

EFFECTS OF CO-OPERATIVE LEARNING ON ACHIEVEMENT AND RETENTION OF SECONDARY STUDENTS IN FINANCIAL ACCOUNTING IN EDO STATE, NIGERIA

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Abstract

This study examined the effects of co-operative learning on achievement and retention of secondary students in financial accounting in Edo State, Nigeria. Quasi-experimental design was used. The population of the study was 69 SS II accounting students. Two schools were randomly selected and grouped into experimental group (cooperative learning with 27 students), and control group (conventional demonstration with 42 students). Three instrument for data collection were used. (Financial Accounting Achievement Test I (FAAT I) pre-test, Financial Accounting Achievement Test II (FAAT II) post-test and Financial Accounting Achievement Test III (FAAT III) a reshuffled of FAAT II for retention. FAAT I, II & III contain 40 multiple choice A-D questions each, adopted from past WAEC and NECO examinations for 6 years 2015-2020. Data collected were analyzed using mean and standard deviation for research questions while ANOVA and Independent Sample t- test were used for the hypotheses at 0.05 level of significance. The study found among other, that there were no much difference between the two groups of students at the pre-treatment stage of the study on academic achievement. However, the post –treatment results indicated that the mean scores are in favour of students in experimental group (exposed to co-operative learning). Study revealed that co-operative learning enhances student’s retention because of their active participation. The findings suggested that cooperative learning approach is effective and enhanced financial accounting achievement of secondary students exposed to it than their counterpart in conventional demonstration group. Therefore, it recommended that government of Edo State should encourage curriculum planners and secondary school Teachers to adopt co-operative learning approach as an instructional approach for teaching financial accounting in secondary schools to improve students’ achievement and retention in the subject.

Keywords: Co-Operative Learning, Achievement, Retention, Financial Accounting

Introduction

Financial Accounting is one of the commercial subjects designed to identify, record, and communicate financial information that is relevant, reliable, and comprehensive to end users. Longe and Kazeem (2012) defined financial accounting as the process of recording, classifying, summarizing and interpreting the financial transactions and communicating the results to the user of such information. According to American Accounting Association, (AAA, 2017), financial accounting is the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by the users of the information. Thus, financial accounting helps in preparing future managers, entrepreneurs’ accountants and other financial controllers.

The importance of financial accounting according to Osuala (2014) is to: (i) prepare students for careers in accounting fields; (ii) provide fundamental instructions that will help students assume their economic roles as consumers, workers, and citizens; (iii) to provide background instructions to assist students in preparing for other professional careers requiring advanced study in book-keeping and accounting skills for personal and future use.

The objectives of financial accounting at secondary school level according to West African Senior School Certificate Examination (2021) is to provide students with knowledge of basic appreciation of the rules and functions of accounting principles and their applications to modern businesses activities. Similarly, National Examination Council (NECO, 2021) reported that the objectives of financial accounting at secondary school level is to enable students: (i) appreciate the basic rules, functions, and principles of accounting; (ii) laying proper foundation for further study of accountancy and allied courses at higher level and (iii) acquire knowledge of basic accounting principles, practice and their application to modern business activities. These therefore suggested that through financial accounting, students acquire skills, knowledge and competences required for clerical work, self-reliance as future educational endeavour.

The benefits of financial accounting are to provide permanent record for proper conduct of business; financial records help in management decision making; good record keeping practices enable profits or loss to be ascertained in a trading year; proper record keeping makes it possible to find out how a business stands in relation to its customers and facilitates reference making to past transactions (Longe and Kazeem, 2012). Despite the importance, laudable objectives and huge benefits of financial accounting, student's performance and low enrolment in the Senior School Certificate Examination (SSCE) leave much to be desired. Studies have shown that the academic performance of students in the subject at the secondary level is not encouraging. The West African Examination Council (WAEC) Chief Examiner's report (2015) shows that almost 80.5% of students that sat for financial accounting failed. A survey in the study area by the researcher showed poor academic achievement and low enrolment as in column three and two respectively. Column three is percentage credit pass as in table 1.

TABLE 1: STUDENTS ENROLMENT AND ACHIEVEMENT AT SSCE LEVEL IN WAEC, 2016 – 2020.

