

**EFFECTS OF GUIDED DISCOVERY AND DEMONSTRATION METHODS OF
TEACHING ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS
IN FINANCIAL ACCOUNTING IN BENUE STATE, NIGERIA**

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Abstract

This study was prompted by consistent poor performance in recent senior secondary school certificate financial accounting examinations. The study sought to find the effects of Guided Discovery and Demonstration methods of teaching on the academic performance of secondary school students in Financial Accounting in Benue State, Nigeria. The study population comprised one thousand six hundred and sixteen (1,616) SS 2 STUDENTS (786 male and 830 female). The sample size was one hundred and forty-four (144) respondents comprised seventy-two (72) male and seventy-two (72) female. The study adopted pre-test and post-test. The study involved S.S 2 students in three intact classes of the three selected secondary schools in Benue State. Criterion and purposive sampling techniques were used to select the sample. The study had three objectives, three research questions and three hypotheses. Self-developed Financial Accounting Performance Test (FAPT) and Financial Accounting Evaluation Test (FAET) were the instruments used for data collection. The Mean and standard deviation were used to answer the research questions while t-test was used to test the hypotheses at 0.05 level of significance. The findings revealed that students performed better in financial accounting when guided discovery and demonstration methods of teaching were used than the lecture method. Based on the findings, it was recommended that through seminars, workshops and conferences, serving financial accounting teachers should be sensitized and encouraged to adopt guided discovery and demonstration methods in teaching financial accounting lessons more regularly.

Keywords: Financial Accounting, Guided Discovery method, Demonstration method, Academic Performance and Teaching

Introduction

Benue State is one of the 36 States of the federation and is part of the North Central Geopolitical Zones of Nigeria. Benue state was created on February 3, 1976 from the former Benue-Plateau State. Benue State lies in the southern guinea savanna vegetation belt with a population of about 4,780,389 (National population Census, 2006). The State had 23 local government areas. Benue state has three educational zones – A, B and C. Schools in the zones offered financial accounting as one of the subjects in secondary school education programmes

Education is a bedrock for national development. Every society cherishes education of her children. Quality education is attained through effective teaching and effective teaching is actualized through adopting appropriate methods of teaching. Teaching entails giving instruction, imparting knowledge, facts, skills, attitudes, interests and aptitude. Teaching is the primary function of a teacher. A teacher in this regard, is expected to be a professional who consciously and deliberately utilizes his or her wealth of experiences, ideas, skills, competencies, attitudes, interest and mastery of the subject matter to facilitate learning in students.

Mkpa (2022) explained that method of teaching is the totality of all the strategies, techniques and ways that a teacher employs to maximize and facilitate classroom instruction. Methods of teaching are a means of conveying facts and decoding messages. Methods of teaching is the procedure, orderliness in planning and execution of teaching with appropriate integration of instructional materials to achieve the objectives at the classroom level. There are several methods of teaching to be employed in the teaching and learning process. Therefore, different methods can be applied during teaching and learning of financial accounting to enable students learn better.

Accounting is said to be the language of business. According to Flegm, in Ibrahim (2023), involves the measurement, disclosure or provision of assurance about financial information that helps managers, investors, tax authorities, and other decision makers make resources allocation decisions. Longe and Kazeem (2020) stated that accounting involves the process of recording, classifying, selecting, measuring, interpreting and communicating financial data of an organization to enable users make decision.

On the other hand, financial accounting is a specialized branch of accounting that keeps track of a company's financial transactions using standardized guidelines; the transactions are recorded, summarized, and presented in a financial report or financial statement such as an income statement or balance sheet. Financial accounting is the field of accounting that is concerned with the preparation of financial statements for decision-making. It is an aspect of business education programme offered at secondary school level of our educational system. Financial accounting enables an individual to acquire knowledge and marketable skills that would enable him or her to earn a living. It is used to prepare accounting information for people outside the organization, or for those who are not involved in the mundane administration of the company.

