

Analysis of School Type and Test Item Format on Students' Achievement in Financial Accounting

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Abstract: The study examined the influence of test item format and school type on students' achievement in Financial Accounting in Imo State, Nigeria. Casual comparative research design was used in the study. To achieve the purpose of the study, two research questions and three hypotheses guided the study. All the senior secondary school students in class two (SS2) offering financial accounting in 2014/2015 academic session constitute the population of the study while a total of number of 286 students purposively selected from both public and private school participated in the study. Financial Accounting Achievement Test (FAAT) adapted from 2015 National Examination Council Pass question paper was used for data collection. The test was modified into different test item format and subjected to content and face validation. Reliability coefficients of 0.86 for essay test, 0.69 for multiple choice tests 0.50 for true/false format and 0.86 for matching test were obtained. Data collected were analyzed using mean and standard deviation in answering all the research questions while analysis of variance (ANOVA) was used to test the hypotheses at 0.05 level of significant. The findings revealed that there was no significant difference in the achievement of students in different test item format, although student who took essay test had highest mean score compared to students who took other test formats. Also, there is no significant difference in the mean achievement scores of students in the public and private schools. There is no significant interaction effect of school type and test item format on achievement. It was therefore, recommend that government should provide modern educational resources for the teaching and learning of Financial Accounting and train teachers to the use of modern techniques of teaching Financial Accounting, use of variety of instrument in evaluation and use of test blue print to ensure content validation of test used for evaluation of students' achievement.

Keywords: School Type, Test Item Format, Achievement, Financial Accounting.

Introduction

School sector as an agent of socialization prepares individuals to become a useful member of the society and contribute effectively in the development of the nation through offering different subject at different levels of education. The subjects offered in the schools are contained in the National Policy on Education with its objective (FRN, 2004). The aspiration and expectation of the school in the National Policy on Education and the laudable goals of the education is measured through an instrument to ascertain the level of attainment. The instrument available to carry out this task includes but not limited to questionnaire, check list, observational tools and test. Periodically, the objectives of the each subject areas are asses using different test item format to determine the level of success attained and student mastery of the skills of the subject in the public and private schools.

Financial Accounting is one of the school subject offers in Nigerian schools whether private or public. Financial Accounting has been defined by many authors in different perspective. For instance (Osisioma, 1990; Igben, 2009 and Asaolu, 2002) defined accounting from traditional perspective, the authors see the subject as the process of collecting, analyzing, interpreting and communicating the financial information of a business. The traditional perspective view accounting as a mechanical process that does not interact much with the business environment as opined by Chinweike (2011). On the other hand, Chinweike (2011) using modern business perspective view financial accounting as a lens through which makers sees through the clouded business world. This is to say that accounting has seized to be an almost automated process that it used to be and is now highly scalable , by scalable, it means that accounting process is now robust enough to accommodate any unforeseen event that turn out. The learning of the subject offers one the opportunity of becoming an accountant and financial experts in the financial market.

The Federal Republic of Nigeria in her National Policy on Education (2004) stipulates that financial accounting is an elective course in the senior secondary schools while the Nigerian Educational Research and Development Council NERDC (2007) (page iv) summarized the objective of studying the subject in secondary schools to: equip secondary school students with the necessary knowledge about the various reforms; changes and adjustments in the country's economic and financial system; to enable secondary school students understand the rudiments and fundamentals of the Nigerian financial system and the public sector accounting; which will inculcate in them the spirit of transparency and accountability in public financial management; and to inculcate the interest and the needed foundation in the students that will encourage them to become professionally qualified accountants.

In order to achieve these objective students' needs to master the subject and achieve high in the subject both in internal and external examination irrespective of the type of school they attend, be it public or private schools. Poor achievement of students in Financial Accounting has been dominant in external examination according to West African examination council Chief examiners report (2014 and 2015). The reason has been attributed to non instructional facilities, inability of teachers and inability of government to provide modern educational resources, teaching aids, broads' content area, and inadequate manpower, poor remuneration of teachers among others. This

has created a serious gap in the expectations of the National Policy on Education in Financial Accounting and goals of education to make citizens become useful member of the society.

