



## EFFECTS OF DEMONSTRATION, ADVANCE ORGANISER AND LECTURE METHODS ON ACADEMIC ACHIEVEMENT OF ACCOUNTING STUDENTS IN SECONDARY SCHOOLS

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### Abstract

*The study investigated the effects of demonstration method, Advance Organiser and lecture method on senior secondary school students' achievement in accounting. The design adopted in this study was quasi-experimental design of non-equivalent design of pre-test control group design. Intact classes were used to avoid disrupting school programmes for experimental purposes. A Solomon three-group design was adopted in the research. A total of 246 Senior Secondary Two (SS) was used in the research. From the findings, it was observed that both Demonstration Method and Advance Organiser enhance learner's achievement in Accounting. The demonstration method was found to be more effective in improving students' achievement in Accounting than the use of Advance Organiser and that a non-significant difference existed between the mean achievement scores of males and female Accounting students taught with either demonstration method and also those taught using Advance Organiser. There was no interaction effect between method and gender on students' achievement in Accounting. It was recommended that teachers should be encouraged to adopt demonstration method in the teaching of accounting.*

**Keywords:** Demonstration, Advance Organiser, Lecture Method, Students Achievement and Accounting

### Introduction

Accounting is one of the earliest forms of Business education according to Okwuanso and Nwazor (2000) Bookkeeping is the act of recording business transactions daily while accounting is the process of collecting, recording, analyzing and summarizing in monetary terms, information about an organization. From the foregoing, accounting is more complex than book keeping. There is hardly any sphere of life where the knowledge of accounting is not required. Ezemoyih (2023) Indicated that indeed it may not be an exaggeration to say that everyone practice accounting.

Accounting is an instruction that has a broad and comprehensive curriculum that provides the learner with the abilities to acquire basic and essential knowledge, skills, ideas and attitudes necessary to assume the role of a worthy citizen. It delineates the manner in which accounting services may be used and attempts to make recipients a more sub-skilled user of accounting techniques and services. Accounting is a programme under business education which consists of total activities which is planned, organized and evaluated to prepare the recipients to meet the technical and economic needs of the complex society (Uchegbu 2022). According to Ezemoyih (2023), accounting is indispensable for good accountability in any organization, be it private or public. It enables the users of accounting to ascertain whether funds appropriated are disbursed for a particular projects are judiciously utilized or misappropriated. Based on precious research findings, the skills provided are very essential such as book keeping, auditing, taxation and some qualitative analysis are required and relevant in any entrepreneurial and economic development of a nation.

The importance of this subject to human race notwithstanding, poor achievement has been recorded in recent past by secondary school students at Senior Secondary Certificate Examination (SSCE). Reports from chief examiners of the West African Senior Secondary School Certificate Examination (WASSCE) showed that the performance of accounting students from 2019 – 2020 was on steady decline. This negative trend to the students' achievement in the subject has adduced to many factors. Notable among them are the approaches used in the instructional process. According to Keraro and Shihusa (2012), the poor academic achievement by learners may be due to the teachers' use of strategies that make learners lose interest during instruction. Nwosu (2022), opined that a teaching approach a teacher adopts is a strong factor that may affect students learning and this affects their achievements. Ezemoyih (2023)



opined that teachers turn students off the subject by resorting to dictatorial and rote learning methods, which do not really give learners any insight into the subject. Unfortunately, most teaching approaches used in Nigeria. Nwosu (2021) asserts that better teaching strategies in accounting have been an issue of great concern for a long time. Unfortunately, most teaching approaches used in Nigerian schools are mainly expository and fact oriented, making students to be passive (Asogwa and Ezeadum 2023).

Using advance organizer as a teaching strategy may be a solution to this problem. Advance organizer is a refined model of teaching (Asogwa and Ezeadum 2023). Advance organizer is a teaching strategy or instructional design, which creates a situation which makes a student to interact which results in positive change or which makes learning to occur (Ezemoyih 2020). It is developed to help a teacher to improve his / her capacity to reach more students, and create a richer and more diverse environment for them. An advance organizer acts as a cognitive bridge which teachers use to help learners make a link between what they know and what is to be learnt (Asogwa and Ezeadum 2012).

