

Effects Of Discussion Method Of Teaching On Students' Academic Achievement In The Teaching Of Accounting In Secondary Schools In Anambra State, Nigeria

Obidile Iffoma Jaunta

Uzoekwe H, E

Department of Technology and Vocational Education, Nnamdi Azikiwe University,
Nigeria

Abstract: Teaching methods have been found to have significant effect on students' academic achievement in the teaching and learning processes. A particular teaching method might be effective in a subject and might not be effective in another subject. Considering the discussion method of teaching, some scholars found it to be effective in some subjects and inappropriate in other subjects. It is therefore important to ascertain its effect on students' academic achievement in accounting. Two research questions guided the study and two null hypotheses were tested at 0.05 level of significance. Quasi experimental design was adopted for the study with a population of 185 and a sample of 58 accounting students. Instrument for data collection was Accounting Achievement Test with a reliability coefficient of 0.86. Data collected were analyzed using mean scores and Analysis of Covariance (ANCOVA). The study found among others that students taught accounting using discussion method had higher post test mean scores than students taught accounting using conventional method.

Keywords: Teaching methods, Instructional strategies, Classroom management, Post basic learning, Discussion method, Higher learning.

I. INTRODUCTION

Some methods of teaching have been found to be effective in some subjects and inappropriate in others. Effective methods of teaching have been advocated to be used in the teaching and learning processes so as to enhance students' academic achievement. Enhancement of students' academic achievement is one of the objectives of teaching and learning and therefore must be considered when planning the instructional procedure in any subject. Accounting being one of the subjects studied at the post basic level, is an indispensable area of study in business education. It is a branch of study that is concerned with the acquisition of competencies for recording, analyzing, interpreting and summarizing business transactions for informed decision making. Accounting offered at the post basic level usually bears a name such as book-keeping and accounts or financial

accounting. Whichever name it bears, accounting at post basic level according to FME (2009), is aimed at exposing students to the principles and practices of accounting and laying a solid foundation for further study in financial accounting and its related disciplines, among others.

Despite the objectives, students' achievement scores in the subject have been worrisome as observed by the present researchers. From the previous studies conducted, it has been observed that teachers' methods and strategies used in the classroom have impact on students' learning and achievement. Previous studies conducted have shown that some of the teaching methods especially those that make students passive rather than active have been considered ineffective in the teaching of accounting (Ndinechi & Obidile, 2013). Furthermore, the study found that some teaching methods that allow students' interaction might be inappropriately utilized thereby making it ineffective in the teaching and learning of

accounting. Considering discussion method of teaching, the researchers sought to ascertain its effects on students' academic achievement in the teaching of accounting.

According to Stephens and Stephens (2005), discussion is a process of speaking, listening, describing and witnessing, which helps to expand horizons and foster mutual understanding. The authors further explained that through discussion one could be exposed to new points of view and exposure. Discussion method of teaching could therefore be described as a method of teaching in which the instructor and students exchange information, experiences, ideas and reactions with one another. The emphasis is on participation, dialogue and two-way communication. According to Smith and Stein (2011) for discussion to be productive, the discourse must be purposeful. It must also be academically productive so as to support the development of students' reasoning and abilities and to express their thoughts clearly (Chapin & O'Connor, 2007). Through discussion, students can express their views, opinions and feelings and clarify their knowledge. This type of community knowledge-building can cause students to compare and contrast their own thinking and come to a new understanding. According to Ausubel (2001) learning occurs when students interact with each other. Otten, Herbel-Eisenmann, Steele, Cirillo and Bosman (2011) reported that when students actively listen to one another, reasoning can be made more explicit and more accessible.