Studies on students' achievement in Financial Accounting have been carried out by different researchers (Uwameiye & Ogunbameru, 2005; Nwosu & Okoli, 2010, Nwosu & Azih, 2011, Eneja, 2013). These researchers investigated student achievement in relation to method of teaching, gender, ability level and location, Hence, there is need to investigate achievement of students in relation to school type and test item format because test instrument use in assessing the achievement of students may creates a problems in ascertain the level of success recorded and mastery of the subject by students. The reason for this may be as a result of inability of teachers to clearly defined what the intention of the instrument are, use of ambiguous language on testing instrument, inadequate trained teachers in the area of instrument development and lack of use of test blue print in validating the test and non use of variety of assessment tools.

Bob (2012) argued that test is a method of determining a student's ability to complete certain task or demonstrate mastery of a skill or knowledge of content. The definition suggest that test reveals the extent to which students mastered the subject matter content and demonstrate skills in carryout a given task after instruction. It is also a tool, a question, set of question, an examination which measures a particular characteristic of an individual or group of individual regarding their ability, knowledge, performance and achievement. However, a test is an instrument used to detect the present and absent of attribute being sought for. The attribute could be the extent of learning objective achieved, amount of knowledge demonstrated in the task presented during instruction, the learning objective covered, and the efficacy of teaching methods. Test exists in different format namely essay test, multiple choice test, true/false format test, and matching test. No matter which format a test exists, the main purpose of the test is to measure the learning outcome and level of objective attain in the curriculum like Financial Accounting. The extent to which the students have mastered the content of Financial Accounting can be influenced by test item format and school type.

Yusuf and Adigun (2010) investigate the influence of school sex, location and type on student academic performance in Ekiti state Nigeria and reported that school type, sex, and location had no significant influence on students' academic performance. Akamigbo (2014) reported significant difference in the mean achievement scores of students multiple choice, fill-in, matching and essay item test in economics. This implies that test item format influences academic achievement of student in Economics. There is need therefore; to investigate the influence of school type and test item format on students' achievement in Financial Accounting in Imo State, Nigeria.

Purpose of the Study

The general purpose of this study is to analyze school type and test item formats on students' achievement in Financial Accounting in Imo State. Specifically, the study intends to determine;

1. the influence of test item format on achievement of students in financial accounting
2. the influence of school type on achievement of students in financial accounting

Research Questions

The following research questions were posed to guide the conduct of the study;

1. What is the influence of test item formats on students' achievement in Financial Accounting?
2. What is the influence of school type on students' achievement in Financial Accounting?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significant;

1. There is no significant difference in the mean achievement scores of students in different test item formats in Financial Accounting.
2. There is no significant difference in the mean achievement scores of student in public and private school in Financial Accounting
3. There is no significant interaction effect of school type and test item type formats on students' achievement in Financial Accounting.

Research Method

The study analyzed school types and test item types on students' achievement in Financial Accounting in Imo state. The design adopted for the study was a casual comparative design. This was considered appropriate by the researchers to give a comparison of students' achievement in relation to test item types and school types in Financial Accounting. Total number of 286 Financial Accounting students purposively selected from both public and private senior secondary schools in Imo State was used for the study. Adapted 2015 NECO Financial Accounting Achievement Test (FAAT) modified into different format was used as instrument for data collection. The instrument was face validated by two experts from Financial Accounting Department and Science Education (Measurement and Evaluation) in University of Nigeria, Nsukka. The content validity of the instrument was established through the use of well constructed table of specification. The reliability of the instrument of different test format yield a reliability coefficient of 0.86 for essay test using Kendall coefficient of concordance, 0.89 for multiple choice test, 0.50 for true/false format and 0.86 for matching established using Kuder Richardson (KR-20) formula. The instruments were administered to the sampled schools by the researchers with the help of financial Account teachers in the schools selected for the study. All the instruments administered were completed and returned. The data gathered were analyzed using mean and standard deviation in answering all the research questions, while analysis of variance (ANOVA) was used to test the formulated hypotheses at 0.05 level of significance.

Results

Research Question One

What is the influence of test item formats on students' achievement in Financial Accounting?

