

Effects of Cooperative Learning and Lecture Methods on Senior Secondary School Students' Academic Achievement in Accounting in Abia State

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ABSTRACT

This study investigated the Effects of Cooperative Learning and Lecture Methods on Senior Secondary School Students' Academic Achievement in Accounting in Abia State. Three research questions were posed and answered, while three hypotheses were formulated and tested at 0.05 level of significance. The study was carried out using a total of 100 senior secondary school II out of 4,481 senior secondary school students in two Education Zones of Abia State. A quasi experimental design was used. Specifically the pre-test, post – test control group design and a 2 x 2 x 2 factorial design were utilized in the study. The data collection instrument was a 50 item multiple choice Accounting Achievement Test (AAT). The control group was taught using lecture method, while the experimental groups were taught using cooperative learning method. Data were analyzed using mean, standard deviation, z-test and ANCOVA. The study revealed that students taught with cooperative learning method performed significantly better in Achievement test in Accounting than those taught with lecture method of the same Accounting lessons. Cooperative Learning Method had great impact on the students. Students taught with cooperative method in rural areas performed better than those in urban areas. There is a significant difference between those taught Accounting with cooperative learning method and those taught with lecture method. Based on the findings, the researcher concluded that cooperative learning method is effective instructional approaches for teaching of Accounting. It was recommended among others that students should be given opportunity to explore new, creative and functional approaches in cooperative method to acquire more experience in Accounting.

Keywords: Cooperative Learning, Accounting, Achievement.

INTRODUCTION

Accounting is one of the vocational subjects offered at the senior secondary education level in Nigeria. Accounting is a field concerned with the summary, analysis and reporting of financial transactions related to a business. This involves the preparation of financial statements available for public use. Stockholders, suppliers, banks, employees, government agencies, business owners, and other stakeholders are examples of people interested in receiving such information for decision making purposes. The American Institute of Certified Public Accountants (AICPA 2017), defined Accounting as the art of recording, classifying, and summarizing in a significant manner and in terms of money, transactions, and events which are, in part at least, of financial character, and interpreting the results thereof. Also Accounting is the process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making (Asaolu 2012).

Accounting as a discipline is concerned with the recording, analyzing, interpreting and forecasting of incomes and wealth of a business and entity. It is required to attain the goal of integrating an individual into

a sound and effective citizenship and also to achieve other stated objectives for the molding of individuals in the society. (Udoh 2010)

The basic aim of accounting is to give information to the interested parties to enable them to make important business decisions. The required information, particularly in the case of external parties, is given in the basic financial statements: Profit and loss statements and the Balance sheet. There is need for teachers to use appropriate teaching method that will facilitate the achievement of these aims and objectives. Mkpa (2009) defined teaching method as a way of doing the teaching business, the procedure, orderliness in planning and execution of teaching proper with the appropriate integration of instructional materials to achieve the objectives at the classroom level. Glathorn (2010) also stated that the key to distinguish the knowledge base of teaching lies at the intersection of content and pedagogy. He further stated that the teacher must take into account the relevant aspects of students learning disposition considering age, gender, language, culture, motivation, previous knowledge and skills that will affect their responses to different forms of presentations and representations. Okeke(2014)defined gender as socially and culturally constructed characteristic and roles which are ascribed to males and females in the society. The Census Bureau defines rural as “any population, housing or territory not in an urban area”. An Urban area is the region surrounding a city. Most inhabitants of urban areas have nonagricultural jobs. Achievement is a term used to indicate the degree of success attained in some general or specified area. It is an end product of learning whose level and performance are affected by various conditions existing at the time of learning as well as the conditions intervening between learning and teaching. (Doymus2007).

