



Effect of Collaborative Teaching Method on Academic Achievement of Secondary School Students in financial Accounting in Oyo State

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Abstract

The study was carried out to investigate the effect of collaborative teaching method on students' academic achievement in Financial Accounting in secondary schools in Oyo State. Two research questions guided the study and two null hypotheses were tested at 0.05 level of significance. A quasi experimental research design was adopted for the study. The area of the study was Oyo State. The population comprised 65,112 SSII students in the 324 public secondary schools offering Financial Accounting of which two secondary schools were purposively sampled. Two intact classes of 54 (33 males and 21 females), and 48 (25 male and 23 female) students were assigned to both experimental and control groups respectively. A 50 item multiple choice test instrument called "Financial Accounting Achievement Test (FAAT)" validated by three experts were used for data collection. Kuder-Richarson formula 21 was used to determine the reliability Coefficient of FAAT which yielded Coefficient of 0.75. The data obtained were analyzed using mean and standard deviation for the research questions while Analyses of Co-variance (ANCOVA) was used to test the null hypotheses at 0.05 level of significance. The findings revealed that the collaborative teaching method was more effective in enhancing students' academic achievement in Financial Accounting than the conventional teaching method. The researcher therefore recommended among others that Financial Accounting teachers should be encouraged to use collaborative teaching method in addition to conventional teaching method in order to improve students' academic achievement in Financial Accounting in secondary schools.

Keywords: Collaborative, Teaching, Academic, Achievement, Financial Accounting

Introduction

Education is a vehicle which conveys people from unknown to known or from abstract to concrete knowledge and facilitates their ability to distinguish wrong from right in all undertakings. This is why education is regarded as the totality of experiences that pave way for people in any society to understand the world they live in and be able to manage issues well. Olawoyin and Ojewale in Olawoyin, Adeleye and Olaniyi (2015),



asserted that education remains the most essential element that empowers citizens of any nation to achieve their desired interest in the world of business. The authors further posited that education is a constant means by which individuals are exposed to enable them discern right and left, acceptable and non-acceptable or normal and abnormal.

The essence of any educational programme is to ensure that the products are equipped with relevant knowledge, skills and attitude needed to contribute meaningfully to the economic development of the nation (Ediagbonya, 2003). Olawoyin, Adeleye and Olaniyi (2015), affirmed that for a nation to progress and witness development, she must give the right education that is capable of developing the youths into sound and responsible citizens as well as fully integrating them into the community.

The Federal Republic of Nigeria (FRN, 2013), stated that one of the aims and objectives of education is to help the child acquire appropriate productive skills, abilities and competencies both mental and physical as equipment to live in and contribute to societal development. In order to achieve the goals and objectives of education in Nigeria, government has geared efforts towards making individuals contribute to the growth of the nation's economy and become self-reliant through well-developed curriculum covering academic and vocational subjects at the secondary school level. At the junior secondary level, business studies is taught as a pre-vocational subject with Book-keeping as an integral part. At the senior secondary school level, the curriculum covers vocational and commercial subjects such as Financial Accounting.

Financial Accounting is therefore defined as the process of identifying, measuring and communicating economic information necessary for informed judgments necessary for decision making in organizations (Maffo, 2013). It is an aspect of Accounting which is a language that communicates economic information to those who have interest in an organization such as managers, shareholders, investors, employees, creditors and the government. According to Ademola (2010), Financial Accounting is an art or process of recording, classifying and analyzing, summarizing, interpreting, preparing and communicating financial information to its users. Given the relevance of Financial Accounting knowledge and skills to economic and business affairs of Nigeria, its offering at the senior secondary school level is very commendable.

For any subject to be effectively taught, teacher has to select appropriate teaching methods that would appeal to both male and female students, arouse their interest and enable them achieve excellent performance. The use of teaching methods that require students to be more actively involved in the learning process is therefore strongly advocated in secondary schools in Nigeria especially in vocational subjects. Following this, Adebule (2005) defined teaching method as a professional technique teachers adopt regularly in instructional exercises to enable them impact relevant knowledge and skills to the learner. Teaching methods refer to the process of transmitting facts, skills, information and knowledge by the teacher, so as to engage students in meaningful activities for learning and to achieve the objective of the lesson. Therefore, effective teaching of Financial



Accounting is needed to adequately equip the students for the world of work or higher education to become Accountants or accounting personnel with skills and abilities to solve societal problems. That is why Azih&Nwosu (2011) stated that the method teacher adopts in the teaching and learning has been relying heavily on the teacher-centred method. This teacher-centered is what this study considers as the conventional teaching method.

