# EFFECT OF STUDENTS TEAM ACHIEVEMENT DIVISIONS ON SECONDARY SCHOOL STUDENTS' ACADEMIC ACHIEVEMENT IN FINANCIAL ACCOUNTING IN OYO STATE

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## Abstract

The issue of poor academic achievement among secondary school students in Financial Accounting has been of concern to stakeholders. The causes have been linked to the instructional strategy employed by the teachers. This study was conducted to determine the effect of student team achievement divisions (STAD) strategy on secondary school students' academic achievement in Financial Accounting. The study employed a pre-test post-test quasi-experimental research design with a 2x2 factorial matrix. The target population was 12,567 SS2 Financial Accounting students in 629 public secondary schools across the 33 local government areas of Oyo State. Two pairs of schools (2 rural and 2 urban) were randomly assigned to the treatment and control group, with a sample size of 204 SS2 Financial Accounting students in their intact classes in four (4) secondary schools from two local governments in Oyo State. The Financial Accounting Achievement Test instrument was validated by three experts in the field, yielding a reliability coefficient of (r = 0.85). Mean and standard deviation were used to answer the research questions, and Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 significance level. There was a significant main effect of treatment ($F = 2219.28$, $P < 0.05$), and location ($F = 54.71$, $P < 0.05$) on students' academic achievement. There was also a significant interaction effect of treatment and location ($F = 37.62$, $P < 0.05$) on students' academic achievement in Financial Accounting. The study concluded that teaching Financial Accounting with STAD strategy enhanced students' academic achievement rather than using the conventional teaching method. Hence, it is recommended that Financial Accounting teachers in secondary schools should employ the use of STAD strategy for teaching.

**Keywords:** academic achievement, conventional method, financial accounting, students team achievement division

## Introduction

Financial accounting is an integral part of the secondary school curriculum in Nigeria spanning through junior to senior secondary schools and beyond. It is a compartmentalised body of business studies at the junior secondary school level where students are generally introduced to general book-keeping and double-entry principles taught as a theme split into topics rather than an individual subject. Meanwhile, as students graduate from junior secondary school to senior secondary wherein are available options of departments including the Business department formerly referred to commercial department. Financial Accounting is a subject among other subjects offered by students in the Business Department in the senior secondary school which is a change of nomenclature of the former commercial department.

In Nigeria, Financial Accounting is taught as a business subject to give secondary school students the necessary information, skills, work habits, disposition, and work habits for independence. The programme offers educational instruction that equips students with the skills necessary to make meaningful contributions to the advancement of their country. The objectives of incorporating this particular subject into the curriculum of secondary schools in Nigeria are twofold: first, to cultivate in students an understanding and appreciation of fundamental accounting practises, principles, and their practical applications within modern business contexts; also, to equip them with the necessary foundation to pursue advanced studies in the field of accounting (Inuwa & Abdulmutallib, 2017). Hence, financial accounting plays a critical role in Nigeria's economic environment since it provides the foundational knowledge needed to develop future business managers, accountants, business owners, and other financial specialists (Francis, 2014).

Unfortunately, secondary school students' academic achievement in this subject is not encouraging, especially in the final examination (Adeleke *et al*., 2013; Ezeagba, 2014). Ishola *et al*. (2022) stated that in recent years, students' academic achievement in the financial accounting test of the Senior Secondary School Certificate of Education (SSCE) in Nigeria has been far from outstanding. This is an indication that students are facing challenges in the learning of financial accounting principles and concepts. Though a lot of factors such as school environment, teacher's quality, learner ability, method of teaching etc may be responsible for this poor academic achievement, several studies have placed significant emphasis on the pivotal role played by the methods of instruction employed by educators in determining the academic accomplishment of learners (Inuwa *et al*., 2017). Ezeagba (2014) stresses that poor achievement among secondary school students in national examinations is mostly due to the instructional approach employed by the teachers and the persistent use of conventional instructional approaches (Akanbi & Kolawole, 2014).

The conventional teaching approach completely focuses on content delivery through verbal discussion but disregards collaborative, interactive and experiential learning. It is characterised by the teacher's dominance whereby students become passive in the instructional process with little or no active participation. Prior studies have argued and reported that the conventional teaching approach was not effective in enhancing students' academic achievement because students are not active in the learning process (Abimbola & Abidoye, 2014; Hossain & Tarmizi, 2013; Majoka & Khan, 2011). In line with the foregoing, constructivism learning theory suggests that a classroom is no longer a place where learners just wait for teachers to dish out the learning contents; it is a place where the students learn by generating their ideas through active participation in the learning process. Also, the nature of financial accounting as a subject does not require rote learning and memorization of basic accounting principles and concepts but requires students' engagement and active participation in the learning process by calculating and solving accounting problems. This points out that the conventional lecture method may no longer be appropriate in the teaching of financial accounting.