According to Asogwa and Ezeadum (2012) advance organizer can be a relatively short arrangement of material designed for a learner to use his/her relevant prior knowledge, and introduced to learners before the lesson. It is presented at a higher level of abstraction generally and inclusiveness than that of a planned lesson, (Curzon in Asogwa and Ezeadum, 2012). Kudak in Asogwa & Ezeadum (2012) viewed an advance organizer as a device that teachers use to help students make connections between what they know and what they are about to learn. It is therefore, a framework for facilitating students learning of new ideas. The use of advance organizer may be a more efficient instructional approach because the learner knows beforehand what is to be learnt. The information enables the learner to possess content to which new ideas can be meaningfully linked (Asogwa & Ezeadum 2012).

According to Asogwa and Ezeadum (2012), advance organizer may be in form of analogy, metaphor, model, diagram, concept maps, graphics, pictures, as well as hierarchy structures. Mayer in Asogwa & Ezeadum (2012) identifies the following types of advance organizers: graphics, narrative, expository, skimming, concept mapping, brainstorm, study questions (written or verbal) and comparative organizers. In 2018, there were reports from external examiners of public examinations bodies that teachers should help to improve the achievement of their male and female students and develop interest in accounting by reducing the abstractness of accounting concepts, conversion and remove their apathy and fear of the subject. Okigbo and Okeke in Ezemoyih (2022) suggested that it becomes necessary to look for the interventions that could be manipulated in order to effect the achievement of students, based on this, the researchers used demonstration, lecture and organizer as advance organizer in teaching accounting students two units of Junior Secondary School Students (JSS2) accounting contents and compared their effect with teaching without advanced organizer (using modified lecture).

Demonstration methods were advocated by Ansubel in Okigbo and Okeke (2011). According to Okigbo and Okeke (2011), they are used based on Ansubel's learning theory when emphasized that meaningful learning outcome occurs when new concepts are linked with concepts existing in the learners cognitive domain. According to Imoko and Agwagha in Okeke and Okigbo (2011), meaningful learning implies achieving a deep understanding of complex ideas that are relevant to students' lives. Onwioduokit and Akinbobola in Okigbo and Okeke (2011) described advance organizer learning strategy as a pedagogic strategy for implementing the programme principles of progressive differentiation and integrative reconciliation which involves appropriately linking known with unknown. Demonstration can take the form of puzzles, magic tricks, fallacies, paradox or any type which provides amusement or curiosity. Okigbo and Okeke (2011) stated this as bringing joy to the learner, and breakdown resistance to learning by reducing tension, clearing boredom and providing environment where the students can develop skills and acquire more knowledge. They also stimulate accounting thinking and general excitement and spirit of individualism, cooperation and competition. Some electronic gadgets like television, radio, computers, studio, camera, tape recorders, photocopying and duplicating machines and all projectors – opaque, overhead can be used in the teaching of accounting. They are all forms of information carriers that about maximum and noticeable effectiveness in the teaching – learning situation. They are gadgets, equipment or materials that are employed in teaching – learning process to arouse students interest for the purposes of retention and transfer of knowledge which will increase the students achievement in accounting.

According to Obasi (2007), Oshun (2007), Ochi (2010) accounting has been perceived as masculine domain subject. Other research findings showed that gender inequality in some courses in education including accounting is not recent trend but stretches back to pre-historic culture. Offor (2007) stated that gender disparity in accounting include opportunity cost of education, early marriage among girls, lack of female role model, poor self-concepts, inherent sex differences and gender Stereotyping among students and teachers. There are some differences between demonstration method and advance organizer,



there are also some similarities in them Okigbo and Okeke (2011) opined that both encourage students' learning active meaningful learning, working in teams, raising questions and exploring ideas and reasoning.