According to Wehmeier (2006) discussion has two main ideas that are relevant. First, is to talk about something with a group in order to exchange ideas. Secondly, is to write about something in detail and consider different ideas or opinions on it. Thus discussion is doing either thing or both things. Fundamentally, there are three main skills through which discussion could be enhanced, they include: listening, questioning and responding (Arends, 2009; Kauchak & Eggen, 2011). These skills might also be termed, the main features of discussion. Objectives of discussion as pointed out by Welty (1989) include: to encourage students to evaluate events, topics or results; to clarify the bases for their judgments and to become aware of others' point of view.

According to Jarolimek in Rahman, khalil, Jumani, Ajmal, Malik and Sharif (2011), for a teacher to use discussion method successfully, the teacher should make sure that learners are prepared for the discussion session and they should listen attentively when others are speaking. The author further stated that, learners should remain objective, open-minded, avoid getting emotional and should contribute ideas. Furthermore, that learners should respect and accept valuable contributions of others. Also, that learners should ask for clarification of ideas that are not understood. Finally, that a learner should not be allowed to dominate the discussion. In the same vein, Stenhouse in Rahman et al (2011) presented roles of a teacher in a classroom discussion as follows: asking questions, presenting problems and clarifying opinions, asking members to clarify what has been said, summarizing the main trends in discussion and keeping the discussion relevant and progressive, helping the class to use and build on each other's ideas and to decide on the priorities in the discussion. Middleton and Jansen (2011) stated that teachers should make efforts to involve their students in discussion by convincing them that their contributions would help advance the class

knowledge. When teachers do this, more students would feel comfortable and courageous to contribute to classroom discussion. Discussion is essential in the classroom because, communication is necessary for building understanding (Hiebert, Carpenter, Fennema, Fuson, Wearne, Murray & Human, 1997).

Most teachers at the post basic level do not use the discussion teaching method because of some reasons which include that discussion method takes more time to prepare and use. They prefer using their usual teaching method(s) (conventional) which is(are) usually teacher centred and sometimes slightly blended. Despite the importance of discussion teaching method, its effect on students' academic performance in accounting is not well known hence, the need for the study.

RESEARCH QUESTIONS

The following research questions guided the study.

- ✓ What are the differences in the pre-test and post-test mean achievement scores of students taught accounting using conventional teaching method and those taught using discussion teaching method?
- ✓ What are the differences in the mean retention scores of students taught accounting using conventional teaching method and those taught using discussion teaching method?

NULL HYPOTHESES

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

- ✓ There is no significant difference in the mean achievement scores of students taught accounting using conventional teaching method and those taught using discussion teaching method.
- ✓ There is no significant difference between the mean retention scores of students taught accounting using conventional teaching method and those taught using discussion teaching method.

II. METHOD

The study adopted a quasi-experimental design. This design was considered appropriate because it would not be possible to place subjects in groups by random assignment without disrupting the academic programme and the timetable of the schools involved in the study. The study utilized pretest, posttest and delayed posttest. The study was carried out in secondary schools in Anambra State in the South East Nigeria. The population of the study was 185 Senior Secondary (SS) II accounting Students. The sample of the study was 58 SS II accounting students from two secondary schools in the State. The two schools were selected using purposive sampling technique. Simple random sampling was used to assign the two intact classes (selected from the two schools) to experimental and control group respectively.

The instrument for data collection was Accounting Achievement Test (AAT) developed by the researchers using