Hence, there is a need to seek innovative, interactive and collaborative strategies that will fully engage learners during financial accounting instruction and as well address the consistently poor academic achievement of students in financial accounting. Among the numerous innovative strategies are various cooperative learning strategies and collaborative problem-solving strategies. Cooperative learning is a teaching technique employed by educators to facilitate the organization of learners into groups to foster collaborative efforts and knowledge exchange, ultimately leading to the augmentation of their learning (Slavin, 2011). According to a study conducted by Johnson *et al*. (1994), as referenced by Marashi and Tabatabayi (2019), the researchers identified five fundamental components of cooperative learning. These elements include mutual dependence, individual responsibility, quality of interaction between teammates, and development of cooperative and social skills. Among the various structures in cooperative learning which have been tested and confirmed to be effective in enhancing teaching and learning in various subjects are student-teams-achievement-divisions (STAD), Collaborative-Problem-Solving (CPS), and Think-Pair-Share (TPS).

STAD is one type of cooperative learning structure that is applied by dividing the pupils into groups to foster learning activities, joint acquisition of learning content and mutual understanding (Van Wyk, 2013, Marashi & Tabatabayi, 2019). It was developed by Slavin based on years of research on cooperative learning and it is perhaps the most straightforward of all the cooperative learning structures. STAD can be used to teach learners of different ability levels, capabilities, talents, gender and ethnicity (Jamaludin & Mokhtar, 2018). STAD changes the mode of conventional methods by positioning learners at the forefront of the learning process while transforming the teacher into a mere facilitator whose role is just to probe and challenge learners to generate ideas and construct their knowledge (Van Wyk, 2013). Several studies have reported that STAD is an effective and highly successful technique in enhancing students' learning in schools (Jamaludin & Mokhtar, 2018; Marashi & Tabatabayi, 2019, Van Wyk, 2013; Handayani1& Kumara, 2018), but most of these studies were carried out in science-related subjects. There is a need to find out if STAD will help in enhancing students learning in financial accounting.

No matter how good and effective a strategy may be, some factors can alter its influence on students' achievement thereby presenting it to be ineffective. Part of these moderating factors include school location and students' locus of control. School location is a particular geographical area (rural or urban) where the school is built (Jimoh & Abanyam, 2021, Ntibi & Edoho, 2017). While some secondary schools are located in the urban centres, some may be located in the rural areas. Experts in the field of education have stressed that schools in urban centres have main advantages like enough learning facilities, a good and attractive school environment, opportunities, and access to educational programmes (Ntibi & Edoho, 2017; Babatunde, 2015). On the contrary, rural schools often encounter the problems of insufficient social amenities and inadequate infrastructure, as well as a shortage of active teachers and children who are living within the poverty line (Owoeye & Yara, 2015; Mhiliwa, 2015, Alordiah *et al.*, 2015). The aforementioned evidence demonstrates that there are discernible disparities in

the attributes of students enrolled in urban and rural schools, particularly concerning their preparedness for learning, access to educational resources and teachers, and the quality of school facilities and infrastructure. These factors have the potential to impact both their learning outcomes and the fulfilment of financial accounting goals. However, differences in research reports exist on the moderating influence of school location and students' academic achievement.

According to the findings of Alordiah *et al.,* (2015) and Babatunde (2015), the geographical location of students has a noteworthy impact on their academic performance, with urban students exhibiting higher accomplishment levels. However, a separate study conducted by Agbaje and Awodun (2014) contradicts these findings, suggesting that children in rural areas outperform their urban counterparts. Ntibi and Edoho (2017) found that there was no statistically significant difference in the mathematics performance scores between children attending urban schools and those attending rural schools. These varied opinions on the disparity in urban and rural students' achievement warranted the inclusion of location in this study.