Demonstration activity is carrying out of experimental physically and collection of data, but organizer stress on the teaching of students using graphics and related gadgets in the teaching of accounting. Ezemoyih (2023) referred to lecture method as expository method of teaching which is teacher centred and students peripheral teaching approach in the teaching of accounting, the interaction between teacher and students is in terms of asking questions on the topic taught. Demonstration and organizer strategies in the teaching of accounting involves physical demonstration. Therefore the researchers decided to teach some concepts in accounting in order to observe their effects on the academic achievement of Business Education Students.

### **Hypotheses**

The following hypotheses were formulated and tested at 95% confidence level:

7. H<sub>01</sub>: There is no significant difference in the mean achievement score of students taught accounting with advance organizer method, demonstration and lecture methods.
8. H<sub>02</sub>: There is no significant difference in the mean achievement score of students taught accounting using Advance organizer and those taught using lecture method.
9. H<sub>03</sub>: There is no significant difference in the mean achievement score of students taught account using demonstration method and advance organizer.
10. H<sub>04</sub>: There is no significant difference in the mean achievement score of male and female student taught accounting using demonstration method.
11. H<sub>05</sub>: There is no significant difference in the mean achievement score of male and female students taught accounting with advance organizer.

### **Method**

The design adopted in this study is quasi-experimental design of non-equivalent design of pre-test control group design. intact classes were used to avoid disrupting school programmes for experiment purposes. A Sample of 250 out of 650 SSII Students from 3 out of 24 junior Secondary Schools in Owerri Municipal Council of Imo State Was Used. Multi-stage sampling technique was adopted in order to fulfil the criteria for selection. First criteria were to select schools with business students' teachers who obtained B. ED or B.sc (Ed) degree teaching accounting in JSII Classes.

Another criteria was secondary school with more than one stream and have presented candidates for certificates for the last five year. Twelve schools one from ten co-educational secondary schools were selected, and two boys only schools selected for study. The entire students of the streams of classes were used in the study. There are some schools that have only or two three streams, they were purposively selected. Also in schools where there are more than two streams, they were randomly selected using hat draw method: for the selection of boys and girls school purposive random sampling, was adopted since each of the boys and girls school will be selected.

The students in experimental and control groups were taught the same topic using the same instructional materials to minimize HAWTHORNE effect. Also the same tests items administered to students in control group as assignments in order inter-group competition. Finally, to reduce student's interactions effect, the workbook of students experiment group was retained by their teacher during the experiment. The research instrument was accounting achievement inventory (AAIT) constructed by the researchers. Initially, (AAIT) consisted of sixty multiple questions with four options. They were given to three accounting educators in the junior secondary schools for validation. Their comments and suggestions were reflected and this reduce the items to forty (40). The marking schemes were validated by three experts teaching accounts in secondary schools. The topic taught during the study include, source documents and books of original entry.

The items were trial tested on forty students of accounting in a school different from the schools chosen for the study. The reliability of the multiple choice was computed using KUDAR-Richandson K-R and the reliability co-efficient were 20 scored dichotomously and non-dichotomously. The reliability of AAIT was 0.85. All was administered as pre- tests. Four teachers were asked to teach for five weeks using prepared lesson plan. A day after pre-test. One of the teachers taught the control group in their respective schools. The revised AAIT version of AAIT was administered post-test in both control unit and experimental groups, the teachers administered the test to their student at the last lesson of the fifth week. To avoid differences in the scoring, only one teacher marked the script using markers' guide scheme. Five research



hypotheses were tested with Analysis of Covariance (ANCOVA) using pre-test achievement score as covariates.

**Results**

**Table 1: Descriptive Statistics for the effect of each of the three methods on students' achievement in Accounting**

Teaching Method	Sex	Mean	Standard	N
Pre-test Accounting Achievement				
Demonstration	Male	57.0811	15.5356	37
	Female	53.4468	14.4626	47
Advance Organiser	Male	59.6486	15.0485	37
	Female	59.3103	13.6346	47
Lecture Method	Male	61.9615	13.3431	37
	Female	54.6829	13.6004	47