Table 1: Mean and standard deviation of student according to test item format and school types

School Type	Item Type	N	Mean	Std. Deviation
Public School	Essay Test	36	43.33	15.92
	Multiple Choice Test	37	39.19	14.27
	True/False	35	39.71	17.56
	Matching Test	35	43.34	15.26
	Total	143	41.38	15.73
Private School	Essay Test	36	44.58	12.31
	Multiple Choice Test	37	41.78	13.04
	True/False	35	42.14	13.69
	Matching Test	35	44.03	12.17
	Total	143	43.13	12.74
Total	Essay Test	72	43.96	14.14
	Multiple Choice Test	74	40.49	13.63
	True/False	70	40.93	15.68
	Matching Test	70	43.69	13.71
	Total	286	42.25	14.32

Table 1 shows students achievement in financial accounting according to test item format, student who took essay test had a mean score of 43.96 and standard deviation of 14.14, multiple choice test student had a mean of 40.49 and standard deviation of 13.63, true/false student recorded a mean score of 40.93 and standard deviation of 15.68 while matching student obtained mean score of 43.69 and standard deviation of 13.71. Comparative, student who took essay test had the highest achievement mean score followed by those who took matching test, next true/false format test and multiple choice test students had the lowest mean achievement.

Research Question Two

What is the influence of school type on students' achievement in Financial Accounting?

Result in Table 1 also shows the achievement of students in the public and private schools in financial accounting. From the Table, public schools students had a mean score of 41.38 and standard deviation of 15.73 while their counterpart in the private schools had a mean score of 43.13 with standard deviation of 12.74. Comparatively, students in the private schools had a higher achievement mean score than those in the public schools with a mean difference of 1.75.

Hypothesis One

H₀₁: There is no significant difference in the mean achievement score of student in different test item format in financial accounting test.

Table 2: Analysis of variance (ANOVA) of school types and test item format in Financial Accounting

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	970.892 ^a	7	138.699	.671	.696
Intercept	510613.275	1	510613.275	2.472E3	.000
SCHOOL TYPE	216.289	1	216.289	1.047	.307
ITEM TYPE	706.784	3	235.595	1.140	.333
SCHOOL TYPE * ITEM TYPE	45.577	3	15.192	.074	.974
Error	57432.982	278	206.593		
Total	568974.000	286			
Corrected Total	58403.874	285			

Result of the analysis of variance (ANOVA) in Table 2 shows no significant difference in the mean achievement score of student in different test item format; $F = (3, 278) = 1.140$ $P = .333$. Thus, the null hypothesis of no significant difference was retained and the researchers conclude that, there is no significant difference in the mean achievement score of student in different test item format in financial accounting test.

Hypothesis Two

H₀₂: There is no significant difference in the mean achievement score of student in public and private school in Financial Accounting

Result of the analysis of variance in Table 2 was also used to test hypothesis two. The Table revealed no significant difference of students' achievement in public and private schools. The obtained value of $F = (1, 278) = 1.047$ is not significant at exact probability value of 0.307 ($P > 0.05$). Thus, the null hypothesis was accepted and the researchers conclude that there is no significant difference in the mean achievement score of student in public and private schools in Financial Accounting.

Hypothesis Three

H₀₃: There is no significant interaction effect between school type and test item type on students' achievement in Financial Accounting test.

Result of the analysis of variance in Table 2 was also used to test hypothesis three. The Table shows no significant interaction effect of school type and test item type on students' achievement in Financial Accounting. The obtained value of $F(3, 278) = 0.074$ is not significant at exact probability value of 0.974 ($P > 0.05$). Thus, the null hypothesis was accepted and the researchers conclude that there is no significant interaction between school type and test item format on students achievement in financial accounting test. The result of no significant interaction effect was also discussed using screen plot shown in figure 1 which is another way of exploring interaction effect.