In order to promote academic achievement and change of behavior in the learner, the teacher has to motivate the students’ learning skills through inquiry, role playing, planned repetition, simulation, demonstration, guided discovery and cooperative learning which will help the student in better understanding of the concept. Furthermore, the method chosen would be relevant to the lives of the students and give them a sense of reality as well as lead to high degree grades attained by students when given a test or examination. The lecture method is the oldest method of instruction in Nigerian schools. Mkpa (2009) stated that the lecturer presents the content or subject matters to the students talking with some physical activities like reference to textbooks or journals while the students are passive listeners who may be busy taking down notes. In this method, the students do not achieve maximum learning because knowledge is doled out of them. They are not interacting effectively with the teacher. Mkpa (2009) reported that the lecture method is suitable for teaching but many of the teachers do not pay attention to ensure that learners understand the relationship between their representations or models used and the art concepts they were supposed to learn. Onyemerekeye (2004) stated some to difficulties of implementation of lecture method in overcrowded classrooms in urban areas, to include lack of clear planning and assessment. Studies like those of Nwaba and Igbo (2010), Adeyemi (2008) and Okoro (2005) indicated that many teachers prefer the expository/ lecture method of teaching and shy away from innovative methods like cooperative teaching method. These studies indicated that the use of cooperative method (that is, use of varieties of learning activities)improves students’ achievement better than lecture method. A study of teaching behavior and students’ achievement in science by Akubילו (2004) showed that students’ activities are better than teachers’ activities in promoting authentic learning in secondary school students. Accounting curriculum planners, language art educators and curriculum developers have continued to search accounting arts teaching techniques that will change the way students are taught and enhance students’ achievement. One of such methods is cooperative method. Olatoye, Aderogba & Aanu(2010) stated that cooperative teaching method is an activity that increases the students’ class participation, academic achievement and motivation toward learning.

Theoretical Framework for this study is anchored on the Gestalt, constructivist, social cohesion and Piaget’s learning theories.

The Gestalt Theory counts on others such as constructivist, social cohesion and piagets theories of learning. Burns (2015:99) conceived learning as “a relatively permanent change in behavior including both observable activity and internal process such as thinking, attitude and emotions”.

Brooks and Brooks constructivist theory (2013) stressed that learning is an active process of creating meaning from different experiences. In other words, student will learn best by trying to make sense of learning materials on their own with the teacher as a guide to help them. Social cohesion theorist emphasized the idea that students help their group mates to learn because they care about the group. Kanno (2004:112) asserted that teacher’s task “is *that* of guide facilitator, an encourager, a leader, a diagnostician rather than that of instructor, a ruler or a law-giver”. Piaget (2017) believed that the human capacity to think and learn was an adaptive feature that enables humans to learn effectively within the environment.

The society is constantly changing. The dynamism of the society created the problem of changing the educational process especially the content, the methods and approaches to keep up with the pace of changing world views, values and technological innovations. Teaching methods such as lecture, field trip, demonstration, zoom, individualized, discussion and role play among other methods have been dominating the Accounting classroom for years but there have not been any remarkable change in the outcome, in terms of students’ academic achievement. It is therefore doubtful if all these methods are effective in inculcating the desired behavioral changes in accounting skills in the learners. this calls for the need for more participatory methods hence the cooperative method of teaching Accounting is being probed to determine its effectiveness when compared to lecture method of teaching. The problem of this study is therefore, to ascertain Effects of Cooperative Learning and Lecture Method on Students’ Academic Achievement in Accounting in Abia State

Purpose of The Study

Specifically, the study seeks to:

1. determine whether students taught accounting using cooperative learning method will perform better than those taught using lecture method .
2. ascertain whether there would be any significant difference between performance of male and female students taught accounting using cooperative learning method
3. find out if there would be any significant difference between performance of Urban and Rural students taught accounting using cooperative learning method.

Research Questions

The following research questions were posed to guide the study;

1. What differences exist between the academic achievement scores of students taught accounting using cooperative method and those taught using lecture method at Pre and Posttests?
2. What differences exist between the mean academic achievement scores of male and female students taught accounting using cooperative method at Pre and Posttests?
3. What differences exist between the mean academic achievement score of Urban and Rural students taught accounting using cooperative method at Pre and Posttests

Hypotheses

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

HO₁: There is no significant difference between the mean academic performances or scores of students

taught accounting with cooperative learning method and those taught with lecture method at post – test.

HO₂: There is no significant difference between the mean academic performance scores of male and female students taught accounting with cooperative learning method at post – test.

HO₃: There is no significant difference between the mean academic achievement of urban and rural students taught accounting using cooperative learning method at post – test.

METHODOLOGY

The design was a quasi-experimental design, using pretest, posttest control group which adopted a 2 x 2 x 2 factorial design. In the study, there were two groups, out of which one was subjected to treatment (cooperative learning method) while the control group was excluded from the treatment. The lecture method was used for the control group. The independent variables were cooperative learning and lecture methods, the dependent variable was students' academic achievement and the moderator variables were location and gender.

