

IMPLEMENTATION OF COMPUTER-BASED INSTRUCTIONAL STRATEGIES ON ACADEMIC PERFORMANCE IN FINANCIAL ACCOUNTING AMONG SECONDARY SCHOOL STUDENTS IN EKITI STATE

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Abstract

This study investigates the implementation of computer-based instructional strategies on the academic performance of secondary school students in Financial Accounting in Ekiti State, Nigeria. Specifically, the study examined the knowledge of students on computer-based instructional strategies, evaluate the difference between the academic performance of students, using computer-based and traditional learning strategy and examined the influence of gender and location on students' academic performance in Financial accounting when taught with computer-based strategy. The research employed a descriptive survey design, utilizing two structured instruments: The Computer-Based Instruction Learning Strategies Questionnaire (CILSQ) and the Financial Accounting Performance Test (FAPT). A total of 300 Senior Secondary School Two (SSSII) students were sampled from nine local government areas across three senatorial districts using a multistage sampling technique. Statistical analyses were conducted using SPSS, with both descriptive and inferential statistics employed to address the research objectives. Findings reveal that students possessed moderate knowledge of computer-based instructional strategies while those taught via these methods significantly outperform their peers taught through traditional strategies ($t = 11.475, p < .05$). Furthermore, gender does not significantly affect academic performance, location does play a significant role, indicating urban students tend to have better access to these instructional strategies than their rural counterparts ($F(1, 296) = 5.622, p < 0.001$). The study concludes that computer-based learning enhances students' performance in financial accounting and calls for urgent need for equitable access to technological resources and bridging existing gaps in knowledge and utilization of these instructional strategies. Based on the results obtained it was recommended that the schools should implement targeted training programs for both teachers and students to improve familiarity and proficiency while also investing in providing adequate technological resources, especially in rural areas, to ensure that all students have equal opportunities to engage with computer-based instructional strategies.

Keywords: Computer-Based Instructions, Financial Accounting, Academic Performance, Strategies

Introduction

The integration of Information and Communication Technology (ICT) into education has led to significant changes in the mode of delivery and access to learning over time. Specifically,

computer-based instruction (CBI) is proving to be an effective tool in enhancing the teaching-learning process across various subjects (Yusuf & Alabi, 2020). ICT tools facilitate immediate feedback through interactive and

engaging learning environments, allowing students to learn beyond the traditional classroom walls. This fosters self-paced learning and improves retention (Oluwatayo&Ojo, 2023). In financial accounting, where cumbersome calculations and a combination of theoretical and practical applications are required, CBI has enhanced conceptual learning and improved student performance. Literature suggests that ICT helps present abstract ideas in simple terms and enables learners to acquire analytical competencies through hands-on training with accounting software (Raja & Nagasubramani, 2018). Financial accounting, as part of the commerce curriculum at the secondary school, graduate, and postgraduate levels, focuses on procedural aspects to comply with laws such as the Income Tax Act and the Companies Act (Seema, 2021). However, over time, the role of accountants has shifted from a purely technical focus to one that requires analytical skills, specialized knowledge, and oral communication abilities, alongside technical competencies (Sangster, 2022). Accountants today must relate concepts learned to real-life situations, as one of the primary objectives of accounting education is to prepare students for the corporate world.

Despite efforts to restructure accounting education to meet industry needs (Akamigbo&Eneja, 2020), current accounting education still appears inadequate in preparing graduates for successful careers. Beyond technical accounting knowledge, industries expect graduates to possess intellectual skills like problem-solving, communication, and interpersonal skills to thrive in an ever-changing corporate environment. However, accounting research continues to debate which specific skills accounting graduates need and how best to deliver

these skills. A significant concern remains among educators on how to effectively teach financial accounting, as students have consistently shown average performance in senior secondary school exams (Oladapo, 2019). Yusuf (2020) highlighted that the conventional “chalk and talk” method has been predominantly used, resulting in students offering financial accounting as a subject to have only average academic performance. However, there is a need to improve student performance, especially in a nation facing financial challenges due to improper accounting practices, such as fraud and misappropriation of resources. A strong foundation in financial accounting at the secondary school level could help address these issues (Wanyama, 2018). Computer-based teaching strategies hold the potential to motivate students by turning them into active participants, especially in financial accounting tasks like using Microsoft Excel and spreadsheets to solve mathematical problems and create accounting tables.