YEAR	TOTAL NO OF STUDENTS	ACCOUNTING STUDENTS	CREDIT PASS
2016	395	54 (13.7%)	14 (28.371%)
2017	392	78 (19.9 %)	15 (19.23 %)
2018	407	88 (21.6%)	31 (20.51%)
2019	590	132 (22.4%)	23 (17.42.2%)
2020	405	75 (18.5%)	14(18.67%)
TOTAL 2,198	427(19.4%)	97(22.71%)	

Source: School Survey 2023

In addition, studies have shown that the poor performance of students has affected students' interest and led to low enrolment of students in financial accounting. This may also have affected the career aspiration of students who had intention to study Business Administration, Business Education, Accountancy; Banking and Finance and related courses at tertiary institutions. The implications will be shortage of qualified and experience manpower requirements in the related areas in the nearest future in the state and country at large if the situation is not addressed. Scholars have observed that several factors have been associated to student's low enrolment at secondary level.

On poor academic performance and retention of financial accounting students, many scholars have investigated the causes and possible solutions. Research evidences have shown that several factors can lead to poor academic achievement and retention of students. The study conducted by Adamu and Kusa (2018) categorized factors as: school factor, teachers' factor, student factor, parent factor and peer group factor. Generally, scholars have agreed that when it comes to numerical subjects such as mathematics, statistics and element of finance among others, teacher's factor contributed most. Adeleke, Binuomote and Adeyinka (2013) attributed the poor performance of students in numerical subjects to the teaching approach adopted by teachers. Specifically, Salako, Eze and Audu, (2013) observed that the conventional teaching approach only focuses on the intellectual and disregards experiential learning.

Similarly Adamu and Jibrin,(2012) criticized the conventional teaching strategy at secondary school level as more teacher-centered and negates interest and achievement of students. Ezeagba (2014) also reported that, the massive and consistent failure recorded among financial accounting students at secondary school in National Examinations are mostly due to the instructional approaches adopted by teachers. In the same lane, Isa (2018) stated that the reason for failure in financial accounting is basically traced to the use of conventional teaching approaches of the teacher. This could be the reasons why scholars query the methodology of instruction used in teaching financial accounting at secondary school level and called for an in depth investigation on the appropriate teaching method.

To address the performance and low registration of secondary school students in Nigeria, Adamu and Kusa (2018) posited that there is need to shift from behaviorism instructional strategy to constructivism approach. Cooperative learning is a constructivism instructional approach. Yusnani,(2018) defined cooperative learning as a set of instructional learning method aimed to encourage students to work together on academic task. Similarly, Johnson and Johnson,(2018) defined cooperative learning as the instructional use of small groups so that students work together to maximize their own and each other's learning. Tran,(2013) defines co-operative learning as "a group-centered and student-centered approach to class room teaching and learning"Slavin(2011) defined co-operative learning as "instructional methods in which teachers organize students into small groups, which then work together to help one another learn academic content" The researcher defined cooperative learning as instructional method where students are divided into small groups as students helps one another to learn as a team.

Scholars have also adjudged the effectiveness of cooperative learning in several discipline such as: Economics (Yidani, 2018) and Social Studies, (Ajaja and Meziobi 2018). Ajaja, et.al (2018) carried out research on effect of cooperative learning strategy on students' performance in social studies. Their finding showed that higher achievement mean scores of students taught social studies with cooperative learning strategy with their counterpart in traditional method and enhance performance. On the other hand, retention is the process of transferring new information into long term- memory. It is the ability to effectively store information and recall it in the future (Lorman, 2021). Students can only recall what they have learn and without retaining the information, it will leave the short memory. Learning retention is the ability to store new information in long-term memory and recall it at a later date.

Statement of the Problem

The importance of financial accounting to students' academic aspirations in Business Education, Business Administration, Accountancy, Purchases and Supply, Banking and Finance among others cannot be over-emphasized. Academic achievement is an important issue and many studies indicated that student achievement and academic success in any selected course of study is complex in nature and related to multiple variables (Carrick, 2010). Despite the importance of financial accounting to the career aspiration of secondary school students, the performance of students in the subject is not encouraging in the external examinations. For instance, the report of West African Examination Council Chief Examiners in WAEC. 2015, 2019 and National Examination Council (NECO) in 2015 and 2017 revealed that the performance of students in the subject is consistently low and there is no improvement. The study conducted by Umar (2019) also reported that there is massive and consistent failure recorded among secondary school students in financial accounting.