The population of the study comprises all the Twelve thousand, eight hundred and twenty nine (12,829) senior secondary class (SS II) students made up of six thousand , five hundred and thirty one (6531) male and six thousand two hundred and ninety eight (6298) female.

According to Ministry of Education (2020), there are two hundred and thirty – three (233) Public Secondary Schools in Abia State. Sample consists of one hundred (100) senior secondary two (SS 2) students selected through stratified random sampling techniques. Stratification was based on Local government Area and the school. Two (2) Local Government Areas were randomly selected. One from Umuahia Education Zone and another from Aba Education Zone. The two L.G.A's randomly selected include Umuahia South (Urban) and Isiala Ngwa North Local Government Area (Rural). There were eight (8) secondary schools in Umuahia South Local Government Area, and thirteen (13) secondary schools in Isiala Ngwa North Local Government Area. The eight (8) and thirteen (13) secondary schools in Umuahia South and Isiala Ngwa North respectively were further stratified to select the two sampled schools. Four (4) intact classes selected from the two (2) sampled co-educational schools were used for the study. In each school, AAT pre-test was administered to all the sampled SS2 students. The Test was marked, scored and used to determine the existing levels of accounting knowledge among students prior to the commencement of the experiments. Four (4) intact classes and two (2) methods were used in each sampled co-educational school.

INSTRUMENTATION

The instrument for this study was a researcher developed Accounting Achievement Test (AAT). The Accounting Achievement Test (AAT) consisted of fifty (50) multiple choice questions with four options (lettered A to D) in each of which only one option was the correct answer. The test items were derived from the senior secondary school II curriculum with theme and topics. The lesson plans were prepared based on the four topics within the Accounting content of senior secondary school II (SS II). A table of specification was constructed to guide in the allocation of questions into the cognitive (lower and higher) learning outcomes. Each correctly answered question was given two (2) marks and this gave the total of one hundred (100) marks for the fifty (50) test item. The researcher's choice of the objective test was because it was easier to mark and offered an opportunity to cover every aspect of the topic or unit of instruction. Lesson plans on teaching the two groups (Cooperative learning and Lecture methods) were prepared and used. Four (4) lesson plan for each topic were prepared based on the two (2) different teaching approaches. The researcher considered the age of the students, lesson duration, students previous knowledge, class size, the specific objectives of the lesson topics, instructional materials, and the sex of the students and so on. The

Accounting Achievement Test (AAT) – Post-test did not have the same features like the Pre-test. The pre-test was set based on the curriculum they were supposed to have covered while the post – test was based on the topics taught by the researcher in line with the curriculum second term topics.

RESULTS

Research Question One: What difference exists between the mean academic achievement scores of students taught accounting using cooperative method and those taught using the lecture method. The result of analysis of data generated in respect of this research question is summarized and presented in table 1.

Table 1:Difference between the Mean Academic Achievement scores of students taught accounting using co-operative method and those taught using lecture method.

SUBJECT	PRE – TEST			POST – TEST		MEAN GAIN
	N	X	SD	X	SD	
COOPERATIVE	45	27.90	14.50	57.86	17.32	29.96
LECTURE	55	25.50	13.40	40.43	12.00	14.93
MEAN DIFFERENCE		2.40		17.43		15.03
TOTAL	100					

Table 1 above shows that Cooperative Learning Method had impact on students taught with it, as their mean increased from 27.90pre- test to 57.86 at posttest. Those taught with lecture method had their mean score increase from 25.50 at pretest, to 40.43 at posttest. This implies that the treatment with Cooperative Learning Method seemed to have had a great impact on the students. It remained for the hypothesis to establish if this difference was significant statistically.

Research Question Two: What differences exist between the Mean Academic Achievement scores of Male and Female students taught accounting using Cooperative method. The results of analysis of data generated in respect of this research question are summarized and presented in table 2

Table 2:Mean of Academic Achievement Scores of Male and Female Students taught Accounting using Cooperative Method.

SUBJECTS	PRE – TEST			POST – TEST		MEAN GAIN
	N	X	SD	X	SD	
MALE	25	27.52	10.20	65.50	12.90	37.98
FEMALE	20	29.10	13.80	62.50	17.50	33.40
MEAN DIFFERENCE		1.58			3.00	4.58
TOTAL	45					

Table 2 above shows that in *pre test*, females performed better with a mean difference of 1.58 but in *post test*, males performed better with a mean difference of 3.00. This implies that cooperative learning method appears to have had more effect on the males. The test of hypothesis will establish if the difference is statistically significant.