Financial accounting is important to modern society. It may be argued that the purpose of financial accounting is not to report the value of a company, but to provide enough information for others to assess the value of a company for themselves. Financial accounting is an aspect of education that all people, irrespective of job, discipline, or position, should have some knowledge of. Adamu (2020) argued that knowledge of financial accounting is required in every field of work. Secretaries use accounting skills to manage companies' petty cash, auditors study financial statements to evaluate the accuracy and integrity of businesses and executives judge the success of their businesses using the accounting information. However, experiences and studies over the years have shown that most

students generally regarded financial accounting as an abstract and difficult subject, since it is drawn from many other fields.

Academic performance has to do with how well students meet educational standards - aims, goals and objectives of education set for them at a particular time. Academic performance is defined as students' progress, understood as the level of learning, comprehension and consolidation of the school curriculum. It is how students deal with their academic programmes designed for them and how they cope with or accomplished different tasks. Academic performance is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goals. This is corroborated by Nnaobi (2020) who maintained that performance in the teaching/learning process has to do with attainment of set objectives of instruction. In financial accounting for instance, if a learner accomplishes a task successfully and attains the specified goals for a particular learning experience, he is said to have achieved. In educational institution, success is measured by academic performance or how well a student's standards set by the institutions (Mamman, 2021). As career competition grows in the working world, the importance of students performing well in school has caught the attention of parents, legislators and government.

Guided-discovery method of teaching is a student-based exploration of an authentic problem using the process and tools of a discipline. It is a pedagogy that exposes students to various situations, questions, or tasks that allow students to "discover" for themselves the intended concept or material. Abdullahi (2020) maintained that guided-discovery method is a student-centered; activity-oriented teaching strategy. in which the teacher guides the students through problem-solving approach to discover answers to instructional topic at hand. Akinsete in Igboegwu (2022) defined guided-discovery as a method of teaching that encourages a student to solve problems by seeking and asking questions so as to gather information. Adeoye and Alayande, in Igboegwu (2022), reported that this method makes activities enjoyable, accessible and promote students' language and communication skills.

On the other hand, the demonstration method of teaching involves the teacher or a student showing activities in front of a class and explaining as he or she proceeds. Obeka (2019) viewed demonstration method as a method of teaching in which seeing rather than hearing, is the major means of communication. Demonstration method is a teaching strategy that involves experimentation. Nwachukwu and Nwosu, in Igboegwu (2022), stated that a demonstration can be carried out by 'the teacher for the students to observe and/or participate, or by students for both the teacher and other students to observe'.

Statement of the Problem

The poor performance of students in financial accounting is alarming and disturbing which calls for urgent attention of the teachers, curriculum planners and the education sector. The general public becomes upset due to the annual release of the West African Senior School Certificate Examination results as students' outcomes do not match up with the parental and governmental investment.

Udoh in Mamman (2021) confirmed this poor performance by remarking that in spite of the laudable objectives of financial accounting programme, students' performance at their final examination in the subject has been negatively skewed. The West African Examination Council (2020) observed areas of weakness in financial accounting from the scripts of candidates. These were:

- a) The candidates displayed shallow knowledge of the subject which was evident in the monosyllabic answering of the questions
- b) There was poor presentation of answer and that some candidates answered more than one question on one page
- c) Candidates could not answer questions that required application and knowledge of financial accounting
- d) Candidates performed very poorly on questions on documents used in trading and questions on shares and debentures
- e) Candidates exhibited poor mastery of English Language which was evident in their inability to understand the questions.

In agreement with the above statement, Adamu (2021) stated that despite the importance of financial accounting to individuals and nations, a significant number of students could not cope with the challenges of skills and technicalities in it. He further posited that this has affected students' interest in the subject. The problem of massive failure in financial accounting has been an issue of discussion among accounting teachers, students and the society in general. Olowodun (2020) observed that financial accounting taught in Nigerian secondary schools is more of 'examination-oriented than life practical value-oriented', resulting in poor performance of students in examination.

