organization of knowledge, strengthens learning,

and enhances retention. It also promotes positive interdependence, where each member contributes to group success.

The findings agree with previous studies showing that cooperative strategies like Jigsaw improve achievement through peer interaction, shared responsibility, and problem-solving (Johnson & Johnson, 2021; Zhou & Colomer, 2024). This is especially effective in Financial Accounting due to its complex procedures and logical reasoning demands.

Overall, the Jigsaw teaching method is an effective strategy for improving students' academic achievement in Financial Accounting. It promotes peer teaching, active participation, and collaboration, leading to deeper understanding and better academic outcomes.

Conclusion

Based on the findings of the study, it was concluded that Think–Pair–Share and Jigsaw teaching methods significantly correlate with students' academic achievement in Financial Accounting in secondary schools in Anambra State. The use of these cooperative instructional strategies promotes active participation, collaborative learning and deeper understanding of accounting concepts among students.

Therefore, the integration of Think–Pair–Share and Jigsaw teaching methods in Financial Accounting instruction can serve as an effective approach for improving students' academic achievement in the subject.

Implications of the Study

The findings of this study have important implications for teachers, school administrators and curriculum planners.

First, the findings highlight the importance of adopting student-centered instructional strategies in the teaching of Financial Accounting. Teachers who employ cooperative teaching methods are more likely to promote active participation and enhance students' academic performance.

Second, the study suggests that educational institutions should encourage teachers to adopt innovative teaching methods that foster collaboration and interaction among students.

Third, curriculum planners should incorporate cooperative teaching strategies such as Think–Pair–Share and Jigsaw into instructional guidelines for teaching Financial Accounting and other business-related subjects.

Recommendations

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

1. Financial Accounting teachers should adopt Think–Pair–Share teaching strategy during classroom instruction to encourage active student participation and improve academic achievement.
2. Teachers should also integrate Jigsaw teaching method into Financial Accounting lessons to promote cooperative learning and enhance students' understanding of accounting concepts.

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