In Edo State, the report of students' performance, in the subject is also worrisome. A survey of five schools in the area of the study shows that in 2017, out of 392 students that registered for SSCE, only 78 students registered for financial accounting (19.9%) and only 15(19.23 %) had credit pass. In 2018, the total number of students that registered for SSCE stood at 407 and financial accounting students were 88(21.6%) with only 16 (20.53%) students earned credit pass. In 2019 the total student's populations were 590 and, 132 students registered for financial accounting and 23 had credit pass. In 2020 the population of students was 405 and 75 registered for financial accounting, 19 students had credit pass respectively (Table 1). The consistently low registration and poor performance among students inspired the researcher to carry out this study.

Several studies have been conducted in the areas of academic achievement. For instance, Akpanobong and Asuquo (2016); Umar (2017), Adamu and Kusa (2018) have carried out study on several factors attributed to student's poor academic achievement in financial accounting, such as personality factors, society, school factor, peer group and socio- economic factors. To the best of the researcher knowledge, none of these studies focus on co-operative learning on achievement and retention of secondary student's in financial accounting in the study area, hence the present study intends to cover this gap.

Objectives of the Study

The specific objectives are to:

1. determine the difference between the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control group.
2. determine the difference between the post-test academic achievements of students taught Financial Accounting using Cooperative teaching and those taught using conventional.
3. determine the difference between retention mean academic achievement scores of Financial Accounting students in experimental group and those in control group.

Research Questions

In line with the specific objectives, the following research questions guided the study:

1. What is the difference between the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups?
2. What is the difference between the post-test academic achievements of students taught Financial Accounting using Cooperative teaching and those taught using conventional?
3. What is the difference between theretention mean academic achievement scores of Financial Accounting students in experimental group and those in control group.

Null Hypotheses

The following null hypotheses are formulated to aid the study and will be tested at 0.05 level of significance.

1. There is no significant difference among the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups.
2. There is no significant difference between the post-test academic achievements of students taught Financial Accounting using Cooperative teaching and those taught using conventional.
3. There is no significant difference among retention mean academic achievement scores of Financial Accounting students in experimental groups and those in control group

Methodology

Quasi- experimental with pre-test-post-test design was used. According to Osuala (2010), quasi experimental design should be adopted when a study involves finding about the impact of a treatment on a group of people. The population of the study 69 SS2 financial accounting students. Two schools were used and randomly assigned experimental group(co-operative learning with 27 students, and control group (conventional demonstration method with 42 students).The first instrument was Financial Accounting Achievement Test I (FAAT I) otherwise known as pre-test was administered to students in order to determine their entry level. The second instrument was Financial Accounting Achievement Test II (FAAT II) otherwise known as Post-testwas used to determine the academic achievement scores of students after treatment. Lastly, Financial Accounting Achievement Test III(FAAT III) a reshuffled of FAAT II was used to test retention ability of students after two weeks of treatment.

FAAT I, FAAT II and FAAT III contain 40 (4 - 4 mode) A-D multiple choice questions each adopted from past West African Examination Council (WAEC) examinations and National Examination Council (NECO) for a period of 6 years (2015 - 2020). These were not validated because according to Osadebe, (2014) questions adopted from examining bodies should be considered valid and reliable because they have been moderated and tested. Two research assistant were used, the one on co-operative learning was trained on how co-operative learning process. After the training, F.A.A.T I (pre-test) was administered to the students with the help of the research assistant who doubled as the subject teachers in the schools used. Script were mark and the treatment commenced for a period of four weeks after which FAAT II (post-test) was administered. FAAT III was administered after two weeks of treatment to test for retention.The data collected from the study were coded into Statistical Package of Social Science (SPSS), 23. Descriptive statistics of mean scores and standard deviation were used to answer the research questions while Analysis of Variance (ANOVA) and Independent Sample t-test were employed to test the hypotheses at 0.05 level of significance. In the test of the null hypotheses, when p-value is less or equal to 0.05, the null hypotheses were rejected and when otherwise, the hypothesis were retained

Results

Research Question One: What is the difference between the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups?

Table 2: Pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups

Methodology	N	Mean	Std. Deviation	Mean Range
Conventional	42	19.800	7.37951	±1.067
Co-operative	27	19.133	7.11002	
Total	69	19.7111	6.81783	

Source: Feildwork,2021

The result of research question one presented in the Table 2 revealed the mean scores of 19.800 with standard deviation of 7.37951 for students in control group. The result indicated that there was no much difference among the three groups of the students used for the study.

Research Question Two: What is the difference between the post-test mean academic achievement of Financial Accounting students in experimental groups and those in control group?