Research Question Three: What Difference exists between the Mean Academic Achievements scores of Urban and Rural Students taught Accounting using Cooperative Learning Method.

Table 3: Mean of Academic Achievement Scores of Urban and Rural students taught Accounting using Cooperative Learning Method.

SUBJECTS	PRE – TEST			POST – TEST		MEAN GAIN
	N	X	SD	X	SD	
URBAN	30	29.50	13.20	58.80	14.60	29.30
RURAL	15	26.80	14.40	60.80	11.80	34.00
MEAN DIFFERENC		2.70		2.00		4.70
TOTAL	45					

Table 3 above shows that the mean difference between rural and urban students’ scores in the post test is while the difference between urban and rural students at pre – test is 2.7. Cooperative Learning Method appears to have had more impact on rural students. However, the test of hypothesis will establish whether the differences were statistically significant.

Hypothesis One: There is no significant difference between the mean Academic performance or scores of students taught accounting with co-operative learning method and those taught with lecture method.

Table 4: Summary of difference between the mean academic performance or scores of students taught accounting with cooperative learning method and those taught with lecture method using ANCOVA

SOURCE OF VARIATION	SUM OF SQUARES AND CROSS PRODUCT			ADJUSTED SUM OF SQUARES	DF	ADJUSTED MEAN SQUARE	F – Cal
TREATMENT	XX	XY	YY	48,019.3	2	274,008.7	76.3
ERROR	5384.7	4354.7	5840.7	346,359.8	97	3,570.7	
TOTAL	6934.69	38650.5	8759.05				

Table 4 above shows summary of ANCOVA on significant differences between the mean Academic performance of scores of students taught Accounting with cooperative learning method and those taught with lecture method. Result shows that the f ratio is 76.3 under the degree of freedom 2 and 97, the critical f is 3.34. This figure is far less the calculated f of 76.3. So the null hypothesis is rejected and the alternative accepted that there is a significant difference between the mean academic performance or scores of students taught accounting with cooperative learning method and those taught with lecture method.

Hypothesis Two: There is no significant difference between the Mean Academic Performance Scores of Male and Female students taught Accounting with Cooperative Learning Method.

Table 5: Summary of Z – Test on Mean Academic Performance Scores of Male and Female students taught Accounting with Cooperative Learning Method.

VARIABLES	NO	X	SD	SIGN LEVEL	DF	Z CRITICAL	Z CALCULATED	DECISION
MALE	25	65.5	12.9	0.05	43	1.96	0.2	HO NOT REJECTED
FEMALE	20	62.5	17.5					

Table 5 above shows that the Calculated Z test is 0.2, while the tabulated value under degree of freedom 43

at 0.05 level of significant is 1.96. The calculated Z is less than the critical value, so the null hypothesis is not rejected. This means that there is no significant difference between the Mean Academic Performance Scores of male and female students taught Accounting with Cooperative Learning Method.

Hypothesis Three: There is no significant difference between the Mean Academic Performance Scores of Urban and rural students taught Accounting with Cooperative Learning Method.

Table 6: Summary of Z – Test on Mean Academic Performance Scores of Urban and Rural students taught Accounting with Cooperative Learning Method.

VARIABLES	NO	X	SD	SIGN LEVEL	DF	Z CRITICAL	Z CALCULATED	DECISION
URBA	30	58.8	14.6					HO NOT REJECTED
RURAL	15	60.8	11.8	0.05	43	1.96	0.24	

Table 6 above shows that the Calculated Z test is 0.24, while the Critical table value 1.96. The calculated Z is less than the critical value, so the null hypothesis is not rejected. This implies that there is no significant difference between the Mean Academic Performance Scores of Urban and rural students taught Accounting with Cooperative Learning Method.

DISCUSSION

This section discussed the findings of the study according to research questions and hypotheses formulated. Discussions were highlighted; educational implications, recommendation, limitations, suggestion for further studies and summary of the study were outlined.