Conventional method of teaching is viewed as an oral presentation of information to students without an active involvement or effort on the part of the student. According to Robert (2007), conventional teaching method is imposed from teachers and the students are expected to docilely and obediently receive and believe these fixed information. Teachers are the instrument to which this knowledge is communicated and these standards of behaviour are enforced (Green, 2009). Despite the advantages of conventional teaching method in teaching large classes and suitable for covering large number of course contents with minimum time interval (Adebule 2005), it fails to stress how teacher structure guided teaching to facilitate students' critical thinking, enhance interactive class sessions, and constructive behavior which could be considered as one of the teaching objectives of modern method of teaching. This method of teaching therefore might not be capable of producing skills required by students to cope with challenges of rapid economic and technological development. The researcher therefore strongly advocates the use of students' activity-based and inquiry methods in teaching Financial Accounting.

One of the students' activity-based teaching methods is collaborative teaching method (CTM). Johnson and Johnson (2010) and Slavin (2011), affirmed that CTM can produce positive effect on students' academic achievement. Collaborative teaching is an instructional method in which students with different levels of learning ability are paired or arranged in small groups where they work collaboratively together to accomplish a given task or goal. Vygotsky(2008) explained that unlike individual learning, students in a collaborative teaching method learn by asking and answering other's questions as well as monitoring each other's work for better achievement. Collaborative teaching method is where the teacher organizes students into small groups who then work together to assist each other learn some academic content (Slavin, 2011). It is a method in which teachers allow students to study in small groups where each contributes efforts to promote the achievement of all members of the group. Each class of students consists of males and females of high and low performers and when grouping students in collaborative teaching method, thus, there is no gender bias. This study therefore aimed at investigating the effect of CTM on students' academic achievement in Financial Accounting in Oyo State would also determine the effect of gender and students' academic ability on teaching methods and academic achievement.

Statement of the Problem



The objectives of teaching Financial Accounting in secondary schools in Oyo State appear unrealized as students' academic achievement in WAEC examinations as showed that the percentage of students from Oyo State who made P and F grades in Financial Accounting within the period was far greater than the percentage of those who made C grades. Corroborating this report, the Federal Ministry of Education (2013), reported that between 2006 and 2015 only few of students that registered Financial Accounting in West African Examination Council (WAEC) passed at credit level.

Since no teaching method is disadvantaged but based on its usability, it could be said that Financial Accounting needs to be taught with modern teaching method of which guided-discovery teaching method is one of them. To this effect, this is disturbed with the persistent low achievement of students in Financial Accounting external examination. The low performance of students could be attributed to the way Financial Accounting is handled by teacher which has a significant effect on student's comprehension, critical thinking, assimilation and retention. This study is therefore prompted to investigate the effect of collaborative teaching method (CTM) on academic achievement of secondary school students in Financial Accounting in Oyo State. The problem of the study put as a question is; would the use of CTM in teaching Financial Accounting yield appreciable result on students' academic achievement?

Purpose of the Study

The purpose of this study was to determine the effect of collaborative teaching method (CTM) on academic achievement of secondary school students in Financial Accounting in Oyo State. Specifically, the study would determine the:

1. Mean academic achievement scores of Financial Accounting students exposed to CTM and those exposed to conventional teaching method.
2. Mean academic achievement scores of male and female Financial Accounting students exposed to CTM.

Scope of the Study

This study was delimited to determining the effect of collaborative teaching method (CTM) on academic achievement of students in Financial Accounting in Oyo State. This study was also delimited to senior secondary school two (SS II) students in public schools. The content of the curriculum covered cash book, trading account, profits and loss account, balance sheet and bank reconciliation. The researcher's choice of these topics was based on the fact that they are the key concepts in Financial Accounting in the SS II syllabus. The study also covered the effect of CTM on academic achievement of male and female students in Financial Accounting.

Research Questions



The following research questions guided the study:

1. What are the effects of Collaborative Teaching Methods CTM and Conventional Method (CM) on students' academic achievement in Financial Accounting?
2. What are the effects of CTM on academic achievement of male and female students in Financial Accounting?

Null Hypotheses

The following null hypotheses tested at 0.05 level of significance:

1. There is no significant difference between the mean academic achievement scores of Financial Accounting students exposed to Collaborative Teaching Methods (CTM) and those exposed to Conventional Teaching Method.
2. There is no significant difference between the mean academic achievement scores of male and female Financial Accounting students.