The WAEC SSCE results from 2015-2022 in financial accounting showed the percentage of failures as 60.12%, 68.24%, 74.15%, 80%, 83.09%, 88.0%, 90.20% and 93% respectively. Data collected for the May/June 2009 to 2012 from WAEC office Makurdi by the present researchers revealed that the failure rate was 83%, 86%, 79% and 80% respectively.

Therefore, based on the foregoing, it is absolutely clear that there is a problem with the teaching-learning of financial accounting in our secondary schools. Meanwhile, what could be responsible for these problems? Could it be methodology? Could it be inadequate instructional facilities? Could it be poor attitude and interest of students toward the subject? Could it be incompetence on the part of teachers? It is against this background that the researchers are carrying out a research on the effects of guided-discovery and demonstration methods of teaching on academic performance of secondary school students in financial accounting in Benue State, Nigeria.

Purpose of the Study

The major objective of this study is to determine the effects of guided-discovery and demonstration methods of teaching on academic performance of secondary school students in financial accounting in Benue State. The specific objectives of this study are to:

1. Determine the difference between the performance of secondary school students taught financial accounting using guided-discovery method of teaching and those taught using lecture method of teaching in Benue State
2. Assess the performance of secondary school students taught financial accounting using demonstration method of teaching and those taught using the lecture method in Benue State
3. Compare the performance of secondary school students taught financial accounting using guided-discovery method of teaching and those taught using demonstration method of teaching in Benue State

Research Questions

In line with the objectives of the study, the following research questions were raised to guide the study.

1. What is the difference between the performance of secondary school students taught financial accounting using guided-discovery method of teaching and those taught using lecture method in Benue State?
2. What is the difference between the performance of secondary school students taught financial accounting using demonstration method of teaching and those taught using lecture method in Benue State?
3. What is the difference between the performance of secondary school students taught financial accounting using guided-discovery method of teaching and those taught with demonstration method of teaching in Benue State?

Research Hypotheses

In line with the research questions, the following null hypotheses were formulated to guide the study:

- Ho₁: There is no significant difference in the performance of secondary school students taught financial accounting using guided discovery and those taught using lecture method of teaching in Benue State
- Ho₂: There is no significant difference in the performance of secondary school students taught financial accounting using demonstration method of teaching and those taught using lecture method in Benue State
- Ho₃: There is no significant difference in the performance of secondary school students taught financial accounting using guided-discovery and those taught using demonstration method of teaching in Benue State

Methodology

This study was a quasi-experimental research design. This design was adopted because intact classes were used. Pre-test and post-test non-equivalent control group were also used for the study. The population was one thousand six hundred and sixteen senior secondary two (SS2) financial accounting students. The sample size was 144 students representing 9.07% of the entire population. The state has three educational zones. The criteria and purposive sampling techniques were used to select three schools. The three selected schools were: Community Secondary School, Otukpa, Aliyu

Muhammed Jama Memorial Arabic College, Makurdi, and Government Secondary School, Abaji-Kpav. The detail is as shown below:

Table 1 Sample size

S/No	LGA/Name of Zone	Name of Schools	No. of Students		
			Male	Female	Total
Zone A					
1.	Katsina Ala	Govt. Sec. Sch.Abaji-Kpav	26	18	44
Zone B					
2.	Makurdi	Aliyu Memo. Arabic College	21	24	45
Zone C					
3.	Ogbadibo	Comm. Sec. Sch. Otukpa	25	30	55
TOTAL		3	72	72	144

Source: Benue State Teaching Service Board, Makurdi, 2023

The study adopted two instruments for data collection: Financial Accounting Performance Test (FAPT) which consisted of pre-test items and Financial Accounting Evaluation Test (FAET) which consisted of post-test items. The data collected were subjected to different statistical tests. Percentage were used to analyze the bio-data of the respondents. Mean and standard deviation were used to answer the research questions and a t-test was used to test the hypotheses at 0.05 level of significant.