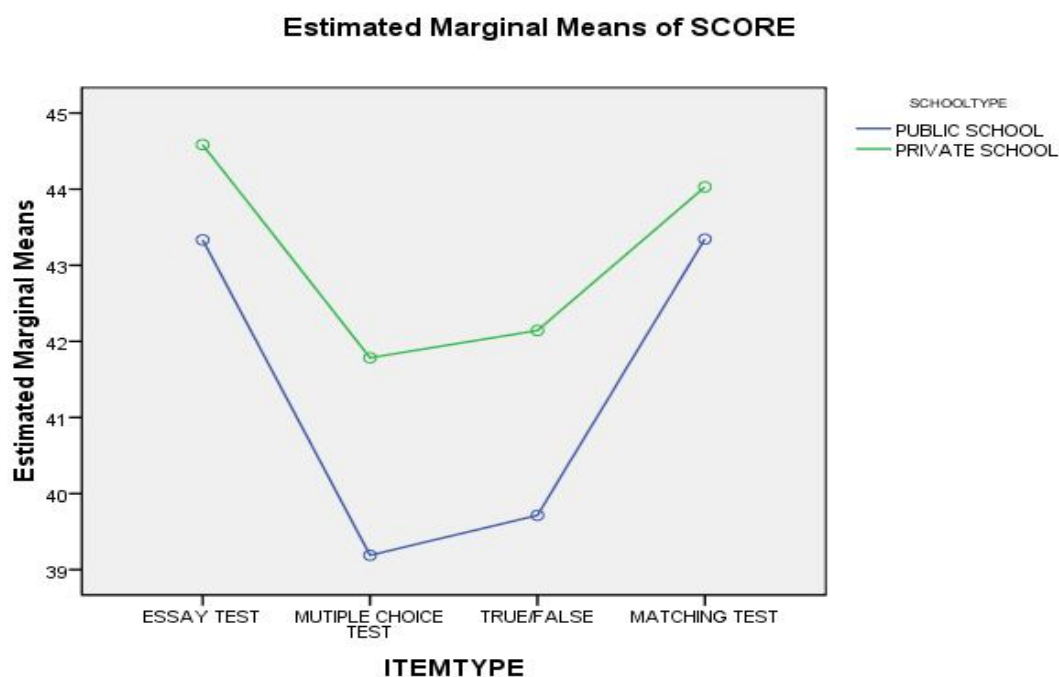


Figure 1: Interaction effect of school type and test item format on students' achievement in financial accounting

The plot shows that there is no interaction effect between school type and test item type on achievement of student in Financial Accounting since the connecting cell mean in the diagram is parallel.

Discussion of Findings

The findings of the study reveal that there is no significant difference in the mean achievement of students on different test item format in accounting. This implies that achievement of students does not influence by test item format. The choice of essay test, true/false format, matching test and multiple choice test has no role in determining students' achievement in Financial Accounting in Imo state. The findings of the study disagrees with the findings of Akamigbo (2014)

who reported significant difference in the mean achievement score of students in multiple choice, fill in the gap, matching test and essay test in Economics.

The findings of the study in Table 2 reveal that there is no significant difference in the mean scores of students in public and private schools. This implies that the early indentify difference in favour of private schools in Table 1 is due to chance factor. The choice of school whether public or private does not influence students' achievement in Financial Accounting. The study is in line with the findings of Yusuf and Adigun (2010) that investigate the influence of sex, school location and school type on students' academic performance, and reported that school type, sex, and location of schools had no significant influence on students' academic performance. The result also shows no interaction effect of school type and test item types on students' achievement in Financial Accounting as seen in Table 2 and figure 1 respectively.

Conclusion

Based on the findings of this study, the following conclusions have been made;

1. There was no significant difference in the mean achievement scores of students in different test item format in Financial Accounting.
2. No significant difference exist in the mean achievement score of student in public and private school in Financial Accounting
3. There is no significant interaction effect between school type and test item type on students' achievement in Financial Accounting.

Recommendations

The following recommendations are made based on the findings of the study;

1. Government should provide modern educational resources for the teaching and learning of Financial Accounting in public and private schools.
2. Teachers' need to be trained through seminars and workshops to adopt the modern techniques of teaching Financial Accounting in secondary schools.
3. Teachers should be encouraged to use variety of instruments in evaluating their students' learning outcome.
4. Teachers should ensure content validity of their test items by using test blue print or table of specification in the construction of their test items used in measuring students' achievement in Financial Accounting.

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