Methodology

The study adopted a quasi-experimental pretest-posttest research design. The study was carried out in Oyo State. Oyo State is in the South Western part of Nigeria. The population of this study consisted of all the 65,112 secondary school students in the 324 public secondary schools in Oyo State. The sample of the study comprised 102(54 males and 44 females) SS II financial accounting students. The sampling was done using multi-stage sampling technique. The instrument titled Financial Accounting Achievement Test (FAAT) drawn from WAEC past questions by the researcher were used to collect data for the study. This achievement test consisted of 50 objective questions with four options (A – D) multiple choice formats adapted from West African Examination Council (WAEC) Financial Accounting past Questions between 2006 and 2015. Each item has four alternative answers. Each correct answer attracted (1) point while each incorrect answer attracted zero (0) point. The instrument was validated by three experts. The reliability of the instrument was obtained through test-retest method administration. The results obtained were then subjected to analysis with the use of Kuder-Richardson formula 21 (K – R 21) which yielded a reliability coefficient figure of 0.75. The data collected were analysed using mean to answer the research questions, standard deviation to determine the homogeneity of or heterogeneity of the mean scores of students. Inferential statistics of Analysis of Covariance (ANCOVA) was used to test the null hypotheses at 0.05 level of significance.

Results



Research Question 1: What are the effects of Collaborative Teaching Methods (CTM) and Conventional Method (CM) on students' academic achievement in Financial Accounting?

Table 1: Collaborative Teaching Methods and conventional method on students' academic achievement in Financial Accounting using their pre-test and post-test scores

Source of Variance	N	Pre-test Mean	SD	Post-test Mean	SD	Mean Gain	Remark
Experimental	54	44.41	7.8	69.12	4.11	24.71	Effective
Control	48	39.52	8.4	54.89	5.44	15.37	

Data in Table 1 show that for the experimental group, the post-test means score of 69.12 is greater than the pre-test means score of 54.89. Similarly, for the control group, the post-test means score of 54.89 is greater than the pre-test mean scores of 39.52. This shows a positive effect for both experimental and control groups. However, the mean gain of 24.12 for the experimental group is greater than that of the control group of 18.24. This means that the students taught with collaborative teaching methods strategy had a higher mean academic achievement score more than those taught with conventional method.

Research Question 2: What are the effects of CTM on academic achievement of male and female students in Financial Accounting?

Table 2: Effect of CTM on academic achievement of male and female students in Financial Accounting using their pre-test and post-test scores

Gender CTM	N	Pre-test Mean	SD	Post-test Mean	SD	Mean gain	Remark
Male	33	21.45	7.09	65.85	4.96	44.40	More Effective
Female	21	33.13	6.25	71.26	4.22	38.13	

Data presented in Table 2 revealed male and female students taught Financial Accounting using CTM. Male students had pre-test mean of 21.45 with standard deviation of 7.09 and post-test mean of 65.85 with a standard deviation of 4.96 while their mean gain difference is 44.4. The female students in the same group had 33.13 as the pre-test mean and 71.26 as their post-test mean with 6.25 and 4.22 respectively as their standard deviation, with a mean gain difference of 38.13. This implies that in teaching Financial Accounting using CTM, male students achieved more than female students.



Null Hypothesis 1: There is no significant difference between the mean academic achievement scores of Financial Accounting students exposed to Collaborative Teaching Methods (CTM) and those exposed to Conventional Teaching Method.

Table 4: ANCOVA for difference between the mean academic achievement scores of Financial Accounting students exposed to Collaborative Teaching Methods (CTM) and those exposed to Conventional Teaching Method

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1445.007 ^a	2	722.504	100.473	.000	.636
Intercept	4369.875	1	4369.875	607.685	.000	.841
Pretest	.397	1	.397	.055	.815	.000
Treatment	1308.402	1	1308.402	181.949	.000	.613
Error	826.968	100	7.191			
Total	164629.000	102				
Corrected Total	2271.975	101				

a. R Squared = .636 (Adjusted R Squared = .630)

The result in Table 4 show that there is a statistically different in the mean academic achievement scores of students taught financial accounting using CTM and those taught using conventional method. This is because the p-value (0.000) is less than the alpha level of 0.05. Hence, the hypothesis was rejected at 0.05 alpha level of significance and, 1 and 102 degree of freedom ($F_{1,102}=0.000$, $p<0.05$). Therefore, the null hypothesis is rejected, implying that there is a statistically difference in the mean academic achievement scores of students taught financial accounting using CTM and those taught using conventional method.