the West African Senior School Certificate Examination (WASSCE) syllabus. The instrument consisted of two sections. Section A sought background information of the students while section B contained 30 multiple choice test items with four options (A-D). The instrument covered three content areas in accounting namely: incomplete statement, partnership account and final accounts of a sole trader. Contents of the test items covered the three domains (cognitive, affective and psychomotor). The 30 multiple choice test items was used for both pre-test, post-test and delayed post-test. The instrument was validated by three experts. Selection of the items in the instrument was done using item analysis which was carried out on 50 items in order to determine whether the items were appropriate, too hard or too easy for the intended class. Using the item analysis, the difficulty and discrimination indices were computed. According to Aiken (1997) it is desirable to have most items in the 30 to 50 range of difficulty in order to obtain maximum spread of students' scores. Based on that, those items in the 30 to 50 range of difficulty were selected. The discrimination index according to Lindvall and Nitko (1985) is the degree to which an item discriminates between very high achievers and low achievers. A good discrimination item is the one in which student who scored well on the examination answered the correct alternative more frequently than the student who did not score well on the examination (Osterlind, 1989). Using the discrimination index, according to Cohen, Swerdlik and Smith (1992) an item is classified as 'good' if the index is above 0.30; 'fair' if it is between 0.10 and 0.30; and 'poor' if it is below 0.10. A negative discrimination index indicates a defective item. In this study, items with discrimination indices from 0.30 to 0.70 were selected. After computing the difficulty and discrimination indices, 30 test items were selected and used for the study. Reliability of the instrument was established by administering the instrument to SS II accounting students who were not part of the population. The test re-test method was used and the scores from the two test scores were correlated using Spearman Brown Prophecy formula and the coefficient of 0.86 was obtained.

III. EXPERIMENTAL PROCEDURE

The researchers sought and obtained permission from the authorities concerned for the involvement of their schools and teachers in the study. The study lasted for eight weeks. The researchers briefed the regular classroom teacher of the experimental class on the techniques to be used and gave the teacher the lesson plan and the lesson notes that covered the eight weeks. The experimental group was taught using discussion teaching method while the control group was taught using conventional teaching method. Prior to the commencement of the experiment, pre-test was administered to all the students both in the experimental and control groups. This enabled the researchers to ascertain the initial abilities of the students prior to the experiment. At the end of six weeks, the post-test was administered to both groups. Two weeks after the administration of the post test, the delayed post-test was given to both groups to ascertain their retention level.

IV. CONTROL OF EXTRANEOUS VARIABLES

Extraneous variables in the study were controlled using the following measures:

TEACHER VARIABLE: Their classroom teachers were used for the study to minimize the exhibition of unusual behavior which might have influenced the study if new teachers were used.

CLASS INTERACTION: Classes used were in different schools in order to prevent class interaction which might be seen if two close schools were used.

INITIAL GROUP DIFFERENCES: In order to take care of the differences which usually exist in academic environment such as varying levels of learning attainment, among others, ANCOVA was used for data analysis with respect to testing the null hypotheses.

V. METHOD OF DATA ANALYSIS

Data collected were analyzed using mean scores and Analysis of Covariance (ANCOVA). Mean scores were used to answer research questions while ANCOVA was used to test the null hypotheses at 0.05 level of significance. In answering research questions, students' achievement were determined using mean scores. Difference between post-test mean score and pre-test mean score indicated achievement mean gain/mean loss. Also, difference between delayed post-test mean score and post-test mean score indicated retention mean gain/mean loss. In the test of null hypotheses using ANCOVA, if p-value was less than or equal to the level of significance (0.05), the null hypothesis was rejected, otherwise, it was not rejected ($p\text{-value} \leq 0.05$).

VI. FINDINGS

RESEARCH QUESTIONS 1: What are the differences in the pre-test and post-test mean achievement scores of students taught accounting using conventional teaching method and those taught using discussion teaching method?

Groups	N	Pre-test X_1	Post-test X_2	Mean gain/loss X_{GL}
Control Groups	32	34.30	36.72	2.42
Exp. Groups	26	32.54	41.21	8.67

Table 1: Mean Achievement Scores of Students in Control and Experimental Groups

Data in Table 1 show the pre-test mean scores of students in the control and experimental groups as 34.30 and 32.54 and their post-test mean scores as 36.72 and 41.21 with mean gain scores of 2.42 and 8.67 for control and experimental groups respectively. This shows positive effect for both control and experimental groups. However, the mean gain of 8.67 for the experimental group is higher than that of the control group which is 2.42. This shows that students taught accounting using discussion teaching method performed better with higher post-test scores than those taught accounting using conventional teaching method.