Though, lots of empirical evidence exists on the effectiveness of cooperative and collaborative strategies. Many of these studies focus and centred on science subjects like mathematics, physics, chemistry and biology (Jamaludin & Mokhtar, 2018; Marashi & Tabatabayi, 2019, van Wyk, 2013; Handayani1 & Kumara, 2018; Agbede & Ba'aba, 2019; Dewi *et al.*, 2018; Bamiro, 2015; Yuli *et al.*, 2018; Raba, 2017; Ribhi, 2017; Lee *et al.*, 2018; Usman & Ikechukwu, 2018, Mandina & Ochonogor, 2018; Ntibi & Neji, 2018; Boris, 2020; Adolphus *et al.*, 2013; Al-kaabi, 2016). To the knowledge of the researcher, few studies exist on the effect of STAD on students' achievement in financial accounting. Also, large percentages of the available studies were conducted outside Nigeria. In addition, varied research evidence exists in the literature on the moderating influence of school location on students' achievement and it is necessary to ascertain the sensitivity of the variable in the use of STAD in instructional delivery. Therefore, this study was conducted to determine the effect of Students Team Achievement Division strategy on secondary school student achievement in financial accounting in Oyo State.

**Statement of the Problem**

The issue of poor academic achievement in financial accounting in secondary schools has been a serious concern to stakeholders in the field of education. It is worrisome most of the time to hear about poor and unfavourable secondary school students' performance when results are released by WAEC/NECO. For instance, a general education ranking on education for the 36 states in Nigeria showed that Oyo State has been among the states at the bottom especially in the south-west as it occupies 26$^{th}$, 25$^{th}$, 22$^{nd}$ and 33$^{rd}$ positions in 2018, 2019, 2020 and 2021 respectively (National Bureau of Statistics, 2019 and 2022). It is evident from the above reference that students are facing challenges in learning Financial Accounting and this may be as a result of the conventional lecture method frequently used by financial accounting teachers in instructional delivery which is often teacher-centred. This method is characterised by the teacher's dominance whereby students become passive in the instructional process with little or no active participation. An intensive search for more effective strategies that will improve students' achievement and make them an active learner has resulted in the introduction of student-team-

achievement-divisions. It is on this note that this study was embarked upon to determine the effect of student team achievement divisions on secondary school students' academic achievement in financial accounting.

**Research Questions**

The following research questions were raised and answered in the study:

1. What is the difference between the mean achievement scores of secondary school students taught Financial Accounting with student team achievement divisions and those taught with conventional lecture method?
2. What is the difference between rural and urban students' mean achievement scores in Financial Accounting when exposed to instruction using treatment strategies?

**Research Hypotheses**

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

**$Ho_1$:** There is no significant main effect of treatments (student team achievement divisions and lecture methods) on students' academic achievement in Financial Accounting in Oyo State

**$Ho_2$:** There is no significant main effect of school location on students' academic achievement in Financial Accounting in Oyo State

**$Ho_3$:** There is no significant interaction effect of treatments and school location on students' academic achievement in Financial Accounting in Oyo State

**Methodology**

This study adopted a quasi-experimental research design of pre-test, post-test control group design. The study adopted a 2x2 factorial matrix which comprised two treatment strategies (STAD and CLM), and school locations in two categories (rural and urban). The population of this study consisted of twelve thousand, five hundred and sixty-seven (12,567) SSS 2 financial accounting students in six hundred and twenty-nine (629) public secondary schools across the 33 local governments in Oyo State. SSS 2 financial accounting students were chosen as the population because this level covers most financial accounting topics relevant to understanding the subject, and a lack of in-depth understanding at this stage could lead to poor achievement in external examinations. In this study, a multi-stage sampling procedure was employed. Four secondary schools in Oyo State were selected using a simple random sampling technique. From these schools, a total of 204 SSS 2 Financial Accounting Students were chosen as the study participants. This group comprised 93 students from Oluyole LGA and 111 students from secondary schools in Akinyele LGA. The reason for this sampling design is that the research was conducted in public secondary schools where randomization was not feasible due to the formal school arrangement. As a result, separate intact classes were used for each treatment group, maintaining the existing school setting. A self-structured Financial Accounting Achievement Test (FAAT) instrument validated by three experts in the field was used to collect data on students' academic achievement. The FAAT is a fifty (50) multiple choice questions with four options A-D. The questions were drawn from the final accounts of a sole proprietorship and manufacturing accounts aspect of financial accounting as shown in the curriculum of secondary

school. Kuder Richardson 21 (KR-21) reliability technique was used to determine the internal consistency of the instrument and the analysis showed a coefficient of 0.85. Data collected were analyzed using mean, standard deviation and Analysis of Convenience (ANCOVA).

## Results

**Research Question 1:** What is the difference between the mean achievement scores of secondary school students taught Financial Accounting with Student Team Achievement Divisions and those taught with conventional lecture method?