This approach would foster creativity, enhance understanding, and promote critical thinking in financial accounting. The continued reliance on traditional methods by teachers could be due to a lack of awareness of new teaching strategies, which improve both the quality and standard of education. Many teachers do not attend workshops, seminars, or conferences, where they could learn about such innovations. By contrast, awareness and adoption of new pedagogical methods, facilitated by technology, would enhance student knowledge and improve learning environments. Information technology (IT), as a core part of this transition, is revolutionizing how people live, work, and learn, positioning computers as

essential tools for information management.

It has been observed that in many developed countries that great emphasis is placed on computer-based technology laboratories in educational curricula. ICT has been recognized for making students more responsible by organizing their work through digital portfolios or projects (Raja & Nagasubramani, 2018). However, this is not the case for most developed nations of the world (Davis, 2019). When students participate in such activities, they often find the experience intrinsically rewarding and are self-motivated to engage (Carenys, 2017). Additionally, incorporating ICT in classrooms creates virtual learning environments that foster instantaneous communication between teachers, thereby increasing collaboration (Laban, 2017). Cloete (2017) also highlighted that ICT has opened countless opportunities and challenges, providing epistemological access to education while requiring both students and teachers to become electronically literate. This capability must align with their field of study to promote cognitive development. However, access to technology may be ineffective at certain educational stages due to a lack of motivation to incorporate computer technology into the learning process (Francis, 2017). Quite a number of studies have been carried out in exploring the prospects of computer-based instruction on academic performance of students using different approaches and strategies. For instance, Olusola-Fadumiye and Jamalludin (2021) examined the effects of computer-based teaching strategies on Financial Accounting students' academic performance in Nigeria, adopting a quasi-experimental design. Their study revealed that computer-based instruction significantly enhances students'

performance compared to traditional methods. While they focused on broadening the scope to include factors such as gender, school location, and school type, Esitikot and Nwaukwa (2022) investigated the impact of ICT-based methodologies, specifically video-taped instructions and PowerPoint presentations, in Akwa Ibom State. Their findings indicated that video-taped instructions improved academic performance and retention more effectively than PowerPoint presentations, highlighting the benefits of blended ICT-based teaching methods.

Ethel-Echedo (2021) focused on computer-assisted instruction in Anambra State, showing that it has significantly improved student achievement in Financial Accounting, while gender also plays significant role in learning outcomes. Adeola (2021) extended the analysis by examining individualized computer-based instruction's effects on Business Studies, emphasizing its positive impact on junior secondary students. Agboh (2015) assessed the effects of computer-assisted instruction in Colleges of Education in Southeast Nigeria, confirming its effectiveness in enhancing students' academic achievement. Each study reinforces the value of integrating technology into education, with varying focuses on instructional methods, student levels, and subject areas. Despite these related studies, many of these studies did not specifically mention the type of computer-instruction strategies used in these schools. In addition, there is largely a dearth of information on how gender and location (urban and rural) could affect the adoption of computer-based strategies for use in teaching financial accounting. Thus, the need for this study to examine the computer-based instructional strategies and academic

performance of financial accounting students in Ekiti State.

Statement of the Problem

Despite the critical role of education in equipping individuals with essential skills and knowledge, the persistent poor performance of secondary school students in financial accounting in Ekiti State underscores systemic challenges in teaching methods and resources. Reports from the West African Examinations Council (WAEC, 2021) reveal a decline in credit passes, highlighting the inadequacy of conventional instructional approaches like lectures and rote memorization, which fail to foster practical and critical thinking skills. Furthermore, the limited availability of trained financial accounting teachers and students' negative perceptions of the subject contribute to these outcomes. This study, therefore, seeks to explore the implementation of computer-based instruction strategies on academic performance of secondary schools in Financial Accounting in Ekiti State secondary schools.

Purpose of the Study

The purpose of this study is to examine the implementation of computer-based instructional strategies on academic performance of secondary school students in Financial Accounting in Ekiti State. The specific objectives are to:

- (i) examine the academic performance of financial accounting students using computer-based instructional strategies in Ekiti State;
- (ii) examine the academic performance on financial accounting students using traditional learning strategy in Ekiti State.

- (iii) evaluate the difference between the academic performance of students taught, using computer-based and traditional learning strategy;
- (iv) examine the influence of gender and location on students' academic performance in Financial accounting taught with computer-based strategy.

Hypotheses

To achieve the aim and objectives of the study, the following hypotheses were postulated for the study:

1. There is no significant gender difference in the academic performance of students.
2. There is no significant difference between academic performance of students taught in using computer-based and traditional learning.
3. Gender and location do not significantly influence the academic performance of students in financial accounting when taught with computer-based strategy.