Teaching Method	Sex	Mean	Standard	N
Post-test Accounting Achievement				
Demonstration	Male	78.2162	15.3463	37
	Female	78.0000	14.9142	47
Advance Organiser	Male	71.0541	11.2397	37
	Female	70.6661	10.5152	47
Lecture Method	Male	63.3462	17.5201	37
	Female	60.5366	15.3184	47

**Table 2: Multivariate Analysis of Conviariance (ANCOVA)**

Source	SS	df	m.ss	F	Seg
Corrected Model	1739.20	7	2485.34	12.295	000
Intercept	3668.89	1	36668.89	181.400	000
Pretest achievement	5665.177	1	3665.177	28.025	000
Post-test achievement	5682.117	1	5682.116	28.109	000
Demonstration method	12119.32	2	6059.658	29.977	000
Malaxpende	15.528	1	115.528	29.977	000
Advance Organiser	390.7312	1	195.365	382	000



**Table 3 Scheffe test for source differences in groups in Accounting**

	N	df	Subset
Demonstration Method	84	1	78.0952
Advance Organiser	84	1	73.4737
Lecture Method	67	1	7.152

From table 2, a significant main effect was observed for demonstration method with respect to post achievement,  $F = 29.977$ ,  $P < 0.05$ .

To specify the direction of the effect, a post Hoc multiple comparison of achievement mean was carried out using Scheffe's test. Means of groups in homogeneous subsets displayed on table 3. The following conclusions were drawn from Table 2 and Table 3. There was a significant difference in the mean achievement score if students taught accounting using demonstration method and those taught using lecture method.

There was a significant difference in the mean achievement score of students taught accounting using demonstration method and those taught using lecture method. There was a significant difference in the mean achievement score of students taught accounting using advance organizer method and those taught accounting using lecture method. There was no significant difference in the mean achievement score of students taught accounting using demonstration and those taught accounting using demonstration and those taught accounting using advance organizer. From table 3, the use of demonstration method and advance organizer in teaching accounting was the most effective in facilitating students achievement in accounting.

HO<sub>4</sub>: There is no significant difference between the mean achievement scores of male and female taught accounting using demonstration

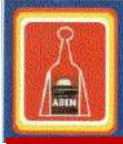
**Table 4: Analysis of Covariance (ANCOVA) of Ho<sub>4</sub>**

Source	SS	Df	m.ss	F	Sig.
Corrected Model	55.07	2	27.538	120	.887
Intercept	35131.54	1	35131.54	152.532	.000
Covariate	54.107	1	54.107	0.235	.629
Male & Female	2.446	1	2.446	0.11	.91

From table 4 the null hypothesis stating a non-significant difference between scores of male and female accounting students taught with demonstration method is retained.

### Discussion

The result of the hypothesis one showed that there was significant change in academic achievement among accounting students taught with demonstration, advance organizer and lecture method. To specify the direction of the effect, a post HOC analysis as shown in table 3 indicated that demonstration method was found to be most facilitating, followed by advance organizer and lecture method was the least in enhancing students' academic achievement in accounting. The result gave credence to what was found in Okigbo and Okeke (2011) that academic achievement in accounting can be improved through the use of appropriate teaching method. The result also has support of what had been found by Munoz in Okigbo and Okeke (2011) who reported that teaching accounting with demonstration method is a good motivator of academic achievement in learning accounting. Demonstration method and advance organizer related accounting to real life. This may be one the reasons why both of them had the same efficiency in engendering the academic achievement of students in accounting. The results of hypothesis four (Table 4) showed that there was no significant difference between the mean academic achievement scores of male and female accounting students taught using demonstration method and advance organizer.



### **Conclusion**

Based on the findings in this study it was concluded that demonstration Method is the most effective in enhancing accounting students' academic achievement in secondary school in Nigeria. A significant difference existed between the mean academic achievement of male and female accounting students taught accounting with demonstration and lecture method, but in favour of demonstration method.

### **Recommendations**

From the result of the study, the following recommendations are made:

1. accounting teachers should adopt the use of instructional activities such as demonstration method, advance organizer and use of lecture method before, within and after accounting class.
2. Teachers should use both demonstration and advanced organizer methods to teach both male and female accounting students.

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