**Table 1:** *Mean Achievement Score of secondary school students taught Financial Accounting with Student Team Achievement Divisions and Those Taught with Conventional Lecture Method*

| Treatment Strategies | N | Pretest | | Posttest | | Mean Gain | Diff. |
|---|---|---|---|---|---|---|---|
| | | Mean | Std. Dev | Mean | Std. Dev | | |
| Student Team Achievement Division Strategy | 93 | 20.28 | 2.17 | 44.72 | 2.19 | 24.44 | 13.48 |
| Conventional Lecture Method | 111 | 20.38 | 2.02 | 31.34 | 2.35 | 10.96 | |

Results in Table 1 show a pretest mean achievement score of 20.28 and a posttest mean achievement of 44.72 for secondary school students taught financial accounting with students' team achievement division strategy with a mean gain of 24.44. Also, it shows a pretest mean achievement score of 20.38 and a posttest mean achievement score of 31.34 for secondary school students taught financial accounting with the conventional lecture method with a mean gain of 10.96. A comparison of the mean gain in both groups shows a difference of 13.48 in favour of experimental group one (students exposed to financial accounting instruction using student team achievement division). This result revealed that students taught financial accounting with the students-team-achievement-division strategy performed better than those taught with conventional lecture method.

**Research Question 2:** What is the difference between rural and urban Students' mean achievement scores in Financial Accounting when exposed to instruction using treatment strategies?

**Table 2:** *Mean Achievement Score of Secondary School Students in rural and urban exposed to Financial Accounting instruction using treatment strategies.*

| Treatment Strategies | Location | N | Pretest | | Posttest | | Mean Gain |
|---|---|---|---|---|---|---|---|
| | | | Mean | Std. Dev | Mean | Std. Dev | |
| Student Team Achievement Division Strategy | Rural | 37 | 20.13 | 2.12 | 42.46 | 1.17 | 22.33 |
| | Urban | 56 | 20.37 | 2.22 | 46.21 | 1.20 | 25.84 |
| Conventional Lecture Method | Rural | 43 | 20.32 | 2.18 | 31.11 | 2.51 | 10.79 |
| | Urban | 68 | 20.41 | 1.93 | 31.48 | 2.26 | 11.07 |

The result in Table 2 shows a mean achievement gain of 22.33 for students taught financial accounting with student team achievement division (STAD) in the rural area and 25.84 for

students taught with the same strategy in the urban. The result also indicates that the students in the rural area have a mean achievement gain of 10.79 and 11.07 for those in the urban area in the conventional lecture method group.

**Test of Hypotheses**

**$Ho_1$:** There is no significant main effect of treatments (STAD and Lecture methods) on student's academic achievement in financial accounting in Oyo State

**Table 3:** *Analysis of Covariance (ANCOVA) showing the Effect of Treatment, Location and Locus of Control on Students' Academic Achievement in Financial Accounting*

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 17185.919[a] | 16 | 1074.120 | 485.888 | .000 |
| Intercept | 7804.946 | 1 | 7804.946 | 3530.642 | .000 |
| PRETEST | .179 | 1 | .179 | .081 | .776 |
| **Treatment** | **14718.009** | **3** | **4906.003** | **2219.277** | **.000** |
| **Location** | **120.945** | **1** | **120.945** | **54.710** | **.000** |
| LoC | 721.519 | 1 | 721.519 | 326.386 | .000 |
| **Treatment * Location** | **249.457** | **3** | **83.152** | **37.615** | **.000** |
| Treatment * LoC | 109.780 | 3 | 36.593 | 16.553 | .000 |
| Location * LoC | 31.568 | 1 | 31.568 | 14.280 | .000 |
| Treatment * Location * LoC | 40.312 | 3 | 13.437 | 6.079 | .000 |
| Error | 924.044 | **187** | 2.211 | | |
| Total | 772985.000 | **204** | | | |
| Corrected Total | 18109.963 | **203** | | | |

a. R Squared = .949 (Adjusted R Squared = .947)

Results in Table 3 show there is a significant main effect of treatments (STAD and Lecture methods) on student's academic achievement in financial accounting ($F_{(3,187)} = 2219.28$; $p<0.05$). Hence, hypothesis 1 is rejected. To determine the mean difference, table 1 reveals a mean gain ($\bar{x}=24.44$) for the treatment group and a mean gain ($\bar{x}=10.96$) for the conventional lecture group. A comparison of the mean gain in both groups shows a difference of 13.48 in favour of the experimental group (students exposed to financial accounting instruction using student team achievement division).