RESEARCH QUESTIONS 2: What are the differences in the mean retention scores of students taught accounting using conventional teaching method and those taught using discussion teaching method?

Groups	N	Post-test	Delayed Post-test	Mean gain/loss
		X ₂	X ₃	X _{G/L}
Control Groups	32	36.72	35.62	1.10
Exp. Groups	26	41.21	50.41	9.20

Table 2: Mean Retention Scores of Students in Control and Experimental Groups

Table 2 shows the post-test mean scores of students in the control and experimental groups as 36.72 and 41.21 and their mean retention scores as 35.62 and 50.41 for control and experimental groups respectively. Mean loss score of 1.10 was obtained by the control group and mean gain score of 9.20 was obtained by the experimental group. This shows that students taught accounting using discussion teaching method retained knowledge of accounting than those taught using conventional teaching method.

HO₁: There is no significant difference in the mean achievement scores of students taught accounting using conventional teaching method and those taught using discussion teaching method.

Source	Type III Sum of Squares	Df	Mean Square	F	P-value.	Decision
Corrected Model	23425.242 ^a	2	12433.726	201.645	.000	
Intercept	3212.436	1	3212.436	42.212	.000	
Posttest	14204.432	1	14204.432	302.634	.000	
Method	4125.312	1	4125.312	122.325	.000	Significant
Error Total	2552.484	132	33.365			
Corrected Total	239247.000	135				
Total	34512.346	134				

Table 3: Summary of ANCOVA on Students' Achievement in Control and Experimental Groups

Table 3 shows the obtained value of $F(1,132) = 122.325$ is significant at 0.000 for the method main effect ($p < 0.05$). This shows that there was significant difference in the mean achievement scores of students taught accounting using conventional teaching method and those taught using discussion teaching method, thus the null hypothesis was rejected.

HO₂: There is no significant difference between the mean retention scores of students taught accounting using conventional teaching method and those taught using discussion teaching method.

Source	Type III Sum of Squares	Df	Mean Square	F	P-value.	Decision
Corrected Model	42537.342 ^a	2	23843.621	1103.12	.000	
Intercept	524.732	1	524.732	29.643	.000	
DelPosttest	3014.432	1	3014.432	121.241	.000	
Method	13343.221	1	13343.221	422.444	.000	Significant
Error Total	2440.750	132	21.413			
Corrected Total	354232.000	135				
Total	42434.123	134				

Table 4: Summary of ANCOVA on Students' Retention in Control and Experimental Groups

In Table 4, it shows the obtained value of $F(1,132) = 422.444$ is significant at 0.000 for the method main effect

($p < 0.05$). This shows that there was significant difference in the mean retention scores of students taught accounting using conventional teaching method and those taught using discussion teaching method. The null hypothesis was therefore rejected.

VII. DISCUSSION OF FINDINGS

EFFECTS OF DISCUSSION METHOD OF TEACHING ON THE ACADEMIC ACHIEVEMENT OF STUDENTS IN ACCOUNTING

The study revealed that, students who were taught accounting using discussion teaching method achieved higher post-test scores than those taught using conventional teaching method. This is in line with the finding of Rahman, Khalil, Jumani, Ajmal, Malik, and Sharif (2011), which revealed that those taught with discussion method had higher post test mean score than those taught with lecture method. The finding also revealed that, the academic performance of students taught accounting using discussion teaching method differed significantly from those taught the same lesson using conventional method in favour of the experimental groups. The finding revealed the usefulness of discussion method in the teaching of accounting in secondary schools.

EFFECTS OF DISCUSSION METHOD OF TEACHING ON THE KNOWLEDGE RETENTION OF STUDENTS IN ACCOUNTING

Findings of the study revealed that, students taught accounting using discussion teaching method retained more knowledge of accounting concepts than those taught using conventional method. Also, there was significant difference between the mean retention scores of students taught accounting using discussion teaching method and those taught using conventional teaching method. It could therefore be said that the observed difference was not by chance since, discussion teaching method enables learners to participate actively in the classroom and this might have influenced the retention level of students.