Null Hypothesis 2: There is no significant difference between the mean academic achievement scores of male and female Financial Accounting students exposed to CTM

Table 5: ANCOVA of difference between the mean academic achievement scores of male and female Financial Accounting students exposed to CTM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1160.929 ^a	1	1160.929	67.876	.000
Intercept	40725.392	1	40725.392	2381.101	.000
Gender	1160.929	1	1160.929	67.876	.000
Error	1145.941	52	17.104		
Total	45582.000	54			
Corrected Total	2306.870	53			



Data presented in Table 5 shows that the p-value ($p \leq 0.000$) is less than 0.05 alpha level. Hence, the hypothesis was rejected at 0.05 alpha level of significance and, 1 and 54 degree of freedom ($F_{1,54}=0.000$, $p < 0.05$). This implies that there is a significant difference in the mean academic achievement scores of male and female students taught financial accounting using CTM.

Discussion of Findings

Effects of Collaborative Teaching Methods CTM and Conventional Method (CM) on students' academic achievement in Financial Accounting

Findings of the study revealed that students taught Financial Accounting using collaborative teaching method had a higher mean score and mean gain than those taught using conventional method. This finding was in line with the finding of Adebule (2005) that the collaborative group performed significantly better than the expository group. The collaborative learning styles are more effective for learning in a mobile learning environment compared to non-collaborative learning style. The finding also concurs with the findings of Nkechinyere and Ordu (2018) that students who studied chemistry using collaborative learning strategy achieve better than those of the lecture based method.

Similarly, the academic achievement of students taught Financial Accounting revealed that there is a significant difference in the mean academic achievement scores of students taught financial accounting using CTM and those taught using conventional method. This finding was in line with the finding of Michael and Hameed (2017) that there was a significant gain regarding the difference between pretest and posttest scores of students in the mobile learning experience, and think-aloud-pair problem-solving technique is the most effective collaborative learning style. The findings also agreed with the finding of Nkechinyere and Ordu (2018) that there was statistical significant difference in the mean scores of students taught Chemistry using collaborative learning strategy and those taught using the lecture based method. These findings also concur with the finding of Ibe and Nwosu (2003) that students taught using collaborative method performed significantly better than those taught with demonstration methods. The difference in their mean scores may be attributed to students' participation during teaching learning process. This helps students to develop interest and have confidence on their capabilities which will improve their academic achievement.

Effects of CTM on academic achievement of male and female students in Financial Accounting

Findings of the study revealed that in teaching of Financial Accounting using CTM, male students achieved more than their female counterparts. This finding was in line with the finding of Adebule (2005) that male students performed significantly better than female students when exposed to collaborative method. The finding also supported the



finding of Williams and Akpan (2018) that male students had a higher mean score than their female counterpart when exposed to collaborative approach. The finding of the study was also in agreement with the findings of Nkechinyere and Ordu (2018) that male students performed slightly better than female students.

The result analysis in hypothesis two revealed that there is a significant difference in the mean academic achievement scores of male and female students taught financial accounting using CTM. The findings supported the finding of Michael and Hameed (2017) that there was a statistically significant difference in the mean scores of male and female students in all the collaborative teaching styles. On the other hand, this finding disagreed with the findings of Adebule (2005) that no significant difference existed in the academic achievement of male and female students exposed to collaborative and expository (lecture) methods. This finding also opposed the findings of Nkechinyere and Ordu (2018) that there was no statistical significant difference in the mean scores of male and female students taught chemistry using collaborative learning strategy. The difference in this findings and the findings of Adebule (2005) and Nkechinyere and Ordu (2018) as regards significant difference between male and female mean scores when exposed to CTM could be as a result of geographical location and content scope and the teaching strategies appeared by Financial Accounting teacher.

Conclusion

From the students' perspective, Financial Accounting is considered as one of the hardest subjects in schools and they believe that only special gifted students understand the concept. The findings of this study, however, have shown that collaborative teaching method is an innovative and effective mode of teaching with the capacity of improving students' academic achievement in Financial Accounting. Finally, it could be concluded that teacher use of collaborative method in instructional delivery of financial accounting irrespective of gender, the students whether male or female will improve in their academic achievement in Financial Accounting in secondary schools

Recommendations

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

1. Collaborative learning strategy should be used to enable secondary school students' performance better in Financial Accounting; therefore using this learning strategy would enhanced teaching and learning of the subject, and as such teachers should try to adopt it in teaching Financial Accounting students.
2. Conferences, seminars and workshops should be organized by professional associations, professional bodies and research organizations such as Association of Business Educators of Nigeria (ABEN) on the need for collaborative method in teaching Financial Accounting. The Nigerian Educational and Research



Development Council (NERDC) should also incorporate collaborative learning strategy in Financial Accounting curriculum at secondary school level.

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