**$Ho_2$:** There is no significant effect of school location on students' academic achievement in financial accounting in Oyo State

Results in Table 3 show there is a significant effect of school location on student's academic achievement in financial accounting ($F_{(1,187)} = 54.71$; $p<0.05$). Hence, hypothesis 2 is rejected. This result implies that the use of STAD and conventional lecture methods favours students in the urban area.

**$H_{O3}$:** There is no significant interaction effect of treatments and school location on students' academic achievement in financial accounting in Oyo State

Results in Table 3 show there is a significant interaction effect of treatments and school location on students' academic achievement in financial accounting in Oyo State ($F_{(3,187)}$ = 37.62; $p<0.05$). Hence, hypothesis 2 is rejected. This result indicates that there is a significant interaction effect of treatments and school location on students' academic achievement in financial accounting in Oyo State.

**Discussion of Findings**

The result in Table 1 which shows a better academic achievement of students taught with STAD could be as a result of the opportunity of students to interact, collaborate and share ideas. In STAD class, students participate in group works that help to foster their learning, joint acquisition of learning content and mutual understanding. Due to its emphasis on cooperative learning, financial accounting students learn accounting principles and concepts together by sharing knowledge and yet maintain a high level of personal responsibility and mutual understanding. This result is consistence with the finding of Jamaludin and Mokhtar (2018) that STAD is more effective in enhancing students' achievement than the conventional lecture method. Similarly, Novita & Sukenti (2023); Alliyu and Ibrahim (2019); Gladys and Jinadu (2021); Ziziumiza et al. (2022); Falebita and Salami (2021) Rohini et al. (2022) in their separate studies reported that there is a significant difference between the achievement of students taught using STAD and those taught using conventional method which indicate that STAD Strategy is better than in enhancing students' achievement. On the contrary, Marashi and Tabatabayi (2019) reported that the mean post-test scores of students taught with the Think-Pair-Share strategy are higher than those taught with the STAD strategy.

The result shown in Table 2 revealed that the academic achievement of urban students taught financial accounting using STAD is slightly better than their rural counterparts. This result aligns with the report of Akubue and Ifelunni (2016) that because of urban involvement, students in urban schools perform better than those in rural schools in language learning. Also, the finding of Jimoh et al. (2021) that a significant difference exists between the academic achievement of the rural and urban students taught business studies with a one-minute paper. The result is inconsistence with the report of Bizimana, et al. (2022) that no significant difference between rural and urban students' achievement taught photosynthesis using the CM. Similarly, Abamba (2021), report that there is no significant difference between rural and urban students' achievement taught using the 5E learning circle. Awodun and Oyeniyi (2018) found that there was no statistically significant difference in the academic achievement of students in the urban school areas and those in the rural school areas are not in agreement with this result.

The composition of treatment and location significantly affect the achievement of secondary school students in Oyo State. This result aligns with the report of Jimoh et al. (2021) that there is a significant interaction effect of treatments, gender, and location on students' academic achievement when exposed to business studies instruction is statistically significant. The result is

inconsistence with the report of Omachonu (2021) who found that there was no significant interaction effect of treatment and location. This result also contradicts the finding of Akinwumi (2019) that there were no interaction effects of gender, school location, and socio-economic status on students' academic achievement in the experimental and control groups.

## Conclusion

The study inferred from the results that teaching financial accounting with student team achievement division enhanced students' achievement than using the conventional lecture method. This is because the strategy is rooted in cooperative learning and allows for students' collaboration, interaction, participation and exchange of learning content which may not be easy in the conventional classroom setting. Finally, changes in academic achievement of secondary school students in financial accounting are dependent on school location. This implies that students in the urban performed better than their counterparts in the rural.

## Recommendations

The following recommendations emerged from the findings of the study:

i. Financial Accounting Teachers in secondary schools should employ the use of students team achievement division strategy for teaching financial accounting to enhance students' academic achievement in both internal and external examinations.
ii. The Department of Quality Assurance at Oyo State Ministry of Education responsible for ensuring quality instruction should include students team achievement division strategy in the list of suggested methods for teaching Financial Accounting in the curriculum of secondary schools in Oyo State.
iii. Administrators of secondary schools should create a positive atmosphere for the utilization of students team achievement division strategy for teaching financial accounting by allowing students to work together in groups within the school because this strategy involves grouping of students.
iv. Administrators of secondary schools should organize seminars and workshops for both Financial Accounting teachers and students on the procedure and benefits of utilizing students team achievement division strategy for teaching financial accounting

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