VIII. CONCLUSION

From the study, it could be concluded that discussion teaching method has the potential to improve the teaching and learning of accounting when appropriately utilized.

IX. RECOMMENDATION

- ✓ Accounting teachers should be trained on the rubrics of discussion teaching method so that they could use it appropriately in the teaching of accounting to enhance students' academic achievement in accounting.
- ✓ Time table officers in the schools should allocate appropriate time for the teaching and learning of accounting so that appropriate methods such as discussion

teaching method could be applied when teaching accounting.

REFERENCES

- [1] Aiken, P. (1997). Information systems development and data modeling: Conceptual and philosophical foundations. Retrieved from <https://onlinelibrary.wiley.com/>
- [2] Arends, R. I. (2009). Learning to teach. New York: McGraw Hill Higher (Education) Companies.
- [3] Ausubel, D. P. (2001). Educational psychology: A cognitive view. New York: Holt Rinehart Winston.
- [4] Chapin, S. H. & O'Connor, C. (2007). Academically productive talk: Supporting students' learning in mathematics. In W. G. Martin & M.E. Strutchens (Eds.). The learning of mathematics. Reston, VA: The National Council of Teachers of Mathematics (NCTM) 113-128.
- [5] Cohen, R. J., Swerdlik, M. E. & Smith, D. K. (1992). Psychological testing and assessment: An introduction to tests and measurement (2nd ed). Mountain View, Calif: Mayfield Pub.
- [6] Federal Republic of Nigeria (2009). National Policy on Education. 5th ed. NERDC Press.
- [7] Hiebert, J., Carpenter, T. P., Fennema, E., Fuson, K. C., Wearne, D., Murray, H. & Human, P. (1997). Making sense: Teaching and learning mathematics with understanding. Portsmouth, NH: Heinemann.
- [8] Kauchak, D. & Eggen, P. (2011). Introduction to Teaching and becoming a professional (4th ed.). New Jersey: Pearson Education Inc.
- [9] Lindvall, M. C & Nitko, A. J. (1985). Measuring pupils' achievement and attitude. New York: Harcourt Brace Jovanovich Inc.
- [10] Middleton, J. A. & Jansen, A. (2011). Motivation matters and inter-est counts. Reston, VA: NCTM.
- [11] Ndinechi, G. I. & Obidile, I. J. (2013). Strategies considered effective for teaching accounting in tertiary institutions in Anambra State. The Official Journal of Nigerian Accounting Association (NAA), 4(2), 133-143.
- [12] Osterlind, S. J. (1989). Constructing test items. Norwell, MA: Kluwer Academic Publishers.
- [13] Otten, S. J., Herbel-Eisenmann, B., Steele, M. D., Cirillo, M. & Bosman, H. M. (2011). Students actively listening: A foundation for productive discourse in mathematics classrooms. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA. Retrieved from <http://www.creativelearningcentre.com>
- [14] Rahman, F., Khalil, J. K., Jumani, N.B., Ajmal, M., Malik, S. & Sharif, M. (2011). Impact of Discussion Method on Students' Performance. International Journal of Business and Social Science, 2 (7), 1-11.
- [15] Stephen, D. & Stephen, P. (2005). Discussion as a way of teaching. USA: Jossey Bass Press.
- [16] Smith, M. & Stein, M. K. (2011). Practices for orchestrating productive mathematics discussions. Reston, VA: NCTM.
- [17] Wehmeier, S. (Ed.) (2006). Oxford Advanced Learner's Dictionary. Oxford: Oxford University Press.
- [18] Welty, W. M. (1989). Discussion method of teaching: A practical guide. Retrieved <http://digitalcommons.unl.edu/podimproveacad>