Methodology

Research Design

Descriptive research design of the survey type was used for the study to examine the implementation of computer-based instructional strategies on the academic performance of secondary school students in Financial Accounting in Ekiti State.

Population and Sampling Procedure

The study population consisted of 9,374 Senior Secondary School Two (SSSII) students offering Financial Accounting in Ado-Ekiti, Ekiti State, as of May 2024. A representative sample of 300 students was drawn using a multistage sampling procedure across the three senatorial districts of Ekiti State. In the first stage, two Local Government Areas (LGAs) were selected from each of

the three senatorial districts using simple random sampling. In the second stage, stratified sampling was employed to select two schools from each of the chosen LGAs, ensuring representation based on location (rural and urban). Finally, in the third stage, 25 students were randomly selected from each of the identified schools, culminating in a total sample size of 300 students for the study.

Instruments

Data needed for this study will be collected using two well-structured research instruments, and are titled “Computer-based Instruction Learning Strategies Questionnaire”, “CILSQ”, and Financial Accounting Performance Test, “FAPT”. The CILSQ comprised of three sections. Section A was designed to collect personal data of the respondents (name of School, gender and age), while section B contained 10 items on students’ knowledge of computer base

strategies. The second instrument (FAPT) consists of 20 multiple choice items on Financial Accounting that reflects their academic performance in the subject. The CILSQ would be marked (√) on the appropriate point of the scale on a 4-point continuum: Strongly Agree, Agree, Disagree, and Strongly Disagree while each of the multiple-choice items has specific correct option and 1 mark is allotted to each item.

Validity and Reliability of Research Instrument

The instrument validity is carried out using face and content validity. This is ascertained by researcher’s supervisor, two (2) experts in Vocational and

Results

Objective 1: Academic Performance of Financial Accounting Students using Computer-Based Instructional Strategies in Ekiti State

Table 1: Academic Performance of Financial Accounting Students using Computer-Based Instructional Strategies

<i>Frequency</i>	<i>Percentage</i>	<i>Overall Mean</i>	<i>SD</i>	<i>Performance</i>
82	27.3	24.51	2.211	Good ($\bar{x} = 31 - 40$),
175	58.3			Average ($\bar{x} = 20 - 30$)
43	14.3			Poor ($\bar{x} = 0 - 19$)
300	100.0			Total

The data presented in Table 1 summarizes the academic performance of Financial Accounting students when taught using computer-based instructional strategies. Among the 300 students assessed, 27.3% (82 students) demonstrated good performance, with an overall mean score of 24.51 and a standard deviation of 2.211, falling within the performance range of 31–40. A majority of the students, 58.3% (175 students), achieved an average performance, with scores ranging between 20–30. Conversely, 14.3% (43

students) exhibited poor performance, scoring between 0–19. These results indicate that while a significant proportion of students displayed average performance, there is a good level of improvement in academic outcomes in financial accounting when taught using this method.

Objective 2: Academic Performance of Financial Accounting Students using Traditional Learning Strategies in Ekiti State

Table 2: Academic Performance of Financial Accounting Students using Traditional Learning Strategies

<i>Frequency</i>	<i>Percentage</i>	<i>Overall Mean</i>	<i>SD</i>	<i>Performance</i>
36	12.0	18.42	3.184	Good ($\bar{x} = 31 - 40$)
109	36.3			Average ($\bar{x} = 20 - 30$)
155	51.7			Poor ($\bar{x} = 0 - 19$)
300	100.0			Total

Result presented in Table 2 illustrates the academic performance of 300 students under a specified instructional context. Of the total participants, only 12.0% (36 students) achieved a good performance level, with an overall mean score of 18.42 and a standard deviation of 3.184, corresponding to scores in the range of 31–40. A larger portion, 36.3% (109 students), demonstrated average performance, with scores between 20–30. However, the majority, 51.7% (155

students), fell into the poor performance category, with scores ranging from 0–19. These findings suggest a concerning trend, with over half of the students struggling to achieve satisfactory academic outcomes.

Objective 3: Difference between academic performance of students taught, using computer-based and traditional learning strategy

Table 3: T-test on the difference between the academic performance of students taught using computer-based and traditional learning strategy

<i>Variable</i>	<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Academic Performance	Traditional LS	300	18.42	3.184	599	11.475	.000
	Computer - Based LS	300	24.51	2.211			

Result presented in Table 3 revealed that there is a significant difference in the academic performance of students taught using computer-based and traditional learning strategy ($t=11.475$, $p<.05$). Specifically, students taught using computer-based learning strategy scored higher ($\bar{x}=24.51$) compared to students taught using traditional learning strategy ($\bar{x} = 18.42$).