Table 3: Post-test mean among the academic achievement of Financial Accounting students in experimental group and those in control group

Methodology	N	Mean	Std. Deviation	Std. Error	Mean range
Conventional	42	27.133	9.516	2.45700	±49.887
Co-operative	27	68.600	18.259	4.71452	

Total	69	55.533	23.717	3.53548	
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Source: Fieldwork, 2021

The analysis of difference between the post-test mean academic achievement of students used for the study is as presented in Table3. From the Table3 the mean score of students in conventional method was 27.133 with the standard deviation of 9.516. Students exposed to co-operative teaching method had mean of 68.600 with standard deviation of 18.259. The mean difference stood at ±49.887 in favour of students in the experimental group.

Research Question Three

What is the difference between the retention mean academic achievement scores of financial accounting students in experimental group and those in control group.

Table 4: Difference among retention mean academic achievement scores of Financial Accounting students in experimental groups and those in control group

Methodology	N	Mean	Std. Deviation	Std. Error	Mean range
Conventional	42	21.800	7.496	2.45182	±11.200
Cooperative	27	33.000	4.053	1.04654	
Total	69	32.022	7.275	1.08455	

Source: Fieldwork,2021

The outcome of descriptive statistics used to answer research question three documented in Table 4 disclosed the mean scores of 21.800 with standard deviation of 7.496 for students in conventional method while the mean scores of students in cooperative teaching method was 33.000 with standard deviation 4.053. The mean difference of ±11.200 in favour of students in experimental group.

Research Hypothesis One

H0₁; There is no significant difference among the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups.

Table 5: Difference among the pre-test mean academic achievement scores of Financial Accounting Students in experimental and control groups

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.711	2	4.356	.090	.914
Within Groups	2036.533	67	48.489		
Total	2045.244	69			

Source: Fieldwork,2021.

The result of Analysis of Variance in hypothesis one revealed that $F(2, 67) = .090, p = .914$. The p-value obtained was greater than the level of significance ($.914 > 0.05$). The result therefore suggested that there was no significant difference in the pre-test mean academic achievement scores of financial accounting students in experimental and control group. The null hypothesis one was upheld.

Research Hypothesis Two

H0₃: There is no significant difference between the post-test academic achievements of students taught Financial Accounting using Cooperative teaching and those taught using conventional.

Table 6: Difference between the post-test academic achievements of students taught Financial Accounting using Cooperative method and those taught using conventional

Group	N	Mean	Std. Deviation	T	Df	p-value
Posttest						
Conventional	42	27.133	9.516	-7.800	28	.000
Cooperative	27	68.600	18.259			

Source: Fieldwork,2021.

The outcome of *independent Sample t-test* used to test on null hypothesis two documented in Table 6 disclosed the mean score of 27.133 with standard deviation of 9.516 for students in control group. Those taught using cooperative teaching methods had mean of 68.600 with the standard deviation of 18.259. The $t = -7.8$ and the degree of freedom of 28. The $p = .000$ which was found to be less than 0.05 level of significance. The result indicated that there was significant difference between the post-test academic achievements of students taught Financial Accounting using Cooperative method and those taught using conventional. The result favoured students in experimental group, this

suggested that the cooperative teaching method was effective in promoting the academic performance of Financial Accounting students.

Research Hypothesis Three

H0₂: There is no significant difference between retention mean academic achievement scores of Financial Accounting students in experimental group and those in control group

Table 7: ANOVA on difference between the retention mean academic achievement scores of Financial Accounting students in experimental groups and those in control group

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14771.511	2	7385.756	18.082	.000
Within Groups	17155.733	67	408.470		
Total	31927.244	69			

Source: Fieldwork, 2021

The result of the data used to test null hypothesis three presented in Table 7 disclosed the F: 2(32) value of 18.082 with $p=.000$. The obtained P-value was less than the level of significance ($.000 < 0.05$), the result suggested that there was significant difference between retention mean academic achievement scores of Financial Accounting students in experimental group and those in control group. The null hypothesis was therefore not retained.

Conclusion

Based on the results, it was concluded that cooperative learning should consciously be introduced in the secondary schools for the teaching of financial accounting as it enhances student’s academic achievement and motivate retention because of the active participation by the students.

Recommendations

Based on the findings and conclusion of the study, it was recommended that:

1. Curriculum planners and financial accounting teachers should be encouraged to adopt co-operative learning as an instructional approach against the traditional way of teaching of teaching financial accounting in secondary schools.
2. Government at all levels should encourage the introduction of cooperative learning in secondary schools and the training and retraining of financial accounting teachers to be able to adopt cooperative learning method.

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