Mean Academic performance scores of those taught with Cooperative Learning

Method and Lecture method in teaching Accounting

Analysis of data in Table 1 (research question 1) shows that at pre-test the difference between those taught accounting with cooperative method and lecture method is 2.40, while at posttest, it is 17.43. The performance or academic achievement scores of those taught with cooperative method increased more than those taught with lecture method at posttest. The analysis of the data on postulated hypothesis reveals that there is a significant difference between the mean academic performance of students taught with lecture method and students taught with cooperative learning method. This findings agrees with the findings of Adeyemi (2008) who found out that cooperative method is better than lecture method, Ajaja Eravwoke (2010) also confirmed the findings in his study. There is a significant higher achievement that scores of students in cooperative learning method than other method. Nwaba and Igbo (2010) also found out that student’s collaborative method performed better than those taught with lecture method. This also is in line with the findings of Obih (2014) who discovered that students taught Economics using cooperative method performed better than those taught using lecture method.

Mean Academic Achievement Scores of Male and Female Students taught with Cooperative Learning method.

The second research question and the second hypotheses sought to find out the difference between mean academic achievement scores of male and female students taught accounting using cooperative method. Results show that the males performed better than females in posttest even though female performed better in pretest. This implies that cooperative learning method had more effect on the males. This means that there is no significant difference between the mean academic performance scores of male and female students taught accounting with cooperative learning method. Though there is a difference, it is not

significant. This finding does not agree with Ukwungwu and Olarionye (2010) who found out that there is a significant difference between the retention level of male and female students taught using cooperative method. The difference in findings may be as a result of time lag or difference in area of study. While the former was carried out in Enugu State, the present research was carried out in Abia State. Again, there is change in attitude, as females seem to be measuring up with males in academic matters.

Effects of Location (Rural and Urban) on students taught Accounting with

Cooperative Learning Method

The third research question and the third hypothesis determined the differences between the mean achievement scores of rural and urban students taught Accounting with cooperative learning method. Analysis of data in Table 3 shows the difference between the mean scores of urban and rural students taught accounting using cooperative learning method. Result shows that rural performed better at post – test even though urban performed better than rural in pre- test. This implies that there is no significant difference between the mean academic performance scores of urban and rural students taught accounting with cooperative learning method. One may wonder how those in rural area performed better than those in urban area. Reasons may be that the rural area has a quiet atmosphere. They had little or no distraction, revised their work unlike those in urban areas who have distractions like watching television and have access to internet facilities.

CONCLUSION

The findings of this study have demonstrated the effectiveness of the cooperative learning method and teaching method in the teaching of accounting in particular at the senior secondary level. Thus, they have shown that accounting can be taught even more effectively with methods other than the talk-chalk method. Cooperative learning method enhanced students' achievement scores in accounting than lecture method. In addition gender was not a significant factor in the students' mean achievement in accounting under the cooperative learning method. Based on the findings, one can conclude that effective use of cooperative learning method could contribute significantly in increasing students' achievement in accounting irrespective of students' gender and location. This does not mean that lecture method diminished academic achievement; rather it means that use of cooperative learning method is more effective than the lecture method. The finding also indicated that if equal opportunity is provided and every individual in the class allowed to participate actively all the barriers imposed by either gender or location will no longer affect the achievement of the student. The key factor in teaching and learning is how actively the learner is involved. Good presentation of learning situation enables a child to make use of all his or her senses. Thus, students performed very well when a cooperative learning method is employed irrespective of gender and location. Effective teaching method can ensure not only acquisition of relevant knowledge but also inculcation in the learner of the right attitudes, values and skills for all round development.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made.

1. Accounting teachers should be encouraged to attend seminars, workshops and conferences on innovative approaches such as cooperative learning method as this was seen to better enhance students' achievement in accounting than the lecture method. Effort should be made by teachers to create opportunities for both male and female students to participate and express their views in the classroom based on the findings that gender is not a significant factor on students' achievement in accounting.

2. The Ministry of Education should organize seminars, workshops and in service training to all serving accounting teachers on the use of cooperative learning method to teach accounting in secondary schools. The Ministry of Education should also ensure that enough instructional materials are evenly distributed in both urban and rural schools.
3. Students should show greater interest in participation. They should learn to be autonomous, ask questions of all kinds to find things out, and then brainstorm on their new knowledge. The greater the participation, the more internalized the content, and acquisition of the learning. All students should be given opportunity to explore new, creative and functional approaches in cooperative method to acquire more experience in accounting.
4. Curriculum planners should be regularly sensitized through workshop, seminars and conferences on these innovative approaches that may be pertinent in curriculum revision.

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