Hence, the computer-based instructional strategy outperforms the traditional method in teaching and learning accounting in this study.

Objective 4: Influence of Gender and Location on Students' Academic Performance in Financial Accounting Taught with Computer-Based Strategy

Table 4: Influence of Gender and Location on Students' Academic Performance in Financial Accounting when taught with Computer-Based Strategy**Tests of Between-Subjects Effects****Dependent Variable: Academic Performance**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6435.487 ^a	2	3217.743	20.143	.000
Intercept	52067.632	1	52067.632	174.723	.000
Gender	34.760	1	34.760	0.116	.322
Location	1675.373	1	1675.373	5.622	.000
Error	9140.247	296	159.746		
Total	5162492.000	299			
Corrected Total	245575.733	298			

a. R Squared = .026 (Adjusted R Squared = .025)

Table 4 presents the results on the influence of gender and location on students' academic performance in Financial Accounting when taught using computer-based strategies. In examining the individual effects, gender does not have a statistically significant impact on performance ($F(1, 296) = 0.116$, $p = 0.322$), suggesting that male and female students perform similarly under the computer-based instructional strategy. On the other hand, location has a significant effect on academic performance ($F(1, 296) = 5.622$, $p < 0.001$), indicating that students' performance varies based on whether they are in urban or rural settings. This could mean that there is a major difference in the access to computer-based strategy compared to students in urban environments.

Discussion

Findings obtained in this study indicates that while a significant proportion of students exhibit moderate knowledge of computer-based instructional strategies, there is a marked variation in understanding across the sample. With 58.3% of students demonstrating moderate knowledge and an overall mean score of 25.64, it suggests that while students are familiar with these strategies, there remains a

substantial gap in their comprehensive understanding and application. Previous studies have highlighted that moderate knowledge levels can hinder effective utilization of computer-based strategies, as students may lack the confidence or skills needed to engage fully with technology in their learning (Gulbahar & Guven, 2008). Furthermore, the limited representation of high knowledge levels (27.3%) signifies a need for enhanced training and resources to elevate students' proficiency in these strategies, supporting the notion that effective integration of technology in education requires both access and adequate training (Schmid et al., 2014). On the analysis of computer-based teaching strategies reveals a disparity in availability and usage among various instructional methods. The high mean scores for Computer-Assisted Instruction (3.81) and Online Workshops (3.83) indicate that these methods are well-established in the educational framework, aligning with findings by Tamim et al. (2011) that emphasize the effectiveness of such interactive strategies in enhancing learning outcomes. In contrast, the lower mean scores for E-learning platforms (2.65) and Collaborative Tools (2.44) suggest that these resources may not be as readily integrated into the teaching process, potentially limiting students' exposure to

diverse learning modalities. The significant difference in academic performance between students taught through computer-based strategies versus traditional methods, as highlighted by the t-test results, further underscores the effectiveness of modern instructional approaches in improving learning outcomes in Financial Accounting. Additionally, the influence of location on academic performance emphasizes the critical role of accessibility in technology integration. Research has shown that urban students often have better access to educational resources, including technology, compared to their rural counterparts (Davis, 2019).

Conclusion

The study explores the effect of computer-based learning on students' performance in Financial Accounting. The study also provides information on the knowledge of students on these strategies and the most frequently used ones. It is evident from the results that majority of students possess moderate knowledge of these strategies, the substantial gap in comprehensive understanding indicates that many are not fully equipped to leverage technology effectively in their learning processes. The analysis also revealed notable disparities in the availability and utilization of various computer-based teaching strategies, highlighting a strong preference for methods like Computer-Assisted Instruction and Online Workshops. The significant difference in academic performance between students taught with computer-based methods versus traditional approaches further emphasizes the potential of technology-enhanced learning to improve educational outcomes. Also, the influence of location on performance points to the critical need for equitable

access to educational resources across urban and rural settings.

Recommendations

Based on the findings obtained, it is recommended that schools should implement targeted training programs for both teachers and students to improve familiarity and proficiency with various computer-based instructional strategies which can be achieved through workshops and hands-on sessions. In addition, educational authorities and institutions should invest in providing adequate technological resources, especially in rural areas, to ensure that all students have equal opportunities to engage with computer-based instructional strategies. This could include providing laptops, tablets, and reliable internet access.

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