Analysis of Bio-data of respondents

Table 2. Distribution of Respondents by School

S/No	Name of Schools	No. of Students		
		Male	Female	Total
1.	Govt. Sec. Sch. Abaji-Kpav	26	18	44
2.	Aliyu Memo. Arabic College	21	24	45
3.	Comm. Sec. Sch. Otukpa	25	30	55
TOTAL	3	72	72	144

Table 2 above revealed that three schools with a total number of 72 male and 72 female students participated in the exercise

Table 3 Distribution of Respondents by Methods of Teaching

Methods of teaching	Male	Female	Total	Percentage (%)
Lecture	24	24	48	33.3
Demonstration	24	24	48	33.3
Guided Discovery	24	24	48	33.3
Total	72	72	48	100

Table 3 above showed that 24 male and 24 female students with a total population of 48 respondents representing 33.3% of the respondents were taught using lecture method of teaching. The table further revealed that 24 male and 24 female students totaled 48 respondents representing 33.3% were taught using demonstration method of teaching while another 24 male and 24 female respondents were taught using guided-discovery method of teaching.

Research Question One:

What is the difference between the performance of school students taught financial accounting using guided-discovery method of teaching and those taught using lecture (teaching) method in Benue State?

The aim here was to determine the efficacy in terms of any significant difference between the performances of secondary school students taught financial accounting using guided-discovery method of teaching and those taught using the conventional lecture method. To provide an answer to this question, the mean performance scores of the two groups before and after the experiment were computed and compared. The mean scores of the two groups are shown in Table 4.

Table 4: Guided-discovery method of teaching and secondary school students' performance in financial accounting

Methods of Teaching	N	df	Post-test performance		Decision
			Mean	Std. dev	
Guided-discovery	48	46	70.56	17.41	Guided-discovery method had effect
Lecture	48	46	36.15	24.38	

Table 4.4 above revealed that students who were exposed to the guided-discovery method of teaching had a mean score of 70.56 ± 17.41 in the post-test, while their counterparts who were taught using the conventional lecture method had a mean score of 36.15 ± 24.38 . This higher score of students in the experimental group clearly showed that the guided-discovery method of teaching had a greater effect on students' performance in financial accounting than the conventional method.

Research Question Two:

What is the difference between the performances of secondary school students taught financial accounting using demonstration method of teaching and those taught using lecture (teaching) method in Benue State?

The effect of the demonstration method of teaching on the performance of secondary school students was compared here with that of the conventional method of teaching to determine its efficacy in enhancing the academic performances of students. The performances of students taught with demonstration method and those taught with conventional lecture method after the treatment were computed and compared in Table 5

Table 5: Demonstration method of teaching and secondary school students' performance in financial accounting

Methods of Teaching	N	df	Post-test performance		Decision
			Mean	Std. dev	
Guided-discovery	48	46	57.19	22.97	Guided-discovery method had effect
Lecture	48	46	36.15	24.38	

Table 5 above revealed that students who were with demonstration method had mean score of 57.19 ± 22.97 while those who were taught with conventional lecture (teaching) method of teaching had mean score of 36.15 ± 24.38 after the experiment. This implied that the use of demonstration method of teaching had greatly improved the performances of the students.

Research Question Three:

What is the difference between the performances of secondary school students taught financial accounting using guided-discovery method of teaching and those taught with demonstration method of teaching in Benue State?

The efficacies of the two experimental methods (guided discovery and demonstration method) used in the teaching of financial accounting were compared here to determine which one has an edge over the other in enhancing the students' academic performance in the subject. The performances before and after were compared, but only the post-test scores were used here for the decision, since this was the point at which their treatment was introduced in the experiment. The mean performances of the two groups were summarized in Table 6, along with their corresponding standard deviations and standard errors.

Table 6: Guided-discovery and demonstration methods of teaching and secondary school students' performance in financial accounting

Methods of Teaching	N	df	Post-test performance		Decision
			Mean	Std. dev	
Guided-discovery	48	46	70.56	17.41	Guided-discovery method had effect
Lecture	48	46	57.19	22.97	

Table 4.6 above revealed that the performances of students taught using guided-discovery method had mean score of 70.56 ± 17.41 after the treatment while that of students exposed to demonstration method was 57.19 ± 22.97 . Though the scores of both groups could be said to have improved greatly after the treatment but variability in the score of students exposed to guided discovery was higher. The post-test mean scores clearly indicated that those exposed to guided-discovery were better and thus implying that guided-discovery could be more effective in enhancing performances of students in financial accounting in secondary schools.

Hypothesis One:

There is no significant difference between the performances of secondary school students taught financial accounting using guided-discovery and those taught using lecture method of teaching in Benue State.

This hypothesis was tested with data collected at the post-test level of the experiment from the two groups of students who were taught using the guided-discovery method and the conventional lecture method. The two-sample t-test procedure was used for the test because of the two independent groups (guided discovery and lecture (teaching) methods) involved in the test. The summary of the result was presented in Table 4.9.

Table 7: Effect of guided-discovery method of teaching on secondary school students' performance in financial accounting

Methods of Teaching	N	Mean	Std. Dev.	Std. Error	t-value	DF	Pvalue
Guided-discovery	48	70.56	17.41	2.51	7.96	94	0.000
Lecture	48	36.15	24.38	3.52			

(t-critical at 94 degree of freedom and $P = 0.05$) = 1.99

Table 7 above revealed that students who were taught with the guided-discovery method had a higher mean score of 70.56, compared with the score of students taught with the lecture method, which was 36.15. From the observed t-value of 7.96 obtained at 94 degrees of freedom and the level of significance of 0.000 ($P < 0.05$), it could be concluded that students who were exposed to the guided-discovery method of teaching performed significantly higher than their counterparts who were taught with the lecture method. These observations provide enough evidence to reject the null hypothesis. The null hypothesis, which states that there is no significant difference between the performance of secondary school students taught financial accounting using the guided-discovery method and those taught using the lecture method, was therefore rejected. The result revealed that the guided-discovery method of teaching would significantly improve students' performance in financial accounting compared to the conventional lecture method of teaching.

Hypothesis Two: There is no significant difference between the performances of secondary schools' students taught financial accounting using demonstration method of teaching and those taught using lecture (teaching) method in Benue State.

The performances of students taught with demonstration method and lecture method after the experimental were computed for this test. The two-sample t-test was used to compare the performances in order to determine the significance of the variability obtained in the performances of the experiment. The result of the, test was summarized in Table 4.10.

Table 8 Effect of demonstration method of teaching on secondary school students' performance in financial accounting

Methods of Teaching	N	Mean	Std. Dev.	Std. Error	t-value	DF	Pvalue
Guided-discovery	48	57.19	22.97	3.32	4.35	94	0.000
Lecture	48	36.15	24.38	3.52			

(t-critical at 94 degree of freedom and $P = 0.05$) = 1.99

Table 8 above revealed that the students who were taught with demonstration method performed significantly better than their counterparts who were taught with conventional (lecture) method. This is indicated in the mean score of 57.19 for demonstration method as against 36.15 by students taught with conventional method. The t-value (4.35) obtained in the test at 94 degree of freedom was higher than the equivalent critical value of 1.99. The observed significant level for the test is 0.000 ($P < 0.05$). With these observations, there is enough evidence to reject the null hypothesis. Therefore, the null hypothesis that there is no significant difference between the performances of secondary schools' students taught financial accounting using demonstration method of teaching and those taught using lecture (teaching) method was rejected.

Hypothesis Three: There is no significant difference between the performances of secondary School students taught financial accounting using guided discovery method of teaching and those taught using demonstration method of teaching in Benue State.

The performances of the two experimental groups exposed to guided-discovery and demonstration methods after the experiment were compared here to determine the method that is more efficacious in enhancing the performances of students in the teaching and learning of financial accounting. The two sample t-test procedure was used for the test because of the two independent groups (guided-discovery and demonstration). A summary of the test is presented in Table 9.

Table 9: Effect of Guided-discover and demonstration methods of teaching on male secondary school students' performance in financial accounting

Methods of Teaching	N	Mean	Std. Dev.	Std. Error	t-value	DF	Pvalue
Guided-discovery	48	70.56	17.41	2.51	3.22	94	0.002
Lecture	48	57.19	22.97	3.32			

(t-critical at 94 degree of freedom and $P = 0.05$) = 1.99

Table 4.12 above indicated that students taught financial accounting with guided-discovery method differed significantly in their performances from those taught with demonstration method. The observed t-value (3.22) was higher than the critical value of 1.989 and the observed level of significance (0.002) was lower than the fixed level of 0.05 ($P < 0.05$). These observations provide sufficient evidence to reject the null hypothesis. Therefore, the null hypothesis that there is no significant difference between the performances of secondary School students taught financial

accounting using guided discovery method of teaching and those taught using demonstration method of teaching was rejected.

Findings

The findings of this study revealed that:

1. The guided-discovery method of teaching had a significant effect on the academic performance of secondary school students in financial accounting in Benue State when compared with the lecture method.
2. The demonstration method of teaching had a significant effect on the performance of secondary school students in financial accounting in Benue State when compared with the lecture method.
3. The guided-discovery method of teaching had a more significant effect than the demonstration method of teaching on students' performance in financial accounting in Benue State.

Conclusion

Based on the findings of the study, the researchers concluded that students performed better in financial accounting when the guided-discovery and demonstration methods of teaching were used. The conventional lecture method was not as effective as the guided-discovery and demonstration methods.

Recommendations

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

1. The use of the guided-discovery method of teaching should be intensified in the teaching and learning of financial accounting in secondary schools through school inspection and supervision. This will engage students in problem-solving activities, critical thinking, and creative learning rather than rote learning.
2. The demonstration method of teaching should equally be adopted in the teaching of financial accounting in secondary schools because it improves students' performance.
3. The lecture method should be reduced or discouraged in the teaching of skill subjects like financial accounting in secondary schools because it does not improve students' performance.

References

- Abdullahi, A. B. (2020). *Improving the teaching methods of Chemistry Practical STAN Chemistry Panel National Workshop Proceedings* (3) 120-123, Kaduna State Chapter
- Adamu, I (2020). The influence of teacher's methodology on performance of accounting students in Nigerian Universities. *Journal of Business Education Research and Development (JOBBERD)*, 1, 103-104
- Ibrahim, S (2023). Impact of accounting background, gender and motivation on performance of business education students in introductory Accounting in Federal Universities in Nigeria. Published PhD. Thesis
- Igboegwu, E. N. (2022). Effects of guided discovery and demonstration teaching methods on achievement of different levels of Scientific Literacy. *Journal of Research in Curriculum and Teaching* 6 (1), 445-447
- Longe, O. A., & Kazeem, R. A. (2020). *Essential of financial accounting for senior secondary schools*. Tonad Publisher Ltd, Ibafo, Ogun State
- Mammam, J. S. (2021). *Assessment of classroom management techniques on secondary school students' academic performance in Accounting in Kaduna State*. Published M.Ed Thesis Ahmadu Bello University, Zaria
- Mkpa, N.D. (2022). *Curriculum theory and practice: Teaching methods and strategies*. Curriculum Organization of Nigeria, Abuja
- Nnaobi, A. F. (2020). Teaching qualitative inorganic component in Colleges using multiple methods. *Teacher Journal of Science Association of Nigeria Chemistry Panels National Workshop* 3, 87-91
- Obekpa, S. S. (2019). *EPODEWALAD and power simulation games of geographical and environmental education*. Ahmadu Bello University Press Limited, Zaria, Kaduna State, Nigeria
- Olowodun, Y. L. (2020). Strategies for effective evaluation of Accounting in senior secondary schools in Kaduna State. *Journal of Business Education Research and Development (JOBBERD)*, 1, 110-115
- WAEC. (2020). The West African senior school certificate examinations' Chief Examiners' Report (Nigeria), Meganous (W.A) Ltd Lagos, Nigeria, 139-142